# HORIZON EUROPE

## COLLABORATION OPPORTUNITIES

WITH INSTITUTES OF THE POLISH ACADEMY OF SCIENCES

PAN
POLISH ACADEMY OF SCIENCES

PolSCA
Polish Science
Contact Agency
in Brussels

# HORIZON EUROPE COLLABORATION OPPORTUNITIES
## with INSTITUTES of the POLISH ACADEMY OF SCIENCES


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PAN POLISH ACADEMY OF SCIENCES | PolSCA Polish Science Contact Agency in Brussels

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**first edition (2024) by**

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KASIA ELLERT

# Introduction

Dear Reader,

I am delighted to introduce the second edition of this booklet on *Horizon Europe Collaboration Opportunities with Institutes of the Polish Academy of Sciences* – an initiative brought to you by the PolSCA PAS Office in Brussels.

Horizon Europe continues to be the cornerstone of European research and innovation funding, offering ample opportunities for collaborative projects, individual fellowships, and cross-sectoral partnerships. As we move towards the final biennium of the programme (2026–2027), this updated folder is intended to guide prospective partners through the evolving R&I landscape and help identify new cooperation pathways.

Building on the success of the 2024 edition, which featured over 30 research institutes, this second release showcases 47 PAS institutes from across five scientific divisions. It reflects our expanded effort to include a broader range of scientific excellence – including 6 additional institutes from Division II (biology & agriscience), 4 new entries each from Divisions III (technical sciences) and IV (engineering), and 3 more from Division V (medical research). In this enriched edition, readers will find updated profiles outlining each institute's key areas of expertise, prior engagement in Horizon Europe, and interest in future collaborative actions.

Our focus now turns to the final phase of the programme. We hope this edition will serve as a timely resource for building partnerships in light of the upcoming WP2026–2027 competitions.

With this in mind, the PolSCA Office is currently working with PAS institutes to prepare tailored partnership offers aligned with upcoming Horizon Europe calls. These materials are expected to be made available in early 2026 and will further support strategic engagement between Polish researchers and international RI stakeholders.

On behalf of the Polish Academy of Sciences and the wider PolSCA community, I warmly invite you to explore the new collaboration opportunities featured in this folder – and to joinus in shaping a vibrant and forward-looking European Research Area.

Sincerely,

**Tomasz Poprawka**

DIRECTOR OF POLSCA

# About PolSCA

At PolSCA – the Polish Science Contact Agency of the Polish Academy of Sciences in Brussels – our mission is to facilitate and promote the participation of the Polish scientific community in European research and innovation initiatives. We work to establish and maintain contacts between Polish scientific institutions and organizations in Brussels, Europe and beyond. We strive to provide assistance and support to researchers seeking to participate in European Union research programmes. Our team is dedicated to fostering collaborations and partnerships between European stakeholders and the scientific community of Poland, in particular among PAS researchers, with a focus on Horizon Europe initiatives.

PolSCA PAS Office in Brussels also fosters collaboration with a growing community of research managers and administrators (RMAs) working across various research institutes of the Polish Academy of Sciences in Poland. To do so effectively, we have established so-called Horizon Europe Navigators network supported with MSCA-funded PASIFIC project. Thanks to such robust network, we are available to provide support and guidance to interested parties, as well as help to establish contacts with the scientific teams in Poland.

# The Polish Academy of Sciences (PAS)

The Polish Academy of Sciences (PAS) is a major state-funded institution of higher education and research in Poland. It consists of three main pillars: a body of elected members, a network of research institutes (including some of the top scientific centers in the country), and a set of committees focused on specific disciplines and problem issues.

The first pillar is the elected body of Members of the Academy, which consists of up to 350 National Members – all of them highly distinguished scholars and scientists of renowned achievements and respected authority. The Academy also currently has 163 Foreign Members. Membership in the PAS is considered a great honor and an expression of the highest recognition for preeminent scholarly accomplishments. Since 2010, an elected body of talented researchers of the younger generation, known as the Polish Young Academy, has also been operating within the structure of the PAS.

The second pillar of the Polish Academy of Sciences is the network of PAS research institutes. The strongest research network in the country, it consists of 69 scientific institutes, many of them ranking among the very best in Poland, indeed even Europe and the wider world. The PAS Institutes are engaged in carrying out top-notch research projects in almost all scientific fields. They generate the inventions, patents, and scientific advances that are the Academy's hallmark, helping to expand humanity's horizons and change the world in a positive way.

The third pillar, in turn, consists of a set of committees and advisory panels that disseminate scientific knowledge and provide the kind of expertise that is crucial for robust public debate. These are expert groups that draw together specialists with different narrow specializations and fields of expertise. They create a space for intellectual exchange and relationship-building among scholars. They serve as the national-level representation of various scientific communities and disciplines, and they perform important advisory functions.

Other important parts of the Academy include its auxiliary units, including libraries, archives, museums, a botanical garden, and conference centers. The Academy also has territorial branches centered in eight Polish cities, which serve to integrate the local scientific community in the region, to initiate research and to disseminate research results. Moreover, the Academy also maintains a strong presence outside of Poland, via its scientific centers in six major European capital cities.

*Source: pan.pl*

# Scientific Institutes of PAS

The Polish Academy of Sciences maintains the strongest research network in the country, consisting of 68 independent research Institutes (plus the International Institute of Molecular and Cellular Biology). The PAS Institutes are engaged in carrying out top-notch research projects in almost all scientific fields. They generate the inventions, patents, and scientific advances that are the Academy's hallmark, helping to expand humanity's horizons and change the world in a positive way.

Like all research institutions in Poland, the Institutes affiliated with the Polish Academy of Sciences are subject to strict period evaluation in terms of the quality of research work done their disciplines. In all, 17 of the disciplines practiced at the PAS Institutes have received the highest category (A+ – awarded to the top elite of Polish science) in the latest evaluation. Another 40 received the next-highest category (A). This is well above the average for research institutions in the country.

All told, the Institutes of the Polish Academy of Sciences employ more than 9,000 people, including nearly 4,100 researchers. The internationalization rate of scientific staff across all the Institutes is 8%, although the ratio is significantly higher at some centers. For example, the PAS Center for Theoretical Physics employs 40% foreign scholars, the Nicolaus Copernicus Astronomical Center employs 31%, and the PAS Institute of Physical Chemistry and the PAS Institute of Mathematics employ 25% (October 2021 data).
The PAS Institutes regularly receive grants from the National Science Center (NCN) and the National Center for Research and Development (NCBR). They have won a total of 103 million euros under the EU's Horizon 2020 program (implemented from 2014-2020) – the best result among Polish scientific units.

Also noteworthy are the 5 Dioscuri Centers of Scientific Excellence supported by Germany's Max Planck Society – international research groups established at PAS Institutes and led by prominent researchers.

The institutes of the Polish Academy of Sciences (plus the International Institute of Molecular and Cellular Biology) have so far won 17 prestigious European Research Council (ERC) grants. Such grants mean not only major funding for projects, but also a globally recognized "seal of approval" for the quality of a scientist's work.

Taken together, Institutes strongly contribute to the Academy's reputation and brand. However, they are each separate entities, maintaining their own legal personality. Below is a list of all the scientific institutes of the Polish Academy of Sciences (grouped by the Division of the Academy with which they are affiliated).

*Source: pan.pl*

# Table of Contents

# PAS Institutes

# DIVISION I

## Humanities and Social Sciences

# Institute of Economics, PAS

WARSAW

## KEY RESEARCH DOMAINS

economic theory, metodology and policy, inequalities and their measurement, financial and monetary policy, industry 4.0 and innovations, energy transition, labour market, network & process analysis

## ABOUT THE INSTITUTE

The Institute was funded in 1980 and now employs 24 researchers including 10 professors, 12 assistant professors and 2 assistants. They are engaged in intensive scientific and research activities in the fields of economics and management. The Institute conducts a variety of seminar activities, including also highly popular open discussion panels devoted to key problems of economic theory and policy with the participation of outstanding economists. It also runs a postgraduate program in business studies.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Cluster 2 | Cluster 6 | EIC/EIT | Widening instruments

## CONTACT

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Head of Science Department

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## FEATURED ACHIEVEMENTS & FACILITIES

In recent years, there has been a sharp increase of our publications with recognized international publishing houses. We were also the organizer of international conferences, including one devoted to the problem of inequalities with the participation of outstanding scientists from prestigious academic centers such as Princeton, Cambridge, New York and London School of Economics. A growing number of our researchers have been invited to participate in international conferences as speakers or to undertake scientific internships or stays for consultations within jointly performed projects (two of which are funded by the EU). Two researchers received scholarships for outstanding young scientists and two others earned prizes for their doctoral dissertations.

## FEATURED TEAM LEADERS

PhD, DSc
**Martyna Kobus**
CENTER FOR THE STUDY OF INEQUALITY

PhD, DSc
**Anna Ujwary-Gil**
LABORATORY OF PROCESS AND NETWORK ANALYSIS

PhD, DSc
**Oskar Kowalewski**
RESEARCH LABORATORY OF ADVANCED STUDIES

PhD
**Jagoda Kaszowska-Mojsa**
MODELLING FOR PUBLIC POLICY PURPOSES (MPP)

PhD, DSc
**Tomasz Łyziak**
EXPECTATIONS' FORMATION AND MACROECONOMIC POLICY

# Institute of History, PAS

WARSAW

## KEY RESEARCH DOMAINS

history, digital humanities, knowledge acquisition, information science

## ABOUT THE INSTITUTE

The Institute, carries out research on Polish and world history, from the Middle Ages up to the 20th century. Some of the research projects are being conducted in co-operation with other institutions, both in Poland and other European countries. The Institute consists of 12 departments (zakłady) and 10 sections (pracownie) with different profiles, mainly chronologically or thematically based. Some of them study particular regions of Europe or Poland over longer periods of time.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Cluster 2 | Cluster 6 | EIC/EIT | Widening instruments

## CONTACT

**Emilia Switat**
Head of the Department for Organisation of Scientific Research and Studies

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## FEATURED ACHIEVEMENTS & FACILITIES

The high quality of research work carried out at the Institute of History has resulted in a large number of successfully obtained and conducted grants, including projects financed by Poland's National Science Centre (NCN), the Polish Ministry of Education and Science (e.g. within the agenda of the National Programme for the Development in the Humanities), and also European Union funds. Part of the Institute is a research library open to all historians. The Institute also offers access to digitalized data.

## FEATURED TEAM LEADERS

PhD
**Bogumił Szady**
MODELLING SPATIAL KNOWLEDGE

PhD
**Adam Zapała**
DIGITAL INFRASTRUCTURE FOR HUMANITIES

PhD
**Wiesława Duży**
MODELLING SPATIAL KNOWLEDGE

PhD
**Tomasz Panecki**
RESEARCH IN SPATIAL HISTORY, HISTORICAL GEOGRAPHY & CARTOGRAPHY

# Institute of Literary Research, PAS

WARSAW

## KEY RESEARCH DOMAINS

literary studies, cultural studies, digital humanities, open science, research infrastructure

## ABOUT THE INSTITUTE

The Institute, established in 1948, is a highly recognized center for literary and cultural studies in Poland. It carries out interdisciplinary research on literary and cultural phenomena and specializes in long-term projects in literary history and theory, literary documentation, bibliography, lexicography, and scholarly editions. The Institute is committed to developing research infrastructure, advancing interdisciplinary approaches in the humanities, and promoting open science.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Research Infrastructures | Cluster 2 | Widening instruments

## CONTACT

**Grzegorz Marzec**
Professor, Director

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## FEATURED ACHIEVEMENTS & FACILITIES

Although the Institute's primary research profile is rooted in Polish literature and culture, it is equally distinguished for its extensive international engagement across the broadly defined humanities. We maintain long-standing collaborations with academic institutions and individual scholars in Poland and abroad, including partners outside Europe (e.g., in the United States and China). The Institute is also widely recognized for its publishing activity, which encompasses leading humanities journals, several of them issued in English. In recent years, the Institute – primarily through its Digital Humanities Centre – has secured more than twenty grants from major European funding schemes, including Horizon Europe, Horizon 2020, COST, and Erasmus+.

## FEATURED TEAM LEADERS

Professor
**Paweł Mościcki**
DEPARTMENT OF THE ANTROPOLOGY OF THE PRESENT

PhD
**Maciej Maryl**
DIGITAL HUMANITIES CENTRE

Professor
**Magdalena Rembowska-Płuciennik**
DEPARTMENT OF HISTORICAL POETICS

Professor
**Agnieszka Mrozik**
NTERDISCIPLINARY RESEARCH GROUP "PRL AND THE GLOBAL SOUTH"

Professor
**Monika Rudaś-Grodzka**
WOMENS ARCHIVE WORKING GROUP

Professor
**Agata Roćko**
LITERATURE AND GLOTTODIDACTICS GROUP

# Institute of Philosophy and Sociology, PAS

WARSAW

## KEY RESEARCH DOMAINS

sociology of politics, economy & education, survey methodology, history of knowledge & ideas, social inequality & mobility, logic & cognitive science, Holocaust & Jewish Studies, environmental studies

## ABOUT THE INSTITUTE

The Institute established in 1956, is recognized by the Ministry of Science and Higher Education as a leading scientific unit in Poland. The Institute's primary objective is to carry out advanced research in the fields of philosophy, sociology, and cognitive science. Apart from its research activity, the Institute is also engaged in education, publishing, and popular outreach activities.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Cluster 1 | Cluster 2 | Cluster 6 | Widening instruments

## CONTACT

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## FEATURED ACHIEVEMENTS & FACILITIES

The Institute is involved in multiple international programmes and projects spanning a wide range of thematic areas in the social sciences and humanities, and including horizontal activities. There are currently over 60 research projects underway, including an ERC Consolidator Grant, starting in 2020; the European Social Survey (rounds 9 and 10) and projects implemented within CONSIRT (Cross-National Studies: Interdisciplinary Research and Training Program).

## FEATURED TEAM LEADERS

PhD
**Krzysztof Niedziałkowski**
ENVIRONMENTAL SOCIOLOGY LAB

PhD
**Michał Kotnarowski**
EUROPEAN SOCIAL SURVEY – POLAND

PhD, DSc
**Marcin Miłkowski**
SECTION FOR LOGIC AND COGNITIVE SCIENCE

Professor
**Barbara Engelking**
POLISH CENTER FOR HOLOCAUST RESEARCH

Professor
**Kazimierz M. Słomczyński**
COMPARATIVE ANALYSES OF SOCIAL INEQUALITY TEAM (CASIN)

Professor
**Valentina Lepri**
CENTRE FOR THE HISTORY OF RENAISSANCE KNOWLEDGE

# Institute of Political Studies, PAS

WARSAW

## KEY RESEARCH DOMAINS

political science, international relations, European Union studies, political behavior, cross-national surveys, social transformations, Democracy and Governance, Holocaust, communism, secret police

## ABOUT THE INSTITUTE

Funded in 1990, the Institute brings together leading Polish political scientists, historians, and sociologists to create a unique environment where innovative knowledge and policy expertise is produced.
The Institute's mission is to conduct high-level multidisciplinary research that investigates political and social change at the crossroads between East and West.

## FEATURED ACHIEVEMENTS & FACILITIES

Researchers from our Institute have been creators and co--creators of some of Poland's most important cultural institutions and places of public debate (including the Warsaw Uprising Museum, the Polin Museum, the Museum of World War II), participants in the international academic and political dialogue with counterparts from Ukraine, Russia, Germany or Austria, and members of the scientific councils of major European research institutions. The Institute's staff have also authored numerous articles published in some of the world's leading journals, such as: East European Politics and Societies, Social Science Quarterly, International Affairs, Intelligence, and International Journal of Comparative Sociology.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Cluster 2

## CONTACT

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## FEATURED TEAM LEADERS

Professor
**Dariusz Stola**
DEPARTMENT OF RECENT POLITICAL HISTORY

Professor
**Agnieszka Cianciara**
DEPARTMENT OF INTERNATIONAL ORGANIZATIONS AND GLOBAL SECURITY STUDIES

PhD
**Marta Kołczyńska**
DEPARTMENT OF RESEARCH ON SOCIAL AND INSTITUTIONAL TRANSFORMATIONS

Professor
**Piotr Osęka**
DEPARTMENT OF RECENT POLITICAL HISTORY

Professor
**Ireneusz Sadowski**
DEPARTMENT OF RESEARCH ON SOCIAL AND INSTITUTIONAL TRANSFORMATIONS

Professor
**Monika Sus**
DEPARTMENT OF INTERNATIONAL ORGANIZATIONS AND GLOBAL SECURITY STUDIES

# Institute of Slavic Studies, PAS

WARSAW

## KEY RESEARCH DOMAINS

linguistics, sociolinguistics, literary studies, cultural studies, history, ethnology, sociology

## ABOUT THE INSTITUTE

The activity and research agenda of the Institute focus on areas which pose a challenge to modern humanities and which play a key role in the development of social consciousness and the preservation of material and non-material national heritage. The Institute conducts interdisciplinary research on all Slavic cultures and languages as well as their relations with their neighbors.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Cluster 2 | Widening instruments

## CONTACT

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Specialist for
European Projects

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## FEATURED ACHIEVEMENTS & FACILITIES

Over the years, the Institute has implemented multiple international and national research projects involving researchers from different countries worldwide: among them an ERC Starting Grant, National Science Centre (NCN) research grants (including Beethoven, a Polish-German research project, Polonez Bis and a POLS project), and numerous grants from the Polish Ministry of Education. The Institute has also been a member of the CLARIN-PL and DARIAH-PL consortia, contributing to their innovative work in digital humanities and social sciences. The Institute also boasts of the Zdzisław Stieber Library, the Slavic Academic Information Centre, and the Slavic Publication Centre, which issues eight highly ranked journals and publishes single- and multi-author monographs.

## FEATURED TEAM LEADERS

Professor
**Anna Zielińska**
DEPARTMENT OF LINGUISTICS

PhD, DSc
**Nicole Dołowy-Rybińska**
DEPARTMENT OF LINGUISTICS

PhD
**Karolina Ćwiek-Rogalska**
DEPARTMENT OF LITERARY AND CULTURAL STUDIES

PhD, DSc
**Ewa Wróblewska-Trochimiuk**
DEPARTMENT OF LITERARY AND CULTURAL STUDIES

PhD
**Anna Zawadzka**
DEPARTMENT OF NATIONALITY STUDIES

PhD, DSc
**Karolina Bielienin-Lenczowska**
DEPARTMENT OF NATIONALITY STUDIES

# DIVISION II

## Biological and Agricultural Sciences

# European Regional Centre for Ecohydrology, PAS

ŁÓDŹ

## KEY RESEARCH DOMAINS

ecohydrology, nature-based solutions, catchment scale, molecular scale, toxic algal blooms, wastewater treatment plants, land/water ecotones

## ABOUT THE INSTITUTE

The Centre is an international scientific research institute, with fundamental mission and goals related to the implementation of the International Hydrological Programme of UNESCO (UNESCO IHP) and the Environmental Directives of the European Commission. As water is fundamental for most types of environmental processes, regulation of water processes allows ecosystem processes to be used as tools for enhancing the sustainability potential of catchments.

## INTEREST IN HORIZON EUROPE

Cluster 6

## CONTACT

Maciej Zalewski
Professor

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## FEATURED ACHIEVEMENTS & FACILITIES

Ecohydrology introduces a holistic approach to catchment management, by simultaneous improvement of 4 elements of the catchment's sustainable development potential: water (W), biodiversity (B), services for society (society – S) and resilience to climate change (R, WBSR), to achieve sustainable development. The principles of Ecohydrology and Ecohydrological Nature-Based Solutions, the foundations of which were developed at the Centre, have been included in UNESCO's Intergovernmental Hydrological Programme IX for 2022–2029. Ecohydrology has also been included by the Committee of the Regions of the European Commission in the document "Fitness-Check of the Water Framework Directive" verifying the implementation of the Water Framework Directive.

## FEATURED TEAM LEADERS

PhD, DSc
**Edyta Kiedrzyńska**
RESEARCH TEAM: WASTEWATER PURIFICATION

PhD, DSc
**Katarzyna Izydorczyk**
RESEARCH TEAM: WATER MANAGEMENT IN AGRICULTURE BASIN

Professor
**Joanna Mankiewicz-Boczek**
LABORATORY OF MOLECULAR ECOHYDROLOGY

Professor
**Magdalena Urbaniak**
PLANT-BACTERIA PARTNERSHIP RESEARCH GROUP

PhD
**Kinga Krauze**
RESEARCH TEAM: SOCIO-ECOHYDROLOGY AND ECOSYSTEM SERVICES

# The Franciszek Górski Institute of Plant Physiology, PAS

KRAKÓW

## KEY RESEARCH DOMAINS

crops, drought, nutrition, stress responses

## ABOUT THE INSTITUTE

The Institute is a research institution located in Kraków, close to both the city's international airport and its historic center. IPP PAS has interdisciplinary profile, situated between the biological and agronomical sciences. The scientific staff are enthusiastic and engaged in investigations on all levels of plant physiology – from molecular to integrated physiology on the organ, whole plant, and crop field level.

## INTEREST IN HORIZON EUROPE

Cluster 6

## CONTACT

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Project Manager

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## FEATURED ACHIEVEMENTS & FACILITIES

In recent years a number of national and international re- search projects have been carried out at IPP PAS, including an ERANET (NCBR) project on the genetic adaptation of sorghum to European climatic conditions, a HARMONIA (NCN) project concerning the role of oxidative stress in triticale embryogenesis, and an OPUS (NCN) project focusing on the role of cell wall phenols in drought stress in triticale. IPP PAS has well-equipped laboratories, growth chambers, equipment for physicochemical methods – e.g. a high performance liquid chromatograph with tandem mass spectrometry (UHPLC MS/MS), gas chromatograph, flow cytometer, FT-Raman spectro- meter, isothermal calorimeters, microscopes, and imaging analysis tools (including in 3D).

## FEATURED TEAM LEADERS

Professor
Iwona Żur
GROUP OF MICROSPORE EMBRYOGENESIS

Professor
Anna Janeczko
GROUP OF PLANT STRESS: STEROIDS

PhD, DSc
Ilona Czyczyło-Mysza
GROUP OF PLANT STRESS:
ROLE OF EPICUTICULAR WAX

Professor
Ewa Niewiadomska
ABIOTIC STRESS RESEARCH:
REDOX SIGNALS

Professor
Ireneusz Ślesak
CYANOBACTERIA AND ALGAE RESEARCH

PhD, DSc
Ewa Surówka
ABIOTIC STRESS RESEARCH: HALOPHYTES AND GLYCOPHYTES IN AGRICULTURE AND BIOECONOMY

# Institute of Agrophysics, PAS

LUBLIN

## KEY RESEARCH DOMAINS

agriculture, climate, soil, plant, plant raw material, soil microorganisms, plant microorganisms, atmosphere, greenhouse gases

## ABOUT THE INSTITUTE

The mission of the Institute is to carry out research for the sustainable production of agricultural plant raw materials in order to ensure food security and mitigate adverse environmental and climate changes.
Objects of study: soils, plants and plant raw materials of agricultural origin, soil and plant microorganisms, the atmosphere and GHGs.
Aims: to ensure proper conditions for the cultivation of agricultural plants, to ensure high quality food of plant origin, to mitigate the effects of climate change.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Cluster 5 | Cluster 6 | Widening instruments

## CONTACT

**Artur Zdunek**
Professor, Deputy Director for Scientific Affairs

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## FEATURED ACHIEVEMENTS & FACILITIES

The IA PAS has modern infrastructure for R&D located in 5 Departments (Department of Metrology and Modelling of Agrophysical Processes, Department of Physical Chemistry of Porous Materials, Department of Natural Environment Biogeochemistry, Department of Soil and Plant System, Department of Microstructure and Mechanics of Biomaterials) and 3 independent laboratories (Laboratory of Assessment of the Grain Raw Materials Quality, Laboratory of Granular Materials, Laboratory of Microalgal Biotechnology).
People: a staff of approximately 120, including approximately 60 researchers (physicists, chemists, biologists, biotechnologists); 2 Doctoral Schools in agriculture and horticulture, with around 20 PhD students. Holder of the “HR Excellence in Research” logo.

## FEATURED TEAM LEADERS

DSc, Associate Professor
**Krzysztof Lamorski**
DEPARTMENT OF METROLOGY AND MODELLING OF AGROPHYSICAL PROCESSES

Professor, DSc
**Magdalena Frąc**
DEPARTMENT OF SOIL AND PLANT SYSTEM

PhD, DSc, Associate Professor
**Katarzyna Szewczuk-Karpisz**
DEPARTMENT OF PHYSICAL CHEMISTRY OF POROUS MATERIALS

Professor, DSc
**Artur Zdunek**
DEPARTMENT OF MICROSTRUCTURE AND MECHANICS OF BIOMATERIALS

PhD, DSc
**Anna Walkiewicz**
DEPARTMENT OF NATURAL ENVIRONMENT BIOGEOCHEMISTRY

Professor, DSc
**Agnieszka Nawrocka**
LABORATORY OF ASSESSMENT OF THE GRAIN RAW MATERIALS QUALITY

# InLife - Institute of Animal Reproduction and Food Research, PAS

OLSZTYN

## KEY RESEARCH DOMAINS

food technology and nutrition, biotechnology & reproductive biotechnology, nutrition-health interactions, diagnostic tools, biodiversity, environmental impact

## ABOUT THE INSTITUTE

Our mission is to advance knowledge and create innovative solutions in the areas of food, health, and reproduction for the benefit of people, animals, and the environment. By combining interdisciplinary research with active engagement with the society, we confront global challenges, promote well-being, and support sustainable development. Emerging from the fusion of animal reproduction research and food science, InLife has evolved into a unique centre of interdisciplinary exploration, uniting more than 20 scientific teams.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Cluster 1 | Cluster 6 | Widening instruments | EIC/EIT

## CONTACT

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Head of Communications and International Affairs Office

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## FEATURED ACHIEVEMENTS & FACILITIES

Holding the status of a Leading National Science Centre and the highest “A+” category awarded by the Polish Ministry of Education and Science in food and nutrition technology, the Institute advances interdisciplinary research focused on innovative solutions in food, health, and reproduction. It is an active member of European networks such as EIT Food and the FutureFoodS Partnership, which work to build sustainable and healthy food systems through transformative innovation. Our specialist laboratories provide a collaborative space for researchers and partners from academia, industry, and the public sector. The Institute also operates an Interdisciplinary Doctoral School and holds the “HR Excellence in Research” award.

## FEATURED TEAM LEADERS

Professor
**Marek Strączkowski**
PROPHYLAXIS OF METABOLIC DISEASES TEAM

Professor
**Iwona Grabowska**
BIOELECTROANALYTICS TEAM

Professor
**Izabela Wocławek-Potockai**
EMBRYO BIOLOGY TEAM

PhD, DSc
**Joanna Wiśniewska**
REGENERATIVE BIOLOGY TEAM

Professor
**Adam Jurgoński**
BIOLOGICAL FUNCTION OF FOOD TEAM

Professor
**Radosław Kowalski**
AQUATIC ORGANISM REPRODUCTIVE BIOTECHNOLOGY TEAM

# Institute of Biochemistry and Biophysics, PAS

WARSAW

## KEY RESEARCH DOMAINS

bioinformatics, biological chemistry, medical biology, microbiology, mitochondria, plant and seed biology, polar studies, multi-omics, rare diseases, structural modelling, transcription, translation

## ABOUT THE INSTITUTE

The Institute is a leading Polish research institution in the life sciences. It conducts fundamental research in biophysics, biochemistry and related disciplines, aiming to translate discoveries into industrial and medical applications. The Institute also manages the Polish Henryk Arctowski Antarctic Station, located on King George Island off the coast of Antarctica. The Institute offers graduate training and awards doctoral degrees in biological and chemical sciences.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Cluster 1 | Cluster 5 | Cluster 6 | Widening instruments | EIC/EIT

## CONTACT

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## FEATURED ACHIEVEMENTS & FACILITIES

The expertise of our teams spans multiple levels of biological organization: molecular (proteins, nucleic acids, enzymes), organellar (mitochondria, peroxisomes, membranes), cellular (bacterial and eukaryotic cultures), and whole organisms (yeast, nematodes, plants). We offer extensive capabilities for large-scale analysis of genomes, transcriptomes, metabolomes, proteomes, and lipidomes. Many biological problems are co-addressed by both empirical and in silico approaches, with access to cutting edge experimental equipment and numerous licensed software tools. The Institute's facilities, including the Mass Spectrometry Facility and the DNA Sequencing and Synthesis Facility, provide vital research and consulting services, both internally and externally.

## FEATURED TEAM LEADERS

PhD, Assistant Professor
**Robert Bialik**
DEPARTMENT OF ANTARCTIC BIOLOGY

PhD, Assistant Professor
**Szymon Swiezewski**
LABORATORY OF SEEDS MOLECULAR BIOLOGY

Professor
**Roza Kucharczyk**
LABORATORY OF BIOENERGETICS AND MITOCHONDRIAL DISEASE MECHANISMS

PhD, Assistant Professor
**Roman Szczesny**
LABORATORY OF RNA BIOLOGY

PhD, Assistant Professor
**Agata Starosta**
LABORATORY OF TRANSLATOMICS

PhD, Assistant Professor
**Kevin Waldron**
LABORATORY OF METALLOPROTEIN BIOLOGY

# Institute of Bioorganic Chemistry, PAS

POZNAŃ

## KEY RESEARCH DOMAINS

RNA, nucleic acids, genomics, multi-omics, archeogenomics, structural biology, biotechnology, interceptive medicine, natural products, bioimaging, single cell sequencing, genome engineering, virology

## ABOUT THE INSTITUTE

The Institute is among the narrow group of leading scientific centers in Poland with an over 50-year history of interdisciplinary research in chemistry, biology, and informatics. Studies carried out at the Institute encompass a wide range of disciplines, stretching from bioorganic chemistry, through molecular biology, to systems and synthetic biology, with particular emphasis on nucleic acids. The Institute runs a Doctoral School and is authorized to award doctoral degrees in biological and chemical sciences.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Research Infrastructures | Cluster 1 | Cluster 6 | Widening instruments | EIC/EIT

## CONTACT

Agnieszka Konrad
Deputy Director of Cooperation

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## FEATURED ACHIEVEMENTS & FACILITIES

Evaluation performed by the Polish Ministry of Education and Science ranked the Institute of Bioorganic Chemistry among the 3 best Polish research and academic institutions in the field of biology and also among the top ones in chemistry and informatics. Out of the 70 facilities recognized as strategic infrastructures for science and the economy in Poland, 9 are located at the Institute; these include: the Center for Structural Biology, MOSAIC platform (Multiomics and Artificial Intelligence for Clinical Practice), NEBI (National Centre for Advanced Analysis of Biological and Biomedical Imaging), and the High-throughput Screening Center – part of the EU-Openscreen ERIC.

## FEATURED TEAM LEADERS

PhD, DSc
Maciej Figiel
DEPARTMENT OF MOLECULAR NEUROBIOLOGY

PhD, DSc
Jacek Łukasz Kolanowski
CENTRE FOR CHEMICAL BIOLOGY ERIC

Professor
Marek Figlerowicz
DEPARTMENT OF MOLECULAR AND SYSTEMS BIOLOGY

# Institute of Dendrology, PAS

KÓRNIK

## KEY RESEARCH DOMAINS

forest ecology, biodiversity, climate change, tree and shrub biology, species distribution, invasive species, carbon storage, mycorrhiza, plant-fungi--insect interactions, genetics, *in vitro* cultures

## ABOUT THE INSTITUTE

The Institute is a scientific institution dedicated to interdisciplinary research on the biology and ecology of woody plants. Our work encompasses forest and biological sciences, focusing on biogeography and systematics, developmental biology, ecology, genetics and environmental interactions, and symbiotic associations. We manage the Kórnik Arboretum (with ~3,000 taxa), an Herbarium, and an Experimental Forest (covering ~220 ha). We publish the international journal “Dendrobiology”.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Research Infrastructures | Cluster 5 | Cluster 6 | Widening instruments

## CONTACT

**Karolina Sobierajska**
Head of the Department of Scientific Information

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## FEATURED ACHIEVEMENTS & FACILITIES

Since its establishment in 1933, the Institute has been engaged in numerous national and international research projects. Our research agenda spans several critical areas, including tree physiology and ecophysiology, long term storage of genetic resources, seed biology, seed dormancy, cryopreservation, genetic diversity, *in vitro* cultures, adaptation mechanisms, biodiversity conservation, biological invasions, as well as modelling of geographic ranges, forest ecosystem dynamics, and carbon storage so as to better understand the impact of environmental change on forest ecosystems. The institute boasts very well-equipped laboratories. It has the right to confer doctorate (PhD) and *habilitation* (DSc) degrees in the fields of forest sciences and biological sciences.

## FEATURED TEAM LEADERS

PhD
**Marcin Pietras**
DEPARTMENT OF BIOGEOGRAPHY AND SYSTEMATICS

PhD
**Emilia Pers-Kamczyc**
DEPARTMENT OF GENETICS AND ENVIRONMENTAL INTERACTIONS

PhD
**Ewelina Ratajczak**
DEPARTMENT OF DEVELOPMENTAL BIOLOGY

PhD
**Tomasz Leski**
DEPARTMENT OF SYMBIOTIC ASSOCIATIONS

Professor
**Andrzej M. Jagodziński**
DEPARTMENT OF ECOLOGY

# Institute of Genetics and Animal Biotechnology, PAS

JASTRZĘBIEC

## KEY RESEARCH DOMAINS

animal biotechnology, genetics, animal sciences, health sciences, nutrigenomics, embryology, molecular biology, animal welfare, functional genomics, quality of food of animal origin

## ABOUT THE INSTITUTE

The Institute conducts extensive research in the fields of animal genetics, breeding, and biotechnology, seeking to contribute to innovation and biological progress in agriculture with the aim of improving the quality of life of society. The Institute is one of the leading research institutions in Poland with the highest scientific category "A+" and holding the prestigious status of a Leading National Science Centre (KNOW), as well as a European Center of Excellence (ANIMBIOGEN in EU).

## INTEREST IN HORIZON EUROPE

MSCA instruments | Cluster 1 | Cluster 5 | Cluster 6 | Widening instruments | EIC / EIT

## CONTACT

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Deputy Director for General Affairs

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## FEATURED ACHIEVEMENTS & FACILITIES

The Institute employs 120 people, 40% of them scientists from abroad. The Institute cooperates with 80 research units from 20 countries and several Technology Platforms. In the last 5 years, the Institute has carried out over 40 research projects in animal sciences and health sciences with a value of over 20 M EUR, including 11 projects financed by the EU Framework Programmes.

The Institute has 6 research departments – Biotechnology and Nutrigenomics, Molecular Biology (including transcriptomics & proteomics), Animal Behavior and Welfare, Experimental Embryology, Genomics and Biodiversity, and Experimental Genomics – as well as very well-equipped core-facility laboratories and modern animal facilities.

## FEATURED TEAM LEADERS

PhD, DSc
**Joanna Marchewka**
DEPARTMENT OF ANIMAL BEHAVIOR AND WELFARE

Professor
**Jaroslaw Olav Horbańczuk**
DEPARTMENT OF BIOTECHNOLOGY AND NUTRIGENOMICS

PhD, DSc
**Irene Camerlink**
ANIMAL SOCIAL BEHAVIOR GROUP, DEPARTMENT OF ANIMAL BEHAVIOR AND WELFARE

PhD, DSc
**Hiroaki Taniguchi**
TEAM FOR GENOME EDITING AND TRANS-CRIPTIONAL REGULATION/DEPARTMENT OF EXPERIMENTAL EMBRYOLOGY

PhD, DSc
**Anna Piliszek**
DEPARTMENT OF EXPERIMENTAL EMBRYOLOGY

PhD
**Artur Zelent**
DEPARTMENT OF MOLECULAR BIOLOGY

# Institute of Nature Conservation, PAS

KRAKÓW

## KEY RESEARCH DOMAINS

nature conservation, ecology, conservation biology, geology, invasive species, climate change, social aspects of nature conservation, biodiversity, wildlife, freshwater biology, applied ecology

## ABOUT THE INSTITUTE

The Institute's main task is to develop solid scientific foundations for modern nature conservation and environmental protection. It conducts research in ecology, conservation biology, and geology, and is characterized by a comprehensive approach and multifaceted research, taking into account different perspectives and different organizational levels.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Research Infrastructures | Cluster 6 | Widening instruments

## CONTACT

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Research Development Specialist

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## FEATURED ACHIEVEMENTS & FACILITIES

The Institute actively participates in numerous national and international projects, such as Horizon Europe (in consortium), LIFE, COST, Biodiversa, and EOG. Research results are published in international journals such as Nature and Science. The Institute has five departments (Biodiversity, Ecosystem Conservation, Geoconservation, Wildlife Conservation, Freshwater Biology) and a number of specialized research teams (e.g. Biological Invasions or Biological Consequences of Climate Change). It has approximately 50 scientists on staff. Facilities include the Institute's own mountain research station, with a seed bank and a botanical garden of mountain plants. The Institute collaborates with other national and international scientific institutions, national parks, government agencies and industry.

## FEATURED TEAM LEADERS

PhD
**Aleksandra Biedrzycka**
DEPARTMENT OF WILDLIFE CONSERVATION

PhD
**Wojciech Solarz**
RESEARCH TEAM - BIOLOGICAL INVASIONS

PhD
**Magdalena Lenda**
ECOLOGY OF AGRICULTURAL LANDSCAPE AND FOOD PRODUCTION

PhD
**Szymon Śniegula**
DEPARTMENT OF ECOSYSTEM CONSERVATION

PhD
**Agnieszka Bednarska**
DEPARTMENT OF BIODIVERSITY

PhD
**Maciej Liro**
LABORATORY OF MACROPLASTIC POLLUTION/ DEPARTMENT OF GEOCONSERVATION

# Institute of Paleobiology, PAS

WARSAW

## KEY RESEARCH DOMAINS

functional and evolutionary morphology, paleobiology of invertebrates and vertebrates, biomineralization, biosedimentology and paleogeomicrobiology, paleoclimatic and environmental changes

## ABOUT THE INSTITUTE

The mission of the Institute is to understand the fossil record as a foundation of knowledge about the history and evolution of the living world. The Institute draws together a rich diversity of scientific expertise that ranges from descriptions of fossil biota to interdisciplinary research on biomineralization. The questions addressed in our research include how environmental change, measured over millions of years, can drive evolution, and how evolution may also affect environmental conditions.

## INTEREST IN HORIZON EUROPE

Cluster 5 | Cluster 6

## CONTACT

Wojciech Majewski
Professor

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## FEATURED ACHIEVEMENTS & FACILITIES

In recent years, our researchers have published a number of publications in high-profile scientific journals, on topics including problems of earliest evidence of life on Earth, the origin and evolution of vertebrates, mammalian paleoneurobiology, as well as the emergence of coral reefs and the evolution of biomineralizing organisms. The Institute has a wide variety of traditional and modern laboratories, including:

(1) Laboratory of Cathodoluminescence Microscopy (hot cathode),
(2) Laboratory of Microtomography (Zeiss XRadia MicroXCT-200),
(3) 3D Laboratory,
(4) Electron Microscopy and Electron Microprobe Laboratory (Philips FEI XL-20, and ThermoFisher QUATTRO S FE-SEM),
(5) thin section and preparatory laboratories.

## FEATURED TEAM LEADERS

Professor
Jarosław Stolarski
BIOSTRUCTURES AND BIOMINERALIZATION WORKING GROUP

# Institute of Systematics and Evolution of Animals, PAS

KRAKÓW

## KEY RESEARCH DOMAINS

archaeozoology, biogeography, biological conservation, climate change, cytogenetics, ecology, evolution, fossil resin, integrative taxonomy, phylogeny, radiocarbon dating, systematics

## ABOUT THE INSTITUTE

The ISEA PAS carries out a wide range of research on the evolution and biodiversity of the animal world, including taxonomy, phylogenetics, cytogenetics, palaeontology, biogeography and ecology. Our scientists conduct innovative studies that contribute to national and international understanding of animal diversity. The Institute also curates one of the largest and most valuable natural history collections in Poland, providing an essential resource for research, education and public outreach.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Cluster 1 | Cluster 5 | Cluster 6 | Widening instruments | EIC / EIT

## CONTACT

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PhD, Director of the Institute

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## FEATURED ACHIEVEMENTS & FACILITIES

The Institute conducts national and international research projects, including a European Research Council Consolidator Grant. Its researchers publish in leading journals such as Nature and Nature Communications. The Institute also holds the HR Excellence in Research award. The Institute's Scientific Zoological Collection is one of the largest and most diverse in Poland and a key European resource, containing around 2.5 million fossil and recent specimens, including a unique set of living *Paramecium taxa*. The ISEA PAS Laboratory of Molecular Techniques provides advanced analyses, including Sanger sequencing and next-generation library preparation for both contemporary specimens and ancient DNA. The Institute maintains extensive international collaborations.

## FEATURED TEAM LEADERS

Professor
**Łukasz Kajtoch**
DEPARTMENT OF MOLECULAR BIODIVERSITY

PhD
**Jarosław Wilczyński**
DEPARTMENT OF VERTEBRATE ZOOLOGY

PhD
**Dawid Moroń**
DEPARTMENT OF ECOLOGY

# Institute of Rural and Agricultural Development, PAS

WARSAW

IRWIR PAN

## KEY RESEARCH DOMAINS

rural development, rural community, rural-urban relations, rural well-being, farming, food networks, sustainable development, multifunctional country-side, land use, rural and agricultural policies

## ABOUT THE INSTITUTE

The Institute for the past 50 years has gained considerable recognition and acknowledgment in the fields of rural development and agriculture. It is a leading interdisciplinary research organisation focused on monitoring current socio-economic and environmental challenges that rural communities face. It conducts domestic and international research and development projects on rural and agricultural issues. The Institute is a precursor of theoretical studies on rural multifunctionality.

## FEATURED ACHIEVEMENTS & FACILITIES

The Institute's researchers are currently involved in international projects under the Horizon 2020 and Horizon Europe EU framework programmes: SURE-Farm, LIFT, FARMWELL, SoilValues, FOODPathS, SWIFT, the BioMonitor4CAP and FoSSNet. The Institute has been researching socio-economic development of rural areas and their communities from the geographical perspective within the "Rural Development Monitoring" Programme.

The Institute's library offers a wide range of publications on local and regional economics, agricultural economics, rural tourism, rural sociology, anthropology, and other broadly considered rural topics.

## INTEREST IN HORIZON EUROPE

Cluster 1 | Cluster 2 | Cluster 4 | Cluster 5 | Cluster 6 | EIC/EIT

## CONTACT

Adam Czarnecki
Director for Scientific Affairs

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## FEATURED TEAM LEADERS

PhD, DSc
**Adam Czarnecki**
RESEARCH TEAM ON RURAL WELL-BEING

PhD
**Anna Rosa**
RESEARCH TEAM ON REGENERATIVE AGRICULTURE

PhD, DSc
**Katarzyna Zawalińska**
LABORATORY OF ECONOMIC MODELLING

PhD, DSc
**Paweł Chmieliński**
LABORATORY ON SUSTAINABLE EUROPEAN FOOD SYSTEMS

# Mammal Research Institute, PAS

BIAŁOWIEŻA

Mammal Research Institute
Polish Academy of Sciences
Białowieża

## KEY RESEARCH DOMAINS

biodiversity, ecology of mammals, conservation biology, applied ecology, environmental disturbances, human impact, conservation policies

## ABOUT THE INSTITUTE

The Institute is a pioneering institution in zoological research, specializing in various aspects of mammalogy, including mammal morphology, taxonomy, systematics, evolution, genetics, ethology, and ecology. With over 70 years of expertise, it combines traditional scientific approaches with modern techniques to study environmental shifts, local adaptations, and global processes shaping mammalian biology. The Institute's mission is to advance the understanding of mammalian science, contributing significantly to this dynamic field.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Research Infrastructures | Cluster 6 | Widening instruments

## CONTACT

Kamila Plis
Head of Grant Office

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+48 533 222 171

## FEATURED ACHIEVEMENTS & FACILITIES

The Institute is equipped with state-of-the-art research infrastructure, including a microtomograph, a 3D scanner, a high-capacity central computing system, and fully equipped biochemistry and ecophysiology laboratories. Facilities for animal husbandry are available under controlled conditions. The Institute also boasts a significant zoological collection, with over 200,000 specimens of skulls and skeletal fragments, making it one of Europe's largest. Field research is enhanced by the Trapper system, which uses AI to store and analyse data from camera traps.

## FEATURED TEAM LEADERS

PhD, DSc
Magdalena Niedziałkowska
MOLECULAR BIOGEOGRAPHY TEAM

PhD, DSc
Dries Kuijper
KUIJPER'S LAB

PhD, DSc
Michał Żmihorski
ŻMIHORSKI'S LAB

# Nencki Institute of Experimental Biology, PAS

WARSAW

## KEY RESEARCH DOMAINS

bio-imaging, neuroscience, cognition, neuronal plasticity, neurodegenerative diseases, neurological disorders, cancer, diabetes, metabolism, bioenergetics, obesity, epigenetics, biomedicine, civilizational diseases

## ABOUT THE INSTITUTE

The Nencki Institute ranks among the leading biological centers in Europe. The Institute implements its mission through three strategic pillars: conducting top-quality scientific research, transferring biomedical knowledge and technology, and educating future leaders in science. The main stream of research focuses on new therapies and diagnostic methods for cancer, diabetes, neurodegenerative diseases, neurological disorders, and other diseases of modern civilization. The Institute develops world-class expertise and innovative technologies.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Research Infrastructures | Cluster 1 | Widening instruments | EIC / EIT

## CONTACT

Izabela Dolińska
Head of the Office of International Relations and Project Management

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## FEATURED ACHIEVEMENTS & FACILITIES

State-of-the-art core facilities at the Nencki Institute support scientific research and provide a wide range of expertise, including DNA sequencing - NGS, behavioral testing, cytometry, viral vector production, bioinformatics, preclinical testing and biological imaging. We also cooperate with industry to bring novel products to the pharmaceutical, biomedical, and biotechnological markets. We conduct over 80 research projects in international cooperation with research entities from 21 countries and we participate in numerous scientific consortia and research networks. Current and former EU grants include 3 ERC StGs, 15 MSCA grants including an ongoing DN, a coordinated MISSION CANCER, a HOP-ON and a HLTH--STAYHLTH.

## FEATURED TEAM LEADERS

PhD
**Adam Kłosin**
LABORATORY OF SPATIAL EPIGENETICS

Professor
**Ewelina Knapska**
LABORATORY OF EMOTIONS NEUROBIOLOGY

PhD, DSc
**Katarzyna Leszczyńska**
LABORATORY OF TUMOUR OF HYPOXIA AND EPIGENOMICS

PhD, DSc, Assoc. Prof.
**Tomasz Wypych**
LABORATORY OF HOST-MICROBIOME INTERACTIONS

PhD, Assoc. Prof.
**Aleksandra Pękowska**
DIOSCURI CENTER FOR CHROMATIN BIOLOGY AND EPIGENOMICS

PhD, DSc, Assoc. Prof.
**Grzegorz Sumara**
DIOSCURI CENTER FOR METABOLIC DISEASES

# W. Szafer Institute of Botany, PAS

KRAKÓW

## KEY RESEARCH DOMAINS

botany, bryology, phycology, mycology, lichenology, paleo- and archaebotany, ecology, systematics, taxonomy, biogeography, genomics, phylogenetics, eco-physiology, metabolomics, pharmacognosy

## ABOUT THE INSTITUTE

The Institute is a leading institution in botanical research, with over 70 years of history. It studies the evolution and biological diversity of organisms traditionally classified as plants and fungi, as well as their interactions with their environments. Research ranges from molecular studies to ecosystem dynamics, and the Institute is renowned for its contributions to botanical disciplines through the use of modern molecular techniques.

## FEATURED ACHIEVEMENTS & FACILITIES

With a staff of 45 researchers, the Institute merges modern scientific inquiry with traditional botanical disciplines, resulting in significant publications and successful grant projects. It hosts Poland's largest herbarium collection (with 1.6 million items), which is being digitized for accessibility. The Institute's facilities include laboratories for Environmental Genomics, Microbiology, Ecochemistry, and Palaeobotany. Additionally, it coordinates the Doctoral School of Nature and Agriculture Sciences. The Institute is also developing the unique CouTech platform, designed to enable comprehensive environmental and laboratory screening of diverse technological and biologically relevant organisms.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Research Infrastructures | Cluster 2 | Cluster 6 | Widening instruments

## CONTACT

Lucyna Śliwa
Professor, Director

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## FEATURED TEAM LEADERS

PhD
**Magdalena Moskal-del Hoyo**
PALAEOBOTANY AND PALAEOENVIRONMENT GROUP

PhD
**Michał Adamski**
FUNCTIONAL AND EVOLUTIONARY ECOLOGY GROUP

PhD
**Adam Flakus**
BIODIVERSITY AND EVOLUTION GROUP

PhD
**Magdalena Szechyńska-Hebda**
PLANT BIOLOGY GROUP

PhD
**Małgorzata Stanek**
LABORATORY OF ECOCHEMISTRY AND ENVIRONMENTAL ENGINEERING

PhD
**Paweł Kapusta**
FUNCTIONAL AND EVOLUTIONARY ECOLOGY GROUP

# DIVISION III

Mathematics, Physics, Chemistry and Earth Sciences

# Centre of Molecular and Macromolecular Studies, PAS

ŁÓDŹ

## KEY RESEARCH DOMAINS

organic chemistry, polymers, structural chemistry, structural characterization (NMR, X-Ray, MS), surface characterization (AFM, XPS, SEM, TEM), screening laboratory, DNA/RNA synthesis, cell culture

## ABOUT THE INSTITUTE

The Centre is an interdisciplinary scientific institute specializing in organic chemistry, bioorganic chemistry, polymer chemistry, and polymer physics, with a special emphasis on developing methods of making advanced materials in both the low molecular weight and high molecular weight domains. It has an “A” category rating in chemistry and holds the “HR Excellence in Research” distinction. Currently it employs 172 individuals, including 73 researchers.

## FEATURED ACHIEVEMENTS & FACILITIES

The Centre comprises 5 research divisions. In view of its multidisciplinary approach, it maintains a variety of highly specialized laboratories (in chemistry, polymer preparation and physics analysis, biology, and biochemistry). Our infrastructure includes equipment for physicochemical methods (e.g. NMR, Mass, FT-IR spectrophotometers, diffractometers, a gas chromatograph, a flow cytometer, microscopes) and for molecular biology and biochemistry. Our scientists are engaged in research projects financed by various funding agencies. The Centre is the leader of the MAGREZ platform – one of strategic infrastructures for scientific and economic development in Poland.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Research Infrastructures | Cluster 1 | Cluster 4 | Widening instruments

## CONTACT

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Director’s Representative for Commercialization

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## FEATURED TEAM LEADERS

PhD, DSc
**Marek Brzeziński**
REACTIVE AND SUPRAMOLECULAR POLYMERS GROUP

PhD, DSc
**Monika Gosecka**
CROSS-LINKED MATERIALS TEAM

PhD
**Wojciech Cypryk**
LABORATORY OF MOLECULAR MEDICINE

PhD, DSc
**Artur Różański**
PHYSICAL PROPERTIES OF CRYSTALLIZING POLYMERS GROUP

PhD, DSc
**Marta Dudek**
CRYSTAL CHEMISTRY AND ENGINEERING TEAM

PhD, DSc
**Iurii Vozniak**
GROUP OF LIGHT AND STRONG POLYMER MATERIALS

# Centre of Polymer and Carbon Materials, PAS

ZABRZE

CMPW PAN

## KEY RESEARCH DOMAINS

stimuli-responsive polymers, biomaterials, nanostructures, carbon materials, hybrid composites, drug delivery system, light-sensitive materials, solar cells, photovoltaic

## ABOUT THE INSTITUTE

The Centre conducts interdisciplinary research on advanced polymer, carbon, and polymer-carbon materials. These materials find applications in healthcare, environmental protection, biotechnology, and nanotechnology. With a team of 60 scientists, the Centre publishes more than 100 high-impact papers annually, often in collaboration with national and foreign centres. The Centre is also authorized to award doctoral degrees in chemical sciences and holds the “HR Excellence in Research” distinction.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Research Infrastructures | Cluster 1 | Cluster 4 | Widening instruments

## CONTACT

**Urszula Szeluga**
PhD, DSc, Deputy Director for Scientific Affairs

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## FEATURED ACHIEVEMENTS & FACILITIES

Research at the Centre is conducted across 6 laboratories, focusing on the development of new polymer materials, including biocompatible nanostructures for bioapplications, environmentally friendly plastics, polymer-carbon composites, and new materials for optoelectronics. Additionally, research deals with thin-layer deposition technologies and the synthesis of graphene and porous carbon materials as precursors for eco-friendly materials. The Centre’s research capabilities support comprehensive, interdisciplinary studies with an emphasis on practical applications. Notable achievements include developing biodegradable non-woven dressings and next-generation biodegradable vascular stents using the micro-injection method.

## FEATURED TEAM LEADERS

PhD, DSc
**Agnieszka Kowalczuk**
LABORATORY OF NANO- AND MICROSTRUCTURAL MATERIALS

PhD, DSc
**Sławomira Pusz**
MICROSCOPY LABORATORY

Professor
**Grażyna Adamus**
LABORATORY OF BIODEGRADABLE MATERIALS

Professor
**Ewa Schab-Balcerzak**
LABORATORY OF ENGINEERING FUNCTIONAL MATERIALS

PhD, DSc
**Urszula Szeluga**
LABORATORY OF CARBON AND POLYMER-CARBON MATERIALS

# Institute of Catalysis and Surface Chemistry, PAS

KRAKÓW

## KEY RESEARCH DOMAINS

catalytic and interface processes for industry and environment protection, biotechnology, biosynthesis, synthesis of nanomaterials, nanotechnology for medicine, theranostic nanocarriers

## ABOUT THE INSTITUTE

The Institute is a research institute specializing in the study of catalysis and the physics and chemistry of surfaces. The scope of the interdisciplinary research carried out by our 70 scientists encompasses chemistry, physics, nanotechnology, biotechnology, biology, and medicine. We aim to understand phenomena occurring at fluid–fluid and fluid–solid interfaces and to apply this knowledge in natural science.

## FEATURED ACHIEVEMENTS & FACILITIES

A Surface Nanostructures laboratory operated together with the National Synchrotron Radiation Centre SOLARIS specializing in metallic and oxide nanostructures and the magnetic properties of layered materials; • A Joint Laboratory of Biotechnology and Enzyme Catalysis as well as a Bioprocess Development Laboratory providing expertise in the study of enzymes and biosynthesis of bioplastic-based materials; • A Laboratory of Nanotechnology and a research group for Physiochemistry of Colloidal Systems – conducting soft matter and nanotechnology research, developing new diagnostic, therapeutic, and drug delivery systems; • A Cultural Heritage Research group providing cutting-edge research and consulting services for the preservation of cultural heritage.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Research Infrastructures | Cluster 4 | Cluster 5 | Cluster 6 | Widening instruments

## CONTACT

Maciej Szaleniec
Professor

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+48 12 639 52 18

## FEATURED TEAM LEADERS

PhD, DSc
**Maciej Szaleniec**
JOINT LABORATORY OF BIOTECHNOLOGY AND ENZYME CATALYSIS

PhD, DSc
**Jan Zawala**
INTERFACIAL INTERACTIONS IN DISPERSED SYSTEMS RESEARCH TEAM

PhD, DSc
**Maciej Guzik**
BIOPROCESS DEVELOPMENT LABORATORY

PhD, DSc
**Krzysztof Szczepanowicz**
NANOSTRUCTURES OF SOFT MATTER

Professor
**Łukasz Bratasz**
CULTURAL HERITAGE RESEARCH GROUP

# Institute of Geological Sciences, PAS

WARSAW

## KEY RESEARCH DOMAINS

tectonics, structural geology, basin analysis, sedimentology, petrology, planetary geology, isotope geochemistry, geochronology, clay mineralogy, paleoclimatology, paleobiology, environmental research

## ABOUT THE INSTITUTE

The Institute brings together passionate scientists dedicated to innovative research in the Earth and environmental sciences. We are committed to understanding the structure and evolution of the lithosphere and its impact on the environment. Our main goal is to support the sustainable development of modern society and contribute to solving global challenges. We envision a world where trust between scientists and society fosters a resilient environment in which everyone can develop and thrive.

## INTEREST IN HORIZON EUROPE

Research Infrastructures | Cluster 5 | Cluster 6 | Widening instruments

## CONTACT

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Head of the Scientific Information Office

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## FEATURED ACHIEVEMENTS & FACILITIES

The Institute is engaged in nearly 60 domestic and foreign research projects, including over 40 financed by the National Science Centre. We publish approximately 100 papers annually in high-impact scientific journals. Our research groups have an extensive network of international cooperation and a strong reputation within the scientific community. The Institute's largest laboratories are: 1. the Geochronology and Isotope Geochemistry Labs, equipped with ultra-clean chemistry setups, mass spectrometers, and laser ablation technology; 2. the Stable Isotope Lab, featuring mass spectrometers and automated extraction lines; 3. the Clay Minerals Lab, using X-ray diffractometry, noble gas spectrometry, thermogravimetry combined with infrared spectroscopy, and low-/high pressure gas adsorption units.

## FEATURED TEAM LEADERS

Professor
**Stanisław Mazur**
DEPOSITIONAL SYSTEMS RESEARCH GROUP

Professor
**Arkadiusz Derkowski**
CLAY MINERALS RESEARCH GROUP

PhD, Assoc. Prof.
**Piotr Krzywiec**
SEISMIC INTERPRETATION AND BASIN ANALYSIS RESEARCH GROUP (SEISSED)

Assoc. Prof.
**Edyta Zawisza**
ENVIRONMENTAL CHANGE - CLIMATE AND HUMAN (PALEO)

Professor
**Anna Wysocka**
DEPOSITIONAL SYSTEMS RESEARCH GROUP

Professor
**Jarosław Tyszka**
BIOGEOSYSTEM MODELLING GROUP

# Institute of Geophysics, PAS

WARSAW

Institute of Geophysics
Polish Academy of Sciences

## KEY RESEARCH DOMAINS

geosystem processes, earth structure & georesources, climate change & polar regions, anthropogenic and natural geohazard

## ABOUT THE INSTITUTE

The Institute is a multidisciplinary scientific institution dedicated to advanced research, teaching, and providing services in the field of geophysics. It is one of the largest research centers in Poland involved in monitoring the environment as well as one of the leading Polish institutions related to the Earth sciences. The Institute plays a crucial role in exploring the Earth, from the atmosphere through the hydrosphere to the deep interior of the Earth.

## INTEREST IN HORIZON EUROPE

Research Infrastructures | Cluster 5 | Cluster 6

## CONTACT

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## FEATURED ACHIEVEMENTS & FACILITIES

The Institute of Geophysics is the leader of a consortium of five institutes of the Polish Academy of Sciences – known as the Earth and Planetary Research Centre (GeoPlanet) – which provides wide access to extensive infrastructure and enormous research potential. The Institute also actively participates in world studies of the polar regions. Moreover, the Institute of Geophysics manages the Stanisław Siedlecki Polish Polar Station in Hornsund in Svalbard – a unique facility with international status, which conducts year-round monitoring in this part of the Arctic.

## FEATURED TEAM LEADERS

Professor
**Beata Orlecka-Sikora**
DEPARTEMENT OF SEISMOLOGY

Assoc. Prof.
**Krzysztof Mizerski**
DEPARTMENT OF MAGNETISM

Assoc. Prof.
**Aleksander Pietruczuk**
DEPARTMENT OF ATMOSPHERIC PHYSICS

Professor
**Mariusz Majdański**
DEPARTMENT OF SEISMIC RESEARCH

Professor
**Marzena Osuch**
DEPARTMENT OF HYDROLOGY AND HYDRODYNAMICS

Assoc. Prof.
**Mateusz Moskalik**
DEPARTMENT OF POLAR AND MARINE RESEARCH

# Institute of Low Temperature and Structure Research, PAS

WROCŁAW

## KEY RESEARCH DOMAINS

new materials, superconductivity, magnetism, heat transport, structural properties and phase transitions in wide temperature range from ultra-low temperatures; catalysis

## ABOUT THE INSTITUTE

Our mission is to conduct scientific research (mostly basic, but also pre-application), to provide scientific training for researchers and specialists, to collaborate with universities and other researchers, to support governmental units in metrological duties and the popularization of knowledge.

## FEATURED ACHIEVEMENTS & FACILITIES

The Institute works on synthesizing new chemical compounds with unique properties, determining their structure, optical, magnetic, superconducting, catalytic, electrical, and thermal properties at ultra-low temperatures, under strong magnetic fields and high pressures. Experimental work is supported by theoretical modeling of their electronic and phonon properties, as well as studies of phase transitions and other critical phenomena. For a number of years, the Institute has also been involved in the interdisciplinary research in the fields of physics, chemistry, materials science, biology, and medicine. This involves modern materials for (bio)imaging and biosensing, photodynamic therapy, luminescence nano-thermometry and in theranostics.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Research Infrastructures | Cluster 1 | Cluster 4 | Cluster 5 | EIC / EIT

## CONTACT

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Position for International Cooperation

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## FEATURED TEAM LEADERS

Professor
**Łukasz Marciniak**
LUMINESCENT NANOPARTICLE FOR SENSING AND IMAGING LUNASI GROUP, DIVISION OF BIOMEDICAL PHYSICOCHEMISTRY

Professor
**Tomasz Cichorek**
LABORATORY FOR LOW TEMPERATURE PHYSICS

Professor
**Artur Bednarkiewicz**
LUMINESCENT NANOPARTICLE ASSISTED SENSING AND IMAGING GROUP (LUNASI), DIVISION OF BIOMEDICAL PHYSICOCHEMISTRY

Professor
**Rafał Wiglusz**
BBRA - BIOMATERIALS FOR BIO-RELATED APPLICATIONS, DIVISION OF BIOMEDICAL PHYSICOCHEMISTRY

# Institute of Oceanology, PAS

SOPOT

## KEY RESEARCH DOMAINS

climate change, marine environment, biodiversity, coastal ecosystems, marine organisms, carbon cycle in the marine environment biotechnology, genetic and physiological mechanisms

## ABOUT THE INSTITUTE

Our mission is to conduct marine environment research in order to expand knowledge of marine processes and phenomena. This research focuses on four strategic fields: the role of the oceans in climate change and its effects on European seas; natural and anthropogenic variability of the Baltic Sea environment; contemporary changes in the coastal ecosystems of shelf seas; genetic and physiological mechanisms of the functioning of marine organisms.

## FEATURED ACHIEVEMENTS & FACILITIES

Modern laboratories, multi-year data series, and our own research vessel, the S/Y “Oceania”, enable us to conduct specialized high-standard interdisciplinary research in the European seas. We also work to popularize knowledge about the sea. Our Climate and Ocean Research and Education Laboratory is engaged in a series of activities to boost ocean literacy among local communities. The Institute has the right to confer doctorate (PhD) and higher doctorate (DSc / habilitation) degrees in the field of natural sciences, in the discipline of Earth and related environmental sciences.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Cluster 5 | Cluster 6

## CONTACT

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Scientific Secretariat

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## FEATURED TEAM LEADERS

Professor
Ksenia Pazdro
MARINE CHEMISTRY & BIOCHEMISTRY DEPARTMENT

Professor
Mirosław Darecki
MARINE PHYSICS DEPARTMENT

Professor
Jacek Piskozub
PHYSICAL OCEANOGRAPHY DEPARTMENT

Professor
Artur Burzyński
GENETICS & MARINE BIOTECHNOLOGY DEPARTMENT

Professor
Maria Włodarska-Kowalczuk
MARINE ECOLOGY DEPARTMENT

Professor
Marek Zajączkowski
DEPARTMENT OF PALEOCEANOGRAPHY

# Institute of Physical Chemistry, PAS

WARSAW

## KEY RESEARCH DOMAINS

physical chemistry; chemistry inspired by biology/medicine, pharmacy, physics, environmental chemistry, optics, biophotonics, renewable energy sources, medical diagnostics

## ABOUT THE INSTITUTE

The Institute has made significant contributions to diverse fields, including photovoltaic cells, pure materials technology, markers for diagnostics and cancer therapy, electronics, optoelectronics. Dozens of research teams specialize in experimental research, such as the synthesis and characterization of nanostructures, as well as theoretical studies. We host the International Centre for Interfacing Magnetism and Superconductivity with Topological Matter, the MSCA Cofund project QNBTechPole, and the most extensive MBE facilities in the region.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Cluster 1 | Cluster 5 | Cluster 6 | Widening instruments | EIC / EIT

## CONTACT

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Representative for R&D funding

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## FEATURED ACHIEVEMENTS & FACILITIES

The Institute hosted ERC StG (microCODE) and established the ERA Chair (H2020, CREATE) which later evolved into the International Centre for Translational Eye Research (ICTER), developing hi-tech solutions to diagnose and treat eye diseases. Prestigious Teaming for Excellence (HE) funding further enabled ICTER's growth into the Translational Research and Innovation in Ophthalmology Vision – Centre of Excellence, advancing its mission in cutting-edge ophthalmic technologies. We are also part of the Virtual Research Institute, conducting research under "Horizon for Excellence in messenger RNA applications in immunOncology" (EUR 15M) and coordinating MSCA Cofund projects – two completed (NaMeS, PD2PI) and one ongoing (BS4S).

## FEATURED TEAM LEADERS

PhD, DSc
**Agnieszka Michota-Kamińska**
PLASMONIC NANOSTRUCTURES FOR BIOSPECTROSCOPIC ANALYSES

Professor
**Maciej Wojtkowski**
INTERNATIONAL CENTRE FOR TRANSLATIONAL EYE RESEARCH

Professor
**Marcin Drąg**
CHEMICAL BIOLOGY CENTRE

Professor
**Robert Hołyst**
SOFT CONDENSED MATTER GROUP

Professor
**Janusz Lewiński**
COORDINATION METAL COMPLEXES AND FUNCTIONAL MATERIALS

Professor
**Joanna Niedziółka-Jönsson**
SURFACE NANOENGINEERING GROUP

# Institute of Physics, PAS

WARSAW

## KEY RESEARCH DOMAINS

nanostructures, new materials, quantum technologies, superconductivity, magnetism, phase transitions, catalysis, optical spectroscopy, photovoltaics, biological markers, fluid dynamics, biomolecules

## ABOUT THE INSTITUTE

The Institute has made significant contributions to diverse fields, including photovoltaic cells, pure materials technology, markers for diagnostics and cancer therapy, electronics, optoelectronics. Dozens of research teams specialize in experimental research, such as the synthesis and characterization of nanostructures, as well as theoretical studies (biophysics, quantum systems, and more). We host the International Centre for Interfacing Magnetism and Superconductivity with Topological Matter and the MSCA Cofund project QNBTechPole.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Research Infrastructures | Cluster 1 | Cluster 5 | Widening instruments | EIC / EIT

## CONTACT

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## FEATURED ACHIEVEMENTS & FACILITIES

The Institute has made significant contributions to diverse fields, including photovoltaic cells, pure materials technology, markers for diagnostics and cancer therapy, electronics, optoelectronics and topology. It has dozens of research teams specializing in experimental approaches, such as the synthesis and characterization of nanostructures) as well as theoretical studies (including biophysics and quantum systems). With an “A” category excellence rating, the Institute has the right to confer doctorate (PhD) and higher doctorate (DSc / habilitation) degrees in the field of physics.

## FEATURED TEAM LEADERS

PhD, DSc
**Marcin Klepka**
LABORATORY OF X-RAY AND ELECTRON MICROSCOPY RESEARCH

PhD, DSc
**Emilia Witkowska**
THEORETICAL PHYSICS

PhD, DSc
**Bożena Sikora-Dobrowolska**
LABORATORY OF BIOLOGICAL PHYSICS

Professor
**Bartłomiej Witkowski**
GROUP OF PHYSICS OF OXIDE STRUCTURES

PhD
**Michał Szot**
DEVICE EPITAXY GROUP/INFRARED OPTICS AND PHOTONICS LABORATORY

Professor
**Yaroslav Zhydachevskyy**
GROUP OF HIGH-PRESSURE SPECTROSCOPY

# Institute of Organic Chemistry, PAS

WARSAW

## KEY RESEARCH DOMAINS

organic synthesis, catalysis, reaction mechanisms, supramolecular chemistry, spectroscopy, organocatalysis, functional materials and dyes, C-H activation, photochemistry, computer-aided synthesis

## ABOUT THE INSTITUTE

The Institute is a leading Polish research unit in the field of organic chemistry. The main lines of research concern the methodology of organic synthesis, catalysis, and reaction mechanisms. The chemistry of porphyrinoids, supramolecular chemistry, and computer-aided organic synthesis are being investigated. The Institute is authorized to award doctoral and postdoctoral degrees in chemical sciences. Currently, research is being conducted by 169 scientists, including 52 PhD students.

## INTEREST IN HORIZON EUROPE

MSCA instruments, Research Infrastructures, Cluster 5, Cluster 6, Widening instruments, EIC / EIT

## CONTACT

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## FEATURED ACHIEVEMENTS & FACILITIES

The Institute is an “A+” class scientific institution, ranked no. 1 in organic chemistry and no. 2 in all scientific fields in Poland. It has world-class equipment and operates two scientific centres – the Centre for Intelligent Catalysis and the Functional Dyes Centre. Globally innovative synthesis technologies have been developed at the Institute, such as: synthesis of simple sugars (Zamojski, 1970s), vicarious nucleophilic substitution of hydrogen (Mąkosza, 1980s), the synthesis of aza-crown ethers (Jurczak, 2000), new catalysts for olefin metathesis (Grela, 2005), the synthesis of corroles (Gryko, 2006), and development of the software program CHEMATICA (Grzybowski, 2016). These findings have put the Institute at the forefront of both Polish and European science.

## FEATURED TEAM LEADERS

Professor
**Dorota Gryko**
LABORATORY OF SUSTAINABLE CATALYSIS

Professor
**Daniel Gryko**
ERC ADVANCED GRANT MANAGER - ARCHIMEDES / LABORATORY OF FUNCTIONAL DYES

PhD
**Marcin Lindner**
LABORATORY OF FUNCTIONAL AROMATIC COMPOUNDS

Professor
**Agnieszka Szumna**
MOLECULAR RECOGNITION GROUP

# Space Research Centre, PAS

WARSAW

## KEY RESEARCH DOMAINS

earth observations, cosmic weather, heliophisics, space engineering, space technology

## ABOUT THE INSTITUTE

The Centre is an interdisciplinary scientific institute that carries out scientific and technical work in space physics and physical and geodynamic studies of the Earth and planets. A distinctive feature of the Centre is combining research and construction activities: we design and build space devices, as well as analyze the data they obtain.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Research Infrastructures | Cluster 4 | Widening instruments | EIC / EIT

## CONTACT

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## FEATURED ACHIEVEMENTS & FACILITIES

The Space Research Centre continually promotes Poland's involvement in international space missions, works for the development of the country's space policy, initiates the transfer of space technology from science to industry, and trains personnel for the Polish space business. Our specialists have contributed to over 70 space missions and sent over 100 scientific instruments into space. We work with the European Space Agency, NASA. and many other partners.
We have been a part of several breakthrough space missions, including:
• Cassini-Huygens, the iconic mission to Saturn and its moons, • Rosetta, the first historic landing on a comet nucleus, • The ExoMars Trace Gas Orbiter, • two heliospheric NASA missions IBEX and IMAP, • BepiColombo, the mission exploring Mercury, JUICE – Europe's largest satellite heading towards Jupiter's icy moon and Europa Clipper, NASA.

## FEATURED TEAM LEADERS

PhD, DSc
Stanisław Lewiński
EARTH OBSERVATION DIVISION

PhD
Jakub Ryzenko
CRISIS INFORMATION CENTRE

Professor
Włodzimierz Kofman
MARS EXPLORATION LABORATORY

# DIVISION IV

## Engineering Sciences

# Institute of Chemical Engineering, PAS

GLIWICE

## KEY RESEARCH DOMAINS

greenhouse gases, biodegradation of organic compounds, air bio-purification, nanomaterials, microreactors, chemical reactor engineering, catalytic structural reactors, bubble reactors

## ABOUT THE INSTITUTE

The Institute is a research center with a long tradition which is focused on problems related to the disposal or management of waste streams for the sake of environmental protection, and therefore human health and life. Its most valuable capital lies in its employees – passionate people who are eager to use their knowledge and skills to face new challenges. Their research, often conducted in collaboration with national and foreign centers, results in patents, high-impact publications, and awards.

## INTEREST IN HORIZON EUROPE

Cluster 5 | Cluster 6

## CONTACT

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Project Coordinator

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## FEATURED ACHIEVEMENTS & FACILITIES

The environmental protection related technologies developed at the Institute have won numerous prizes at national and international fairs of inventions and innovations, such as the WIPO medal (2021) in the Innovations for the European Green Deal category, for gas purification in a trickle-bed bioreactor.
The Institute's facilities support research and technology de-velopment in the fields of: • modern separation techniques, capture of greenhouse gases and biogas enrichment, • biotechnology, biodegradation of organic compounds, gas bio-purification, • nanomaterials with a hierarchical pore structure and microreactors, • reactor engineering, catalytic structural reactors, CFD modeling, trickle-flow reactors, mass and heat exchange, bubble reactors.

## FEATURED TEAM LEADERS

PhD
Agnieszka Ciemięga
LABORATORY OF FUNCTIONAL MATERIALS AND MICROREACTORS

PhD
Agnieszka Gąszczak
LABORATORY OF BIOREACTORS AND BIOCATALYTIC PROCESSES

PhD
Anna Pawlaczyk-Kurek
LABORATORY OF GAS AND LIQUID SEPARATION

PhD
Marzena Iwaniszyn
LABORATORY OF STRUCTURAL CATALYTIC REACTORS

# Institute of Computer Science , PAS

WARSAW

## KEY RESEARCH DOMAINS

linguistic engineering, amassing great collections of text documents, web services; software verification methods and security, data, applications & data transmission protocols, cryptographic research

## ABOUT THE INSTITUTE

As one of the leading computer science research centers in Poland, the Institute's mission is to conduct research at the highest standards, provide PhD-level education, and facilitate or coordinate collaborations with other research centers on large IT projects. ICS PAS specializes in research in information and communication technology as well as linguistics. The Institute also comanages TIB PAN, a doctoral school offering interdisciplinary education in informatics, biomedical engineering, and medical sciences.

## INTEREST IN HORIZON EUROPE

MSCA Instruments | Cluster 1 | Cluster 2 | Cluster 3 | Cluster 4 | Research Infrastructures | EIC/EIT | Widening instruments

## CONTACT

Agnieszka Mykowiecka
Deputy Director for Scientific Affairs

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## FEATURED ACHIEVEMENTS & FACILITIES

Among our recent achievements are: the STV model checker for verification of multi-agent systems properties and MsATL, the first tool for satisfiability checking and model synthesis for strategic logics with imperfect information. In bioinformatics, our research on non-coding regions of DNA has led to the identification of regulatory disorders that disrupt biological pathways. We have developed MCFSID (Monte Carlo Feature Selection and Interdependency Discovery), and CytoMeth, a tool for comprehensive DNA methylation analysis. In the Linguistic Engineering Group, we apply our interdisciplinary expertise to develop useful language resources and tools. Key outcomes of our work include many open language corpora. We have also contributed to the development of the Polish Large Language Model (PLLuM).

## FEATURED TEAM LEADERS

Professor
**Mieczysław Kłopotek**
ARTIFICIAL INTELLIGENCE FUNDAMENTAL RESEARCH LABORATORY

PhD, DSc
**Michał J. Dąbrowski**
COMPUTATIONAL BIOLOGY GROUP

PhD, DSc
**Paweł Morawiecki**
CRYPTOGRAPHY TEAM

Professor
**Wojciech Jamroga**
THEORY OF DISTRIBUTED AND COMPUTING SYSTEMS GROUP

Professor
**Szymon Jaroszewicz**
STATISTICAL ANALYSIS AND MODELING GROUP

PhD, DSc
**Maciej Ogrodniczuk**
DEPARTMENT OF LANGUAGE MODELING

# Institute of Environmental Engineering, PAS

ZABRZE

## KEY RESEARCH DOMAINS

environmental engineering, air pollution control, water pollution control, waste and water management, land reclamation, effects of diffuse pollutants on the environment, certified research laboratory

## ABOUT THE INSTITUTE

The Institute is the oldest scientific institution in Poland conducting comprehensive basic and applied research in the field of environmental engineering, dealing with technical, scientific, spatial, legal, and economic issues. The Institute has more than 60 years of experience in scientific and applied research. We are active in the field of protecting the air, water and Earth's surface.

## FEATURED ACHIEVEMENTS & FACILITIES

The Institute's activities focus on the following areas: pollution of the air with harmful substances (including industrial, municipal, and transportation-related emissions of pollutants to the air); pollution of surface waters and control of eutrophication of water reservoirs; the use of magnetometry in environmental research; contamination of soil surfaces with heavy metals and organic compounds; technologies for waste treatment; removal of inorganic and organic pollutants by sorption processes; the design and preservation of urban spaces.
Our laboratory performs accredited analyzes of water, wastewater, soil, waste and measurements of gas and dust concentrations of air pollutants (quality management system ISO17025:2018, confirmed by PCA certificate AB950).

## INTEREST IN HORIZON EUROPE

Cluster 6 | EIC / EIT

## CONTACT

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Professor, Director

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## FEATURED TEAM LEADERS

PhD, DSc
**Magdalena Jabłońska-Czapla**
DEPARTMENT OF WASTE MANAGEMENT AND ENVIRONMENTAL ANALYZES

Professor
**Tadeusz Magiera**
DEPARTMENT OF ENVIRONMENTAL MAGNETISM AND RECLAMATION

PhD
**Krzysztof Klejnowski**
DEPARTMENT OF AIR PROTECTION - POLLUTION IMMISSION TEAMPHYSICOCHEMISTRY

# Institute of Fluid-Flow Machinery, PAS

GDAŃSK

## KEY RESEARCH DOMAINS

fluid mechanics, multiphase flows, thermodynamics, heat transfer, combustion, plasma and laser engineering, mechanical engineering, smart structures, technical diagnostics, tribology, aeroelasticity

## ABOUT THE INSTITUTE

The Institute, funded in 1956, conducts fundamental research on the operating principles, design and construction of machines used for energy conversion in flows. It also provides research services related to practical engineering problems. The Institute has five research centres, divided into 19 scientific departments, as well as the Research Centre in Jabłonna, where renewable energy sources are studied and developed.

## FEATURED ACHIEVEMENTS & FACILITIES

In 2024, eleven scientists from the Institute were listed among the World's Top 2% Scientists ranking compiled by Stanford University in collaboration with Elsevier. In 2023, the Institute was awarded an "A+" rating, the highest category of scientific excellence, in mechanical engineering by the Polish Ministry of Science and Higher Education. In 2018, the Minister of Science and Higher Education gave an award to the Institute's team for outstanding scientific and technical achievements. In 2015, the institute received the Energy Globe National Award 2015 for implementing and coordinating the project "Model agro-energy complexes as an example of distributed cogeneration based on local and renewable sources of energy", selected among more than 1,500 top ecological projects from 177 countries worldwide.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Cluster 4 | Cluster 5 | Widening instruments | EIC / EIT

## CONTACT

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## FEATURED TEAM LEADERS

Professor
**Wiesław Ostachowicz**
CENTRE OF MECHANICS OF MACHINES / MECHANICS OF INTELLIGENT STRUCTURES DEPARTMENT

Professor
**Dariusz Kardaś**
CENTRE OF FLOW AND COMBUSTION / RENEWABLE ENERGY DEPARTMENT

Assoc. Prof.
**Paweł Flaszyński**
CENTRE OF FLOW AND COMBUSTION / AERODYNAMICS DEPARTMENT

Assoc. Prof.
**Magdalena Mieloszyk**
TRICITY DOCTORAL SCHOOL OF THE POLISH ACADEMY OF SCIENCES

Assoc. Prof.
**Adam Cenian**
CENTRE OF PLASMA AND LASER ENGINEERING / DEPARTMENT OF PHYSICAL ASPECTS OF ECOENERGY

MSc., Eng.
**Sebastian Bykuć**
CENTRE OF HEAT AND POWER ENGINEERING / KEZO RESEARCH CENTRE

# Institute of Fundamental Technological Research, PAS

WARSAW

## KEY RESEARCH DOMAINS

mechanical engineering, material engineering, information technology and telecommunications, automation, electronics, electrotechnology, bio-medical engineering

## ABOUT THE INSTITUTE

The main task of the Institute is to conduct high quality research in a variety of areas which are all at the global forefront of science and technology. With 70 years of experience, we share our commitment and passion in pursuing cutting-edge scientific research of the highest standards. We create international scientific projects, educate doctoral students, contribute to the development of science and support initiatives in technology transfer. We take pride in ranking among the leading scientific centers in Europe.

## INTEREST IN HORIZON EUROPE

Cluster 4

## CONTACT

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Director's Representative for Research Career Development

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## FEATURED ACHIEVEMENTS & FACILITIES

The Institute's activities focus on the following areas: pollution of the air with harmful substances (including industrial, municipal, and transportation-related emissions of pollutants to the air); pollution of surface waters and control of eutrophication of water reservoirs; the use of magnetometry in environmental research; contamination of soil surfaces with heavy metals and organic compounds; technologies for waste treatment; removal of inorganic and organic pollutants by sorption processes; the design and preservation of urban spaces.
Our laboratory performs accredited analyzes of water, wastewater, soil, waste and measurements of gas and dust concentrations of air pollutants (quality management system ISO17025:2018, confirmed by PCA certificate AB950).

## FEATURED TEAM LEADERS

Professor
Michał Basista
DIVISION OF ADVANCED COMPOSITE MATERIALS,
DEPARTMENT OF MECHANICS OF MATERIALS

# Institute of Metallurgy and Materials Science, PAS

KRAKÓW

## KEY RESEARCH DOMAINS

materials science, materials engineering, photovoltaics, energy storage, biomaterials, high entropy alloys, shape memory alloys, mechanical properties, physicochemical properties, electron microscopyg

## ABOUT THE INSTITUTE

Established in 1952, the Institute is dedicated to advancing materials science and engineering through cutting-edge research. Its work underpins the design and implementation of new materials and technologies beneficial to industry, human health, and the environment. With numerous strong, long-standing partnerships across Poland and over 20 countries, the Institute engages in bilateral agreements for exchange programs and shared infrastructure, fostering a collaborative research environment.

## INTEREST IN HORIZON EUROPE

Research Infrastructures | Cluster 1 | Cluster 4 | Cluster 5 | Widening instruments

## CONTACT

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## FEATURED ACHIEVEMENTS & FACILITIES

The Institute is engaged in over 40 national and international projects in cooperation with industrial partners, with a focus on 4 priority areas: the theoretical basis of phenomena occurring in manufacturing processes, post-processing, use, and material failure; environmentally friendly materials and technologies for human health; functional materials and new technologies for the production and diagnosis of materials; and computational methods for material studies. Our Accredited Testing Laboratories operate to European standards, excelling in areas such as photovoltaics, the physicochemical properties of materials (hydrogen absorption/desorption), and advanced electron microscopy.

## FEATURED TEAM LEADERS

PhD, DSc, Eng.
Adam Dębski
LABORATORY OF METALLURGICAL PROCESSES

PhD, DSc
Magdalena Bieda-Niemiec
LABORATORY OF SCANNING ELECTRON MICROSCOPY

PhD, DSc
Kazimierz Drabczyk
PHOTOVOLTAIC LABORATORY

Professor
Natalia Sobczak
LABORATORY OF METALLURGICAL PROCESSES

PhD, DSc
Joanna Wojewoda-Budka
DEPARTMENT OF MULTILAYER MATERIALS

PhD, Dsc
Roman Major
LABORATORY OF SURFACE ENGINEERING AND BIOMATERIALS

# Institute of Theoretical and Applied Informatics, PAS

GLIWICE

## KEY RESEARCH DOMAINS

greenhouse gases, biodegradation of organic compounds, air bio-purification, nanomaterials, microreactors, chemical reactor engineering, catalytic structural reactors, bubble reactors

## ABOUT THE INSTITUTE

IITIS PAN focuses on the following research areas: performance evaluation of ICT systems, including security, reliability and energy efficiency; Internet of Things (IoT), with emphasis on wireless communication and network protocols; quantum information processing, quantum programming languages and simulations of quantum computer; signal analysis and machine learning with both classic algorithms (e.g. detection of anomalies and patterns) and deep learning networks (e.g. efficiency of AI architectures).

## INTEREST IN HORIZON EUROPE

MSCA instruments | Cluster 4 | Cluster 6 } Widening instruments | EIC / EIT

## CONTACT

Ewelina Szweda
Project Officer

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## FEATURED ACHIEVEMENTS & FACILITIES

The institute is currently involved in 11 projects, including the development of reliable electronics (ReACTIVE Too) and enhancing infrastructure resilience (IMPaCT Programme - IMPRESS-U). Other projects focus on IT system reliability, IoT security (DOSS) and quantum computing (Harnessing Quantum Criticality), along with initiatives focused on social innovation. The institute's 3D Space Exploration Lab and Internet of Things Lab support AI and machine learning development with high-performance GPU stations and access to quantum computing resources like the D-Wave.
Development of communication architecture for Smart City based on LoRa and applying it to water leakage detection and localization.

## FEATURED TEAM LEADERS

PhD, DSc
**Krzysztof Grochla**
INTERNET OF THINGS GROUP

Professor
**Zbigniew Puchała**
QUANTUM SYSTEMS OF INFORMATICS GROUP

PhD, DSc
**Joanna Domańska**
SECURITY, MODELLING AND PERFORMANCE EVALUATION GROUP

PhD, DSc
**Przemysław Głomb**
MACHINE LEARNING GROUP

# Mineral and Energy Economy Research Institute, PAS

KRAKÓW

IGSMiE PAN

## KEY RESEARCH DOMAINS

mineral and natural resources management, circular economy, sustainable development, renewable energy sources and electromobility, energy and fuels management, environmental engineering, geophysics

## ABOUT THE INSTITUTE

The Institute is an important research and development institution, contributing to scientific and research progress in the field of mineral and energy management, in Poland and abroad. The interdisciplinary nature of the Institute's activities encompasses in particular the following research fields and disciplines: • environmental engineering • mining • power engineering • engineering and applied geology • geophysics • chemical and materials engineering • IT engineering in mining and energy.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Research Infrastructures | Cluster 4 | Cluster 5 | Cluster 6 | EIC / EIT

## CONTACT

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## FEATURED ACHIEVEMENTS & FACILITIES

The Institute employees more than 140 people, being an important R&D institution with the "A" scientific category. The Institute carries out the project "Centre for Sustainable Management of Minerals and Energy", co-financed from the Regional Operational Programme of Małopolska Voivodeship for the years 2014-2020, in tandem with the companies ZGH Bolesław S.A., Geotermia Mazowiecka S.A. and EGM S.A. as partners. Within this project a modern laboratory and office building in Kraków will be opened in 2023, housing: • a Comprehensive Waste and Biomass Research Laboratory • an Engineering Modeling Laboratory • an Engineering Geophysics Laboratory. The existing Geothermal Laboratory in Bańska Niżna near the Tatra Mts. will also be expanded. For this investment project, the Institute has received four awards.

## FEATURED TEAM LEADERS

Professor
**Wiesław Bujakowski**
DIVISION OF RENEWABLE ENERGY SOURCES

Professor
**Joanna Kulczycka**
DIVISION OF STRATEGIC RESEARCH

Professor
**Marzena Smol**
DIVISION OF BIOGENIC RAW MATERIALS

Professor
**Lidia Gawlik**
DIVISION OF MINERALS AND ENERGY SUSTAINABLE DEVELOPMENT

PhD
**Alicja Kot-Niewiadomska**
DIVISION OF MINERAL POLICY

Professor
**Magdalena Wdowin**
DIVISION OF APPLIED GEOCHEMISTRY AND ENVIRONMENTAL ENGINEERING

# Nalecz Institute of Biocybernetics and Biomedical Engineering, PAS

WARSAW

## KEY RESEARCH DOMAINS

biomeasurements, biomechanics, artificial organs, nanobiosystems, bio-encapsulation, biomaterials, bioinformatics, immobilization medical informatics, biomedical imaging, biosystems modelling

## ABOUT THE INSTITUTE

The Institute's mission is to develop and implement new technologies, devices and supportive theoretical tools for medical diagnosis and treatment. Our work aims to improve the longevity and quality of life of patients with chronic and civilization-related diseases. By fusing engineering and the life sciences, the Institute drives scientific discovery and the invention of new biomedical technologies.

## FEATURED ACHIEVEMENTS & FACILITIES

The Institute leads advanced research and education initiatives in biocybernetics and biomedical engineering. Its research activities focus on biomeasurements, computer data processing and analysis for improved medical diagnosis and therapy, support and substitution of lost functions of the organism, techniques of micro- and nanoencapsulation and mathematical/physical modelling, and computer simulations of selected physiological processes and organs functions. The Institute collaborates closely with multiple clinical partners, enabling the testing and validation of innovative biomedical technologies in the clinical environment.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Cluster 1 | Cluster 4 | Widening instruments | EIC / EIT

## CONTACT

**Magdalena Antosiak**
The Head of the Department for Research and Development and External Projects

MANTOSIAK@IBIB.WAW.PL

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## FEATURED TEAM LEADERS

Professor, PhD
**Piotr Ładyżyński**
LABORATORY OF DIAGNOSIS AND THERAPY SUPPORT OF METABOLIC DISEASES

Professor, PhD
**Marek Darowski**
LABORATORY FOR DIAGNOSTICS AND THERAPY OF CARDIOVASCULAR-RESPIRATORY SYSTEM

PhD
**Joanna Stachowska-Piętka**
LABORATORY OF MATHEMATICAL MODELING OF PHYSIOLOGICAL PROCESSES

# DIVISION V

## Medical Sciences

# Hirszfeld Institute of Immunology and Experimental Therapy, PAS

WROCŁAW

## KEY RESEARCH DOMAINS

clinical immunology, experimental cancer therapy, glycoimmunology, infection immunology, immunopharmacology, bacteriophage biology and phage therapy, bioinformatics, virology

## ABOUT THE INSTITUTE

The Institute is a leading research center in immunology, experimental oncology, microbiology, immunochemistry, glycobiology and medicine – with a focus on civilization diseases, new drugs and vaccines, and regenerative medicine, and with a proven track record of implementation and commercialization of the results. It has an “A+” category in medicine and an “A” category in life science, and it employs a total of 243 people, including 95 researchers.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Research Infrastructures | Cluster 1 | Cluster 3 | Cluster 6 | Widening instruments

## CONTACT

**Dorota Misztal**
Documentation and Scientific Information Department

DOROTA.MISZTAL@HIRSZFELD.PL

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## FEATURED ACHIEVEMENTS & FACILITIES

The Institute’s activities are carried out by 23 laboratories or research facilities, in close cooperation with integral units such as the Medical Center (with the Phage Therapy Center), the Polish Collection of Microorganisms (PCM, WFCC no 106), the Cell Line Collection, the NeoLek Laboratory (innovative medical technologies), equipment laboratories (e.g. mass spectroscopy, cytometry, confocal microscopy), the Animal Laboratory, and the General Chemistry Laboratory. In response to the coronavirus pandemic, the Institute operated a SARS-CoV-2 Infection Diagnostics Laboratory between 2020 and 2022. The Institute holds GLP certificates and QM ISO 9001:2015 certification. It develops a clinical trials center with focus on vaccines and specialized therapies (e.g. phage therapy).

## FEATURED TEAM LEADERS

Professor
**Andrzej Gamian**
LABORATORY OF MEDICAL MICROBIOLOGY

Professor
**Aleksandra Klimczak**
LABORATORY OF BIOLOGY OF STEM AND NEOPLASTIC CELLS

Professor
**Lidia Karabon**
LABORATORY OF GENETICS AND EPIGENETICS OF HUMAN DISEASES

Professor
**Joanna Wietrzyk**
LABORATORY OF EXPERIMENTAL ANTICANCER THERAPY

Professor
**Andrzej Górski**
BACTERIOPHAGE LABORATORY

Professor
**Katarzyna Bogunia-Kubik**
LABORATORY OF CLINICAL IMMUNO-GENETICS AND PHARMACOGENETICS

# IMol Polish Academy of Sciences

WARSAW

## KEY RESEARCH DOMAINS

molecular and cellular biology, biochemistry, bioinformatics, stem cell biology, metabolism, signal transduction, proteomics, metabolomics, genomics, structural biology, virology

## ABOUT THE INSTITUTE

Located in Warsaw, IMol is dedicated to basic research that bridges multiple disciplines and fosters global collaboration. The institute partners with the University Medical Center in Göttingen, The IOCB Prague in Czech Republic and with The Weizmann Institute of Science in Israel. IMol is supported by an International Scientific Board chaired by Professor Victor Ambros, Nobel Laureate in Physiology or Medicine (2024).

## INTEREST IN HORIZON EUROPE

MSCA instruments | Cluster 1 | Widening instruments

## CONTACT

Michał Wrzesiński
Head of the Grant Office

M.WRZESINSKI@IMOL.INSTITUTE

+48 607 435 448

## FEATURED ACHIEVEMENTS & FACILITIES

IMol hosts 14 research groups and two Core Facilities: Proteomics and a brand new Medicinal Chemistry, led by distinguished scientists including Professors Agnieszka Chacińska and Magda Konarska. The institute is funded by national agencies such as FNP and NCN, as well as international organizations including EMBO. Its infrastructure includes fully equipped biochemistry and molecular biology laboratory spaces with: confocal microscopy, fluorescent and live-imaging microscopy; Amersham image acquisition systems; Typhoon quantitative phosphor-imaging system, NanoDrop; real-time PCR systems, ultracentrifuge and gradient analysis system. Proteomic Core Facility equipped with a Dionex UltiMate 3000 nano-LC system coupled to a Q-Exactive HF-X via an EASY-Spray ion source (Thermo FisherScientific).

## FEATURED TEAM LEADERS

Professor
**Agnieszka Chacińska**
LABORATORY OF MITOCHONDRIAL BIOGENESIS

PhD
**Anna Marusiak**
LABORATORY OF MOLECULAR ONCOSIGNALLING

PhD
**Abdelhalim Azzi**
LABORATORY OF LIPIDS AND CHRONOBIOLOGY

PhD
**Piotr Gerlach**
LABORATORY OF STRUCTURAL VIROLOGY

PhD
**Maciej Cieśla**
LABORATORY OF STEM CELL RNA METABOLISM

PhD
**Karolina Szczepanowska**
LABORATORY OF METABOLIC QUALITY CONTROL

# Institute of Human Genetics, PAS

POZNAŃ

## KEY RESEARCH DOMAINS

cancers, reproductive biology, infertility, regenerative medicine and tissue engineering, rare diseases, personalized medicine; genomics, transcriptomics and spatial transcriptomics, epigenomics, proteomics

## ABOUT THE INSTITUTE

Since 1974, we have pioneered advancements in cytogenetics, molecular genetics, and biotechnology. The Institute is a key research centerin Poland, investigating the functions of the genome, transcriptome, epigenome, and the molecular basis of human diseases. As a holder of the “HR Excellence in Research” distinction, we create a stimulating environment for scientists, enabling professional development through work with dedicated teams, participation in engaging research projects and rewarding scientific collaborations.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Cluster 1 | Widening instruments

## CONTACT

Marta Anders
Coordinator for Research Projects

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## FEATURED ACHIEVEMENTS & FACILITIES

There are over 50 research projects conducted at IHG, PAS, both nationally and internationally funded. Our work have led to major discoveries, such as identifying recurrent TEX11 mutations in infertile men and revealing IRF4 reprogramming in Hodgkin lymphoma. We provide research services like single-cell analysis and spatial transcriptomics with the 10x Genomics platform. The Innovative Medical Center facilitates translational research with socio-economic impact. Our Genomic Sequencing Lab is equipped with next-generation sequencing for high-resolution genetic analysis, while the Advanced Imaging Lab offers cutting-edge tools (the Leica DMI8 confocal microscope, BRUKER NanoWizard Sense Atomic Force Microscope). IHG PAS offers cell line models for cancer research, including therapy--resistant lines.

## FEATURED TEAM LEADERS

Professor
**Ewa Ziętkiewicz**
DEPARTMENT OF MOLECULAR AND CLINICAL GENETIC

Professor
**Jadwiga Jaruzelska**
INDEPENDENT RESEARCH GROUP OF RNA BIOLOGY

Professor
**Maciej Giefing**
DEPARTMENT OF CANCER GENETICS

PhD
**Marzena Skrzypczak-Zielińska**
DEPARTMENT OF NUCLEIC ACID FUNCTION

PhD
**Natalia Rozwadowska**
MOLECULAR PATHOLOGY DEPARTMENT

Professor
**Maciej Kurpisz**
DEPARTMENT OF REPRODUCTIVE BIOLOGY AND STEM CELLS

# Institute of Medical Biology, PAS

ŁÓDŹ

## KEY RESEARCH DOMAINS

medical biology, microbiology, molecular virology and biology, DNA structure and function, cellular structure of bacteria, genomics, proteomics

## ABOUT THE INSTITUTE

The Institute pursues advanced scientific research in the biomedical sciences, with a strong focus on uncovering the fundamental molecular mechanisms that underly physiological and pathophysiological processes, as well as on medical biotechnology. It actively contributes to the advancement of these research fields, especially by developing innovative methods for both basic and applied research. The Institute also operates a doctoral school and is authorized to award doctoral (PhD) and post--doctoral (DSc) degrees in medical sciences and medical biology.

## INTEREST IN HORIZON EUROPE

Cluster 1 | Widening instruments


## CONTACT

Katarzyna Robowska
Project Department Manager

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## FEATURED ACHIEVEMENTS & FACILITIES

The Institute has earned an “A” category rating in medical sciences from the Polish Ministry of Education and Science. Its activities are structured across 14 specialized laboratories. Over the last ten years, it has carried out over 70 research projects in collaboration with both national and international partners. These projects have been financed by Poland’s National Science Centre (NCN), the Polish Ministry of Education and Science (the Institute being a leader of the “Pol-Openscreen” consortium – the Polish Platform of Screening Infrastructure for Biological Chemistry), and also European Union funds (EU-Openscreen ERIC). Notably, the Institute is home to the National Library of Chemical Compounds, the only infrastructure of its kind in Poland.

## FEATURED TEAM LEADERS

Professor
Agnieszka Olejniczak
SCREENING LABORATORY

Professor
Zbigniew Leśnikowski
SCREENING LABORATORY

Professor
Jarosław Dziadek
SCREENING LABORATORY

# Maj Institute of Pharmacology, PAS

KRAKÓW

## KEY RESEARCH DOMAINS

pharmacology, neuropsychopharmacology, drug chemistry, phyto-chemistry, pharmacokinetics, drug metabolism, neuro-endocrinology, electrophysiology, pharmacogenomics, in silico drug design

## ABOUT THE INSTITUTE

The Institute, funded in 1974 and located in Kraków, is currently one of the leading scientific institutions in Poland focused on neuro- and psychopharmacology. The Institute's core research areas are the mechanisms and treatment of depression, schizophrenia, chronic pain, addiction, anxiety, post-traumatic stress disorder as well as neurodegenerative diseases.

## FEATURED ACHIEVEMENTS & FACILITIES

The Institute has extensive facilities dedicated to comprehensive behavioral testing of animal models of neuropsychiatric diseases. These include validated rat and mouse models of affective disorders, cognitive impairments, substance use disorders and neurodegenerative diseases, which are used for research on existing drugs or testing of novel drug candidates developed. Behavioral analyses are complemented with advanced electrophysiology, neurochemistry, and cellular models as well as all state-of-the-art imaging methods. The Institute has developed a strong competence in in silico drug analysis and pharmacogenomics. Research is supported by central labs providing confocal microscopy, mass spectrometry, and flow cytometry.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Research Infrastructures | Cluster 1 | Cluster 6 | Widening instruments

## CONTACT

**Jan Rodriguez Parkitna**
Deputy Director for Scientific Research

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## FEATURED TEAM LEADERS

Professor
**Marzena Maćkowiak**
LABORATORY OF PHARMACOLOGY AND BRAIN BIOSTRUCTURE, DEPARTMENT OF PHARMACOLOGY

Professor
**Agnieszka Basta-Kaim**
DEPARTMENT OF EXPERIMENTAL NEUROENDOCRINOLOGY/LABORATORY OF IMMUNOENDOCRINOLOGY

Professor
**Agata Faron-Górecka**
DEPARTMENT OF PHARMACOLOGY, LABORATORY OF BIOCHEMICAL PHARMACOLOGY

Professor
**Małgorzata Filip**
DEPARTMENT OF DRUG ADDICTION PHARMACOLOGY

Professor
**Krystyna Gołembiowska**
RESEARCH TEAM NO 2, DEPARTMENT OF PHARMACOLOGY

PhD, DSc
**Grzegorz Kreiner**
DEPARTMENT OF BRAIN BIOCHEMISTRY

# Mossakowski Medical Research Centre, PAS

WARSAW

## KEY RESEARCH DOMAINS

neurodevelopment, neurodegeneration, molecular oncology, immuno-oncology, regenerative medicine, rare diseases, aging diseases, experimental pharmacology, medical chemistry, GMP, ATMP

## ABOUT THE INSTITUTE

The Institute is the largest within the Polish Academy of Sciences and the only one combining basic research with clinical practice. Established almost 60 years ago, it now employs over 250 people (including 150 academic staff). Its priority research areas include neurodevelopmental and neurodegenerative diseases, cell therapies in regenerative medicine, molecular oncology, immunooncology, molecular nephrology, aging and longevity, and experimental pharmacology. It is a partner for two Doctoral Schools and holds an Erasmus+ Charter for Higher Education.

## INTEREST IN HORIZON EUROPE

MSCA instruments | Research Infrastructures | Cluster 1 | Cluster 6 | Widening instruments | EIC/EIT

## CONTACT

Agnieszka Wojciechowska De Cokere
International Cooperation Coordinator

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## FEATURED ACHIEVEMENTS & FACILITIES

The Institute holds the highest “A+” category rating of scientific excellence in medical sciences, as well as the prestigious EU “HR Excellence in Research” Award. The Institute comprise of 29 research units and the core facility “Zone of Preclinical Research and Services” with 4 well-equipped laboratories and a modern animal house. Research is caried out in compliance with the 3Rs of animal testing, using in vitro approaches at the molecular and cellular levels in studying rare and civilization-related diseases. State-of-the-art bioengineering methods include genome editing, omics, patient-derived iPSC lines, and brain organoids. Researchers at the Institute are leading 106 projects, involving both national and worldwide research centres and scientific networks.

## FEATURED TEAM LEADERS

PhD
Izabela Sabała
LABORATORY OF PROTEIN ENGINEERING

PhD
Jakub Godlewski
DEPARTMENT OF NEUROONCOLOGY

PhD, DSc
Dawid Walerych
LABORATORY OF HUMAN DISEASE MULTIOMICS

PhD
Magdalena Winiarska
DEPARTMENT OF IMMUNOLOGY

Professor
Magdalena Zielińska
DEPARTMENT OF NEUROTOXICOLOGY

Professor
Leonora Bużańska
DEPARTMENT OF STEM CELL BIOENGINEERING

# MSCA

## Marie Skłodowska-Curie Actions

Marie Skłodowska-Curie Actions – as a part of 1st pillar of Horizon Europe – fund excellent research and innovation and equip researchers at all stages of their career with new knowledge and skills, through mobility across borders and exposure to different sectors and disciplines. **The MSCA help build Europe's capacity for research and innovation by investing in the long-term careers of excellent researchers.** By doing so, they achieve a structuring impact on higher education institutions, research centres and non-academic organisations.

The MSCA promote excellence and set standards for high-quality researcher education and training in line with the European Charter for Researchers and the Code of Conduct for the recruitment of researchers.

*Source:* MSCA website

PhD
## Jagoda Kaszowska-Mojsa
MODELLING FOR PUBLIC POLICY PURPOSES (MPP)

**INSTITUTE OF ECONOMICS, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES
JAGODA.KASZOWSKA@INEPAN.WAW.PL
+48 607 329 613

### EXPERTISE

Our research team is focused on creating models for simulating and forecasting public policy. In particular, we are interested in providing insights about the effects of potential, not yet implemented, policies for the economy, financial system, and society. We have worked on financial stability, systemic risk, and the welfare effects of macroprudential policies. Currently, we are working on incorporating AI components within agent-based models.

### SEEKING FOR COLLABORATION WITHIN

financial stability, macroprudential policies, systemic risk, inequality, agent-based modelling

### RELEVANT PROJECTS

MACROPRU

Fulbright Junior Advance Research Award

PhD
## Bogumił Szady
MODELLING SPATIAL KNOWLEDGE

**INSTITUTE OF HISTORY, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES
BSZADY@IHPAN.EDU.PL
+48 22 831 36 42

### EXPERTISE

Our Department develops domain formal ontologies modelling knowledge about the settlement network and administrative units, its features and relations. These elements are an important part of research on historic space. We develop ontologies of manifestations, which is a strategy of modelling phenomena changing over time. The domain ontologies we build refer to upper-level ontologies, such as CIDOC-CRM, BFO (Basic Formal Ontology), etc., to build infrastructure for digital research.

### SEEKING FOR COLLABORATION WITHIN

geography, history, philosophy, knowledge acquisition, information science

### RELEVANT PROJECTS

ONTOHGIS

PhD
## Wiesława Duży
MODELLING SPATIAL KNOWLEDGE

**INSTITUTE OF HISTORY, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES
WIESLAWA.DUZY@IHPAN.EDU.PL
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### EXPERTISE

Our Department develops domain formal ontologies modelling knowledge about the settlement network and administrative units, its features and relations. These elements are an important part of research on historic space. We develop ontologies of manifestations, which is a strategy of modelling phenomena changing over time. The domain on- tologies we build refer to upper-level ontologies, such as CIDOC-CRM, BFO (Basic Formal Ontology), etc., to build infrastructure for digital research.

### SEEKING FOR COLLABORATION WITHIN

geography, history, philosophy, knowledge acquisition, information science

### RELEVANT PROJECTS

URBANONTO

PhD
## Tomasz Panecki
RESEARCH IN SPATIAL HISTORY,
HISTORICAL GEOGRAPHY & CARTOGRAPHY

**INSTITUTE OF HISTORY, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES
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### EXPERTISE

Our Department specialises in broadly-construed spatial history, historical geography & cartography. Our expertise stems mainly from the series “Historical Atlas of Poland: Detailed Maps of the 16th century”, which also provides a complete network of localities & administrative boundaries. Experience gained from working on this series will be useful in preparing similar datasets from subsequent timeframes. The data should be treated as a starting point for further research, e.g. on social, economic, political & cultural history.

### SEEKING FOR COLLABORATION WITHIN

financial stability, macroprudential policies, systemic risk, inequality, agent-based modelling

### RELEVANT PROJECTS

MACROPRU

Fulbright Junior Advance Research Award

PhD
## Adam Zapała
DIGITAL INFRASTRUCTURE FOR HUMANITIES

**INSTITUTE OF HISTORY, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES
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### EXPERTISE

The expertise of the interdepartmental DARIAH.Lab team at the Institute of History lies in preparing digital tools for the humanities & arts. Our work focuses on providing reliable refe-rence databases for people & places in the past, preparing scholarly digital editions.

### SEEKING FOR COLLABORATION WITHIN

geography, history, philosophy, knowledge acquisition, information science

### RELEVANT PROJECTS

ONTOHGIS

Professor
## Monika Rudaś-Grodzka
WOMENS ARCHIVE WORKING GROUP

**INSTITUTE OF LITERARY RESEARCH, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES
MONIKA.RUDAS-GRODZKA@IBL.WAW.PL
+48 502 125 801

### EXPERTISE

The Women’s Archive team is focused on the study of women’s artistic creativity, autobiographic writing and biographies – mostly, but not exclusively in the area of Polish culture. It initiates and manages scholarly and popularization-oriented projects (e.g. exhibitions), by using and spreading methods of feminist critique, ecocriticism, queer studies, and other modern approaches. The team also specialises in modern research on women’s archival legacies.

### SEEKING FOR COLLABORATION WITHIN

geography, history, philosophy, knowledge acquisition, information science

### RELEVANT PROJECTS

URBANONTO

PhD
## Maciej Maryl
DIGITAL HUMANITIES CENTRE

**INSTITUTE OF LITERARY RESEARCH, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES
MACIEJ.MARYL@IBL.WAW.PL
+48 22 657 29 58

### EXPERTISE

We have several PhD candidates and early-career researchers on our teams, keen to develop their academic careers and continue their involvement in international projects. We have diverse interests in the field of digital humanities: digital tools and methods in literary and cultural studies, corpus linguistics, digital editing, open scholarly communication (including innovations and social media), data, programming, user and stakeholder research. We are experienced in a variety of methods from desk research, through text analysis, to interviews, focus groups, and user testing.

### SEEKING FOR COLLABORATION WITHIN

digital tools and methods, digital editing, open scholarly communication, UX and stakeholder research

### RELEVANT PROJECTS

SHAPE-ID
OBERRED
Dariah.Lab
NEP4DISSENT

PhD, DSc
## Marcin Miłkowski
SECTION FOR LOGIC AND COGNITIVE SCIENCE

**INSTITUTE OF HISTORY, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES
MMILKOWS@IFISPAN.EDU.PL
+48 22 657 28 28

### EXPERTISE

The research undertaken by the team focuses on two main streams: logic and cognitive science. We edit Studia Logica – an international logical journal, funded in 1953 by Kazimierz Ajdukiewicz. Research on cognitive science performed by the members of the section focuses on the analyses of the structure of theory in cognitive sciences, their methodology and practice. In particular, the focus is on problems in the mathematical modeling of cognitive systems.

### SEEKING FOR COLLABORATION WITHIN

logic, philosophy of cognitive science, digital philosophy of science

### RELEVANT PROJECTS

Cognitive Science in Search of Unity
NCN/PRELUDIUMBIS2
NCN/SONATINA6
NCN/SONATINA6

Professor
## Anna Zielińska
DEPARTMENT OF LINGUISTICS

**INSTITUTE OF LITERARY RESEARCH, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES
ANNA.ZIELINSKA@ISPAN.EDU.PL
+48 22 826 76 88

### EXPERTISE

I conduct research in the fields of dialectology, sociolinguistics, multilingualism, language contacts, language borderlands. I am the PI of the Polish-German research project “Language across generations: contact induced change in morpho-syntax in German-Polish bilingual speech” (financed by the NCN and DFG). This project aims to create an integrated description of Polish-German bilingualism in Poland and Germany, covering both grammar and sociolinguistic issues.

### SEEKING FOR COLLABORATION WITHIN

language contacts, multilingualism, studies of multilingual communities, linguistic biographies

### RELEVANT PROJECTS

LANGGENER

PhD, DSc
## Nicole Dołowy-Rybińska
DEPARTMENT OF LINGUISTICS

**INSTITUTE OF SLAVIC STUDIES, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES
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### EXPERTISE

Our research team works on minority and minoritized languages of Europe and their communities in a broad political, cultural, and linguistic context. We pursue anthropological and sociolinguistic research that touches upon such issues as language policies, language practices, shift and attitudes, language rights, and language maintenance and revitalization.

### SEEKING FOR COLLABORATION WITHIN

sociolinguistics, multilingualism, minorities and borderlands, language revitalization

### RELEVANT PROJECTS

NCN/SonataBis
NCN/OPUS
SORBIAN

PhD
## Karolina Ćwiek-Rogalska
DEPARTMENT OF LITERARY AND CULTURAL STUDIES

**INSTITUTE OF SLAVIC STUDIES, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES
KAROLINA.CWIEK-ROGALSKA@ISPAN.EDU.PL
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### EXPERTISE

Our team is interested in the emergence of re- settlement cultures in post-displacement regions of Slavic Central Europe. The hypothesis we follow is that they are formed in contact with the materiality left behind by expellees. We work on Polish, Czech, and Slovak case studies, conducting fieldwork in selected regions as well as archival search queries in national and local archives.

### SEEKING FOR COLLABORATION WITHIN

studies of material culture

### RELEVANT PROJECTS

SPECTRAL RECYCLING

PhD, DSc
## Ewa Wróblewska-Trochimiuk
DEPARTMENT OF LITERARY AND CULTURAL STUDIES

**INSTITUTE OF SLAVIC STUDIES, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES
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### EXPERTISE

Our team focuses on visual culture in Serbia, Croatia, and Ukraine. We analyze political communication, protests and political performances, as well as the media discourses about them. We are also interested in broader cultural phenomena characteristic of post-conflict areas and in transformative processes—particularly their impact on political culture, and on the ways collective experiences are represented.

### SEEKING FOR COLLABORATION WITHIN

visual culture studies, social movements studies, anthropology of politics, post-conflict studies

### RELEVANT PROJECTS

NCN/Sonata (PI)
FNP (PI)

PhD
## Anna Zawadzka
DEPARTMENT OF NATIONALITY STUDIES

**INSTITUTE OF SLAVIC STUDIES, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES
ANNA.ZAWADZKA@ISPAN.EDU.PL
+48 22 826 76 88

### EXPERTISE

My research fields are as follows: current historical politics in post-communist countries; the history of anticommunism in comparative perspectives; studies of antisemitism; synergy of antisemitism and anti-communism; the history, socio-political functions, and consequences of the "Jewish Bolshevism" stereotype; studies of the "Jewish Bolshevism" stereotype in an East-West comparative perspective; the social history of cold war era in Eastern and Central Europe; studies of prejudice.

### SEEKING FOR COLLABORATION WITHIN

comparative studies of historical politics in Central and Eastern Europe

### RELEVANT PROJECTS

NCN funded project

The Center for Cultural and Literary Studies of Communis

Professor
## Agnieszka Mrozik
INTERDISCIPLINARY RESEARCH GROUP "SOCIALIST POLAND AND THE GLOBAL SOUTH"

**INSTITUTE OF LITERARY RESEARCH, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES
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### EXPERTISE

We examine the connections between socialist Eastern European countries and the Global South after World War II, analyzing anti-colonial solidarity, literary and artistic exchanges, intellectual cooperation and educational partnerships. We also explore issues of racism and inequality in relations between these regions. Our areas of expertise include global history, critical race studies, gender studies, literary studies, cultural studies, visual studies, and the history of art and architecture. Our research methods include archival research, discourse analysis and close reading of literary artifacts.

### SEEKING FOR COLLABORATION WITHIN

history of global socialism, East-South cultural and educational relations, anticolonial solidarities

### RELEVANT PROJECTS

"Global Solidarity: Archives of the Future"

"Konteksty. Polska Sztuka Ludowa"

NPRH 15

Professor
## Agata Roćko
LITERATURE AND GLOTTODIDACTICS TEAM

**INSTITUTE OF LITERARY RESEARCH, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES
AGATA.ROCKO@IBL.WAW.PL

### EXPERTISE

We are a team that combines literature with a glottodidactic approach to teaching Polish as a foreign language. We collaborate with universities in various countries and write textbooks that demonstrate how to work with literature in Polish as a foreign language classes. Literature provides a pretext for conversations about language, history, and culture. Our team members research 18th-century literature: memoirs, poetry, history, and teaching methods. In these areas, members of our team are writing their doctoral theses. Through literature, we aim to connect the past with the present.

### SEEKING FOR COLLABORATION WITHIN

glottodidactics, history of literature, Polish literature, culture and language, new technologies in teaching

### RELEVANT PROJECTS

NAWA BJP/2024/1/00012

NAWA BJP/2024/1/00011

NAWA BJP/2023/1/00018

PhD, DSc
## Karolina Bielenin-Lenczowska
DEPARTMENT OF NATIONALITY STUDIES

**INSTITUTE OF SLAVIC STUDIES, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES
KAROLINA.BIELENIN-LENCZOWSKA@ISPAN.EDU.PL
+48 504 071 786

### EXPERTISE

I am social anthropologist and linguist, working on migration and diaspora. My latest research project focuses on border regimes on the outskirts of the European Union, and local responses to mobility regimes and injustices. I am using the Macedonian-Serbian and Polish-Belarusian borders as case studies. I also examined how the social and linguistic landscapes of towns inhabited by the descendants of Poles in southern Brazil have been transformed

### SEEKING FOR COLLABORATION WITHIN

migration studies, diaspora studies, linguistic anthropology, landscape, ethnography

### RELEVANT PROJECTS

UFSC Visiting Professor

PhD, DSc
## Maciej Figiel
DEPARTMENT OF MOLECULAR NEUROBIOLOGY

**INSTITUTE OF BIOORGANIC CHEMISTRY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
MFIGIEL@IBCH.POZNAN.PL
+48 61 852 85 03 EXT. 1150

### EXPERTISE

Our team studies the pathogenesis and therapy of neurodegeneration in model diseases such as polyglutamine Huntington's disease, juvenile HD, and SCA3/MJD. We define the earliest pre-symptomatic developmental pathogenesis using early brain models such as organoids, single-cell RNAseq, and proteomics. We investigate shRNA and AAV-based therapies (silencing or gene delivery) in our Knock-in SCA3 mouse and humanized HD mouse models model using BBB permeable AAV or AAV brain injections.

### SEEKING FOR COLLABORATION WITHIN

neurodegeneration, brain, AAV drugs, organoids, HCS, microscopy, animal models, therapy, proteomics

### RELEVANT PROJECTS

SCACYP

TreatPolyQ

National Ataxia Foundation funded project

PhD
## Łukasz Kajtoch
DEPARTMENT OF MOLECULAR BIODIVERSITY

**INSTITUTE OF SYSTEMATICS AND EVOLUTION OF ANIMALS, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
KAJTOCH@ISEZ.PAN.KRAKOW.PL
+48 12 422 80 00 EXT. 29

### EXPERTISE

Our research is focused on the evolution and ecology of insects. In particular, we are interested in the use of molecular information for solving phylogenetic, population genetic, or ecological questions. We work on taxa that are of particular interest for reasons of a taxonomic (for systematic revisions, barcoding, delimitation, etc.), evolutionary (for speciation and hybridization studies), population genetic (for conservation or management) or ecological (e.g. interactions among organisms) nature.

### SEEKING FOR COLLABORATION WITHIN

barcoding, integrative taxonomy, molecular ecology, phylogenetics, population&conservation genetics

### RELEVANT PROJECTS

NCN/OPUS

Professor, DSc
## Magdalena Frąc
DEPARTMENT OF SOIL AND PLANT SYSTEM

**INSTITUTE OF AGROPHYSICS, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
M.FRAC@IPAN.LUBLIN.PL
+48 81 7445061 EXT. 156

### EXPERTISE

The department is focused on research concerning microorganisms biodiversity and resilient plant. We are interested in soil quality indicators, microbial soil health markers and living labs concept. Our interests concern soil-plant-microbiome interactions inclusive biotic and abiotic stress factors. We conduct work on bioproduct, biofertilizers and biotechnological solutions for agroecology, including diagnostics, control and monitoring of pathogens in sustainable agriculture and horticulture.

### SEEKING FOR COLLABORATION WITHIN

antimicrobials; microbial diversity; one health; plant holobiont; soil-plant-microbiome interactions

### RELEVANT PROJECTS

LEGUMINOSE
SoilCare
iSQAPER
SPIN-FERT

Professor
## Roza Kucharczyk
LABORATORY OF BIOENERGETICS AND MITOCHONDRIAL DISEASE MECHANISMS

**INSTITUTE OF BIOCHEMISTRY AND BIOPHYSICS, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
ROZA@IBB.WAW.PL
+48 22 592 12 21

### EXPERTISE

Our research focuses on mitochondrial ATP synthase – an inner mitochondrial membrane enzyme. Our unique expertise on a global scale lies in targeted mutagenesis of mitochondrial DNA in S. cerevisiae yeast. We aim to understand the mechanisms of ATP synthase dysfunction due to mutations in genes encoded by mtDNA. We also study post-translational, redox homeostasis--dependent, mechanisms regulating ATP synthase and OXPHOS activities, focusing on the interplay between ampylation/phosphorylation.

### SEEKING FOR COLLABORATION WITHIN

mitochondrial bioenergetics, redox homeostasis in mitochondria, regulation by ampylation of OXPHOS

### RELEVANT PROJECTS

OPUS 16, National Science Centre

PhD, Assistant Professor
## Agata Starosta
LABORATORY OF TRANSLATOMICS

**INSTITUTE OF BIOCHEMISTRY AND BIOPHYSICS, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
AGATA.STAROSTA@IBB.WAW.PL
+48 22 592 33 41

### EXPERTISE

I am interested in prokaryotic translation, gene expression regulation on a translation level, antibiotics targeting translation machinery, antibiotic resistance related to translation, and translation during sporulation in Bacillus subtilis. I apply a state-of-the-art analytical approach, utilizing Next Generation Sequencing to elucidate the regulatory role of translation machinery, combined with fluorescence-based microscopy, genetics, and biochemistry.

### SEEKING FOR COLLABORATION WITHIN

molecular microbiology, antibiotic discovery

### RELEVANT PROJECTS

EMBO Installation Grant (nr 3914)
FIRST TEAM
OPUS19

PhD, Assistant Professor

## Szymon Swiezewski

LABORATORY OF SEEDS MOLECULAR BIOLOGY

**INSTITUTE OF BIOCHEMISTRY AND BIOPHYSICS, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

SSWIEZ@IBB.WAW.PL

+48 22 592 57 25

### EXPERTISE

Our lab focuses on molecular seed biology. We investigate the expression regulation of a key seed dormancy regulator, DOG1, which we have shown to be regulated by several lncRNAs. Antisense 1GOD suppresses dormancy by inhibiting DOG1 expression, while DOG1 antisense is itself negatively regulated by ABA and DOG1 alternative polyA site selection. PUPPIES are sense lncRNAs that, in response to salt, activate DOG1 expression, delaying germination. PUPPIES activate DOG1 expression by enhancing Pol II pausing.

### SEEKING FOR COLLABORATION WITHIN

seed molecular biology, transcription and posttranscriptional gene expression regulation in plants

### RELEVANT PROJECTS

OPUS 25

HOMING

TEAM

PhD, Assistant Professor

## Roman Szczesny

LABORATORY OF RNA BIOLOGY

**INSTITUTE OF BIOCHEMISTRY AND BIOPHYSICS, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

RSZCZESNY@IBB.WAW.PL

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### EXPERTISE

Our laboratory focuses on understanding how mitochondrial RNAs are controlled in terms of their quality, quantity, and processing. Our main objective is to uncover the machinery responsible for the decay and surveillance of mitochondrial RNA. We also study the mechanisms that maintain and regulate the mitochondrial DNA and how they enable the cell to respond and adapt to different conditions. To achieve these goals, we use various methods, including genome-wide high--content siRNA screenings.

### SEEKING FOR COLLABORATION WITHIN

RNA processing and decay, mitochondrial gene expression, mitochondrial DNA replication and repair

### RELEVANT PROJECTS

MITGEST

SONATA BIS 11

PhD, Assistant Professor

## Kevin Waldron

LABORATORY OF METALLOPROTEIN BIOLOGY

**INSTITUTE OF BIOCHEMISTRY AND BIOPHYSICS, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

KWALDRON@IBB.WAW.PL

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### EXPERTISE

I have an established track record of training and developing talented young researchers. Furthermore, our work is highly interdisciplinary, combining computational approaches (evolutionary biology, computational che-mistry) with empirical methods (biochemistry, biophysics), enabling high-level training of junior researchers for a diverse skill set. I have a worldwide collaborative network, enabling team members' exposure to a further diverse range of disciplines.

### SEEKING FOR COLLABORATION WITHIN

microbiology, computational chemistry, evolutionary biology, immunology

### RELEVANT PROJECTS

MAESTRO

NIH R01 AI155611-01

PhD
## Szymon Śniegula
DEPARTMENT OF ECOSYSTEM CONSERVATION

**INSTITUTE OF NATURE CONSERVATION, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
SNIEGULA@IOP.KRAKOW.PL
+48 602 152 996

### EXPERTISE

Our research team has over 20 years of experience working on freshwater invertebrates, particularly odonates. We specialize in experimental ecology, focusing on life history, physiological, and behavioural traits. Recently, we've expanded into biological invasions, studying how invasive alien species impact native populations. Additionally, we have broadened our expertise to include molecular genetics (transcriptomics), specifically in the species *Ischnura elegans* and *Lestes sponsa*.

### SEEKING FOR COLLABORATION WITHIN

freshwater ecology, life history, physiology, behaviour, biological invasions, transcriptomics

### RELEVANT PROJECTS

ECOPOND
PROJECT 1
PROJECT 2
PROJECT 3

Professor
## Ewelina Knapska
LABORATORY OF EMOTIONS NEUROBIOLOGY

**NENCKI INSTITUTE OF EXPERIMENTAL BIOLOGY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
E.KNAPSKA@NENCKI.EDU.PL
+48 22 589 23 70

### EXPERTISE

Our research aims to understand the neural circuit mechanisms controlling social interaction and reward learning in health and disease. We focus on the amygdala and its functional connectivity with other brain structures, using neuroanatomical methods, opto- and chemogenetics, and recording neuronal activity. We have developed social communication, emotion discrimination, and reward learning behavioral protocols, including an automated system to track the behavior of mice in semi-naturalistic settings.

### SEEKING FOR COLLABORATION WITHIN

autism/depression models, social behavior/reward processing in humans, ultrasound brain stimulation

### RELEVANT PROJECTS

BRAINCITY
PainSociOT
EnviroMood

Assoc. Prof.
## Adam Jurgoński
BIOLOGICAL FUNCTION OF FOOD TEAM

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
A.JURGONSKI@PAN.OLSZTYN.PL
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### EXPERTISE

Elucidating the physiological and molecular mechanisms through which both well-known and novel dietary components influence gut function and metabolic health. The team conducts controlled feeding experiments using animal models of disorders characteristic of diet-related diseases. The research to date has focused on: • phenolic extracts and fiber–phenolic preparations, • prebiotic preparations and food additives, • unconventional sources of unsaturated fatty acids, • trace minerals in nanoparticle form.

### SEEKING FOR COLLABORATION WITHIN

preparation, chemical analysis, evaluation of the properties of novel food ingredients

### RELEVANT PROJECTS

NCN/OPUS
NCN/OPUS
NCN/SONATA

Professor

## Izabela Wocławek-Potocka

EMBRYO BIOLOGY TEAM

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

I.WOCLAWEK-POTOCKA@PAN.OLSZTYN.PL

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### EXPERTISE

We research advanced reproductive biotechnology in cattle, focusing on pre-implantation embryo development and oocyte quality markers to assess embryo viability. Our core method is in vitro embryo production (IVP), supporting micromanipulation, gene expression analysis, immunofluorescence, embryo culture, cryopreservation, and transfer. We study oocytes collected post-mortem and in vivo (OPU) from mature and immature animals, including young cattle to accelerate genetic progress. Our findings are translated into practical field applications for veterinarians and cattle breeders.

### SEEKING FOR COLLABORATION WITHIN

embryotransfer, in vitro embryo production, veterinary

### RELEVANT PROJECTS

NCN OPUS Lap

NCN OPUS

NCN OPUS

Assoc. Prof.

## Joanna Wiśniewska

LABORATORY OF SPATIAL EPIGENETICS

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

J.BUKOWSKA@PAN.OLSZTYN.PL

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### EXPERTISE

The research of the Regenerative Biology Team focuses primarily on the cellular and molecular mechanisms of skin wound healing. We are particularly interested in the following areas: • the impact of diet, aging, and metabolic status on the wound healing process; • skin regeneration versus repair; • wound healing–associated skin fibrosis; • metabolic regulation of skin regeneration and fibrosis; • skin immunology; • stem cells in wound healing and skin regeneration; • *in vitro* skin models in translational research

### SEEKING FOR COLLABORATION WITHIN

metabolic diseases, nutrition , aging and regenerative medicine, immunology, inflammation, bioengineering

PhD.

## Adam Kłosin

LABORATORY OF SPATIAL EPIGENETICS

**NENCKI INSTITUTE OF EXPERIMENTAL BIOLOGY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

A.KLOSIN@NENCKI.EDU.PL

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### EXPERTISE

Our laboratory investigates the spatial organization of transcription during animal development and stress responses, focusing specifically on how transcription factors and chromatin interact to form nuclear condensates. By combining biochemical reconstitution with functional studies in the nematode *Caenorhabditis elegans*, the group aims to dissect the molecular composition, assembly mechanisms, and physiological relevance of these dense protein assemblies. Ultimately, we hope to uncover conserved mechanisms of transcriptional control that will enable new therapeutic strategies.

### SEEKING FOR COLLABORATION WITHIN

biological phase separation, heat shock, transcriptional condensates, chromatin biology, embryonic development

### RELEVANT PROJECTS

ERC

Professor
## Iwona Grabowska
BIOELECTROANALYTICS TEAM

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
I.GRABOWSKA@PAN.OLSZTYN.PL
+48 89 500 33 44

### EXPERTISE

Studying the interactions between biomolecules using electroanalytical methods to develop innovative analytical systems that can be applied in medicine, veterinary science, food analysis, and environmental protection. We are particularly interested in: • testing of antibodies, single-stranded nucleic acids (ssDNA, ssRNA), and aptamers as recognition element in electrochemical biosensors, • exploring new carbon or gold nanomaterials as transducer element in biosensors, • systems for targeted and controlled delivery of therapeutically significant compounds to cancer cells.

### SEEKING FOR COLLABORATION WITHIN

electrochemical biosensors, aptasensors, immunosensors, genosensors, biomarkers

### RELEVANT PROJECTS

ADEVASCO
NCN OPUS
NCN OPUS

Professor
## Marek Strączkowski
HEAD OF PROPHYLAXIS OF METABOLIC DISEASES TEAM

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
M.STRACZKOWSKI@PAN.OLSZTYN.PL
+48 85 722 25 58

### EXPERTISE

Research within the Prophylaxis of Metabolic Diseases Team focuses on the pathogenesis of insulin resistance, with particular emphasis on assessment of insulin resistance in individuals at increased risk of type 2 diabetes, pathogenesis of skeletal muscle and adipose tissue insulin resistance - tissue transcriptomic, cell cultures mechanisms of an improvement in insulin sensitivity during lifestyle intervention.

### SEEKING FOR COLLABORATION WITHIN

pathogenesis of skeletal muscle and adipose tissue insulin resistance

### RELEVANT PROJECTS

NCN OPUS

PhD, DSc, Assoc. Prof.
## Tomasz Wypych
LABORATORY OF HOST-MICROBIOME INTERACTIONS

**NENCKI INSTITUTE OF EXPERIMENTAL BIOLOGY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
T.WYPYCH@NENCKI.EDU.PL
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### EXPERTISE

Our research aims to unravel bidirectional interactions between the commensal microbiota and the host, which could be harnessed to treat inflammatory diseases. On the microbial side, we focus on identifying immunomodulatory metabolites active in the lungs and brain, and tailoring them toward the formulation of therapeutics against inflammatory conditions such as respiratory infections, asthma, and neuroinflammation. On the host side, we dissect IgA bacteria interactions that promote colonization of specific bacterial strains and exert far reaching effects on airway immunity.

### SEEKING FOR COLLABORATION WITHIN

immunology, asthma, neurodegenerative disease, microbiome, metabolism

### RELEVANT PROJECTS

FIRST TEAM - FENG

Assoc. Prof.

## Radosław Kowalski

AQUATIC ORGANISM REPRODUCTIVE BIOTECHNOLOGY TEAM

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

R.KOWALSKI@PAN.OLSZTYN.PL

+48 692 901 511

### EXPERTISE

The research interests focus broadly on the reproduction of aquatic organisms and its support under controlled conditions. This includes understanding physiological and biochemical mechanisms underlying gamete function, as well as developing and optimizing methods that enhance reproductive success in both experimental and applied contexts, including aquaculture and conservation programs. Specific expertise: sperm motility and kinematic analysis, seminal plasma biochemistry and functional biomarkers, sperm cryopreservation and long-term storage of genetic resources.

### SEEKING FOR COLLABORATION WITHIN

genetic and genomic analyses, molecular data, reproductive processes

### RELEVANT PROJECTS

Salmocross

PhD, DSc, Assoc. Prof.

## Aleksandra Pękowska

DIOSCURI CENTER FOR CHROMATIN BIOLOGY AND EPIGENOMICS

**NENCKI INSTITUTE OF EXPERIMENTAL BIOLOGY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

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+48 22 589 21 70

### EXPERTISE

Our group uses stem cell models, high-throughput sequencing technologies (ChIP-seq, ATAC-seq, RNA-seq, Hi-C), CRISPR-Cas9-mediated genome editing, and computational tools to decipher the regulatory networks orchestrating astrocyte evolution and functions in mammals and to understand the interplay between chromatin topology and gene expression.

### SEEKING FOR COLLABORATION WITHIN

chromatin biology, epigenomics and transcriptional regulation, astrocyte biology and neurodevelopment

### RELEVANT PROJECTS

Dioscuri Grant

MSCA Doctoral Network

PhD, DSc

## Katarzyna Leszczyńska

LABORATORY OF TUMOUR OF HYPOXIA AND EPIGENOMICS

**NENCKI INSTITUTE OF EXPERIMENTAL BIOLOGY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

K.LESZCZYNSKA@NENCKI.EDU.PL

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### EXPERTISE

Our research group focuses on tumour progression and therapy resistance in H3K27-altered diffuse midline gliomas (DMG). We investigate how tumour hypoxia and the H3K27M oncohistone can be exploited for therapeutic benefit. We apply CUT&RUN, ATAC-seq and chromatin capture to identify druggable vulnerabilities in DMG cells and their microenvironment. We study hypoxia-driven chromatin reprogramming, evaluate H3K27M-dependent gene targets, and explore strategies to eliminate the detrimental oncohistone from DMG cells.

### SEEKING FOR COLLABORATION WITHIN

tumour microenvironment, mouse glioma models, paediatric high-grade gliomas, epigenomics, radiotherapy

### RELEVANT PROJECTS

HIT-GLIO

PhD, DSc, Assoc. Prof.

## Grzegorz Sumara

DIOSCURI CENTER FOR METABOLIC DISEASES

**NENCKI INSTITUTE OF EXPERIMENTAL BIOLOGY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

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+48 22 589 21 90

### EXPERTISE

Our Laboratory seeks to elucidate the signaling pathways regulating basic metabolic processes in adipose tissue, intestine and liver as well as inter-organ cross-talk, perturbations of which often result in metabolic diseases. We combine cell biology, biochemical and -omics approaches with mouse genetics. By determining essential signaling networks we aim to contribute to more targeted pharmacological strategies for the treatment of metabolic diseases such as obesity or type 2 diabetes (T2D).

### SEEKING FOR COLLABORATION WITHIN

metabolism, obesity, diabetes, kinase signaling, ERK3, protein kinase D (PKD), lipolysis, ubiquitin

### RELEVANT PROJECTS

SiCMetabol

Dioscuri Grant

TR 240

PhD

## Małgorzata Stanek

LABORATORY OF ECOCHEMISTRY AND ENVIRONMENTAL ENGINEERING

**W. SZAFER INSTITUTE OF BOTANY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

M.STANEK@BOTANY.PL

+48 12 346 50 03

### EXPERTISE

We specialize in research on two global environmental problems - plant invasion and soil pollution. We are particularly interested in soil conditions and their interactions with plants as well as the structural and functional biodiversity of microbial communities. Our research interests revolve around the plants' secondary metabolites, their allelopathic properties and roles in the decomposition and revitalization of invaded habitats. We use classical and advanced analytical methods (GC-MS, NGS).

### SEEKING FOR COLLABORATION WITHIN

invasive plants, heavy metals, ecosystems, secondary metabolites, plant-soil-microbe interactions

### RELEVANT PROJECTS

IMPAWOS

QRUBRA

ToBeLawn

INVASION

PhD

## Paweł Kapusta

FUNCTIONAL AND EVOLUTIONARY ECOLOGY GROUP

**W. SZAFER INSTITUTE OF BOTANY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

P.KAPUSTA@BOTANY.PL

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### EXPERTISE

Our research group aims to explain the relationships between organisms and the environment, and their evolutionary factors and effects. Specifically, we focus on understanding the importance of plant-animal interactions for ecosystem functioning and the plant-soil biota feedback under environmental stresses, such as biological invasions, pollution, and climate change. We also study the spatial aspects of ecological processes and assess environmental quality using bioindicators.

### SEEKING FOR COLLABORATION WITHIN

biodiversity, soil microbes, invasive plants, heavy--metal pollution, plant-animal interactions

### RELEVANT PROJECTS

NCN/OPUS

NCN/PRELUDIUM

NCN/OPUS

NCN/SONATA

PhD
## Magdalena Szechyńska-Hebda
PLANT BIOLOGY GROUP

**W. SZAFER INSTITUTE OF BOTANY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
M.SZECHYNSKA-HEBDA@BOTANY.PL
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### EXPERTISE

Our research focuses on plant physiological and ecological responses to environmental stresses, with particular emphasis on climate change. We investigate stress signalling pathways and photosynthetic performance at multiple spatial and temporal scales, integrating satellite and remote sensing, thermal imaging and advanced hyperspectral methods with chlorophyll fluorescence and biochemical analyses. Our innovative tools for environmental monitoring contributes to the creation of smart biotechnological solutions.

### SEEKING FOR COLLABORATION WITHIN

biochemistry, biophysics, AI-based solutions, biotechnological applications, system biology

### RELEVANT PROJECTS

COUTECH
COOLCITY

PhD, Dsc
## Marek Brzeziński
REACTIVE AND SUPRAMOLECULAR POLYMERS GROUP

**CENTRE OF MOLECULAR AND MACROMOLECULAR STUDIES, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
MAREK.BRZEZINSKI@CBMM.LODZ.PL
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### EXPERTISE

Our team investigates the properties and biomedical applications of supramolecular materials based on biocompatible polymers or supramolecular assemblies. These functional and stimuli-responsive materials include micro/nanoparticles or hydrogels designed to target cancer, viruses, and microbes, with a focus on overcoming the global problem of multi-drug resistance.

### SEEKING FOR COLLABORATION WITHIN

rheology, TEM microscopy, molecular modelling, multi-drug resistance

### RELEVANT PROJECTS

Humboldt Research Fellowship
SONATA 12
PRELUDIUM BIS 5

PhD, DSc
## Marta Dudek
CRYSTAL CHEMISTRY AND ENGINEERING TEAM

**CENTRE OF MOLECULAR AND MACROMOLECULAR STUDIES, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
MARTA.DUDEK@CBMM.LODZ.PL
+48 42 680 32 39

### EXPERTISE

Our work focuses on understanding the crystallization of molecular solids, hoping to pave the way for predicting and influencing its outcomes. We are exploring new experimental approaches to crystallization and combine them with crystal structure prediction calculations (CSP) as a tool indicating possible crystallization pathways. We also combine CSP with solid-state NMR to solve difficult problems in determining the structure of molecular crystals.

### SEEKING FOR COLLABORATION WITHIN

understanding crystallization, drug polymorphism, NMR crystallography, crystal structure prediction

### RELEVANT PROJECTS

NCN SONATA BIS
NCN SONATA

Professor
## Grażyna Adamus
LABORATORY OF BIODEGRADABLE MATERIALS

**CENTRE OF POLYMER AND CARBON MATERIALS, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES

GADAMUS@CMPW-PAN.PL

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### EXPERTISE

Our group investigates biodegradable and biocompatible polyesters for medical and environmental applications. Our research interests include polymers from renewable sources, the synthesis of functional polyesters with controlled biodegradability and determining the structure-property relationships of new polymer materials. We also have experience in the use of mass spectrometry techniques for molecular-level structural studies of synthetic polymers and the products of their degradation.

### SEEKING FOR COLLABORATION WITHIN

biodegradable polyesters, drug delivery system, biomaterials, eco-packaging, mass spectrometry

### RELEVANT PROJECTS

GREEN Map

BIOCLEAN

PELARGODONT (M-ERA.NET)

Bio ANC Hydrogel

Professor
## Tomasz Cichorek
LABORATORY FOR LOW TEMPERATURE PHYSICS

**INSTITUTE OF LOW TEMPERATURE & STRUCTURE RESEARCH, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES

T.CICHOREK@INTIBS.PL

+48 71 395 42 65

### EXPERTISE

Our area of research centers around experimental studies of condensed matter at low temperatures, emphasizing strongly correlated electron systems and Weyl physics. Particular interest is directed toward the two-channel Kondo phenomenon, multiband effects in unconventional superconductors, and magnetostriction and Nernst effect in topological semimetals.

### SEEKING FOR COLLABORATION WITHIN

very low temperatures, high pressure, strong magnetic fields

### RELEVANT PROJECTS

NCN/OPUS

NCN/OPUS

Max Planck Society: Partner Group for Non-magnetic Kondo Effect

Professor
## Rafał Wiglusz
BBRA - BIOMATERIALS FOR BIO-RELATED APPLICATIONS, DIVISION OF BIOMEDICAL PHYSICOCHEMISTRY

**INSTITUTE OF LOW TEMPERATURE & STRUCTURE RESEARCH, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES

R.WIGLUSZ@INTIBS.PL

+48 71 395 41 59

### EXPERTISE

Our laboratory is focused on the preparation of nanosized biomaterials, followed by the creation of periodically ordered nanostructures based on single nanoparticles. An important factor is the design and fabrication of nanocomponents with new functionalities and characteristics for improving existing materials: photonic and conductive materials, polymers and composites. The aim is to develop innovative products and applications in electronics and biomedicine based on nanoscale technology.

### SEEKING FOR COLLABORATION WITHIN

biomaterials, tissue regeneration, cells proliferation, biopolymers, hydrogels, block copolymers

### RELEVANT PROJECTS

NCN funded project

NCN funded project

POIR

POWR

Professor
## Ksenia Pazdro
MARINE CHEMISTRY & BIOCHEMISTRY DEPARTMENT

**INSTITUTE OF OCEANOLOGY, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
PAZDRO@IOPAN.PL
+48 58 731 19 39

### EXPERTISE

The Marine Biogeochemistry Laboratory is focused on C, N, P, O cycling in the marine environment.

### SEEKING FOR COLLABORATION WITHIN

marine $CO_2$ system, ocean acidification, biological pump, land-ocean continuum

### RELEVANT PROJECTS

BONUS INTEGRAL
ICOS
RAW
PROSPECTOR

Professor
## Mirosław Darecki
MARINE PHYSICS DEPARTMENT

**INSTITUTE OF OCEANOLOGY, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
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### EXPERTISE

Our main research areas are marine optics, bio-optics, remote sensing, and acoustics. We have expertise in conducting optical measurements and analyzing optical and remote sensing data in various marine environments, in developing optical methods for investigating biological and physical processes in the sea and remote sensing algorithms for retrieval of water constituents, and in devising hydroacoustic techniques for classifying benthic habitats, seabed morphometry, and biological organisms.

### SEEKING FOR COLLABORATION WITHIN

development of hydroacoustic classification techniques to monitor marine ecosystems and environment

### RELEVANT PROJECTS

ALKEKONGE
BALTIC-GAS
COMMON SENSE
SatBaltyk

Professor
## Dorota Gryko
LABORATORY OF SUSTAINABLE CATALYSIS

**INSTITUTE OF ORGANIC CHEMISTRY, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
DOROTA.GRYKO@ICHO.EDU.PL
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### EXPERTISE

Our laboratory is focused on sustainable chemistry. In particular, we develop catalytic methods that mimic the efficiency that is characteristic of enzymes by combining the robust nature of simple nature-derived catalysts with light as the source of energy. We are interested in finding strategies for efficient organic synthesis in accordance with the principles of green chemistry. We also work on vitamin B12, focusing on its catalytic properties and using it as a drug delivery vehicle.

### SEEKING FOR COLLABORATION WITHIN

bioorthogonal chemistry, DFT calculations, artificial intelligence, drug delivery, vitamin B12

### RELEVANT PROJECTS

PhotoReact
OligoMed
NCN/OPUS18
NCN/OPUS+LAP
NCN/MAESTRO12

Professor
## Agnieszka Szumna
MOLECULAR RECOGNITION GROUP

**INSTITUTE OF ORGANIC CHEMISTRY, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES

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### EXPERTISE

Our laboratory is focused on the design and synthesis of supramolecular systems, capsules, cavitands, and macrocycles. In particular, we are interested in their host--guest binding abilities, chiral recognition, and photo-physical properties. We investigate interactions of macro cyclic compounds with peptides and proteins. We also carry out mechanochemical synthesis and encapsulation.

### SEEKING FOR COLLABORATION WITHIN

imaging, PET, drug delivery, protein interactions

### RELEVANT PROJECTS

NCN/OPUS21

NCN/OPUS25 2023/49/B/ST5/02466

Professor
## Daniel Gryko
LABORATORY OF FUNCTIONAL DYES

**INSTITUTE OF ORGANIC CHEMISTRY, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES

DANIEL.GRYKO@ICHO.EDU.PL

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### EXPERTISE

The research interests of the Gryko group are mainly centered around advanced functional dyes and catalysis. We are mainly interested in the following areas:

- next-generation fluorescent probes for stimulated emission depletion microscopy
- quadrupolar, two-photon absorbing dyes
- chemistry of diketopyrrolopyrroles and pyrrolo[3,2-b] pyrroles
- solvatochromism of fluorescence and symmetry breaking in the excited state
- curved aromatic architectures

### SEEKING FOR COLLABORATION WITHIN

two-photon absorption, symmetry breaking in the excited state, photophysics of functional dyes

### RELEVANT PROJECTS

ARCHIMEDES ERC

CHAIR

Micro4Nano

NCN/OPUS

Professor
## Janusz Lewiński
COORDINATION METAL COMPLEXES AND FUNCTIONAL MATERIALS

**INSTITUTE OF PHYSICAL CHEMISTRY, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES

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### EXPERTISE

Our research program addresses a wide range of fundamental problems in inorganic and coordination chemistry, catalysis, materials chemistry, and nano-science. Transferring curiosity-driven molecular-level fundamental studies to practical aspects is a unifying theme for much of this research. We aim to develop bottom-up approaches to functional materials, such as zinc oxide quantum dots, metal halide perovskites and metal-organic frameworks, relying on wet methods and mechanosynthesis.

### SEEKING FOR COLLABORATION WITHIN

coordination chemistry, nanoscience & nanotechnology, perovskites & photovoltaics, mechanochemistry

### RELEVANT PROJECTS

NaMeS

PD2PI

NOBLESSE

Professor

## Włodzimierz Kofman

MARS EXPLORATION LABORATORY

**SPACE RESEARCH CENTRE, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES

WKOFMAN@CBK.WAW.PL

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### EXPERTISE

The main axis of our research is the volcanic, tectonic, and hydrothermal characterization and evolution of Mars. We are currently especially focused on the potential sources of trace gas emissions released from the crust into the atmosphere, comparative planetary geology (including the study of terrestrial analogues of the studied regions on Mars in the field and with orbital data), and developing innovative concepts for geological exploration of planetary bodies, surfaces and subsurfaces.

### SEEKING FOR COLLABORATION WITHIN

planetary geology, Mars, planetoid

### RELEVANT PROJECTS

FlyRadar

Full Professor

## Wiesław Ostachowicz

CENTRE OF MECHANICS OF MACHINES /
MECHANICS OF INTELLIGENT STRUCTURES DEPARTMENT

**INSTITUTE OF FLUID-FLOW MACHINERY, PAS**

DIVISION IV - ENGINEERING SCIENCES

WIESLAW@IMP.GDA.PL

+48 58 522 52 85

### EXPERTISE

SHM techniques, vibration control, structural dynamics, composite structures, multifunctional materials, smart materials and structures, damage assessment. Spectral Finite Element method for damage assessment and smart materials applications. Guided wave propagation methods for damage detection using smart sensor technologies. Methods of effectiveness and sensitivity to cracks in metallic and composite structures without restrictions on load, boundaries, temperature, or environmental conditions.

### SEEKING FOR COLLABORATION WITHIN

SHM and NDT techniques, with 3D laser scanning, THz, FBG, electromechanical impedance & thermography

### RELEVANT PROJECTS

BOHEME

ComBoNDT

MAREWINT

ENCOMB

Full Professor

## Dariusz Kardaś

CENTRE OF FLOW AND COMBUSTION /
RENEWABLE ENERGY DEPARTMENT

**INSTITUTE OF FLUID-FLOW MACHINERY, PAS**

DIVISION IV - ENGINEERING SCIENCES

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### EXPERTISE

Our team specializes in studying combustion and gasification phenomena and designing heat and power cogeneration systems. We conduct theoretical analyses and model flow processes involving phase transformations and chemical reactions, utilizing CFD and DEM calculations. Our work includes thermo-chemical measurements of pyrolysis, combustion, and heat transfer phenomena. We design and analyse burners, synthetic fuel reactors, heat exchangers, and power systems for rocket engines.

### SEEKING FOR COLLABORATION WITHIN

particulate matter separation, syngas to liquids catalysis, surface reactions, combustion

### RELEVANT PROJECTS

ResMe2E

MIZDRA 2.0

Associate Professor

## Paweł Flaszyński

CENTRE OF FLOW AND COMBUSTION / AERODYNAMICS DEPARTMENT

**INSTITUTE OF FLUID-FLOW MACHINERY, PAS**

DIVISION IV - ENGINEERING SCIENCES

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### EXPERTISE

Our Aerodynamics Department has participated in many EU projects in aviation (turbomachinery and drag reduction), UAV propulsion and wind energy (turbine blades, wake steering and wind farm interactions). The research is focused on flow structure, heat transfer, boundary layer transition and separation, shock wave boundary layer interaction, flow control and noise reduction. Flaszyński has coordinated the EU FP7 TFAST project and H2020-MSCA-ITN TEAMAero.

### SEEKING FOR COLLABORATION WITHIN

gas turbine, compressor, wind turbine, wind farm, flow control, heat transfer, aeroacoustics

### RELEVANT PROJECTS

H2020-MSCA-ITN TEAMAero

HORIZON-EIC-2023-PATHFINDEROPEN-01 BEALIVE

H2020-MG-2016-2017 SMS

H2020-MSCA-ITN zEPHYR

Associate Professor

## Magdalena Mieloszyk

TRICITY DOCTORAL SCHOOL OF THE POLISH ACADEMY OF SCIENCES

**INSTITUTE OF FLUID-FLOW MACHINERY, PAS**

DIVISION IV - ENGINEERING SCIENCES

MMIELOSZYK@IMP.GDA.PL

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### EXPERTISE

TSD PAN offers education for PhD students from all over the world in mechanical engineering, civil engineering, Earth and related environmental sciences. Thanks to NAWA, TSD PAN organizes summer schools with lecturers - experts from national/international institutes, universities/companies. TSD PAN participates in mobilities (e.g. ERASMUS+, NAWA) and promotes Poland for foreigners. Since 2020, TSD PAN organizes the annual Doctoral Seminar for PhD students.

### SEEKING FOR COLLABORATION WITHIN

doctoral network, summer schools, clean energy, functional materials, structural health monitoring

### RELEVANT PROJECTS

CenMAT

mTSDPAN

ERASMUS+

PhD, DSc

## Joanna Domańska

SECURITY, MODELLING AND PERFORMANCE EVALUATION GROUP

**INSTITUTE OF THEORETICAL AND APPLIED INFORMATICS, PAS**

DIVISION IV - ENGINEERING SCIENCES

JOANNA@IITIS.PL

### EXPERTISE

My team is working on issues related to: anomaly detection and energy performance in Internet of Things (IoT) networks; semantic spatial orientation as a foundation for autonomous navigation systems that understand natural language context; software vulnerability prediction, particularly focusing on static code analysis using artificial intelligence algorithms; explainability of deep neural networks.

### SEEKING FOR COLLABORATION WITHIN

attack detection, autonomous driving, vulnerability prediction, energy performance, explainable AI

### RELEVANT PROJECTS

SerIoT

SDK4ED

IoTAC

DOSS

Professor
## Agnieszka Chacińska
LABORATORY OF MITOCHONDRIAL BIOGENESIS

IMOL POLISH ACADEMY OF SCIENCES
DIVISION V - MEDICAL SCIENCES
A.CHACINSKA@IMOL.INSTITUTE
+48 733 041 251

### EXPERTISE

The Chacinska Group explores novel and exciting links between protein transport mechanisms and mitochondrial protein homeostasis.

It postulates the presence of unique mechanisms involved in protein biogenesis that involve crosstalk between cytosol and mitochondrial compartments. The goal is to better understand the complex and dynamic processes involved in the formation of functional organelles, as well as the maintenance of cellular protein homeostasis and its failures, which result in pathology.

### SEEKING FOR COLLABORATION WITHIN

molecular cell biology, biochemistry, mitochondria, protein biogenesis, homeostasis, stress response

### RELEVANT PROJECTS

EMBO Postdoctoral Fellowship

NCN/POLONEZ

PhD
## Anna Marusiak
LABORATORY OF MOLECULAR ONCOSIGNALLING

IMOL POLISH ACADEMY OF SCIENCES
DIVISION V - MEDICAL SCIENCES
A.MARUSIAK@IMOL.INSTITUTE
+48 607 435 448

### EXPERTISE

The Laboratory of Molecular OncoSignalling is interested in studying how aberrant signaling in cancer cells contributes to cancer development, metastasis, and therapy resistance, and how we can use that knowledge to design novel anticancer treatments. In particular, we focus on investigating oncogenic signaling activated by MLK4 in breast cancer and its role in metastasis and tumor microenvironment. We also assess the efficiency of novel MLK4 small molecule inhibitors and PROTAC compounds.

### SEEKING FOR COLLABORATION WITHIN

cancer biology, signal transduction, breast cancer, inhibitors, PROTACs, cancer therapies

### RELEVANT PROJECTS

NCN/FUGA

PhD
## Karolina Szczepanowska
LABORATORY OF METABOLIC QUALITY CONTROL

IMOL POLISH ACADEMY OF SCIENCES
DIVISION V - MEDICAL SCIENCES
K.SZCZEPANOWSKA@IMOL.INSTITUTE
+48 605 544 190

### EXPERTISE

Our lab is fascinated by the mechanisms underlying the regulation of cellular metabolism. Our research focuses on the quality control of mitochondrial respiratory complexes, a set of elaborative mo- lecular machines critical for energy production. The major aim is to understand how the respiratory complexes are surveilled, repaired and turned over upon exposure to stress. Our findings will help design new therapeutic strategies against diseases associated with metabolic constrain.

### SEEKING FOR COLLABORATION WITHIN

cancer, rare diseases, mitochondria, protein turnover, protein quality control, metabolism

### RELEVANT PROJECTS

EMBO Postdoctoral Fellowship

NCN/SONATINA6

Professor
## Magdalena Zielińska
DEPARTMENT OF NEUROTOXICOLOGY

**MOSSAKOWSKI MEDICAL RESEARCH CENTRE, PAS**

DIVISION V - MEDICAL SCIENCES
MZIELINSKA@IMDIK.PAN.PL
+48 22 608 64 70

### EXPERTISE

Our research focuses on the mechanisms underlying brain function in hyperammonemic encephalopathies (including rare diseases), anxiety, epilepsy, and metabolic disorders, as well as interorgan crosstalk with the liver and intestine. We combine cell biology, biochemical, and omics approaches with behavioural studies. We aim to decipher the role of the glutamine-glutamate cycle and oxidative stress in the pathobiology of gliomas, in search of therapeutic strategies in collaboration with clinicians and chemists.

### SEEKING FOR COLLABORATION WITHIN

hyperammonemic encephalopathies, anxiety, metabolic diseases, epilepsy, gliomas, anticancer drugs

### RELEVANT PROJECTS

HEPENTRANS EEA and Norway Grants
NCN/OPUS20
NCN/OPUS15
NCN/OPUS21

PhD
## Magdalena Winiarska
DEPARTMENT OF IMMUNOLOGY

**MOSSAKOWSKI MEDICAL RESEARCH CENTRE, PAS**

DIVISION V - MEDICAL SCIENCES
MWINIARSKA@IMDIK.PAN.PL
+48 22 608 64 49

### EXPERTISE

Our Department of Immunology is focused on elucidating the mechanisms regulating immune cell activation and advancing cancer immunotherapy using monoclonal antibodies, effector cells and cells engineered with chimeric antigen receptors (CAR). Our work ranges from basic research in the field of cancer immunology to translational research aimed at improving the efficacy of cancer therapy.

### SEEKING FOR COLLABORATION WITHIN

adoptive therapy, CAR-T, monoclonal antibodies, tumour microenvironment, drug target, immunooncology

### RELEVANT PROJECTS

STIMUNO ERC Starting Grant
ArTCell EIC PATHFINDER
NCN/OPUS23
NCN/OPUS20

PhD, DSc
## Grzegorz Kreiner
DEPARTMENT OF BRAIN BIOCHEMISTRY

**MAJ INSTITUTE OF PHARMACOLOGY, PAS**

DIVISION V - MEDICAL SCIENCES
KREINER@IF-PAN.KRAKOW.PL
+48 12 662 33 35

### EXPERTISE

Our laboratory is focused on unraveling the intracellular pathways related to neurodegeneration and the etiology of depression. We work on transgenic models, including spatiotemporal knock-outs and models generated by CRISR/Cas9 gene editing. Our studies focus on drugs used in the treatment of depression and neurodegenerative diseases. We exploit various laboratory methods for behavioral phenotyping, RNA/protein expression assessment, and immunohistochemistry.

### SEEKING FOR COLLABORATION WITHIN

antidepressants, Parkinson's disease, Huntington's disease, transgenic models, Cre/loxP, CRISPR/Cas9

### RELEVANT PROJECTS

NCN/OPUS13
NCN/OPUS7
NCN/SonataBIS11
NCN/SONATA15

# RI

## Research Infrastructures

Research infrastructures are facilities that provide resources and services for the research communities to conduct research and foster innovation in their fields. These include: major equipment or sets of instruments, knowledge-related facilities such as collections, archives or scientific data infrastructures, computing systems, communication networks.

### AREAS OF INTERVENTION

- consolidating and developing the landscape of European research infrastructures,
- opening, integrating and interconnecting research infrastructures,
- reinforcing European research infrastructure policy and international cooperation,
- consolidating and developing the innovation potential of European research infrastructures and activities for innovation and training.

*Source: Research Infrastructures*

PhD
## Bogumił Szady
MODELLING SPATIAL KNOWLEDGE

INSTITUTE OF HISTORY, PAS
DIVISION I - HUMANITIES AND SOCIAL SCIENCES
BSZADY@IHPAN.EDU.PL
+48 22 831 36 42

### EXPERTISE

The Department develops domain formal ontologies modelling knowledge about the settlement network and administrative units, its features and relations. These elements are an important part of research on historic space. We develop ontologies of manifestations, which is a strategy of modelling phenomena changing over time. The domain on- ologies we build refer to upper-level ontologies, such as CIDOC-CRM, BFO (Basic Formal Ontology), etc., to build infrastructure for digital research.

### SEEKING FOR COLLABORATION WITHIN

geography, history, philosophy, knowledge acquisition, information science

### RELEVANT PROJECTS

ONTOHGIS

PhD
## Wiesława Duży
MODELLING SPATIAL KNOWLEDGE

INSTITUTE OF HISTORY, PAS
DIVISION I - HUMANITIES AND SOCIAL SCIENCES
WIESLAWA.DUZY@IHPAN.EDU.PL
+48 22 831 36 42

### EXPERTISE

Our Department develops domain formal ontologies modelling knowledge about the settlement network and administrative units, its features and relations. These elements are an important part of research on historic space. We develop ontologies of manifestations, which is a strategy of modelling phenomena changing over time. The domain on- tologies we build refer to upper-level ontologies, such as CIDOC-CRM, BFO (Basic Formal Ontology), etc., to build infrastructure for digital research.

### SEEKING FOR COLLABORATION WITHIN

geography, history, philosophy, knowledge acquisition, information science

### RELEVANT PROJECTS

URBANONTO

PhD
## Adam Zapała
DIGITAL INFRASTRUCTURE FOR HUMANITIES

INSTITUTE OF HISTORY, PAS
DIVISION I - HUMANITIES AND SOCIAL SCIENCES
AZAPALA@IHPAN.EDU.PL
+48 22 831 36 42

### EXPERTISE

The expertise of the interdepartmental DARIAH. Lab team at the Institute of History lies in preparing digital tools for the humanities & arts. Our work focuses on providing reliable reference databases for people & places in the past, preparing scholarly digital editions.

### SEEKING FOR COLLABORATION WITHIN

editors/holders of historical materials, authority files creators, creators of digital repositories

### RELEVANT PROJECTS

DARIAH

PhD

## Maciej Maryl

DIGITAL HUMANITIES CENTRE

**INSTITUTE OF LITERARY RESEARCH, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES

MACIEJ.MARYL@IBL.WAW.PL

+48 22 657 29 58

### EXPERTISE

The Digital Humanities Centre is invested in digital methods in the humanities scholarship. It collaborates with CLARIN and DARIAH RIs, and serves as the national node of OPERAS RI, leading the OPERAS Innovation Lab. The Open Humanities Hub coordinates the Polish national node of OPERAS, the NPLP creates an infrastructure for digital scholarly editions and monographs, and the Bibliography Department coshapes the bibliographical data landscape in Europe. The "Polish Studies News-letter" serves the needs of the international Polish Studies community, combining the features of an online portal, database, magazine and medium bringing it all together.

### SEEKING FOR COLLABORATION WITHIN

innovation & data in open scholarly communication, digital scholarly editing, UX/stakeholder research, IT solutions

### RELEVANT PROJECTS

TRIPLE

OPERAS-PLUS

OPERAS-P

CRAFT-OA

PhD

## Kinga Krauze

RESEARCH TEAM: SOCIO-ECOHYDROLOGY AND ECOSYSTEM SERVICES

**EUROPEAN REGIONAL CENTRE FOR ECOHYDROLOGY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

K.KRAUZE@ERCE.UNESCO.LODZ.PL

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### EXPERTISE

Our laboratory is focused on social, economic, and ecological drivers of natural capital and water management issues, from perspective of both resource quality and availability and people's conflicting needs (nexus) and attitudes. In particular, we are interested in long-term processes at the nature–human interface. We work on ecosystem services assessment, implementation of Nature-Based Solutions in rural and urban areas, and biodiversity and risk assessment.

### SEEKING FOR COLLABORATION WITHIN

NBS, coupled human and nature systems (CHANS), water management, modelling

### RELEVANT PROJECTS

eLTER PPP

BioAgora

Eupolis

ATENAS

PhD, DSc

## Maciej Figiel

DEPARTMENT OF MOLECULAR NEUROBIOLOGY

**INSTITUTE OF BIOORGANIC CHEMISTRY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

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### EXPERTISE

Our team studies the pathogenesis and therapy of neurodegeneration in model diseases such as poly-glutamine Huntington's disease, juvenile HD, and SCA3/MJD. We define the earliest pre-symptomatic developmental pathogenesis using early brain models such as organoids, single-cell RNAseq, and proteomics. We investigate shRNA and AAV-based therapies (silencing or gene delivery) in our Knock-in SCA3 mouse and humanized HD mouse models model using BBB permeable AAV or AAV brain injections.

### SEEKING FOR COLLABORATION WITHIN

brain, neurodegeneration, Huntington, SCA3, AAV, therapy, stem, organoids, scRNAseq, animal models

### RELEVANT PROJECTS

SCACYP

TreatPolyQ

National Ataxia Foundation funded project

Professor

## Łukasz Bratasz

CULTURAL HERITAGE RESEARCH GROUP

**INSTITUTE OF CATALYSIS AND SURFACE CHEMISTRY, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES

LUKASZ.BRATASZ@IKIFP.EDU.PL

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### EXPERTISE

Preservation of cultural heritage, microclimatic monitoring, analysis of structural response of materials to changes in environmental parameters, impact of global climate change on cultural heritage, computer modelling of environmentally induced physical damage, non-invasive testing of historical objects, especially using acoustic emission, environmental control, risk assessment and energy efficiency in museums and historic buildings.

### SEEKING FOR COLLABORATION WITHIN

neuroscience (visual reception), particle deposition gas-solid models and experimental techniques

### RELEVANT PROJECTS

IPERION HS

CollectionCare

CRAQUELURE

PVCare

PhD

## Magdalena Szechyńska-Hebda

PLANT BIOLOGY GROUP

**W. SZAFER INSTITUTE OF BOTANY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

M.SZECHYNSKA-HEBDA@BOTANY.PL

+48 12 424 17 66

### EXPERTISE

Our research focuses on plant physiological and ecological responses to environmental stresses, with particular emphasis on climate change. We investigate stress signalling pathways and photosynthetic performance at multiple spatial and temporal scales, integrating satellite and remote sensing, thermal imaging and advanced hyperspectral methods with chlorophyll fluorescence and biochemical analyses. Our innovative tools for environmental monitoring contributes to the creation of smart biotechnological solutions.

### SEEKING FOR COLLABORATION WITHIN

biochemistry, biophysics, AI-based solutions, biotechnological applications, system biology

### RELEVANT PROJECTS

COUTECH

COOLCITY

PhD.

## Adam Kłosin

LABORATORY OF SPATIAL EPIGENETICS

**NENCKI INSTITUTE OF EXPERIMENTAL BIOLOGY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

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### EXPERTISE

Our laboratory investigates the spatial organization of transcription during animal development and stress responses, focusing specifically on how transcription factors and chromatin interact to form nuclear condensates. By combining biochemical reconstitution with functional studies in the nematode *Caenorhabditis elegans*, the group aims to dissect the molecular composition, assembly mechanisms, and physiological relevance of these dense protein assemblies. Ultimately, we hope to uncover conserved mechanisms of transcriptional control that will enable new therapeutic strategies.

### SEEKING FOR COLLABORATION WITHIN

biological phase separation, heat shock, transcriptional condensates, chromatin biology, embryonic development

### RELEVANT PROJECTS

ERC

PhD, DSc
**Sławomira Pusz**
MICROSCOPY LABORATORY

**CENTRE OF POLYMER AND CARBON MATERIALS, PAS**
DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
SPUSZ@CMPW-PAN.PL
+48 32 271 60 77 (EXT.250)

## EXPERTISE

Polymers, lipids and their hybrids are of significant scientific interest because of their self-organisation features and potential applications as nanocarriers. Our team specializes in using Transmission Electron Microscopy, including its Cryogenic Mode, to visualize and characterize polymers, polymeric bioconjugates, polymer-lipid hybrids, lipids and carbon materials for use in nanomedicine, pharmacy and drug delivery systems. We focus on nanoparticles as potential carriers for drugs and active substances.

## SEEKING FOR COLLABORATION WITHIN

lipids, polymer-lipid hybrids, lyotropic liquid crystalline nanoparticles, drug delivery systems

## RELEVANT PROJECTS

NCBR funded project

PhD, DSc
**Paweł Morawiecki**
CRYPTOGRAPHY TEAM

**INSTITUTE OF COMPUTER SCIENCE, PAS**
DIVISION IV - ENGINEERING SCIENCES
PAWEL.MORAWIECKI@GMAIL.COM
+48 785 218 061

## EXPERTISE

Our laboratory is focused on cryptography and security. In particular, we are interested in applying deep learning to security and privacy.

## SEEKING FOR COLLABORATION WITHIN

security, privacy, deep learning

## RELEVANT PROJECTS

PRIVNE

ComCrypt

EfEncrypt

Professor
**Szymon Jaroszewicz**
STATISTICAL ANALYSIS AND MODELING GROUP

**INSTITUTE OF COMPUTER SCIENCE, PAS**
DIVISION IV - ENGINEERING SCIENCES
S.JAROSZEWICZ@IPIPAN.WAW.PL
+48 22 380 05 51

## EXPERTISE

Our group is focused on statistical and machine learning methods, being particularly interested in causal discovery, from experimental and observational data, especially uplift modeling, heterogeneous treatment effect estimation, multi-label classification and positive-and-unlabeled data. We have also significant expertise in analysis of high-dimensional data, especially using information theoretical methods. We are also skilled in practical applications of machine learning and statistical methods.

## SEEKING FOR COLLABORATION WITHIN

causal discovery, high dimensional data, positive-and-unlabeled classification, variable selection

## RELEVANT PROJECTS

SAI

Uplift modeling in marketing and biomedical research.

PhD, DSc
## Maciej Ogrodniczuk
DEPARTMENT OF LANGUAGE MODELING

**INSTITUTE OF COMPUTER SCIENCE, PAS**

DIVISION IV - ENGINEERING SCIENCES
M.OGRODNICZUK@IPIPAN.WAW.PL
+48 533 675 675

### EXPERTISE

Maciej Ogrodniczuk specializes in language modelling, both linguistic and computational, development of language resources and processing natural language at all levels of complexity, from morphology to discourse. His team creates large datasets of language data, implements innovative methods to analyze them, trains large language models (LLMs) and develops AI-based solutions with linguistic components.

### SEEKING FOR COLLABORATION WITHIN

natural language processing (NLP), artificial intelligence (AI), linguistics, information technology,

### RELEVANT PROJECTS

CLARIN
CURLICAT
DARIAH
HOMADOS
PLLuM

Professor
## Zbigniew Puchała
QUANTUM SYSTEMS OF INFORMATICS GROUP

**INSTITUTE OF THEORETICAL AND APPLIED INFORMATICS, PAS**

DIVISION IV - ENGINEERING SCIENCES
ZPUCHALA@IITIS.PL
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### EXPERTISE

The Group is focusing on developing quantum algorithms, error correction methods, and practical applications of quantum devices. It actively participates in various R&D projects, including the Team Net project, addressing challenges in quantum technologies. Additionally, the Group has developed software for simulating quantum annealers on classical computers, facilitating research into modern quantum architectures and optimization, along with tools for visualizing and analyzing the results.

### SEEKING FOR COLLABORATION WITHIN

quantum computing, quantum error correction, machine learning, and optimization

### RELEVANT PROJECTS

Near-term Quantum Computers Challenges

Professor
## Leonora Bużańska
DEPARTMENT OF STEM CELL BIOENGINEERING

**MOSSAKOWSKI MEDICAL RESEARCH CENTRE, PAS**

DIVISION V - MEDICAL SCIENCES
BUZANSKA@IMDIK.PAN.PL
+48 602 575 161

### EXPERTISE

Our expertise lies in neurobiology, stem cells (human iPSC and MSC), genetic engineering (gene editing, genetic vectors), bioengineering (natural and synthetic scaffolds, cell/biomaterial or cell/ECM interphase) and GMP compliant precision medicine. We are modelling neural disorders with human iPSCs lines (isogenic/control) and brain organoids (whole brain and region specific) in biomimetic microenvironment. We derive therapeutically competent cells and MVs for preclinical and clinical treatment.

### SEEKING FOR COLLABORATION WITHIN

modelling neuropathology with iPSCs and brain organoids, MSCs, secretome, GMP-based cell therapies

### RELEVANT PROJECTS

NCN OPUS 28 LAP
NCN/PRELUDIUM 21
NCN/OPUS16
NCN/Preludium Bis2022

Professor

## Marzena Maćkowiak

LABORATORY OF PHARMACOLOGY AND BRAIN BIOSTRUCTURE, DEPARTMENT OF PHARMACOLOGY

**MAJ INSTITUTE OF PHARMACOLOGY, PAS**

DIVISION V - MEDICAL SCIENCES

MACKOW@IF-PAN.KRAKOW.PL

**+48 12 662 32 62**

## EXPERTISE

The laboratory is focused on neurodevelopmental and pharmacological models of schizophrenia: prenatal MAM administration, blockade of NMDA receptors in juvenile and adult rodents. The laboratory uses maternal separation and social isolation paradigms to model early-life adversity. We conduct behavioral tests: fear conditioning, acoustic startle response, novel object recognition, social interaction, light/dark box, and molecular techniques (proteomics, transcriptomics), immunohistochemistry.

## SEEKING FOR COLLABORATION WITHIN

early life stress, adolescent stress

# Cluster 1

## Health

The aims of this cluster include improving and protecting the health and well-being of citizens of all ages by generating new knowledge, developing innovative solutions and integrating where relevant a gender perspective to prevent, diagnose, monitor, treat and cure diseases. Further aims include developing health technologies, mitigating health risks, protecting populations and promoting good health and well-being in general and at work.

Finally, this cluster also aims to make public health systems more cost-effective, equitable and sustainable, prevent and tackle poverty-related diseases and support and enable patients' participation and self-management.

### AREAS OF INTERVENTION

- health throughout the life course
- environmental and social health determinants
- non-communicable and rare diseases
- infectious diseases including poverty-related and neglected diseases
- tools, technologies and digital solutions for health and care including personalised medicine
- health care systems

*Source: Cluster 1*

PhD, DSc

## Adam Czarnecki

RESEARCH TEAM ON RURAL WELL-BEING

**INSTITUTE OF RURAL AND AGRICULTURAL DEVELOPMENT, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

DARECKI@IOPAN.PL

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### EXPERTISE

The research team is focused on the well-being and quality of life of rural and farming communities. We are interested in learning more about the socioeconomic factors and the resulting challenges for having a good life as well as the rural people's coping strategies to mitigate the negative effects of the ongoing processes such as the climate change, population shifts. We conduct work on farmers' and other rural residents' well-being shaped by variety of forces at different territorial scales.

### SEEKING FOR COLLABORATION WITHIN

Well-being, quality of life, good life, coping strategies, rural/local communities, farmers

### RELEVANT PROJECTS

FARMWELL

PhD, DSc

## Maciej Figiel

DEPARTMENT OF MOLECULAR NEUROBIOLOGY

**INSTITUTE OF BIOORGANIC CHEMISTRY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

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### EXPERTISE

Our team studies the pathogenesis and therapy of neurodegeneration in model diseases such as polyglutamine Huntington's disease, juvenile HD, and SCA3/MJD. We define the earliest pre-symptomatic developmental pathogenesis using early brain models such as organoids, single-cell RNAseq, and proteomics. We investigate shRNA and AAV-based therapies (silencing or gene delivery) in our Knock-in SCA3 mouse and humanized HD mouse models model using BBB permeable AAV or AAV brain injections.

### SEEKING FOR COLLABORATION WITHIN

neurodegeneration, brain, AAV drugs, organoids, HCS, microscopy, animal models, therapy, proteomics

### RELEVANT PROJECTS

SCACYP

TreatPolyQ

National Ataxia Foundation funded project

PhD, DSc

## Jacek Łukasz Kolanowski

CENTRE FOR CHEMICAL BIOLOGY ERIC

**INSTITUTE OF BIOORGANIC CHEMISTRY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

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### EXPERTISE

In our research group we design, develop, and use fluorescent probes and assays for multiparametric imaging in live cells. In our core facility we offer (1) high throughput screening for identification of drug candidates (fluor. & biolum., biochemical and cell-based assays including high content imaging), (2) ultraresolution (<5 nm, MINFLUX) & superresolution fluorescent microscopy (STED, STED-FLIM) in live cells, (3) synthesis of chemical probes, natural compound analogues and hit optimization.

### SEEKING FOR COLLABORATION WITHIN

chemical biology, fluorescent probes, multiplexing, imaging, HTS, protein labelling, core facility

### RELEVANT PROJECTS

EU-OPENSCREEN-DRIVE

ISIDORe

AgroSERV

Professor
## Marek Figlerowicz
DEPARTMENT OF MOLECULAR AND SYSTEMS BIOLOGY

**INSTITUTE OF BIOORGANIC CHEMISTRY, PAS**
DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
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### EXPERTISE

Our group focuses on cell engineering, particularly for the purposes of regeneration and interceptive medicine. We study factors shaping cell identities and states in the context of epigenetic rejuvena-tion, direct cell reprogramming, and intercellular communication via short- and long-distance RNA transport. We combine cutting-edge single-cell spatial multiomics, micro-patterned cell cultures, organoid models, and machine learning to model cell trajectories and control cell fate and functions.

### SEEKING FOR COLLABORATION WITHIN

cardiology, AI,epigenetics, transdifferentiation, RNA, extracellular vesicles, CRISPR, APOBEC

### RELEVANT PROJECTS

ECBiG-MOSAIC
NEB
LifeTime
LifeTime

PhD
## Artur Zelent
DEPARTMENT OF MOLECULAR BIOLOGY

**INSTITUTE OF GENETICS AND ANIMAL BIOTECHNOLOGY, PAS**
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### EXPERTISE

Our current research focuses on the use of an innovative iterative functional and genomics approach to design new therapeutic strategies for patients with Myelodysplastic Syndromes (MDS), Acute Myeloid Leukemia (AML), and Chro-nic Lymphocytic Leukaemia (CLL). We are also interested in studying the relationship between the epigenetic landscape and the pathogenesis of diseases.

### SEEKING FOR COLLABORATION WITHIN

biochemistry, genetics, molecular biology, medicine and health sciences, chemistry, immunology

### RELEVANT PROJECTS

NCN/OPUS17
NCN/OPUS21

PhD, DSc, Assoc. Prof.
## Tomasz Wypych
LABORATORY OF HOST-MICROBIOME INTERACTIONS

**NENCKI INSTITUTE OF EXPERIMENTAL BIOLOGY, PAS**
DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
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### EXPERTISE

Our research aims to unravel bidirectional interactions between the commensal microbiota and the host, which could be harnessed to treat inflammatory diseases. On the microbial side, we focus on identifying immunomod-ulatory metabolites active in the lungs and brain, and tailoring them toward the formulation of therapeutics against inflammatory conditions such as respiratory infections, asthma, and neuroinflammation. On the host side, we dissect IgA bacteria interactions that promote colonization of specific bacterial strains and exert far reaching effects on airway immunity.

### SEEKING FOR COLLABORATION WITHIN

immunology, asthma, neurodegenerative disease, microbiome, metabolism

### RELEVANT PROJECTS

FIRST TEAM - FENG

Professor

## Izabela Wocławek-Potocka

EMBRYO BIOLOGY TEAM

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

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### EXPERTISE

We research advanced reproductive biotechnology in cattle, focusing on pre-implantation embryo development and oocyte quality markers to assess embryo viability. Our core method is in vitro embryo production (IVP), supporting micromanipulation, gene expression analysis, immunofluorescence, embryo culture, cryopreservation, and transfer. We study oocytes collected post-mortem and in vivo (OPU) from mature and immature animals, including young cattle to accelerate genetic progress. Our findings are translated into practical field applications for veterinarians and cattle breeders.

### SEEKING FOR COLLABORATION WITHIN

embryotransfer, in vitro embryo production, veterinary

### RELEVANT PROJECTS

NCN OPUS Lap

NCN OPUS

NCN OPUS

Assoc. Prof.

## Joanna Wiśniewska

LABORATORY OF SPATIAL EPIGENETICS

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

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### EXPERTISE

The research of the Regenerative Biology Team focuses primarily on the cellular and molecular mechanisms of skin wound healing. We are particularly interested in the following areas: • the impact of diet, aging, and metabolic status on the wound healing process; • skin regeneration versus repair; • wound healing–associated skin fibrosis; • metabolic regulation of skin regeneration and fibrosis; • skin immunology; • stem cells in wound healing and skin regeneration; • *in vitro* skin models in translational research

### SEEKING FOR COLLABORATION WITHIN

metabolic diseases, nutrition , aging and regenerative medicine, immunology, inflammation, bioengineering

PhD, DSc

## Katarzyna Leszczyńska

LABORATORY OF TUMOUR OF HYPOXIA AND EPIGENOMICS

**NENCKI INSTITUTE OF EXPERIMENTAL BIOLOGY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

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### EXPERTISE

Our research group focuses on tumour progression and therapy resistance in H3K27-altered diffuse midline gliomas (DMG). We investigate how tumour hypoxia and the H3K27M oncohistone can be exploited for therapeutic benefit. We apply CUT&RUN, ATAC-seq and chromatin capture to identify druggable vulnerabilities in DMG cells and their microenvironment. We study hypoxia-driven chromatin reprogramming, evaluate H3K27M-dependent gene targets, and explore strategies to eliminate the detrimental oncohistone from DMG cells.

### SEEKING FOR COLLABORATION WITHIN

tumour microenvironment, mouse glioma models, paediatric high-grade gliomas, epigenomics, radiotherapy

### RELEVANT PROJECTS

HIT-GLIO

PhD, DSc, Assoc. Prof.

## Aleksandra Pękowska

DIOSCURI CENTER FOR CHROMATIN BIOLOGY AND EPIGENOMICS

**NENCKI INSTITUTE OF EXPERIMENTAL BIOLOGY, PAS**

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### EXPERTISE

Our group uses stem cell models, high-throughput sequencing technologies (ChIP-seq, ATAC-seq, RNA-seq, Hi-C), CRISPR-Cas9-mediated genome editing, and computational tools to decipher the regulatory networks orchestrating astrocyte evolution and functions in mammals and to understand the interplay between chromatin topology and gene expression.

### SEEKING FOR COLLABORATION WITHIN

chromatin biology, epigenomics and transcriptional regulation, astrocyte biology and neurodevelopment

### RELEVANT PROJECTS

Dioscuri Grant

MSCA Doctoral Network

Professor

## Marek Strączkowski

HEAD OF PROPHYLAXIS OF METABOLIC DISEASES TEAM

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

M.STRACZKOWSKI@PAN.OLSZTYN.PL

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### EXPERTISE

Research within the Prophylaxis of Metabolic Diseases Team focuses on the pathogenesis of insulin resistance, with particular emphasis on assessment of insulin resistance in individuals at increased risk of type 2 diabetes, pathogenesis of skeletal muscle and adipose tissue insulin resistance - tissue transcriptomic, cell cultures mechanisms of an improvement in insulin sensitivity during lifestyle intervention.

### SEEKING FOR COLLABORATION WITHIN

pathogenesis of skeletal muscle and adipose tissue insulin resistance

### RELEVANT PROJECTS

NCN OPUS

Assoc. Prof.

## Adam Jurgoński

BIOLOGICAL FUNCTION OF FOOD TEAM

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

A.JURGONSKI@PAN.OLSZTYN.PL

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### EXPERTISE

Elucidating the physiological and molecular mechanisms through which both well-known and novel dietary components influence gut function and metabolic health. The team conducts controlled feeding experiments using animal models of disorders characteristic of diet-related diseases. The research to date has focused on: • phenolic extracts and fiber–phenolic preparations, • prebiotic preparations and food additives, • unconventional sources of unsaturated fatty acids, • trace minerals in nanoparticle form.

### SEEKING FOR COLLABORATION WITHIN

preparation, chemical analysis, evaluation of the properties of novel food ingredients

### RELEVANT PROJECTS

NCN/OPUS

NCN/OPUS

NCN/SONATA

Assoc. Prof.

## Radosław Kowalski

AQUATIC ORGANISM REPRODUCTIVE BIOTECHNOLOGY TEAM

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

R.KOWALSKI@PAN.OLSZTYN.PL

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### EXPERTISE

The research interests focus broadly on the reproduction of aquatic organisms and its support under controlled conditions. This includes understanding physiological and biochemical mechanisms underlying gamete function, as well as developing and optimizing methods that enhance reproductive success in both experimental and applied contexts, including aquaculture and conservation programs. Specific expertise: sperm motility and kinematic analysis, seminal plasma biochemistry and functional biomarkers, sperm cryopreservation and long-term storage of genetic resources.

### SEEKING FOR COLLABORATION WITHIN

genetic and genomic analyses, molecular data, reproductive processes

### RELEVANT PROJECTS

Salmocross

Professor

## Ewelina Knapska

LABORATORY OF EMOTIONS NEUROBIOLOGY

**NENCKI INSTITUTE OF EXPERIMENTAL BIOLOGY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

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### EXPERTISE

Our research aims to understand the neural circuit mechanisms controlling social interaction and reward learning in health and disease. We focus on the amygdala and its functional connectivity with other brain structures, using neuroanatomical methods, opto- and chemogenetics, and recording neuronal activity. We have developed social communication, emotion discrimination, and reward learning behavioral protocols, including an automated system to track the behavior of mice in semi-naturalistic settings.

### SEEKING FOR COLLABORATION WITHIN

autism/depression models, social behavior/reward processing in humans, ultrasound brain stimulation

### RELEVANT PROJECTS

BRAINCITY

PainSociOT

EnviroMood

PhD, DSc, Assoc. Prof.

## Grzegorz Sumara

DIOSCURI CENTER FOR METABOLIC DISEASES

**NENCKI INSTITUTE OF EXPERIMENTAL BIOLOGY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

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### EXPERTISE

Our Laboratory seeks to elucidate the signaling pathways regulating basic metabolic processes in adipose tissue, intestine and liver as well as inter-organ cross-talk, perturbations of which often result in metabolic diseases. We combine cell biology, biochemical and -omics approaches with mouse genetics. By determining essential signaling networks we aim to contribute to more targeted pharmacological strategies for the treatment of metabolic diseases such as obesity or type 2 diabetes (T2D).

### SEEKING FOR COLLABORATION WITHIN

metabolism, obesity, diabetes, kinase signaling, ERK3, protein kinase D (PKD), lipolysis, ubiquitin

### RELEVANT PROJECTS

TR 240

Dioscuri Grant

SiCMetabol

Professor

## Iwona Grabowska

BIOELECTROANALYTICS TEAM

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

I.GRABOWSKA@PAN.OLSZTYN.PL

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### EXPERTISE

Studying the interactions between biomolecules using electroanalytical methods to develop innovative analytical systems that can be applied in medicine, veterinary science, food analysis, and environmental protection. We are particularly interested in: • testing of antibodies, single-stranded nucleic acids (ssDNA, ssRNA), and aptamers as recognition element in electrochemical biosensors, • exploring new carbon or gold nanomaterials as transducer element in biosensors, • systems for targeted and controlled delivery of therapeutically significant compounds to cancer cells.

### SEEKING FOR COLLABORATION WITHIN

electrochemical biosensors, aptasensors, immunosensors, genosensors, biomarkers

### RELEVANT PROJECTS

ADEVASCO

NCN OPUS

NCN OPUS

Professor

## Roza Kucharczyk

LABORATORY OF BIOENERGETICS AND MITOCHONDRIAL DISEASE MECHANISMS

**INSTITUTE OF BIOCHEMISTRY AND BIOPHYSICS, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

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### EXPERTISE

Our research focuses on mitochondrial ATP synthase – an inner mitochondrial membrane enzyme. Our unique expertise on a global scale lies in targeted mutagenesis of mitochondrial DNA in S. cerevisiae yeast. We aim to understand the mechanisms of ATP synthase dysfunction due to mutations in genes encoded by mtDNA. We also study post-translational, redox homeostasis--dependent, mechanisms regulating ATP synthase and OXPHOS activities, focusing on the interplay between ampylation/phosphorylation.

### SEEKING FOR COLLABORATION WITHIN

mitochondrial bioenergetics, mitochondrial diseases, redox homeostasis in mitochondria

### RELEVANT PROJECTS

OPUS 16, National Science Centre

PhD, Assistant Professor

## Agata Starosta

LABORATORY OF TRANSLATOMICS

**INSTITUTE OF BIOCHEMISTRY AND BIOPHYSICS, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

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### EXPERTISE

I am interested in prokaryotic translation, gene expression regulation on a translation level, antibiotics targeting translation machinery, antibiotic resistance related to translation, and translation during sporulation in Bacillus subtilis. I apply a state-of-the-art analytical approach, utilizing Next Generation Sequencing to elucidate the regulatory role of translation machinery, combined with fluorescence-based microscopy, genetics, and biochemistry.

### SEEKING FOR COLLABORATION WITHIN

molecular microbiology, antibiotic discovery

### RELEVANT PROJECTS

EMBO Installation Grant (nr 3914)

FIRST TEAM

OPUS19

PhD, Assistant Professor

## Roman Szczesny

LABORATORY OF RNA BIOLOGY

**INSTITUTE OF BIOCHEMISTRY AND BIOPHYSICS, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

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### EXPERTISE

Our laboratory focuses on understanding how mitochondrial RNAs are controlled in terms of their quality, quantity, and processing. Our main objective is to uncover the machinery responsible for the decay and surveillance of mitochondrial RNA. We also study the mechanisms that maintain and regulate the mitochondrial DNA and how they enable the cell to respond and adapt to different conditions. To achieve these goals, we use various methods, including genome-wide high-content siRNA screenings.

### SEEKING FOR COLLABORATION WITHIN

RNA processing and decay, mitochondrial gene expression, mitochondrial DNA replication and repair

### RELEVANT PROJECTS

MITGEST

SONATA BIS 11

FIRST TEAM

RNA Technologies

PhD, Assistant Professor

## Kevin Waldron

LABORATORY OF METALLOPROTEIN BIOLOGY

**INSTITUTE OF BIOCHEMISTRY AND BIOPHYSICS, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

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### EXPERTISE

My group has studied the structure and function of metalloproteins for more than a decade, including those involved in multiple aspects of human and animal health and in bacterial pathogens. Approximately one-third of all proteins use metals, making understanding metal usage by proteins relevant to almost every aspect of biology and medicine. We use bioinformatics, biochemistry and biophysics to study how proteins utilize metal cofactors, as well as how metal usage has evolved.

### SEEKING FOR COLLABORATION WITHIN

biophysics, microbiology, bioinorganic chemistry, structural biology, immunology

### RELEVANT PROJECTS

MAESTRO

NIH R01 AI155611-01

UKRI BBSRC BB/S006818/1

Wellcome Trust 098375/Z/12/Z

PhD

## Wojciech Cypryk

LABORATORY OF MOLECULAR MEDICINE

**CENTRE OF MOLECULAR AND MACROMOLECULAR STUDIES, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES

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### EXPERTISE

Our work focuses on different aspects of extracellular vesicle (EV) biology, including proteomics, signalling, and EV function in cancer and inflammation. Our current aims include understanding how EVs are generated in inflammatory and cancer cells, as well as characterising intercellular EV-mediated signalling in the context of diseases such as cancer or atherosclerosis. We combine proteomic and bioinformatic analyses to better understand both the biogenesis and signalling capacity of EVs.

### SEEKING FOR COLLABORATION WITHIN

immunology, inflammasome, extracellular vesicles, proteomics, atherosclerosis, bioinformatics

### RELEVANT PROJECTS

NCN/SONATINA2

NCN/SONATA19

PhD, DSc
Monika Gosecka
CROSS-LINKED MATERIALS TEAM

CENTRE OF MOLECULAR AND MACROMOLECULAR STUDIES, PAS
DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
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## EXPERTISE

Our laboratory is focused on polymer networks and their characteristics. In particular, we develop hydrogel materials for biomedical applications as carriers of water-insoluble active substances and advanced dressings in the therapy of diabetic foot ulcers. We also work on the synthesis of bio-derived reprocessable rubbers.

## SEEKING FOR COLLABORATION WITHIN

drug delivery, molecular calculations, reversible networks, reprocessable networks

## RELEVANT PROJECTS

SONATA BIS 8
NCN OPUS 25
Proof of Concept, FNP
SONATA 15

PhD, DSc
Agnieszka Kowalczuk
LABORATORY OF NANO- AND MICROSTRUCTURAL MATERIALS

CENTRE OF POLYMER AND CARBON MATERIALS, PAS
DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
AKOWALCZUK@CMPW-PAN.PL
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## EXPERTISE

Our research focuses on designing advanced polymer materials for biomedical use. Alongside well defined linear polymers in terms of molar mass and functionality, we synthesize branched macromolecules, including star-shaped, dendritic, and hyperbranched polymers, some responsive to environmental stimuli. This approach enables us to develop innovative nano- and microstructures for personalized drug delivery, antifouling and antibacterial polymers, and stimuli-responsive tools for cell culture.

## SEEKING FOR COLLABORATION WITHIN

drug delivery, tissue engineering, bioprinting, molecular cell biology, antibacterial activity

## RELEVANT PROJECTS

NCN/OPUS
NCN/OPUS
POLYCELL

Professor
Grażyna Adamus
LABORATORY OF BIODEGRADABLE MATERIALS

CENTRE OF POLYMER AND CARBON MATERIALS, PAS
DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
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## EXPERTISE

Our group investigates biodegradable and biocompatible polyesters for medical and environmental applications. Our research interests include polymers from renewable sources, the synthesis of functional polyesters with controlled biodegradability and determining the structure-property relationships of new polymer materials. We also have experience in the use of mass spectrometry techniques for molecular-level structural studies of synthetic polymers and the products of their degradation.

## SEEKING FOR COLLABORATION WITHIN

biodegradable polyesters, drug delivery system, biomaterials, eco-packaging, mass spectrometry

## RELEVANT PROJECTS

GREEN Map
PELARGODONT
Bio ANC Hydrogel

PhD, DSc
**Urszula Szeluga**
LABORATORY OF CARBON AND POLYMER-CARBON MATERIALS

CENTRE OF POLYMER AND CARBON MATERIALS, PAS
DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
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## EXPERTISE

Our team specializes in the synthesis, functionalization and surface modification of carbon materials, including graphene, applied individually and in polymer-carbon composites. We study the relationship between the structure and electrochemical properties of such materials and focus on their potential applications as smart materials in micro-devices, sensors, EMI shielding materials, and wearable electronics. Carbon materials also show great promise for energy storage and biomolecule detection systems.

## SEEKING FOR COLLABORATION WITHIN

carbon materials, polymer matrix composites, biomolecule detection, smart materials, energy storage

## RELEVANT PROJECTS

NCBR funded project

PhD, DSc
**Sławomira Pusz**
MICROSCOPY LABORATORY

CENTRE OF POLYMER AND CARBON MATERIALS, PAS
DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
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## EXPERTISE

Our team specializes in using Transmission Electron Microscopy, including its Cryogenic Mode, to visualize and characterize polymers, polymeric bioconjugates, polymer-lipid hybrids, lipids and carbon materials for use in nanomedicine, pharmacy and drug delivery systems. We focus on nanoparticles as potential carriers for drugs and active substances. Polymers, lipids and their hybrids are of significant scientific interest because of their self-organisation features and potential applications as nanocarriers.

## SEEKING FOR COLLABORATION WITHIN

lipids, polymer-lipid hybrids, lyotropic liquid crystalline nanoparticles, drug delivery systems

## RELEVANT PROJECTS

NCBR funded project

Professor
**Rafał Wiglusz**
BBRA - BIOMATERIALS FOR BIO-RELATED APPLICATIONS, DIVISION OF BIOMEDICAL PHYSICOCHEMISTRY

INSTITUTE OF LOW TEMPERATURE & STRUCTURE RESEARCH, PAS
DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
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## EXPERTISE

Our laboratory is focused on the preparation of nanosized biomaterials, followed by the creation of periodically ordered nanostructures based on single nanoparticles. An important factor is the design and fabrication of nanocomponents with new functionalities and characteristics for improving existing materials: photonic and conductive materials, polymers and composites. The aim is to develop innovative products and applications in electronics and biomedicine based on nanoscale technology.

## SEEKING FOR COLLABORATION WITHIN

biomaterials, tissue regeneration, cells proliferation, biopolymers, hydrogels, block copolymers

## RELEVANT PROJECTS

NCN funded project

NCN funded project

POIR

POWR

PhD, DSc
## Agnieszka Michota-Kamińska
PLASMONIC NANOSTRUCTURES FOR BIOSPECTROSCOPIC ANALYSES

**INSTITUTE OF PHYSICAL CHEMISTRY, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES

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### EXPERTISE

Our group is focused on Raman vibrational and surface-enhanced Raman spectroscopy, surface plasmon resonance for biomolecule detection & identification (e.g. protein, DNA, viruses, antigens, antibodies, bacteria, fungi and cancer cells) for analytical & medical applications. We also develop innovative SERS platforms based on femtosecond laser-modified silicon, polymer layers created by electrospinning or polymer membranes with nanopores.

### SEEKING FOR COLLABORATION WITHIN

Raman, SERS, bacteria, cancer cells, lung cancer, chemometric analysis, nanoplasmonic structures

### RELEVANT PROJECTS

NOBLESSE

NCBR funded project/Bio-SERS

Professor
## Marcin Drąg
CHEMICAL BIOLOGY CENTRE

**INSTITUTE OF PHYSICAL CHEMISTRY, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES

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### EXPERTISE

Prof. Marcin Drąg, head of the newly established Chemical Biology Centre at IChF, is a chemical biologist known for pioneering a technology platform that uses natural and unnatural amino acids to monitor protease activity. Under his leadership, the Centre will develop advanced chemical tools for biological and medical applications, collaborating closely with other research teams at IChF to contribute to the creation of next-generation diagnostic and therapeutic solutions.

### SEEKING FOR COLLABORATION WITHIN

chemical biology, unnatural amino acids, peptides, inhibitors of proteases

### RELEVANT PROJECTS

PERFECTION (Horizon Europe, ERA Chairs)

Professor
## Joanna Niedziółka-Jönsson
SURFACE NANOENGINEERING GROUP

**INSTITUTE OF PHYSICAL CHEMISTRY, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES

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### EXPERTISE

Our group specializes in the synthesis and functionalization of plasmonic nanoparticles and their spatial organization. We use these particles as elements in plasmonic sensors and to study molecular interactions. The group also works on the development of peptides as recognition elements in biosensors. The peptides are panned from libraries using the phage display technique.

### SEEKING FOR COLLABORATION WITHIN

surface characterisation, biosensing, metallic particle synthesis

### RELEVANT PROJECTS

CREATE

Noblesse

Professor

## Maciej Wojtkowski

INTERNATIONAL CENTRE FOR TRANSLATIONAL EYE RESEARCH

**INSTITUTE OF PHYSICAL CHEMISTRY, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES

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### EXPERTISE

We are an RDI center created to advance cutting-edge hi-tech to support the diagnosis and treatment of eye diseases, enabling faster implementation of new therapies. We specialize in the field of minimally invasive surgery, structural and ophthalmic biology, computational genomics, bioinformatics, biochemical control of the protein machinery, genetic repair in inherited diseases, and tissue engineering. We develop optical imaging and robotic technologies to assist in eye surgery and drug delivery.

### SEEKING FOR COLLABORATION WITHIN

medical physics, biochemistry, instrumentation/ biomedical engineering, ophthalmology

### RELEVANT PROJECTS

CREATE

Youtube link

IMCUSTOMEYE

FNP funded project

Professor

## Robert Hołyst

SOFT CONDENSED MATTER GROUP

**INSTITUTE OF PHYSICAL CHEMISTRY, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES

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### EXPERTISE

We use single-molecule fluorescence methods to study diffusion in the nanoscale & aim to determine the mechanisms involved in the cellular uptake of drugs, protein oligomerization, and the quantitative description of drug-target interactions. We strive to quantitatively understand biochemical reactions with DNA in a flask & in living cells' nuclei by developing novel techniques for bioanalysis. We also study nonequilibrium thermodynamics/statistical physics.

### SEEKING FOR COLLABORATION WITHIN

soft matter, transport in cells, biochemistry, statistical physics & thermodynamics

### RELEVANT PROJECTS

NaMeS

WIB HERO

NCN/OPUS22

PhD, DSc

## Marcin Klepka

LABORATORY OF X-RAY AND ELECTRON MICROSCOPY RESEARCH

**INSTITUTE OF PHYSICS, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES

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### EXPERTISE

Our lab focuses on the characterization of the structural and electronic properties of matter, ranging from bulk material, through 1D/2D/3D nanoobjects, to biologically active molecules. We apply experimental techniques based on X-ray (XRD, XAS, XPS), electron (SEM, TEM) and ion beams (SIMS), supported with theoretical modelling (DFT). Our research extends towards non-ambiguous (low/high temperature, high pressure) conditions and dynamic studies (down to sub-ps time scale).

### SEEKING FOR COLLABORATION WITHIN

x-ray spectroscopy and diffraction, atomic structure and structural transformation

### RELEVANT PROJECTS

NCN projects

Ministry of Science and Higher Education projects

EAgLE

Science Link

Baltic Tram

PhD, DSc
**Bożena Sikora-Dobrowolska**
LABORATORY OF BIOLOGICAL PHYSICS

INSTITUTE OF PHYSICAL CHEMISTRY, PAS
DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
BOZENA.SIKORA@IFPAN.EDU.PL
+48 22 116 35 39

## EXPERTISE

Our laboratory focuses on the preparation of opto-magnetic nanoparticles with upconverting properties for theranostic applications. We have expertise in synthesizing nanoparticles doped with rare earth ions for fluorescent imaging and magnetic nanoparticles for hyperthermia and MRI. The group also works on the functionalization of nanoparticles with SiO2 and photosensitizers for PDT. In our laboratory, we can test nanoparticle luminescence on cell cultures using confocal microscopy.

## SEEKING FOR COLLABORATION WITHIN

hyperthermia, protein labelling, MRI measurements, *in vivo* testing, nanoparticle synthesis

## RELEVANT PROJECTS

NCN/SONATA8

Professor
**Bartłomiej Witkowski**
GROUP OF PHYSICS OF OXIDE STRUCTURES

INSTITUTE OF PHYSICAL CHEMISTRY, PAS
DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
BWITKOW@IFPAN.EDU.PL
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## EXPERTISE

Our group specializes in the production and characterization of a variety of oxide nanostructures in the form of layers (tested as antibacterial and osteointegration coatings), nanorods (an excellent base for biosensors.) and nanopowders (for cancer diagnostics and therapy, as well as supplementation). We rely mainly on Atomic Layer Deposition (ALD) and hydrothermal technologies, with which we have many years of experience.

## SEEKING FOR COLLABORATION WITHIN

Human Tumour Marker Studies, biosensors, human and animal implant studies, antibacterial coatings

## RELEVANT PROJECTS

NCN projects
Ministry of Science and Higher Education projects
EAgLE
NCBR projects (TECHMATSTRATEG, POIR, POIG, PBS)

Professor
**Andrzej Gamian**
LABORATORY OF MEDICAL MICROBIOLOGY

HIRSZFELD INSTITUTE OF IMMUNOLOGY AND EXPERIMENTAL THERAPY, PAS
DIVISION V - MEDICAL SCIENCES
ANDRZEJ.GAMIAN@HIRSZFELD.PL
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## EXPERTISE

Research on the pathogenicity mechanisms of certain diseases of bacterial etiology and the role of phages, surface glycoconjugates, and protein bacterial antigens in accompanying immune processes. In particular, we perform structural and serological studies of surface bacterial, viral, and phage antigens and the role of these antigens in disease development and immune responses. We work on vaccines, ad- juvants, actinomycetal diagnostics, and glycolipid and polysaccharide biomarkers.

## SEEKING FOR COLLABORATION WITHIN

conjugate vaccines, advanced glycation end-products

## RELEVANT PROJECTS

2023/ABM
2022/ABM
OPUS20
OPUS23

Professor
## Joanna Wietrzyk
LABORATORY OF EXPERIMENTAL ANTICANCER THERAPY

**HIRSZFELD INSTITUTE OF IMMUNOLOGY AND EXPERIMENTAL THERAPY, PAS**

DIVISION V - MEDICAL SCIENCES
JOANNA.WIETRZYK@HIRSZFELD.PL
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### EXPERTISE

Focused on tumor metastases and angiogenesis, experimental anticancer therapy, immunotherapy, preclinical studies of potential anticancer drugs. Interested in the influence and mechanism of vitamin D and its derivatives on the tumor microenvironment; mechanisms of vitamin D interaction with anticancer drugs; new isothiocyanate derivatives and new bisphosphonates for use in anti-cancer therapy; immunotherapy using genetically modified dendritic cells; microRNA in the invasive growth of breast cancer.

### SEEKING FOR COLLABORATION WITHIN

tumor metastases, angiogenesis, drugs, experimental anticancer therapy, immunotherapy, vit. D, calcitriol

### RELEVANT PROJECTS

ADEVASCO
OPUS18
OPUS14
POIR

Professor
## Aleksandra Klimczak
LABORATORY OF BIOLOGY OF STEM AND NEOPLASTIC CELLS

**HIRSZFELD INSTITUTE OF IMMUNOLOGY AND EXPERIMENTAL THERAPY, PAS**

DIVISION V - MEDICAL SCIENCES
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### EXPERTISE

Our laboratory is focused on cellular therapies in regenerative medicine and cancer stem cells. We work on: (1) MSCs and their secretome in regenerative processes; (2) an interdisciplinary approach to the biocompatibility of cells and scaffold, e.g. MSCs secretome and biological scaffold for the treatment of chronic wounds, the osteogenic potential of MSCs seeded on the composite scaffolds as a bioimplant for the reconstruction of large bone defects; (3) cancer stem cells as a therapeutic target.

### SEEKING FOR COLLABORATION WITHIN

MSC, their secretome, microvesicles, chronic wounds, cardiovascular stents, regenerative medicine, cancer

### RELEVANT PROJECTS

2024/ABM/03/KPO
M-ERA.NET 3 Call 2021
M-ERA.NET 3 Call 2023
SONATA BIS

PhD, DSc
## Magdalena Bieda-Niemiec
LABORATORY OF SCANNING ELECTRON MICROSCOPY

**INSTITUTE OF METALLURGY AND MATERIALS SCIENCE, PAS**

DIVISION IV - ENGINEERING SCIENCES
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### EXPERTISE

Our laboratory specializes in characterizing materials using scanning electron microscopy. We focus on qualitative and quantitative analysis of the orientation topography of crystalline materials (EBSD), 3D analysis of chemical composition and crystallographic orientation, and in situ investigations using heating stage. Our expertise includes investigating mechanisms of plastic deformation and material recrystallization in biomedical applications involving titanium, magnesium, and zinc alloys.

### SEEKING FOR COLLABORATION WITHIN

biodegradable metals, severe plastic deformation methods, local microstructure characterization

### RELEVANT PROJECTS

Bioabsmat
NCN Preludium Bis
NCBR LIDER

PhD, DSc

## Roman Major

LABORATORY OF SURFACE ENGINEERING AND BIOMATERIALS

**INSTITUTE OF METALLURGY AND MATERIALS SCIENCE, PAS**

DIVISION IV - ENGINEERING SCIENCES

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### EXPERTISE

We reconstruct natural organ structures using various types of biomaterials, with applications in blood-compatible materials and facial reconstruction, with a particular emphasis on mandibular implants tailored to specific clinical cases. Our work includes developing fluorescence techniques for analysing cell-substrate contact and dynamic blood tests and advancing organ-on-chip technology.

### SEEKING FOR COLLABORATION WITHIN

biocybernetics, induced cell differentiation, dynamic cell culture, drug delivery systems

### RELEVANT PROJECTS

jawIMPLANT

4DbloodROT

fingerIMPLANT

AtraumaBioMat

KIDmicroBLOODpump

Professor, PhD

## Piotr Ładyżyński

LABORATORY OF DIAGNOSIS AND THERAPY SUPPORT OF METABOLIC DISEASES

**NALECZ INSTITUTE OF BIOCYBERNETICS AND BIOMEDICAL ENGINEERING, PAS**

DIVISION IV - ENGINEERING SCIENCES

PLADYZYNSKI@IBIB.WAW.PL

+48 22 592 59 41

### EXPERTISE

We have wide experience in isolating and culturing HUVECs, as well as generating endothelial cells, blood vessels, and vascularized organoids from hiPSCs. We analyse metabolic profiles from cell cultures, biofluids, and tissue extracts using NMR spectroscopy. We develop and employ ICT and artificial intelligence systems, biomeasurement techniques, and mathematical and tissue models. These tools are applied to support diagnostics and investigate the pathomechanisms of selected chronic diseases.

### SEEKING FOR COLLABORATION WITHIN

tissue engineering (3D bioprinting, organ-on-chip, organoids), metabolomics, biomeasurements

### RELEVANT PROJECTS

NCN projects

PhD

## Joanna Stachowska-Piętka

LABORATORY OF MATHEMATICAL MODELING OF PHYSIOLOGICAL PROCESSES

**NALECZ INSTITUTE OF BIOCYBERNETICS AND BIOMEDICAL ENGINEERING, PAS**

DIVISION IV - ENGINEERING SCIENCES

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### EXPERTISE

Working with clinical and experimental data as well as knowledge of human physiology, our laboratory applies physical laws to develop mathematical models focusing on three main topics: dialysis, the cardiovascular system, and tumours. We predict how dialysis will proceed and influence patient's wellbeing, how the cardiovascular system will respond to the medical treatments, and how tumours will grow and react to therapies. We are also interested in discovering patterns in multidimensional data sets.

### SEEKING FOR COLLABORATION WITHIN

mathematical and computer modelling, dialysis, cancer, cardio-vascular system, data mining

### RELEVANT PROJECTS

Project Novum-IBBE

NCN projects

Professor, PhD

## Marek Darowski

LABORATORY FOR DIAGNOSTICS AND THERAPY OF CARDIOVASCULAR-RESPIRATORY SYSTEM

**NALECZ INSTITUTE OF BIOCYBERNETICS AND BIOMEDICAL ENGINEERING, PAS**

DIVISION IV - ENGINEERING SCIENCES

MDAROWSKI@IBIB.WAW.PL

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### EXPERTISE

Our laboratory is focused on physiological modelling and simulations of the cardiovascular and respiratory systems, paying special attention to mechanical assistance of heart and lung function, biomedical signal and statistical analysis, and the development of devices for treating and monitoring these organs. We are engaged in developing an artificial cardio-respiratory patient – a unique device for independent lung ventilation – and an advanced monitoring system for thoracentesis.

### SEEKING FOR COLLABORATION WITHIN

modelling and simulations, cardiovascular and respiratory systems, animal and clinical studies

### RELEVANT PROJECTS

SensorART

NCN projects

Professor

## Agnieszka Chacińska

LABORATORY OF MITOCHONDRIAL BIOGENESIS

**IMOL POLISH ACADEMY OF SCIENCES**

DIVISION V - MEDICAL SCIENCES

A.CHACINSKA@IMOL.INSTITUTE

+48 733 041 251

### EXPERTISE

The Chacińska Group explores novel and exciting links between protein transport mechanisms and mitochondrial protein homeostasis. It postulates the presence of unique mechanisms involved in protein biogenesis that involve crosstalk between cytosol and mitochondrial compartments. The goal is to better understand the complex and dynamic processes involved in the formation of functional organelles, as well as the maintenance of cellular protein homeostasis and its failures, which result in pathology.

### SEEKING FOR COLLABORATION WITHIN

molecular cell biology, biochemistry, mitochondria, protein biogenesis, homeostasis, stress response

### RELEVANT PROJECTS

EMBO Installation Grant

FNP/WELCOME

NCN/MAESTRO7

FNP/ReMedy

PhD

## Abdelhalim Azzi

LABORATORY OF LIPIDS AND CHRONOBIOLOGY

**IMOL POLISH ACADEMY OF SCIENCES**

DIVISION V - MEDICAL SCIENCES

A.AZZI@IMOL.INSTITUTE

+48 698 029 833

### EXPERTISE

Our laboratory is focused on the role of pho-sphoinositide 5'-phosphatases in regulation of cell signaling in response to mitogenic signals. Moreover, we are also interested in understanding how these enzymes modulate different aspects of the circadian clock. As a model we are using inositol 5'-phosphatase SHIP2, and we are also planning to study the role of other enzymes from the same family, such as INPP5K and INPP5B.

### SEEKING FOR COLLABORATION WITHIN

molecular and cell biology, phosphoinositide biology, autophagy, cancer biology

### RELEVANT PROJECTS

MSCA COFUND

SNSF mobility grant

NCN/SONATABIS12

PhD
## Maciej Cieśla
LABORATORY OF STEM CELL RNA METABOLISM

IMOL POLISH ACADEMY OF SCIENCES

DIVISION V - MEDICAL SCIENCES
M.CIESLA@IMOL.INSTITUTE
+48 608 667 221

### EXPERTISE

The Cieśla lab focuses on understanding how stem cell activation is maintained at the level of RNA metabolism. It is our vision that different facets of RNA biology are intertwined to regulate cell fate trajectories during the activation of stem cells. Hence, our goal is to understand how macromolecular machineries of splicing, epi-transcriptomics, and translation functionally sculpt proteomes to determine differentiation outcomes and balance health and disease.

### SEEKING FOR COLLABORATION WITHIN

RNA metabolism, stem cells, splicing, development, hematopoiesis, epitranscriptomics

### RELEVANT PROJECTS

NCN/OPUS22

NCN/SONATABIS12

EMBO Installation Grant

PhD
## Anna Marusiak
LABORATORY OF MOLECULAR ONCOSIGNALLING

IMOL POLISH ACADEMY OF SCIENCES

DIVISION V - MEDICAL SCIENCES
A.MARUSIAK@IMOL.INSTITUTE
+48 607 435 448

### EXPERTISE

The Laboratory of Molecular OncoSignalling is interested in studying how aberrant signaling in cancer cells contributes to cancer development, metastasis, and therapy resistance, and how we can use that knowledge to design novel anticancer treatments. In particular, we focus on investigating oncogenic signaling activated by MLK4 in breast cancer and its role in metastasis and tumor microenvironment. We also assess the efficiency of novel MLK4 small molecule inhibitors and PROTAC compounds.

### SEEKING FOR COLLABORATION WITHIN

cancer biology, signal transduction, breast cancer, inhibitors, PROTACs, cancer therapies

### RELEVANT PROJECTS

FNP/HOMING

NCN/SONATABIS11

NCN/SONATA14

NCN/PRELUDIUM20

PhD
## Piotr Gerlach
LABORATORY OF STRUCTURAL VIROLOGY

IMOL POLISH ACADEMY OF SCIENCES

DIVISION V - MEDICAL SCIENCES
P.GERLACH@IMOL.INSTITUTE
+48 690 557 222

### EXPERTISE

Our lab studies how RNA viruses (bunyaviruses in particular) reorganize and exploit intracellular complexes. We combine structural biology (cryo-EM and X-ray) with mini-replicons mimicking viral transcription and replication in human cell cultures. We use this to identify host factors interacting with bunyaviral proteins and to monitor changes in the host proteome. The ultimate goal is to characterize assemblies of the viral polymerase and the host translation machinery formed during infection.

### SEEKING FOR COLLABORATION WITHIN

molecular cell biology, translation, ribosomes, RNA viruses, antiviral drugs, cryo-EM

### RELEVANT PROJECTS

EMBO Installation Grant

EMBO Long-Term Fellowship

NCN/SONATABIS12

PhD
Karolina Szczepanowska
LABORATORY OF METABOLIC QUALITY CONTROL

IMOL POLISH ACADEMY OF SCIENCES
DIVISION V - MEDICAL SCIENCES
K.SZCZEPANOWSKA@IMOL.INSTITUTE
+48 605 544 190

## EXPERTISE

Our lab is fascinated by the mechanisms underlying the regulation of cellular metabolism. Our research focuses on the quality control of mitochondrial respiratory complexes, a set of elaborative mole-cular machines critical for energy production. The major aim is to understand how the respiratory complexes are surveilled, repaired and turned over upon exposure to stress. Our findings will help design new therapeutic strategies against diseases associated with metabolic constrain.

## SEEKING FOR COLLABORATION WITHIN

cancer, rare diseases, mitochondria, protein turnover, protein quality control, metabolism

## RELEVANT PROJECTS

EMBO Installation Grant

NCN/SONATABIS11

Professor
Ewa Ziętkiewicz
DEPARTMENT OF MOLECULAR AND CLINICAL GENETICS

INSTITUTE OF HUMAN GENETICS, PAS
DIVISION V - MEDICAL SCIENCES
EWA.ZIETKIEWICZ@IGCZ.POZNAN.PL
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## EXPERTISE

We focus on three research areas: 1. We study the genetic basis of rare respiratory diseases; this includes epidemiology and evolutionary history of diagnostically relevant variants, and molecular biology of genetically determined defects of motile cilia in human epithelial cells and in a model of planaria. 2. We investigate the biology and molecular heterogeneity of hematologic neoplasms, with the focus on translational research. 3. We also study genetic and epigenetic diversity in modern humans, aiming to find forensic markers differentiating human populations.

## SEEKING FOR COLLABORATION WITHIN

ciliopathies, cystic fibrosis, molecular diagnostics, hematological neoplasms, multiomics analyses

## RELEVANT PROJECTS

COST_BEAT-PCD

BESTCILIA

UE Horyzont2020_ NEXTLEVEL

ERDERA

Professor
Maciej Giefing
DEPARTMENT OF CANCER GENETICS

INSTITUTE OF HUMAN GENETICS, PAS
DIVISION V - MEDICAL SCIENCES
MACIEJ.GIEFING@IGCZ.POZNAN.PL
+48 61 657 91 38

## EXPERTISE

We are interested in the (epi)genetics of hema-tological neoplasms and head and neck cancers. We evolved from a group dedicated to the identification of tumor related genes (tumor suppressor genes and oncogenes). Currently, we are focusing on deciphering the role of deregulated transcription factors in these neoplasms, including multiple functional assays. Moreover, we have solid expertise in epigenetic research, including DNA methylation analysis and studying miRNAs and cfDNA.

## SEEKING FOR COLLABORATION WITHIN

hematological neoplasms, Hodgkin lymphoma, head and neck cancers, laryngeal cancer

## RELEVANT PROJECTS

NEXT_LEVEL

NCN/OPUS21

NCN/OPUS20

NCBR/POIR funded project

PhD
Natalia Rozwadowska
MOLECULAR PATHOLOGY DEPARTMENT

INSTITUTE OF HUMAN GENETICS, PAS
DIVISION V - MEDICAL SCIENCES
NATALIA.ROZWADOWSKA@IGCZ.POZNAN.PL
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## EXPERTISE

Our research group uses pluripotent stem cells (IPSC) for developmental process monitoring and disease modeling. We focus on the cardiovascular system, investigating human gametogenic cell development, and using a chamber-specific human engineered heart tissue model together with heart-on-chip technology, offering the most advanced platform to study heart organogenesis and pa- thology. We have established the LAD ligation mouse model with broad portfolio of advanced molecular imaging of heart function for the CVD.

## SEEKING FOR COLLABORATION WITHIN

CVD, male infertility, heart failure, RNA binding, tissue engineering, organ-on-chip

## RELEVANT PROJECTS

NCN/OPUS13
NCN/SONATA14
NCN/OPUS24

PhD
Marzena Skrzypczak-Zielińska
DEPARTMENT OF NUCLEIC ACID FUNCTION

INSTITUTE OF HUMAN GENETICS, PAS
DIVISION V - MEDICAL SCIENCES
MARZENA.SKRZYPCZAK-ZIELINSKA@IGCZ.POZNAN.PL
+48 61 65 79 201

## EXPERTISE

Our research centers on the pathogenesis and treatment of inflammatory bowel diseases and other gastrointestinal disorders. We apply NGS and QF PCR technologies to analyze gut microbiota composition and microbiota from various environments. Our team has extensive experience designing targeted NGS panels tailored for pharmacogenetic studies and conducting DNA profiling using STR markers in human and animal samples, and in vitro cultured cell lines.

## SEEKING FOR COLLABORATION WITHIN

inflammatory bowel disease, irritable bowel syndrome, microbiota

## RELEVANT PROJECTS

MEDPIG
ONKOKAN
ABM/2023/2
NCN/SONATA 12

Professor
Maciej Kurpisz
DEPARTMENT OF REPRODUCTIVE BIOLOGY AND STEM CELLS

INSTITUTE OF HUMAN GENETICS, PAS
DIVISION V - MEDICAL SCIENCES
MACIEJ.KURPISZ@IGCZ.POZNAN.PL
+48 616 579 202

## EXPERTISE

Our department focuses on 2 modules: 1) the molecular background of male infertility and bio-logical properties of stem cells (their application in organ regeneration perspective); here we apply systemic biology to the transcriptomic identification of gene expression in dysfunctional male gonads and DNA arrays of infertile individuals to identify novel genes; 2) studies of pro-generative properties of stem cells investigated in clinical trials, for instance in the regeneration of post-infarction heart.

## SEEKING FOR COLLABORATION WITHIN

male infertility, post-infarction heart, regenerative medicine, muscular dystrophy, stem cells

## RELEVANT PROJECTS

SSA (European Commission) Grant No. LSSM-CT-511992
StrategMed
NCN/OPUS13
NCN/OPUS19

PhD
## Agnieszka Dzikiewicz-Krawczyk
RESEARCH GROUP OF NON-CODING PARTS OF THE GENOME

**INSTITUTE OF HUMAN GENETICS, PAS**

DIVISION V - MEDICAL SCIENCES
AGNIESZKA.DZIKIEWICZ-KRAWCZYK@IGCZ.POZNAN.PL
+48 61 65 79 219

### EXPERTISE

Our research group uses pluripotent stem cells (IPSC) for developmental process monitoring and disease modeling. We focus on the cardiovascular system, investigating human gametogenic cell development, and using a chamber-specific human engineered heart tissue model together with heart-on-chip technology, offering the most advanced platform to study heart organogenesis and pathology. We have established the LAD ligation mouse model with broad portfolio of advanced molecular imaging of heart function for the CVD.

### SEEKING FOR COLLABORATION WITHIN

CVD, male infertility, heart failure, RNA binding, tissue engineering, organ-on-chip

### RELEVANT PROJECTS

NCN/OPUS13
NCN/OPUS14
NCN/OPUS 24

Professor
## Marzena Maćkowiak
LABORATORY OF PHARMACOLOGY AND BRAIN BIOSTRUCTURE, DEPARTMENT OF PHARMACOLOGY

**MAJ INSTITUTE OF PHARMACOLOGY, PAS**

DIVISION V - MEDICAL SCIENCES
MACKOW@IF-PAN.KRAKOW.PL
+48 12 662 32 62

### EXPERTISE

The laboratory is focused on neurodevelopmental and pharmacological models of schizophrenia: prenatal MAM administration, blockade of NMDA receptors in juvenile and adult rodents. The laboratory uses maternal separation and social isolation paradigms to model early-life adversity. We conduct behavioral tests: fear conditioning, acoustic startle response, novel object recognition, social interaction, light/dark box, and molecular techniques (proteomics, transcriptomics), immunohistochemistry.

### SEEKING FOR COLLABORATION WITHIN

epigenetics, environment vs. brain development, depression, anxiety, neuroplasticity, schizophrenia

Professor
## Agata Faron-Górecka
DEPARTMENT OF PHARMACOLOGY, LABORATORY OF BIOCHEMICAL PHARMACOLOGY

**MAJ INSTITUTE OF PHARMACOLOGY, PAS**

DIVISION V - MEDICAL SCIENCES
GORECKA@IF-PAN.KRAKOW.PL
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### EXPERTISE

Our laboratory employs diverse methodologies, including cell cultures, transgenic animals, radioisotope techniques PLA to map protein interactions, in situ hybridization, RT-PCR, miRNA measurements using TaqMan Array Cards and multiplexing protein- and gene-level measurements on the Luminex platform. Furthermore, our laboratory also performs behavioral tests: the forced swim test, tail suspension test, marble-burying test, and attentional set-shift task in mice.

### SEEKING FOR COLLABORATION WITHIN

treatment-resistant depression, stress resilience, biomarkers, miRNAs, GPCRs dimerization

Professor
## Krystyna Gołembiowska
RESEARCH TEAM NO 2, DEPARTMENT OF PHARMACOLOGY

**MAJ INSTITUTE OF PHARMACOLOGY, PAS**

DIVISION V - MEDICAL SCIENCES
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### EXPERTISE

Our laboratory is focused on the therapeutic effects of psychedelics in animal models of depression; in particular, we study mechanisms of psilocybin in naive and stressed animals. We work on neurotransmitter release (monoamines, acetylcholine, glutamate, and GABA) in the brain using microdialysis in freely moving rats. Our laboratory also conducts behavioral tests: the forced swim test, open field and novel object recognition, light/dark box.

### SEEKING FOR COLLABORATION WITHIN

depression, anxiety, neuroplasticity, neurotransmitter release, DNA damage

Professor
## Agnieszka Basta-Kaim
DEPARTMENT OF EXPERIMENTAL NEUROENDOCRINOLOGY/
LABORATORY OF IMMUNOENDOCRINOLOGY

**MAJ INSTITUTE OF PHARMACOLOGY, PAS**

DIVISION V - MEDICAL SCIENCES
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### EXPERTISE

Our laboratory is focused on understanding of the mechanisms underlying complex brain functions under physiological and pathological conditions. In particular, we are focused on the neurodevelopmental and pharmacological models of depression, schizophrenia and Alzheimer's disease. We employ complex of animal models: neurodevelopmental of schizophrenia (MIA), depressive-like behaviors (prenatal stress), a genetic depression model (Wistar Kyoto rats), a model of Alzheimer's disease (APP NL-F/NL-F mice), and a rat diabetes model (streptozotocin).

### SEEKING FOR COLLABORATION WITHIN

inflammatory bowel disease, microbiome, molecular diagnostics, large animal models, microRNAs

### RELEVANT PROJECTS

EpiAD

Professor
## Małgorzata Filip
RESEARCH GROUP OF NON-CODING PARTS OF THE GENOME

**MAJ INSTITUTE OF PHARMACOLOGY, PAS**

DIVISION V - MEDICAL SCIENCES
MAL.FIL@IF-PAN.KRAKOW.PL
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### EXPERTISE

Our laboratory is focused on understanding of the mechanisms underlying complex brain functions under physiological and pathological conditions. In particular, we are interested in preclinical research methods of substance use and eating disorders, depression, anxiety, as well as social and cognitive decline. We employ complex behavioral analysis methods, in parallel with analyses focused on brain organization, protein interaction, genetic and epigenetic networks and synaptic connections.

### SEEKING FOR COLLABORATION WITHIN

substance use disorder, feeding behavior, emotional state, learning, memory, cell and network level

### RELEVANT PROJECTS

NCN/OPUS22

NCN funded project

NCN/SONATA16

DAAD-NAWA funded project

Professor
## Agnieszka Olejniczak
SCREENING LABORATORY

INSTITUTE OF MEDICAL BIOLOGY, PAS

DIVISION V - MEDICAL SCIENCES
AOLEJNICZAK@CBM.PAN.PL
+48 42 272 36 37

### EXPERTISE

Our screening laboratory primarily focuses on identifying new chemical compounds with potential biological activity, particularly in the field of medicinal chemistry. The laboratory explores the synthesis of chemical compounds with anticancer or antimicrobial activity modified with boron clusters. We also investigate the biological and physicochemical properties of such chemical compounds in relation to their antiviral activity.

### SEEKING FOR COLLABORATION WITHIN

synthesis, boron clusters, carboranes and metallocarboranes, cytotoxicity, antiviral activity, BNCT

### RELEVANT PROJECTS

EU-OPENSCREEN ERIC

Professor
## Zbigniew Leśnikowski
MEDICAL CHEMISTRY LABORATORY

INSTITUTE OF MEDICAL BIOLOGY, PAS

DIVISION V - MEDICAL SCIENCES
ZLESNIK@CBM.PAN.PL
+48 42 209 33 80

### EXPERTISE

Our laboratory specializes in synthesizing modified nucleosides, nucleotides, and DNA/RNA-oligonucleotides containing boron clusters and their complexes with metals. We study the relationship between the structure of such compounds (or their components) and their physicochemical and biological properties. Furthermore, the laboratory explores the potential applications of modified nucleic acids as novel materials in nanotechnology, biotherapeutics, and as molecular probes.

### SEEKING FOR COLLABORATION WITHIN

chemistry of nucleosides, nucleotides and nucleic acids for molecular technologies, BNCT

### RELEVANT PROJECTS

EU-OPENSCREEN ERIC

Professor
## Jarosław Dziadek
MYCOBACTERIUM GENETICS AND PHYSIOLOGY LABORATORY

INSTITUTE OF MEDICAL BIOLOGY, PAS

DIVISION V - MEDICAL SCIENCES
JDZIADEK@CBM.PAN.PL
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### EXPERTISE

Our team focuses on *Mycobacterium bacteria*, particularly the pathogenic *Mycobacterium tuberculosis*. Motivated by the urgent need to address current threats, we aim to discover new anti-mycobacterial drugs and diagnostic methods. We study mycobacterial virulence and explore host-pathogen interactions. Spanning from single molecules to bacterial ecosystems, our research focuses on mycobacterial cell biology (DNA repair, tRNA maturation, transcription, signal transduction, and cell wall biosynthesis) and genetic variability.

### SEEKING FOR COLLABORATION WITHIN

mycobacterium bacteria, genetics, pathogens, host-pathogen interactions, DNA repair mechanisms

### RELEVANT PROJECTS

EU-OPENSCREEN ERIC

PhD
Magdalena Winiarska
DEPARTMENT OF IMMUNOLOGY

MOSSAKOWSKI MEDICAL RESEARCH CENTRE, PAS
DIVISION V - MEDICAL SCIENCES
MWINIARSKA@IMDIK.PAN.PL
+48 22 608 64 49

## EXPERTISE

The Department of Immunology is focused on elucidating the mechanisms regulating immune cell activation and advancing cancer immunotherapy using monoclonal antibodies, effector cells and cells engineered with chimeric antigen receptors (CAR). Our work ranges from basic research in the field of cancer immunology to translational research aimed at improving the efficacy of cancer therapy.

## SEEKING FOR COLLABORATION WITHIN

adoptive therapy, CAR-T, monoclonal antibodies, tumor microenvironment, drug target, immunooncology

## RELEVANT PROJECTS

STIMUNO ERC Starting Grant
ArTCell EIC PATHFINDER
MAVERIC Swiss-Polish Cooperation Programme
MAESTRO15

Professor
Leonora Bużańska
DEPARTMENT OF STEM CELL BIOENGINEERING

MOSSAKOWSKI MEDICAL RESEARCH CENTRE, PAS
DIVISION V - MEDICAL SCIENCES
BUZANSKA@IMDIK.PAN.PL
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## EXPERTISE

Our expertise is neurobiology, stem cells (human iPSC and MSC), genetic engineering (gene editing, genetic vectors), bioengineering (natural and synthetic scaffolds, cell/biomaterial or cell/ECM interphase) and GMP compliant precision medicine. We are modeling neural disorders with human iPSCs lines (isogenic/control) and brain organoids (whole brain and region specific) in biomimetic microenvironment. We derive therapeutically competent cells and MVs for preclinical and clinical treatment.

## SEEKING FOR COLLABORATION WITHIN

modeling neuropathology with iPSCs and brain organoids, MSCs and secretome, GMP-based cell therapies

## RELEVANT PROJECTS

NCN/OPUS18
NCN/PRELUDIUM 21
NCN/OPUS28 LAP
NCN/Preludium Bis2022

PhD
Izabela Sabała
LABORATORY OF PROTEIN ENGINEERING

MOSSAKOWSKI MEDICAL RESEARCH CENTRE, PAS
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## EXPERTISE

We focus on developing novel antibacterials based on bacteriolytic enzymes to target antibiotic resistant pathogens, e.g. *Staphylococcus aureus, Streptococci, Enterococci, Pseudomonas aeruginosa, Klebsiella pneumoniae* and fungi. Each of our novel proteins is engineered to meet the requirements of future applications and tested as a preventive agent or potential drug to treat infectious diseases, e.g., chronic wounds, diabetic foot ulcers, atopic dermatitis, psoriasis, impedigo.

## SEEKING FOR COLLABORATION WITHIN

AI-based protein engineering, biological antimicrobials, antibiotic resistance, skin diseases

## RELEVANT PROJECTS

Infectless TEAM TECH FNP
PrevEco POLNOR19
MRA National Reconstruction Plan
NCN/OPUS26

PhD, DSc
## Dawid Walerych
LABORATORY OF HUMAN DISEASE MULTIOMICS

MOSSAKOWSKI MEDICAL RESEARCH CENTRE, PAS

DIVISION V - MEDICAL SCIENCES
DWALERYCH@IMDIK.PAN.PL
+48 22 608 66 41

### EXPERTISE

We research molecular processes leading to human diseases using large-scale molecular analyses. In particular, we are interested in the interplay of driver oncogenes in human neoplasias (mutant TP53, mutant K/H-RAS, hyperactive CMYC, HSP molecular chaperones and the proteasome machinery). Using large-scale omics methods (e.g. transcriptomics and proteomics) in conjunction with advanced disease model validation (e.g. organoids) we look for novel therapeutic protocols to treat human cancer

### SEEKING FOR COLLABORATION WITHIN

molecular oncology, p53, RAS, MYC, Li-Fraumeni syndrome, omics, organoids, pancreatic cancer

### RELEVANT PROJECTS

Proteasome in cancer
Multi-onco-map
Oncogene competition

Professor
## Magdalena Zielińska
DEPARTMENT OF NEUROTOXICOLOGY

MOSSAKOWSKI MEDICAL RESEARCH CENTRE, PAS

DIVISION V - MEDICAL SCIENCES
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+48 22 608 64 70

### EXPERTISE

Our research focuses on the mechanisms underlying brain function in hyperammonemic encephalopathies (including rare diseases), anxiety, epilepsy, and metabolic disorders, as well as interorgan crosstalk with the liver and intestine. We combine cell biology, biochemical, and omics approaches with behavioural studies. We aim to decipher the role of the glutamine-glutamate cycle and oxidative stress in the pathobiology of gliomas, in search of therapeutic strategies in collaboration with clinicians and chemists.

### SEEKING FOR COLLABORATION WITHIN

hyperammonemic encephalopathies, anxiety, metabolic diseases, epilepsy, gliomas, anticancer drugs

### RELEVANT PROJECTS

HEPENTRANS EEA and Norway Grants
NCN/OPUS20
NCN/OPUS15
NCN/OPUS21

PhD
## Jakub Godlewski
DEPARTMENT OF NEUROONCOLOGY

MOSSAKOWSKI MEDICAL RESEARCH CENTRE, PAS

DIVISION V - MEDICAL SCIENCES
JGODLEWSKI@IMDIK.PAN.PL
+48 22 608 65 67

### EXPERTISE

Our department focuses on exploring the underlying mechanisms of brain tumours through phenotypic-genotypic studies, identifying new biomarkers and targets for diagnosis/prognosis and therapy. In particular, we study non-coding RNAs (microRNAs, lncRNAs, and circular RNAs) in the pathogenesis of glioblastomas. We also apply extracellular vesicles derived from non-coding RNA producing cells to develop novel therapies, and from oncolytic virus-infected cells to increase local and systemic anti-tumour immunity.

### SEEKING FOR COLLABORATION WITHIN

neuro-oncology, extracellular vesicles, cancer therapy, immunotherapy, non-coding RNA, biomarkers

### RELEVANT PROJECTS

NCN/OPUS21
NCN/OPUS23
NCN/OPUS20
NAWA/Polish Returns 2019

Professor
## Lidia Karabon
LABORATORY OF GENETICS AND EPIGENETICS OF HUMAN DISEASES

**HIRSZFELD INSTITUTE OF IMMUNOLOGY AND EXPERIMENTAL THERAPY, PAS**

DIVISION V - MEDICAL SCIENCES
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### EXPERTISE

Focused on developing advanced immunotherapies, particularly CAR-T and TCR-T, and on identifying biomarkers of response and resistance to immunotherapy, including markers guiding optimal recipient selection. Emphasis on immune-checkpoint regulation and genetic–epigenetic determinants shaping antitumor immunity in solid tumours (NSCLC, BLCA, RCC, melanoma) and haematological malignancies (AML, multiple myeloma, CLL), as well as diagnostic markers in blood cancers.

### SEEKING FOR COLLABORATION WITHIN

immunotherapy, CAR-T, TCR-T, specific antibodies
immune checkpoints, genetic and epigenetic factors

### RELEVANT PROJECTS

OPUS17
OPUS24
TACTIC
SCALEREADY'S G-REX® GRANT AWARD
FUNDACJA IM. JAKUBA HR. POTOCKIEGO

Professor
## Andrzej Górski
BACTERIOPHAGE LABORATORY

**HIRSZFELD INSTITUTE OF IMMUNOLOGY AND EXPERIMENTAL THERAPY, PAS**

DIVISION V - MEDICAL SCIENCES
ANDRZEJ.GORSKI@HIRSZFELD.PL
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### EXPERTISE

Studies on the therapeutic potential of bacteriophages (phages), especially in human clinical scenarios. We isolate new phages to enrich our phage bank and identify their biological properties to select an optimal set of phages devoid of toxic and resistance conveying genes. Those phages are tested in animal models. In 2005 we established a phage therapy unit for patients with antibiotics-resistant infections. Now, a clinical trial of the therapy in patients with chronic bacterial sinusitis is being run.

### SEEKING FOR COLLABORATION WITHIN

bacteriophage, phage therapy, phage immunobiology

### RELEVANT PROJECTS

RHINOPHAGE
OPUS6
OPUS16
NOR/SGS/ACIPHAGE

Professor
## Katarzyna Bogunia-Kubik
LABORATORY OF CLINICAL IMMUNOGENETICS AND PHARMACOGENETICS

**HIRSZFELD INSTITUTE OF IMMUNOLOGY AND EXPERIMENTAL THERAPY, PAS**

DIVISION V - MEDICAL SCIENCES
KATARZYNA.BOGUNIA-KUBIK@HIRSZFELD.PL
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### EXPERTISE

Research on hematopoietic and organ transplant immunology/immunogenetics, novel biomarkers associated with susceptibility, course of disease, response to treatment, efficacy and safety of therapies (e.g. rheumatic or hematological disorders), and factors related to immunogenetics of ageing. Focused on NK and γδT cells, characterization of extracellular vesicles, HLA and non-HLA polymorphisms, expression of miRNA and genes coding for proteins involved in the regulation of immune response, implementation of TERT variability and telomere length assessment for clinical purposes.

### SEEKING FOR COLLABORATION WITHIN

transplant immunology/immunogenetics, epigenetics, NK cells, γδT cells, ageing, telomers, autoimmunity

### RELEVANT PROJECTS

OPUS11
STRATEGMED
COST-CA17138
OPUS16
OPUS24

# Cluster 2

## Culture, Creativity and Inclusive Society

This cluster aims to strengthen European democratic values, including rule of law and fundamental rights, safeguarding our cultural heritage, and promoting socio-economic transformations that contribute to inclusion and growth.

### AREAS OF INTERVENTION

- democracy
- cultural heritage
- social and economic transformations

*Source: Cluster 2*

PhD, DSc

## Martyna Kobus

CENTER FOR THE STUDY OF INEQUALITY

**INSTITUTE OF ECONOMICS, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES

MKOBUS@INEPAN.WAW.PL

+48 505 774 413

### EXPERTISE

We are a team of theoreticians and empirical researchers interested in a range of issues related to inequalities. These include, in particular, the measurement of inequality, welfare, and mobility, assessing the impact of policies, historical trends in inequality, and the macroeconomic and labor market consequences of inequality. We also conduct research on health inequalities and socioeconomic inequalities in health. We are currently expanding our capacity through the use of Polish administrative data.

### SEEKING FOR COLLABORATION WITHIN

inequality, welfare, poverty, health inequality, inequalities and labor market

### RELEVANT PROJECTS

NCN/BETHOVEN

PhD, DSc

## Tomasz Łyziak

EXPECTATIONS' FORMATION AND MACROECONOMIC POLICY

**INSTITUTE OF ECONOMICS, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES

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### EXPERTISE

Our research is focused on expectation-formation and macroeconomic policy. We analyze the formation of inflation expectations and how they are influenced by monetary and fiscal policies. We likewise analyze fiscal sustainability, proposing novel measures of it for EU economies. We also study inflation and its determinants. Currently we study the relationship between inflation expectations and other expec-tations of US consumers and the impact of the Ukraine war on consumer inflation expectations in Poland.

### SEEKING FOR COLLABORATION WITHIN

inflation, inflation expectations, survey data, new keynesian phillips curve, fiscal sustainability

### RELEVANT PROJECTS

Global determinants...

Measuring fiscal...

Fiscal policy...

PhD

## Bogumił Szady

MODELLING SPATIAL KNOWLEDGE

**INSTITUTE OF HISTORY, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES

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+48 22 831 36 42

### EXPERTISE

Our Department develops domain formal ontologies modelling knowledge about the settlement network and administrative units, its features and relations. These elements are an important part of research on historic space. We develop ontologies of manifestations, which is a strategy of modelling phenomena changing over time. The domain on- tologies we build refer to upper-level ontologies, such as CIDOC-CRM, BFO (Basic Formal Ontology), etc., to build infrastructure for digital research.

### SEEKING FOR COLLABORATION WITHIN

geography, history, philosophy, knowledge acquisition, information science

### RELEVANT PROJECTS

ONTOHGIS

Professor
## Magdalena Rembowska-Płuciennik
DEPARTMENT OF HISTORICAL POETICS

INSTITUTE OF LITERARY RESEARCH, PAS
DIVISION I - HUMANITIES AND SOCIAL SCIENCES
MAGDALENA.REMBOWSKA-PLUCIENNIK@IBL.WAW.PL
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### EXPERTISE

The Department of Historical Poetics deals with diverse literary genres and paraliterary forms in various historical and literary periods (mainly in the 19th and 20th centuries). Our research interests include general issues in the humanities and philology; literary and cultural translation studies; relations between literature and visual arts literature; digital literature; the concept of literariness and non-literariness; di- gital humanities and the development of modern research infrastructure.

### SEEKING FOR COLLABORATION WITHIN

print and digital literacy, transmedial intersections, communication: artistic and cross-cultural

### RELEVANT PROJECTS

Ministry funded project

NAWA funded project

Poetyki

Professor
## Monika Rudaś-Grodzka
WOMENS ARCHIVE WORKING GROUP

INSTITUTE OF LITERARY RESEARCH, PAS
DIVISION I - HUMANITIES AND SOCIAL SCIENCES
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### EXPERTISE

The Women's Archive team is focused on the study of women's artistic creativity, autobiographic writing and biographies – mostly, but not exclusively in the area of Polish culture. It initiates and manages scholarly and popularization-oriented projects (e.g. exhibitions), by using and spreading methods of feminist critique, ecocriticism, queer studies, and other modern approaches. The team also specialises in modern research on women's archival legacies.

### SEEKING FOR COLLABORATION WITHIN

women's autobiographic writing, women's biographies, women's archives, women's creativity, online database

### RELEVANT PROJECTS

Women Writers Route

Women's Archive – writing women

Gender Encyclopedia: gender in culture

The sun of George Sand and her planets

PhD
## Michał Kotnarowski
EUROPEAN SOCIAL SURVEY – POLAND

INSTITUTE OF PHILOSOPHY AND SOCIOLOGY, PAS
DIVISION I - HUMANITIES AND SOCIAL SCIENCES
KOTNAROWSKI@IFISPAN.EDU.PL
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### EXPERTISE

### SEEKING FOR COLLABORATION WITHIN

voting behavior, political behavior, political representation, survey methodology, social structure

### RELEVANT PROJECTS

CSES

PIREDEU

POLPAN

ISSP

Professor
## Barbara Engelking
POLISH CENTER FOR HOLOCAUST RESEARCH

INSTITUTE OF PHILOSOPHY AND SOCIOLOGY, PAS
DIVISION I - HUMANITIES AND SOCIAL SCIENCES
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### EXPERTISE

The Polish Center for Holocaust Research it is the first, and so far the only research institution in Poland dealing exclusively with Holocaust studies. It conducts research using a wealth of resources and collections unique to Polish archives and introduces inter- disciplinary reflection to analyze the various aspects and dimensions of the Holocaust experience. We are also involved in educational and publishing activities. The Center is a member of the European Holocaust Research Infrastructure.

### SEEKING FOR COLLABORATION WITHIN

Holocaust Studies, Jewish Studies,
Social History of WWII, History and Memory

### RELEVANT PROJECTS

Warsaw Ghetto

Ministry funded project

Professor
## Kazimierz M. Słomczyński
COMPARATIVE ANALYSES OF SOCIAL INEQUALITY TEAM (CASIN)

INSTITUTE OF PHILOSOPHY AND SOCIOLOGY, PAS
DIVISION I - HUMANITIES AND SOCIAL SCIENCES
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### EXPERTISE

Our research team analyses determinants, correlates, and consequences of social inequality. It conducts survey research (panel studies, in particular), develops survey methodology (specializing in integrating data from international survey projects), and investigates political behavior (focusing on protests). The team runs Cross-National Studies: Interdisciplinary Research and Training (CONSIRT) – a program established by the Polish Academy of Sciences and the Ohio State University (USA).

### SEEKING FOR COLLABORATION WITHIN

social inequality & mobility, socio-political attitudes,
survey method. harmonization of survey data

### RELEVANT PROJECTS

POLPAN

SDR

VPPS

Professor
## Valentina Lepri
CENTRE FOR THE HISTORY OF RENAISSANCE KNOWLEDGE

INSTITUTE OF PHILOSOPHY AND SOCIOLOGY, PAS
DIVISION I - HUMANITIES AND SOCIAL SCIENCES
VALENTINA.LEPRI@IFISPAN.EDU.PL
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### EXPERTISE

The Centre for the History of Renaissance Knowledge is a dynamic research unit of the Institute of Philosophy and Sociology. Focusing on early modernity, we are particularly interested in knowledge practices and bottom-up knowledge, putting the emphasis of study on minor figures rather than renowned thinkers. Our work is mainly accomplished in European archives and libraries and we are predominantly intellectual historians, always fully open to multi- and interdisciplinary approaches.

### SEEKING FOR COLLABORATION WITHIN

history of knowledge, history of ideas, intellectual migration, manuscripts, scholar network

### RELEVANT PROJECTS

KnowStudents

MSCA IF

Francesco De Dombrowski Fellowship

Professor

## Dariusz Stola

DEPARTMENT OF RECENT POLITICAL HISTORY

**INSTITUTE OF POLITICAL STUDIES, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES

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+48 502 655 918

### EXPERTISE

I have wide experience in project management on both the EU and the national levels. In terms of topics, I would be happy to contribute research on EU foreign & security policy and diplomacy, on German foreign policy after the end of the Cold War, as well as research on Polish politics after 1989 (both its external dimension including Poland's EU and NATO policies as well as the internal developments, e.g. the democratic backsliding).

### SEEKING FOR COLLABORATION WITHIN

20th century history of Europe: international migrations, communist regimes, the Holocaust

### RELEVANT PROJECTS

NCN funded project

ERC/RESOCEA

KBN (Polish Committee for Scientific Research) funded project

Ministry funded project

Professor

## Agnieszka Cianciara

DEPARTMENT OF INTERNATIONAL ORGANIZATIONS AND GLOBAL SECURITY STUDIES

**INSTITUTE OF POLITICAL STUDIES, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES

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+48 22 825 52 21

### EXPERTISE

Our team engages in scientific research on major global trends, challenges and policy-making, especially in the context of international organizations. Shifts in global economic connections and the crisis (decline) of liberal international order call for comparative research on transformation of multilateralism, global and regional international organizations, and great-power politics.

### SEEKING FOR COLLABORATION WITHIN

political science, international relations, security studies, European Union studies

### RELEVANT PROJECTS

NCN funded project

NCN funded project

NCN funded project

PhD

## Marta Kołczyńska

DEPARTMENT OF RESEARCH ON SOCIAL AND INSTITUTIONAL TRANSFORMATIONS

**INSTITUTE OF POLITICAL STUDIES, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES

MKOLCZYNSKA@ISPPAN.WAW.PL

+48 22 825 52 21

### EXPERTISE

My work focuses on political attitudes and political behavior in a comparative perspective, as well as cross-national survey methodology. Specifically, I study changes in political trust across countries and over time, their causes and consequences, including political polarization. Another part of my work an- alyzes participants at public demonstrations based on protest surveys. I am also interested in survey data quality, comparability, and harmonization.

### SEEKING FOR COLLABORATION WITHIN

political attitudes, political behavior, comparative political attitudes, cross-national surveys

### RELEVANT PROJECTS

Polarization and Political Trust

Professor

## Piotr Osęka

DEPARTMENT OF RECENT POLITICAL HISTORY

**INSTITUTE OF POLITICAL STUDIES, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES

POSEKA@ISPPAN.WAW.PL

+48 505 774 413

### EXPERTISE

My research field covers collective biographies of dissident and ruling elites in communist Poland. I have written several books and articles devoted to the topic, employing both quantitative and qualitative approaches. My current project focuses on the prosopography and oral history of the communist secret police.

### SEEKING FOR COLLABORATION WITHIN

communism, prosopography, secret police, perpetrator studies

### RELEVANT PROJECTS

NCN/Enforcers

Professor

## Monika Sus

DEPARTMENT OF INTERNATIONAL ORGANIZATIONS AND GLOBAL SECURITY STUDIES

**INSTITUTE OF POLITICAL STUDIES, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES

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+48 606 957 692

### EXPERTISE

I have wide experience in project management on both the EU and the national levels. In terms of topics, I would be happy to contribute research on EU fo- reign & security policy and diplomacy, on German foreign policy after the end of the Cold War, as well as research on Polish politics after 1989 (both its external dimension including Poland's EU and NATO-policies as well as the internal developments, e.g. the democratic backsliding).

### SEEKING FOR COLLABORATION WITHIN

EU foreign and security policy, diplomacy, area studies (CEE), europeanisation, democratization

### RELEVANT PROJECTS

ENGAGE

NCN funded project

Professor

## Ireneusz Sadowski

DEPARTMENT OF RESEARCH ON SOCIAL AND INSTITUTIONAL TRANSFORMATIONS

**INSTITUTE OF POLITICAL STUDIES, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES

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+48 22 825 52 21

### EXPERTISE

My colleagues and I are focused on research involving social and political transformations in Poland.

In particular, we have lately studied and published on: attitudes toward science and other institutions, political trust and democracy, selection processes in political elites, the impact of social networks on voting, generational changes, and institutional changes, especially those in education. Our research is mostly focused on Central and Eastern Europe (Poland, Ukraine, and Germany).

### SEEKING FOR COLLABORATION WITHIN

social transformations, democracy and governance

### RELEVANT PROJECTS

#3Gen

PhD, DSc
## Karolina Bielenin-Lenczowska
DEPARTMENT OF NATIONALITY STUDIES

**INSTITUTE OF SLAVIC STUDIES, PAS**
DIVISION I - HUMANITIES AND SOCIAL SCIENCES
KAROLINA.BIELENIN.LENCZOWSKA@ISPAN.EDU.PL
+48 504 071 786

### EXPERTISE

I am social anthropologist and linguist, working on migration and diaspora. My latest research project focuses on border regimes on the outskirts of the European Union, and local responses to mobility regimes and injustices. I am using the Macedonian-Serbian and Polish-Belarusian borders as case studies. I also examined how the social and linguistic landscapes of towns inhabited by the descendants of Poles in southern Brazil have been transformed.

### SEEKING FOR COLLABORATION WITHIN

migration studies, diaspora studies, linguistic anthropology, landscape, ethnography

### RELEVANT PROJECTS

UFSC Visiting Professor

Professor
## Agata Roćko
LITERATURE AND GLOTTODIDACTICS TEAM

**INSTITUTE OF LITERARY RESEARCH, PAS**
DIVISION I - HUMANITIES AND SOCIAL SCIENCES
AGATA.ROCKO@IBL.WAW.PL

### EXPERTISE

We are a team that combines literature with a glottodidactic approach to teaching Polish as a foreign language. We collaborate with universities in various countries and write textbooks that demonstrate how to work with literature in Polish as a foreign language classes. Literature provides a pretext for conversations about language, history, and culture. Our team members research 18th-century literature: memoirs, poetry, history, and teaching methods. In these areas, members of our team are writing their doctoral theses. Through literature, we aim to connect the past with the present.

### SEEKING FOR COLLABORATION WITHIN

glottodidactics, history of literature, Polish literature, culture and language, new technologies in teaching

### RELEVANT PROJECTS

NAWA BJP/2024/1/00012
NAWA BJP/2024/1/00011
NAWA BJP/2023/1/00018

Professor
## Agieszka Mrozik
INTERDISCIPLINARY RESEARCH GROUP "SOCIALIST POLAND AND THE GLOBAL SOUTH"

**INSTITUTE OF LITERARY RESEARCH, PAS**
DIVISION I - HUMANITIES AND SOCIAL SCIENCES
AGNIESZKA.MROZIK@IBL.WAW.PL
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### EXPERTISE

We examine the connections between socialist Eastern European countries and the Global South after World War II, analyzing anti-colonial solidarity, literary and artistic exchanges, intellectual cooperation and educational partnerships. We also explore issues of racism and inequality in relations between these regions. Our areas of expertise include global history, critical race studies, gender studies, literary studies, cultural studies, visual studies, and the history of art and architecture. Our research methods include archival research, discourse analysis and close reading of literary artifacts.

### SEEKING FOR COLLABORATION WITHIN

history of global socialism, East-South cultural and educational relations, anticolonial solidarities

### RELEVANT PROJECTS

"Global Solidarity: Archives of the Future"
"Konteksty. Polska Sztuka Ludowa"
NPRH 15

Professor
Anna Zielińska
DEPARTMENT OF LINGUISTICS

INSTITUTE OF LITERARY RESEARCH, PAS
DIVISION I - HUMANITIES AND SOCIAL SCIENCES
ANNA.ZIELINSKA@ISPAN.EDU.PL
+48 22 826 76 88

## EXPERTISE

I conduct research in the fields of dialectology, sociolinguistics, multilingualism, language con- tacts, language borderlands. I am the PI of the Polish-German research project “Language across generations: contact induced change in morpho-syntax in German-Polish bilingual speech” (financed by the NCN and DFG). This project aims to create an integrated description of Polish-German bi- lingualism in Poland and Germany, covering both grammar and sociolinguistic issues.

## SEEKING FOR COLLABORATION WITHIN

language contacts, multilingualism, studies of multilingual communities, linguistic biographies

## RELEVANT PROJECTS

LANGGENER

PhD, DSc
Nicole Dołowy-Rybińska
DEPARTMENT OF LINGUISTICS

INSTITUTE OF SLAVIC STUDIES, PAS
DIVISION I - HUMANITIES AND SOCIAL SCIENCES
NICOLE.DOLOWY-RYBINSKA@ISPAN.EDU.PL
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## EXPERTISE

Our research team works on minority and minoritized languages of Europe and their communities in a broad political, cultural, and linguistic context. We pursue anthropological and sociolinguistic research that touches upon such issues as language policies, language practices, shift and attitudes, language rights, and language maintenance and revitalization.

## SEEKING FOR COLLABORATION WITHIN

sociolinguistics, multilingualism, minorities and borderlands, language revitalization

## RELEVANT PROJECTS

NCN/SonataBis

NCN/OPUS

SORBIAN

PhD
Karolina Ćwiek-Rogalska
DEPARTMENT OF LITERARY AND CULTURAL STUDIES

INSTITUTE OF SLAVIC STUDIES, PAS
DIVISION I - HUMANITIES AND SOCIAL SCIENCES
KAROLINA.CWIEK-ROGALSKA@ISPAN.EDU.PL
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## EXPERTISE

Our team is interested in the emergence of re- settlement cultures in post-displacement regions of Slavic Central Europe. The hypothesis we follow is that they are formed in contact with the materiality left behind by expellees. We work on Polish, Czech, and Slovak case studies, conducting fieldwork in selected regions as well as archival search queries in national and local archives.

## SEEKING FOR COLLABORATION WITHIN

studies of material culture

## RELEVANT PROJECTS

SPECTRAL RECYCLING

PhD, DSc
## Ewa Wróblewska-Trochimiuk
DEPARTMENT OF LITERARY AND CULTURAL STUDIES

**INSTITUTE OF SLAVIC STUDIES, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES
EWA.WROBLEWSKA@ISPAN.EDU.PL
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### EXPERTISE

Our team focuses on visual culture in Serbia, Croatia, and Ukraine. We analyze political communication, protests and political performances, as well as the media discourses about them. We are also interested in broader cultural phenomena characteristic of post-conflict areas and in transformative processes—particularly their impact on political culture, and on the ways collective experiences are represented.

### SEEKING FOR COLLABORATION WITHIN

visual culture studies, social movements studies, anthropology of politics, post-conflict studies

### RELEVANT PROJECTS

NCN/Sonata (PI)

FNP (PI)

PhD
## Anna Zawadzka
DEPARTMENT OF NATIONALITY STUDIES

**INSTITUTE OF SLAVIC STUDIES, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES
ANNA.ZAWADZKA@ISPAN.EDU.PL
+48 22 826 76 88

### EXPERTISE

My research fields are as follows: current historical politics in post-communist countries; the history of anticommunism in comparative perspectives; studies of antisemitism; synergy of antisemitism and anticommunism; the history, socio-political functions, and consequences of the "Jewish Bolshevism" stereotype; studies of the "Jewish Bolshevism" stereotype in an East-West comparative perspective; the social history of cold war era in Eastern and Central Europe; studies of prejudice.

### SEEKING FOR COLLABORATION WITHIN

comparative studies of historical politics in Central and Eastern Europe

### RELEVANT PROJECTS

NCN funded project

The Center for Cultural and Literary Studies of Communis

PhD
## Jarosław Wilczyński
DEPARTMENT OF VERTEBRATE ZOOLOGY

**INSTITUTE OF SYSTEMATICS AND EVOLUTION OF ANIMALS, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
WILCZYNSKI@ISEZ.PAN.KRAKOW.PL
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### EXPERTISE

Our research is focused on the origin and diversity of the archeofaunal assemblages of the Late Pleistocene and Holocene sites known from Central Europe. In particular, we are interested in the remains of large and medium-sized mammals, both wild and domestic. Our research team is expanding pre-vious interpretations of the archaeological record, in particular the range of socioeconomic behavioral patterns through time, on the basis of comprehensive archeaozoological analysis.

### SEEKING FOR COLLABORATION WITHIN

archaeology, palaeodiet and migration, palaeogenetic, radiocarbon dating, stable isotope analysis

### RELEVANT PROJECTS

MAMBA ERC Consolidator Grant

PhD

## Magdalena Moskal-del Hoyo

PALAEOBOTANY AND PALAEOENVIRONMENT GROUP

**W. SZAFER INSTITUTE OF BOTANY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

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### EXPERTISE

Our team focuses on paleoenvironmental research, reconstructing Pleistocene and Holocene vegetation and climate. We aim to describe factors influencing palaeoecological phenomena and human-environment interactions, particularly the anthropogenic impact on vegetation and the local landscape. Archaeobotanical analyses enhance our understanding of plant history, human plant usage over time, and the significance of crop and wild plants in ancient agriculture.

### SEEKING FOR COLLABORATION WITHIN

archaeobotany, palaeobotany, palaeoenviroment, vegetation reconstruction, human impact, palaeodiet

### RELEVANT PROJECTS

NCN/SONATA BIS

NCN/PRELUDIUM

NCN/OPUS

Professor

## Wojciech Jamroga

THEORY OF DISTRIBUTED AND COMPUTING SYSTEMS GROUP

**INSTITUTE OF COMPUTER SCIENCE, PAS**

DIVISION IV - ENGINEERING SCIENCES

W.JAMROGA@IPIPAN.WAW.PL

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### EXPERTISE

Wojciech Jamroga works on formal specification and verification of interaction between intelligent agents. He is particularly interested in formalizations of confidentiality, coercion-resistance, and voter-verifiability in e-voting procedures. Prof. Jamroga has coauthored around 150 refereed publications, and has been a PC member of most important conferences in AI and multi-agent systems. His research track includes Best Paper Award at the main conference on electronic voting and Best Demo Award at the main multi-agent systems conference.

### SEEKING FOR COLLABORATION WITHIN

formal verification, logical methods in AI, secure electronic voting, models of socio-technical systems

### RELEVANT PROJECTS

SpaceVote

SAI

STV

VoteVerif

# Cluster 3

## Civil Security for Society

Cluster 3 responds to the challenges arising from persistent security threats, including cybercrime, as well as natural and man-made disasters.

In addition, it builds on lessons learnt from the COVID-19 pandemic to strengthen prevention, mitigation, preparedness and capacity building for crises (including health crises) and to improve cross-sectoral aspects of such crises.

### AREAS OF INTERVENTION

- disaster-resilient societies
- protection and security
- cybersecurity

*Source: Cluster 3*

PhD
Jakub Ryzenko
CRISIS INFORMATION CENTRE

SPACE RESEARCH CENTRE, PAS
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## EXPERTISE

The main objective of the Crisis Information Centre is to increase the effectiveness of rescue, crisis management and humanitarian aid activities by:
• development of new solutions, procedures and know-how for operational use of GIS, satellite observation and UAVs,
• operational support in use of satellite and UAV-based information (delivery of information products and expert advisory),
• organisation of trials, tests, demonstrations and exercises related to new technologies and procedures.

## SEEKING FOR COLLABORATION WITHIN

emergency management, civil protection, satellite remote security, privacy, deep learning, UAV technologies

## RELEVANT PROJECTS

OVERWATCH
COLLARIS Network
ARTION
DRIVER+

PhD, DSc
Paweł Morawiecki
CRYPTOGRAPHY TEAM

INSTITUTE OF COMPUTER SCIENCE, PAS
DIVISION IV - ENGINEERING SCIENCES
PAWEL.MORAWIECKI@GMAIL.COM
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## EXPERTISE

Our laboratory is focused on cryptography and security. In particular, we are interested in applying deep learning to security and privacy.

## SEEKING FOR COLLABORATION WITHIN

security, privacy, deep learning

## RELEVANT PROJECTS

PRIVNE
ComCrypt
EfEncrypt

Professor
Wojciech Jamroga
THEORY OF DISTRIBUTED AND COMPUTING SYSTEMS GROUP

INSTITUTE OF COMPUTER SCIENCE, PAS
DIVISION IV - ENGINEERING SCIENCES
W.JAMROGA@IPIPAN.WAW.PL
+48 22 380 06 28

## EXPERTISE

Wojciech Jamroga works on formal specification and verification of interaction between intelligent agents. He is particularly interested in formalizations of confidentiality, coercion-resistance, and voter-verifiability in e-voting procedures. Prof. Jamroga has coauthored around 150 refereed publications, and has been a PC member of most important conferences in AI and multi-agent systems. His research track includes Best Paper Award at the main conference on electronic voting and Best Demo Award at the main multi-agent systems conference.

## SEEKING FOR COLLABORATION WITHIN

formal verification, logical methods in AI, secure electronic voting, models of socio-technical systems

## RELEVANT PROJECTS

SpaceVote
SAI
STV
VoteVerif

# Cluster 4

## Digital Industry and Space

The overarching vision behind the proposed investments under Cluster 4 is that of Europe shaping competitive and trusted technologies for a European industry with global leadership in key areas, enabling production and consumption to respect the boundaries of our planet, and maximising the benefits for all parts of society in the variety of social, economic and territorial contexts in Europe.

This will build a competitive, digital, low-carbon and circular industry, ensure sustainable supply of raw materials, develop advanced materials and provide the basis for advances and innovation in global challen-ges to society.

### AREAS OF INTERVENTION

- manufacturing technologies
- key digital technologies including quantum technologies
- emerging enabling technologies
- advanced materials
- artificial intelligence and robotics
- next generation internet
- advanced computing and Big Data
- circular industries
- low carbon and clean industries
- space including earth observation

*Source: Cluster 4*

PhD
## Adam Zapała
DIGITAL INFRASTRUCTURE FOR HUMANITIES

**INSTITUTE OF HISTORY, PAS**
DIVISION I - HUMANITIES AND SOCIAL SCIENCES
AZAPALA@IHPAN.EDU.PL
+48 22 831 36 42

### EXPERTISE

The expertise of the interdepartmental DARIAH.Lab team at the Institute of History lies in preparing digital tools for the humanities & arts. Our work focuses on providing reliable reference databases for people & places in the past, preparing scholarly digital editions.

### SEEKING FOR COLLABORATION WITHIN

editors/holders of historical materials, authority files creators, creators of digital repositories

### RELEVANT PROJECTS

DARIAH

PhD, DSc
## Artur Różański
PHYSICAL PROPERTIES OF CRYSTALLIZING POLYMERS GROUP

**CENTRE OF MOLECULAR AND MACROMOLECULAR STUDIES, PAS**
DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
ARTUR.ROZANSKI@CBMM.LODZ.PL
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### EXPERTISE

My research team has extensive experience in designing new materials from semicrystalline polymers and their micro- and nanocomposites. By modifying their nanostructure, we create materials with unique barrier, mechanical, and thermomechanical properties. Additionally, we have significant expertise in analysing the relationship between the nanostructure of both disordered and ordered components of semicrystalline polymers and their physical properties.

### SEEKING FOR COLLABORATION WITHIN

nano-structured semicrystalline polymers, nanocomposites, structure-barrier/mechanical properties

### RELEVANT PROJECTS

NCN/SONATA2
NCN/SONATABIS8
NCN/OPUS25

PhD, DSc
## Iurii Vozniak
GROUP OF LIGHT AND STRONG POLYMER MATERIALS

**INSTITUTE OF BIOCHEMISTRY AND BIOPHYSICS, PAS**
DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
IURII.VOZNIAK@CBMM.LODZ.PL
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### EXPERTISE

Our team specializes in lightweight polymer research with a special focus on green polymers and their use as matrices for the production of smart or functional nanomaterials. We fabricate and study polymer-polymer nanocomposites, polymer nanoblends, polymer foams. Our specific areas of expertise include: shape memory polymers, polymer-polymer nanocomposites, polymer foams, 3D/4D printing, polymer recycling, mechanical properties of solid polymers, polymer crystallization.

### SEEKING FOR COLLABORATION WITHIN

biopolymers, shape memory polymers, foams, lattice material, green nanocomposites, recycling, FDM

### RELEVANT PROJECTS

Formation of biocomposites
Development of an innovative technology
Multiple-shape memory polymers formation
Foaming of polymer nanocomposites

Professor
## Ewa Schab-Balcerzak
LABORATORY OF ENGINEERING FUNCTIONAL MATERIALS

CENTRE OF POLYMER AND CARBON MATERIALS, PAS

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES

ESCHAB-BALCERZAK@CMPW-PAN.PL

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### EXPERTISE

Our team focuses on the synthesis and characterization of novel light-sensitive materials, with a particular emphasis on highly thermally stable azopolyimides. The comprehensive characterization of azomaterials includes the generation of photoinduced birefringence, diffraction and surface relief gratings (SRGs), and the study of photomechanical effects. The potential applications have been evaluated in various areas, including the construction of LC cells, 3D diffraction gratings, and optical Vortex.

### SEEKING FOR COLLABORATION WITHIN

application of light-sensitive materials, optoelectronics, new technologies

### RELEVANT PROJECTS

NCN/SONATA15

NCN/PRELUDIUM11

Professor
## Mieczysław Kłopotek
ARTIFICIAL INTELLIGENCE FUNDAMENTAL RESEARCH LABORATORY

INSTITUTE OF COMPUTER SCIENCE, PAS

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### EXPERTISE

Our laboratory is focused on Artificial Intelligence, including Web, Text and Data Mining, Reasoning and Machine Learning. In particular, we are interested in spectral and related cluster analysis methods, both in the area of clustering and classification. We work on uncertainty representation, including probabilistic, Dempster-Shafer, metasets, and other approaches. We are interested in explainable artificial intelligence as well as the theoretical foundations of clustering methods.

### SEEKING FOR COLLABORATION WITHIN

spectral cluster analysis, explainable artificial intelligence, metasets

### RELEVANT PROJECTS

NEKST

INSTATCENY

Professor
## Szymon Jaroszewicz
STATISTICAL ANALYSIS AND MODELING GROUP

INSTITUTE OF COMPUTER SCIENCE, PAS

DIVISION IV - ENGINEERING SCIENCES

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### EXPERTISE

Our group is focused on statistical and machine learning methods, being particularly interested in causal discovery, from experimental and observational data, especially uplift modeling, heterogeneous treatment effect estimation, multi-label classification and positive-and-unlabeled data. We have also significant expertise in analysis of high-dimensional data, especially using information theoretical methods. We are also skilled in practical applications of machine learning and statistical methods.

### SEEKING FOR COLLABORATION WITHIN

causal discovery, high dimensional data, positive-and--unlabeled classification, variable selection

### RELEVANT PROJECTS

SAI

Uplift modeling in marketing and biomedical research.

Professor

## Wojciech Jamroga

THEORY OF DISTRIBUTED AND COMPUTING SYSTEMS GROUP

**INSTITUTE OF COMPUTER SCIENCE, PAS**

DIVISION IV - ENGINEERING SCIENCES

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### EXPERTISE

Wojciech Jamroga works on formal specification and verification of interaction between intelligent agents. He is particularly interested in formalizations of confidentiality, coercion-resistance, and voter-verifiability in e-voting procedures. Prof. Jamroga has coauthored around 150 refereed publications, and has been a PC member of most important conferences in AI and multi-agent systems. His research track includes Best Paper Award at the main conference on electronic voting and Best Demo Award at the main multi-agent systems conference.

### SEEKING FOR COLLABORATION WITHIN

formal verification, logical methods in AI, secure electronic voting, models of socio-technical systems

### RELEVANT PROJECTS

SpaceVote

SAI

STV

VoteVerif

PhD, DSc

## Michał J. Dąbrowski

COMPUTATIONAL BIOLOGY GROUP

**INSTITUTE OF COMPUTER SCIENCE, PAS**

DIVISION IV - ENGINEERING SCIENCES

M.DABROWSKI@IPIPAN.WAW.PL

### EXPERTISE

Dr. Dąbrowski specializes in bioinformatics, focusing on the epigenetics, especially DNA methylation in NGS data. His team discovers non-coding DNA regions contributing to i.e. gene expression regulation, 3-D chromatin structure composition, whose disorders result in pathological states and due to that are further tested in laboratory. They created a tool for Feature Selection in multidimensional data (MCFS-ID), returning ranking of features to be further used in classification as well as CytoMeth for comprehensive DNA methylation analysis.

### SEEKING FOR COLLABORATION WITHIN

machine learning, feature selection, epigenetics, glioma tumor, single cell, population genetics

### RELEVANT PROJECTS

Unveiling the role of VPS10P domain receptors

Monte Carlo Feature Selection

PhD, DSc

## Maciej Ogrodniczuk

DEPARTMENT OF LANGUAGE MODELING

**INSTITUTE OF COMPUTER SCIENCE, PAS**

DIVISION IV - ENGINEERING SCIENCES

M.OGRODNICZUK@IPIPAN.WAW.PL

+48 533 675 675

### EXPERTISE

Maciej Ogrodniczuk specializes in language modelling, both linguistic and computational, development of language resources and processing natural language at all levels of complexity, from morphology to discourse. His team creates large datasets of language data, implements innovative methods to analyze them, trains large language models (LLMs) and develops AI-based solutions with linguistic components.

### SEEKING FOR COLLABORATION WITHIN

natural language processing (NLP), artificial intelligence (AI), linguistics, information technology,

### RELEVANT PROJECTS

CLARIN

CURLICAT

DARIAH

HOMADOS

PLLuM

Full Professor

## Dariusz Kardaś

CENTRE OF FLOW AND COMBUSTION / RENEWABLE ENERGY DEPARTMENT

**INSTITUTE OF FLUID-FLOW MACHINERY, PAS**

DIVISION IV - ENGINEERING SCIENCES

DK@IMP.GDA.PL

+48 58 522 51 66

### EXPERTISE

Our team specializes in studying combustion and gasification phenomena and designing heat and power cogeneration systems. We conduct theoretical analyses and model flow processes involving phase transformations and chemical reactions, utilizing CFD and DEM calculations. Our work includes thermo-chemical measurements of pyrolysis, combustion, and heat transfer phenomena. We design and analyse burners, synthetic fuel reactors, heat exchangers, and power systems for rocket engines.

### SEEKING FOR COLLABORATION WITHIN

particulate matter separation, syngas to liquids catalysis, surface reactions, combustion

### RELEVANT PROJECTS

ResMe2E

Associate Professor

## Paweł Flaszyński

CENTRE OF FLOW AND COMBUSTION / AERODYNAMICS DEPARTMENT

**INSTITUTE OF FLUID-FLOW MACHINERY, PAS**

DIVISION IV - ENGINEERING SCIENCES

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### EXPERTISE

Our Aerodynamics Department has participated in many EU projects in aviation (turbomachinery and drag reduction), UAV propulsion and wind energy (turbine blades, wake steering and wind farm interactions). The research is focused on flow structure, heat transfer, boundary layer transition and separation, shock wave boundary layer interaction, flow control and noise reduction. Flaszyński has coordinated the EU FP7 TFAST project and H2020-MSCA-ITN TEAMAero.

### SEEKING FOR COLLABORATION WITHIN

gas turbine, compressor, wind turbine, wind farm, flow control, heat transfer, aeroacoustics

### RELEVANT PROJECTS

H2020-MSCA-ITN TEAMAero

HORIZON-EIC-2023-PATHFINDEROPEN-01 BEALIVE

H2020-MG-2016-2017 SMS

H2020-MSCA-ITN zEPHYR

PhD, DSc, Eng.

## Adam Dębski

LABORATORY OF METALLURGICAL PROCESSES

**INSTITUTE OF METALLURGY AND MATERIALS SCIENCE, PAS**

DIVISION IV - ENGINEERING SCIENCES

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### EXPERTISE

Our team's scientific interests focus on the thermodynamic and physicochemical properties of materials for energy and hydrogen storage. We are especially interested in the thermodynamic properties of magnesium alloys and their ability to interact with hydrogen. We conduct calorimetric studies of the formation enthalpy of intermetallic phases and the mixing enthalpy change of liquid, which we use to calculate phase diagrams.

### SEEKING FOR COLLABORATION WITHIN

metals and alloys, thermodynamic properties, materials for hydrogen storage in the solid phase

### RELEVANT PROJECTS

Achievements

PhD, DSc
Magdalena Bieda-Niemiec
LABORATORY OF SCANNING ELECTRON MICROSCOPY

INSTITUTE OF METALLURGY AND MATERIALS SCIENCE, PAS
DIVISION IV - ENGINEERING SCIENCES
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## EXPERTISE

The laboratory specializes in materials characterization using scanning electron microscopy. We focus on qualitative and quantitative analysis of orientation topography of crystalline materials (EBSD), 3D analysis of chemical composition and crystallographic orientation, in-situ investigations using heating stage. Our expertise includes investigation of mechanisms of plastic deformation and recrystallization of materials for biomedical applications such as titanium, magnesium and zinc alloys.

## SEEKING FOR COLLABORATION WITHIN

biodegradable metals, severe plastic deformation methods, local microstructure characterization

## RELEVANT PROJECTS

Bioabsmat

NCN Preludium Bis

NCBR LIDER

Professor
Natalia Sobczak
LABORATORY OF METALLURGICAL PROCESSES

INSTITUTE OF METALLURGY AND MATERIALS SCIENCE, PAS
DIVISION IV - ENGINEERING SCIENCES
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## EXPERTISE

Our work is focused on scientific, methodological and practical aspects of liquid metal engineering in the synthesis and characterization of advanced materials for use in energy storage, medicine and space applications, as well as materials recycling. Particularly important in our studies are the high temperature phenomena that occur during processes joining together dissimilar materials.

## SEEKING FOR COLLABORATION WITHIN

high temperature liquid-assisted processes of metallic alloys in contact with refractory materials

## RELEVANT PROJECTS

AEROGELS

AMADEUS

Pb-FREE

DIOPOMAL

PhD, DSc
Joanna Wojewoda-Budka
DEPARTMENT OF MULTILAYER MATERIALS

INSTITUTE OF METALLURGY AND MATERIALS SCIENCE, PAS
DIVISION IV - ENGINEERING SCIENCES
J.WOJEWODA@IMIM.PL
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## EXPERTISE

Our team has long-standing experience in the development, testing, and characterization of coatings, including electrodeposited and electroless copper- and nickel-based coatings. Our research also focuses on diffusion phenomena in electronic interconnections, joining technologies such as diffusion soldering and explosive welding, as well as high-temperature wetting tests.

## SEEKING FOR COLLABORATION WITHIN

coatings, soldering, materials microstructure characterization

## RELEVANT PROJECTS

Pb-free

AntiPathCoat

PhD, DSc
## Krzysztof Grochla
INTERNET OF THINGS GROUP

INSTITUTE OF THEORETICAL AND APPLIED INFORMATICS, PAS
DIVISION IV - ENGINEERING SCIENCES
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### EXPERTISE

Internet of Things (IoT) research, with emphasis on wireless communication and network protocols. We design and analyze the performance of network protocols, address issues related to interoperability, and the semantic description of data and operation of IoT systems. We investigate auto-configuration, energy consumption minimization, and localization in embedded devices, especially in LP WAN and indoor localization using UWB and BLE AoA.

### SEEKING FOR COLLABORATION WITHIN

practical application of IoT, long-range low-power wireless communication and indoor positioning

### RELEVANT PROJECTS

Infrastructure Recovery
DOSS
Methodology

PhD, DSc
## Joanna Domańska
SECURITY, MODELLING AND PERFORMANCE EVALUATION GROUP

INSTITUTE OF THEORETICAL AND APPLIED INFORMATICS, PAS
DIVISION IV - ENGINEERING SCIENCES
JOANNA@IITIS.PL

### EXPERTISE

My team is working on issues related to: anomaly detection and energy performance in Internet of Things (IoT) networks; semantic spatial orientation as a foundation for autonomous navigation systems that understand natural language context; software vulnerability prediction, particularly focusing on static code analysis using artificial intelligence algorithms; explainability of deep neural networks.

### SEEKING FOR COLLABORATION WITHIN

attack detection, autonomous driving, vulnerability prediction, energy performance, explainable AI

### RELEVANT PROJECTS

SerIoT
SDK4ED
IoTAC
DOSS

PhD, DSc
## Przemysław Głomb
SECURITY, MODELLING AND PERFORMANCE EVALUATION GROUP

INSTITUTE OF THEORETICAL AND APPLIED INFORMATICS, PAS
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### EXPERTISE

Machine Learning, Computer Vision, hyperspectral imaging, water delivery networks, water leak detection, satellite imaging, drone imaging, industrial process monitoring, Large Language Models, Deep Reinfocement Learning

### SEEKING FOR COLLABORATION WITHIN

intelligent systems for earth observation, industrial process monitoring, water delivery networks

### RELEVANT PROJECTS

WaterPrime

Professor
## Zbigniew Puchała
QUANTUM SYSTEMS OF INFORMATICS GROUP

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DIVISION IV - ENGINEERING SCIENCES
ZPUCHALA@IITIS.PL
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### EXPERTISE

The Group is focusing on developing quantum algorithms, error correction methods, and practical applications of quantum devices. It actively participates in various R&D projects, including the Team Net project, addressing challenges in quantum technologies. Additionally, the Group has developed software for simulating quantum annealers on classical computers, facilitating research into modern quantum architectures and optimization, along with tools for visualizing and analyzing the results.

### SEEKING FOR COLLABORATION WITHIN

quantum computing, quantum error correction, machine learning, and optimization

### RELEVANT PROJECTS

Near-term Quantum Computers Challenges

Professor
## Arkadiusz Derkowski
CLAY MINERALS RESEARCH GROUP

INSTITUTE OF GEOLOGICAL SCIENCES, PAS

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
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### EXPERTISE

The ClayLab is one of few in the world and the only one in Poland laboratory fully equipped with all tools used to study clay minerals and other layered aluminosilicates. Experimental and analytical facilities are employed in pursuing questions in paleogeography, thermal transformations of clay minerals, and clean energy transition, including nuclear waste disposal, CO2 sequestration, natural H2 exploration. The team develops its own methodology to analyze qualitative and quantitative composition of sedimentary rocks and soils, and the properties of clay materials.

### SEEKING FOR COLLABORATION WITHIN

nuclear waste disposal, CO2 sequestration, natural H2 exploration, clay minerals, analysis of sedimentary rocks

### RELEVANT PROJECTS

NCN no. 2019/35/D/ST10/02814
NCN no. 2025/57/B/ST10/01022
NCN no. 2020/37/B/ST10/01697
NCN no. 2021/41/B/ST10/01951

Professor
## Michał Basista
DIVISION OF ADVANCED COMPOSITE MATERIALS, DEPARTMENT OF MECHANICS OF MATERIALS

INSTITUTE OF FUNDAMENTAL TECHNOLOGICAL RESEARCH, PAS

DIVISION IV - ENGINEERING SCIENCES
MBASISTA@IPPT.PAN.PL
+48 668 160 300

### EXPERTISE

The team is focused on processing of advanced metal, ceramic and polymer materials, as well as their characterization and modeling for applications in transport, energy and biomedicine. We fabricate materials using powder metallurgy, chemical synthesis and electrophoretic deposition. We analyze material microstructure via electron microscopy and X-ray tomography and measure mechanical properties using in-situ tests. We develop micro-CT based numerical models of deformation, fracture, thermal properties and residual stresses.

### SEEKING FOR COLLABORATION WITHIN

metal-ceramic composites, intermetallics, high entropy alloys, activated carbon materials, nanowires

### RELEVANT PROJECTS

KMM-NoE
MATRANS
INNVIN
KomCerMet

# Cluster 5

## Climate, Energy and Mobility

This cluster aims to fight climate change by better understanding its causes, evolution, risks, impacts and opportunities, and by making the energy and transport sectors more climate and environment-friendly, more efficient and competitive, smarter, safer and more resilient.

### AREAS OF INTERVENTION

- climate science and solutions
- energy supply
- energy systems and grids
- buildings and industrial facilities in energy transition
- communities and cities
- industrial competitiveness in transport
- clean, safe and accessible transport and mobility
- smart mobility
- energy storage

*Source: Cluster 5*

PhD, DSc
Anna Walkiewicz
DEPARTMENT OF NATURAL ENVIRONMENT BIOGEOCHEMISTRY

INSTITUTE OF AGROPHYSICS, PAS

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
A.WALKIEWICZ@IPAN.LUBLIN.PL
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## EXPERTISE

We focus on measurements of soil greenhouse gases (CO2, CH4, N2O) fluxes in natural and agricultural ecosystems. We conduct experiments at the field scale (arable lands, grasslands and forests) and laboratory scale (determining e.g. potential of methane emission and uptake). We are interest in finding methods to mitigate GHG emissions and improve soil conditions acting in an interdisciplinary manner, and combining results from field and microbial (e.g. NGS and quantitative PCR) research.

## SEEKING FOR COLLABORATION WITHIN

soil GHG fluxes, methane formation and oxidation, modelling of soil GHGs, molecular biology

## RELEVANT PROJECTS

ReLive
ERA-GAS Programme
NCN/OPUS21

Professor, DSc
Magdalena Frąc
DEPARTMENT OF SOIL AND PLANT SYSTEM

INSTITUTE OF AGROPHYSICS, PAS

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
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## EXPERTISE

The department is focused on research concerning microorganisms biodiversity and resilient plant. We are interested in soil quality, soil health markers and living labs concept. Our interests concern soil-plant-microbiome interactions inclusive of (a)biotic stress factors under changing climate. We conduct work on bioproduct, biofertilizers and biotechnological solutions for agroecology, including diagnostics, control and monitoring of key pathogens in sustainable agriculture and horticulture.

## SEEKING FOR COLLABORATION WITHIN

antimicrobials; microbial diversity; one health; plant holobiont; soil-plant-microbiome interactions

## RELEVANT PROJECTS

LEGUMINOSE
SoilCare
iSQAPER
SPIN-FERT

PhD, Assistant Professor
Robert Bialik
ABIOTIC STRESS RESEARCH: REDOX SIGNALS

INSTITUTE OF BIOCHEMISTRY AND BIOPHYSICS, PAS

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+48 22 592 57 93

## EXPERTISE

The Department of Antarctic Biology is responsible for the scientific program that is undertaken at the Arctowski Polish Antarctic Station, providing expert opinions about Antarctica for numerous Ministries of the Republic of Poland. We specialize in physical oceanography, marine biology, glaciology, and meteorology, with a particular focus on biology, including conservation biology, ecology, and microbiology.

## SEEKING FOR COLLABORATION WITHIN

Antarctic Important Bird and Biodiversity Areas, radiospectrometry, remote sensing in polar regions

## RELEVANT PROJECTS

NCN/OPUS13
NCN/SONATA7

PhD
Emilia Pers-Kamczyc
DEPARTMENT OF GENETICS AND ENVIRONMENTAL INTERACTIONS

INSTITUTE OF DENDROLOGY, PAS

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
EPK@MAN.POZNAN.PL
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## EXPERTISE

Our team has experience in assessing the genetic variability of the phenotypic traits and local adaptation of economically used woody plant species, especially to water and HMs stresses, in searching for new genetic markers used in breeding and genomic selection of forest trees, in assessing the genetic diversity of local populations, and in species restoration. We also study plants' molecular responses to environmental conditions, resource availability and climate change.

## SEEKING FOR COLLABORATION WITHIN

selection and breeding of forest trees, quantitative genetics, abiotic stresses, OMICs, seed quality

## RELEVANT PROJECTS

Projects

Professor
Andrzej M. Jagodziński
DEPARTMENT OF ECOLOGY

INSTITUTE OF DENDROLOGY, PAS

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
AMJ@MAN.POZNAN.PL
+48 61 817 00 33

## EXPERTISE

Our research deals with the effects of global climate change on the functioning of forest ecosystems, environmental determinants of stand biomass production and carbon storage, modelling of natural processes in forest ecosystems (e.g. decomposition, primary production), and the causes and consequences of biological invasions of trees and shrubs. We also determine possible changes in the geographical ranges of woody plant species in various climate change scenarios.

## SEEKING FOR COLLABORATION WITHIN

climate change, stand biomass, decomposition, invasion biology, functional ecology

## RELEVANT PROJECTS

Projects

Professor
Jarosław Stolarski
BIOSTRUCTURES AND BIOMINERALIZATION WORKING GROUP

INSTITUTE OF PALEOBIOLOGY PAS

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
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## EXPERTISE

Our laboratory is focused on investigating biomineralization processes. In particular, we are interested in: (i) structural and biogeochemical features of biominerals, (ii) physiological and environmental factors affecting their formation, and (iii) their functional and phylogenetic significance. We work on various groups of fossil and recent organisms (e.g., corals, echinoderms) using modern analytical techniques (including experimental studies).

## SEEKING FOR COLLABORATION WITHIN

biomineralization, bio-inspired engineering, paleoproteomics, paleogenomics

## RELEVANT PROJECTS

NCN/OPUS
NCN/OPUS
NCN/OPUS
NCN/SONATA

PhD, DSc
## Urszula Szeluga
LABORATORY OF CARBON AND POLYMER-CARBON MATERIALS

**CENTRE OF POLYMER AND CARBON MATERIALS, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
USZELUGA@CMPW-PAN.PL
+48 32 271 60 77 (EXT. 245)

### EXPERTISE

Carbon materials show great promise for energy storage and biomolecule detection systems. Our team specializes in the synthesis, functionalization and surface modification of carbon materials, including graphene, applied individually and in polymer-carbon composites. We study the relationship between the structure and electrochemical properties of such materials and focus on their potential applications as smart materials in micro-devices, sensors, EMI shielding materials, and wearable electronics.

### SEEKING FOR COLLABORATION WITHIN

carbon materials, polymer matrix composites, biomolecule detection, smart materials, energy storage

### RELEVANT PROJECTS

NCBR funded project

Professor
## Ewa Schab-Balcerzak
LABORATORY OF ENGINEERING FUNCTIONAL MATERIALS

**CENTRE OF POLYMER AND CARBON MATERIALS, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
ESCHAB-BALCERZAK@CMPW-PAN.PL
+48 32 271 60 77 (EXT. 112)

### EXPERTISE

Our laboratory is focused on modifying the structure of dye-sensitized solar cells and their preparation methods in order to improve their photovoltaic performance. Ongoing research includes synthesizing new organic compounds and their application as metal-free light-absorbing dyes, developing polymers for the preparation of cathodes, and preparing layers of inorganic materials, for instance in order to reduce light loss or reduce charge recombination processes within the device.

### SEEKING FOR COLLABORATION WITHIN

photovoltaic, dye-sensitized solar cells, metal-free dyes synthesis, flexible solar cells

PhD, Associate Professor
## Piotr Krzywiec
SEISMIC INTERPRETATION AND BASIN ANALYSIS RESEARCH GROUP (SEISSED)

**INSTITUTE OF GEOLOGICAL SCIENCES, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
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### EXPERTISE

Our research, mostly based on seismic reflection data, is focused on regional analysis of sedimentary basins, the structure and evolution of fold-and-thrust belts, on salt tectonics, and on the interplay of tectonic and sedimentary processes. We combine seismic data interpretation (Kingdom Suite) with seismic forward modelling (Tesseral), cross-section balancing (MOVE) and basin modelling (BasinMod, Dionysos). We currently work on data from Poland, China, Australia, offshore East Africa and Gabon.

### SEEKING FOR COLLABORATION WITHIN

fold-and-thrust belts and foreland basis, salt tectonics, carbonate buildups

Professor
## Stanisław Mazur
DEPOSITIONAL SYSTEMS RESEARCH GROUP

INSTITUTE OF GEOLOGICAL SCIENCES, PAS

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES

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### EXPERTISE

We combine potential field geophysics with seismic and geological data for basic and applied studies. We are interested in tectonics, structural geology in relation to fold-and-thrust belts, sedimentary basins, and passive continental margins. We conduct research related to prospecting for critical raw materials and the geohazard impact on critical infrastructure. Our experience in geophysics and geology allows to create integrated geosystem models at various scales and levels of precision.

### SEEKING FOR COLLABORATION WITHIN

geophysics, critical raw materials prospection, tectonics, structural geology, seismology

Professor
## Arkadiusz Derkowski
CLAY MINERALS RESEARCH GROUP

INSTITUTE OF GEOLOGICAL SCIENCES, PAS

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### EXPERTISE

The ClayLab is one of few in the world and the only one in Poland laboratory fully equipped with all tools used to study clay minerals and other layered aluminosilicates. Experimental and analytical facilities are employed in pursuing questions in paleogeography, thermal transformations of clay minerals, and clean energy transition, including nuclear waste disposal, CO2 sequestration, natural H2 exploration. The team develops its own methodology to analyze qualitative and quantitative composition of sedimentary rocks and soils, and the properties of clay materials.

### SEEKING FOR COLLABORATION WITHIN

nuclear waste disposal, CO2 sequestration, natural H2 exploration, clay minerals, analysis of sedimentary rocks

### RELEVANT PROJECTS

NCN no. 2019/35/D/ST10/02814

NCN no. 2025/57/B/ST10/01022

NCN no. 2020/37/B/ST10/01697

NCN no. 2021/41/B/ST10/01951

Professor
## Bartłomiej Witkowski
GROUP OF PHYSICS OF OXIDE STRUCTURES

INSTITUTE OF PHYSICS, PAS

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### EXPERTISE

Our group specializes in the production and characterization of a variety of oxide nanostructures in the form of layers (i.e. TCO layers, barrier coatings) and nanorods (an excellent base for biosensors, active element of PV cells, or base for quantum structures). We rely mainly on Atomic Layer Deposition (ALD) and hydrothermal technologies, with which we have many years of experience.

### SEEKING FOR COLLABORATION WITHIN

PV cells, transparent conductive oxides (TCO), quantum structures, surface-enhanced Raman spectroscopy

### RELEVANT PROJECTS

NCN projects

Ministry of Science and Higher Education projects

EAgLE

NCBR projects (TECHMATSTRATEG, POIR, POIG, PBS)

Professor
## Ksenia Pazdro
MARINE CHEMISTRY & BIOCHEMISTRY DEPARTMENT

INSTITUTE OF OCEANOLOGY, PAS

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### EXPERTISE

The Marine Biogeochemistry Laboratory is focused on C, N, P, O cycling in the marine environment.

### SEEKING FOR COLLABORATION WITHIN

marine $CO_2$ system, ocean acidification, biological pump, land-ocean continuum

### RELEVANT PROJECTS

BONUS INTEGRAL

ICOS

RAW

BONUS PINBAL

Professor
## Jacek Piskozub
PHYSICAL OCEANOGRAPHY DEPARTMENT

INSTITUTE OF OCEANOLOGY, PAS

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### EXPERTISE

The Department of Physical Oceanography is focused on ocean–atmosphere interactions, particularly mass, energy, and radiation fluxes in the ocean–atmosphere boundary layer; spatial and temporal variability of circulation and properties of water masses in the Baltic Sea, Nordic Seas, and European Arctic; oceanic fluxes of mass, heat, and salt and t heir role in shaping the ocean climate and Arctic sea ice cover; climate feedbacks with a focus on the role of oceanic processes in intra-seasonal to decadal cryospheric and atmospheric variability and predictability; numerical experiments with ocean circulations.

### SEEKING FOR COLLABORATION WITHIN

ocean-atmosphere interactions, oceanic fluxes of mass, heat and salt, ocean circulation

### RELEVANT PROJECTS

HiAOOS

RISE

Intaros

Professor
## Mirosław Darecki
MARINE PHYSICS DEPARTMENT

INSTITUTE OF OCEANOLOGY, PAS

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### EXPERTISE

The main research areas are marine optics, bio-optics, remote sensing, and acoustics. We have expertise in conducting optical measurements and analyzing optical and remote sensing data in various marine environments, in developing optical methods for investigating biological and physical processes in the sea and remote sensing algorithms for retrieval of water constituents, and in devising hydroacoustic techniques for classifying benthic habitats, seabed morphometry, and biological organisms.

### SEEKING FOR COLLABORATION WITHIN

development of hydroacoustic classification techniques to monitor marine ecosystems and environment

### RELEVANT PROJECTS

CHEMSEA

GAME

MODUM

GLAERE

Professor
## Marek Zajączkowski
DEPARTMENT OF PALEOCEANOGRAPHY

**INSTITUTE OF OCEANOLOGY, PAS**

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### EXPERTISE

Our Department is focused on the past climate and oceanographic changes in the shelf and deep-water ecosystems. These studies include the multidimensional reconstruction of the postglacial ocean circulation in the Nordic Seas using sea surface temperature, water column stratification and ventilation, and temperature and salinity at the bottom. We use a broad range of different mic-ropaleontological proxies, such as foraminifera, as well as innovative methods like ancient DNA and biomarkers.

### SEEKING FOR COLLABORATION WITHIN

paleoceanography, ancient DNA, Nordic Seas, Arctic, carbon burial, productivity, Foraminifera

### RELEVANT PROJECTS

BioOcean 5D

NEEDED

Professor
## Dorota Gryko
LABORATORY OF SUSTAINABLE CATALYSIS

**INSTITUTE OF ORGANIC CHEMISTRY, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
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### EXPERTISE

Our laboratory is focused on sustainable chemistry. In particular, we develop catalytic methods that mimic the efficiency that is characteristic of enzymes by combining the robust nature of simple nature--derived catalysts with light as the source of energy. We are interested in finding strategies for efficient organic synthesis in accordance with the principles of green chemistry. We also work on vitamin B12, fo- cusing on its catalytic properties and using it as a drug delivery vehicle.

### SEEKING FOR COLLABORATION WITHIN

bioorthogonal chemistry, DFT calculations, artificial intelligence, drug delivery, vitamin B12

### RELEVANT PROJECTS

BioRed

PhD
## Marcin Lindner
LABORATORY OF FUNCTIONAL AROMATIC COMPOUNDS

**INSTITUTE OF ORGANIC CHEMISTRY, PAS**

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MARCIN.LINDNER@ICHO.EDU.PL
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### EXPERTISE

Our laboratory is focused on the synthesis of fun- ctional aromatic compounds with prospective optoelectronic applications. In particular, we are in- terested in new synthetic pathways towards concave ambipolar N-doped polycyclic aromatic hydrocarbons (N-PAHs) and curved nanographene fragments. These are rationally designed as efficient emitters for thermally activated delay fluorescence (TADF) OLED devices as well as hole transporting layers (HTL) in perovskite solar cells (PSC).

### SEEKING FOR COLLABORATION WITHIN

organic synthesis, N-doped PAHs, curved aromatics, functional nanographenes, OLED emitters, HTLs

### RELEVANT PROJECTS

NCBR funded project – LIDER

NCN/OPUS23

Professor
## Agnieszka Szumna
MOLECULAR RECOGNITION GROUP

INSTITUTE OF ORGANIC CHEMISTRY, PAS

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES

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### EXPERTISE

Our laboratory is focused on the design and synthesis of supramolecular systems, capsules, cavitands, and macrocycles. In particular, we are interested in their host–guest binding abilities, chiral recognition, and photophysical properties. We investigate interactions of macrocyclic compounds with peptides and proteins. We also carry out mechanochemical synthesis and encapsulation.

### SEEKING FOR COLLABORATION WITHIN

imaging, PET, drug delivery, protein interactions

### RELEVANT PROJECTS

NCN/OPUS21

NCN/OPUS25 2023/49/B/ST5/02466

Professor
## Janusz Lewiński
COORDINATION METAL COMPLEXES AND FUNCTIONAL MATERIALS

INSTITUTE OF PHYSICAL CHEMISTRY, PAS

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES

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### EXPERTISE

My research is aimed at developing heavy-metal-free quantum dots for solar-driven chemistry, sensing & biomedicine, and compositional engineering of metal halide perovskites for next-generation solar cells and energy storage devices. The preparation approaches rely on classical wet methods and mechanochemical solvent-free synthesis.

Collaboration: Prof. Michael Greatzel (EPFL) and Prof. Władysław Wieczorek (Warsaw University of Technology).

### SEEKING FOR COLLABORATION WITHIN

coordination chemistry, nanoscience & nanotechnology, perovskites & photovoltaics, mechanochemistry

### RELEVANT PROJECTS

GOTSolar

NCN/MAESTRO

PhD, DSc
## Stanisław Lewiński
EARTH OBSERVATION DIVISION

SPACE RESEARCH CENTRE, PAS

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES

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### EXPERTISE

The Earth Observation Division specializes in remote sensing, with a special focus on: • the Environment – monitoring of land and marine waters at the local and regional level, assessing the human impact on the environment, satellite climatology • Security and Crisis Management – assessing the risk of natural disasters (floods, fires) using satellite technology (monitoring developments in time), border control, planning large events • Spatial Planning • Education

### SEEKING FOR COLLABORATION WITHIN

environment, satellite data, climatology

### RELEVANT PROJECTS

EOTiST

MAIL

PhD
Agnieszka Ciemięga
LABORATORY OF FUNCTIONAL MATERIALS AND MICROREACTORS

INSTITUTE OF CHEMICAL ENGINEERING, PAS
DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
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## EXPERTISE

The work of our laboratory is focused on the synthesis of advanced nanoporous materials and their applications in catalysis or sorption processes. Recently, our research interests have concentrated on developing highly effective monolithic microreactors for the continuous production of organic compounds in the liquid phase. We are experienced in surface modification with organic/inorganic moieties and characterization of structural, physicochemical, and catalytic properties of materials.

## SEEKING FOR COLLABORATION WITHIN

microreactors, porous materials, catalysis

## RELEVANT PROJECTS

INTERACT
NCN funded project
NCN funded project

PhD
Anna Pawlaczyk-Kurek
LABORATORY OF GAS AND LIQUID SEPARATION

INSTITUTE OF CHEMICAL ENGINEERING, PAS
DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
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## EXPERTISE

Our specialization is chemical engineering. We work on separating gas mixtures by adsorption and membrane methods as well as sorption tests of gases on different materials. We concentrate especially on biogas enrichment and carbon dioxide capture. Our scientific interests also focus on different lean methane–air mixture utilization methods, es- pecially thermal combustion in thermal reversal reactors. We are interested in catalytic and thermal reactors, and kinetic studies of reactions.

## SEEKING FOR COLLABORATION WITHIN

greenhouse gasses, gas purification, biogas upgrading, chemical reactor engineering, CCUS

## RELEVANT PROJECTS

INTERACT
KIC Innoenergy/SECoal
KIC Innoenergy/ACoPP
ProVAM

PhD
Marzena Iwaniszyn
LABORATORY OF STRUCTURAL CATALYTIC REACTORS

INSTITUTE OF CHEMICAL ENGINEERING, PAS
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## EXPERTISE

Our main research activities focus on the characterization of catalytic reactors for processes such as catalytic oxidation of methane and volatile organic compounds, selective catalytic reduction of nitrogen oxides, and hydrogen sulfide utilization. We conduct experimental investigations as well as CFD modelling of fluid flow, heat and mass transfer, and catalytic and kinetic studies. We are particularly interested in novel catalyst supports manufactured by 3D printing methods.

## SEEKING FOR COLLABORATION WITHIN

chemical reactor engineering, catalytic reactors, CFD modelling, air purification

## RELEVANT PROJECTS

INTERACT
NCN funded project
NCN funded project
NCN funded project
ProVAM

Professor
## Wiesław Bujakowski
DIVISION OF RENEWABLE ENERGY SOURCES

MINERAL AND ENERGY ECONOMY RESEARCH INSTITUTE, PAS
DIVISION IV - ENGINEERING SCIENCES
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### EXPERTISE

The RES laboratory focuses on research related to geothermal energy. We are particularly interested in research on the recognition and use of geothermal waters for energy purposes. Our work aims to optimize the use of low-temperature renewable energy resources, common in Poland. In addition, these tests are combined with the assessment of the quality of geothermal waters in terms of their use in agriculture, medicine and balneotherapy.

### SEEKING FOR COLLABORATION WITHIN

technologies for construction geothermal wells, water reinjection, desalination of geothermal waters

### RELEVANT PROJECTS

User4GeoEnergy
Geo4Food
KeyGeothermal
EnerGizers

Professor
## Lidia Gawlik
DIVISION OF MINERALS AND ENERGY SUSTAINABLE DEVELOPMENT

MINERAL AND ENERGY ECONOMY RESEARCH INSTITUTE, PAS
DIVISION IV - ENGINEERING SCIENCES
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### EXPERTISE

Our division is focused on research related to energy policy, energy consumption, and mobility. In particular, we are interested in projects related to the energy transition and its consequences. Our research team has extensive experience in the modeling of energy systems. We work on the social, economic, technical, environmental, and legal aspects of energy and mineral resources, including fossil fuels, renewable energy sources, clean trans-port, and green hydrogen.

### SEEKING FOR COLLABORATION WITHIN

energy policy, energy transition, coal regions, renewable energy, green hydrogen, coal regions

### RELEVANT PROJECTS

ENTRANCES
TANDEM
KAWSOL
DTA

Professor
## Magdalena Wdowin
DIVISION OF APPLIED GEOCHEMISTRY AND ENVIRONMENTAL ENGINEERING

MINERAL AND ENERGY ECONOMY RESEARCH INSTITUTE, PAS
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### EXPERTISE

Our division is focused on waste management activities. In particular, we are interested in field of environmental pollution removal using solid sorbents. We work on the synthesis of aluminosilica micro/mesoporous materials from silica wastes and using them for the purification of gases and wastewaters as well as for gas storage (H2) and capture ($CO_2$). We have extensive experience in mineralogical, chemical, textural, and geochemical analysis as well as the investigation of sorption properties.

### SEEKING FOR COLLABORATION WITHIN

utilization of fly ash and aluminosilicate waste, purification of gases and wastewaters, H2 storage

### RELEVANT PROJECTS

ZIF-X-CARBON
GeoReco
SFZCHSA
CO2ZeoCap

Full Professor

## Dariusz Kardaś

CENTRE OF FLOW AND COMBUSTION / RENEWABLE ENERGY DEPARTMENT

**INSTITUTE OF FLUID-FLOW MACHINERY, PAS**

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### EXPERTISE

Our team specializes in studying combustion and gasification phenomena and designing heat and power cogeneration systems. We conduct theoretical analyses and model flow processes involving phase transformations and chemical reactions, utilizing CFD and DEM calculations. Our work includes thermo--chemical measurements of pyrolysis, combustion, and heat transfer phenomena. We design and analyse burners, synthetic fuel reactors, heat exchangers, and power systems for rocket engines.

### SEEKING FOR COLLABORATION WITHIN

particulate matter separation, syngas to liquids catalysis, surface reactions, combustion

### RELEVANT PROJECTS

ResMe2E

Associate Professor

## Paweł Flaszyński

CENTRE OF FLOW AND COMBUSTION / AERODYNAMICS DEPARTMENT

**INSTITUTE OF FLUID-FLOW MACHINERY, PAS**

DIVISION IV - ENGINEERING SCIENCES

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### EXPERTISE

Our Aerodynamics Department has participated in many EU projects in aviation (turbomachinery and drag reduction), UAV propulsion and wind energy (turbine blades, wake steering and wind farm interactions). The research is focused on flow structure, heat transfer, boundary layer transition and separation, shock wave boundary layer interaction, flow control and noise reduction. Flaszyński has coordinated the EU FP7 TFAST project and H2020-MSCA-ITN TEAMAero.

### SEEKING FOR COLLABORATION WITHIN

gas turbine, compressor, wind turbine, wind farm, flow control, heat transfer, aeroacoustics

### RELEVANT PROJECTS

H2020-MSCA-ITN TEAMAero

HORIZON-EIC-2023-PATHFINDEROPEN-01 BEALIVE

H2020-MG-2016-2017 SMS

H2020-MSCA-ITN zEPHYR

MSc. Eng.

## Sebastian Bykuć

CENTRE OF HEAT AND POWER ENGINEERING / DEPARTMENT OF DISTRIBUTED ENERGY AND RES / KEZO RESEARCH CENTRE

**INSTITUTE OF FLUID-FLOW MACHINERY, PAS**

DIVISION IV - ENGINEERING SCIENCES

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### EXPERTISE

The team has experience with planning, modelling and management of energy systems (EnergyPro, EnergyPLAN; TRNSYS, PVsyst, Simulink), with analysis of heat/electricity demand in cities and municipalities using limited data (GIS tools, fuzzy analysis), integration of RES, EV and energy storage systems (real world demonstrators), and with aspects such as energy sector coupling, PV, wind turbines, heatpumps, CHP testing, heat and electricity storage testing, CFD analysis (Ansys), V2G technologies.

### SEEKING FOR COLLABORATION WITHIN

energy communities, V2X, spatial analysis, fuzzy processing, decarbonization of heating, RES integration

### RELEVANT PROJECTS

SERENE

SUSTENANCE

HYPERGRYD

LOCALISED

V4Grid

PhD, DSc, Eng.
Adam Dębski
LABORATORY OF METALLURGICAL PROCESSES

INSTITUTE OF METALLURGY AND MATERIALS SCIENCE, PAS
DIVISION IV - ENGINEERING SCIENCES
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## EXPERTISE

Our scientific interests focus on the thermodynamic and physicochemical properties of materials for energy and hydrogen storage. Especially, we are interested in the thermodynamic properties of magnesium alloys and their ability to interact with hydrogen. We conduct calorimetric studies of the formation enthalpy of intermetallic phases and the mixing enthalpy change of liquid, which we use to calculate of phase diagrams.

## SEEKING FOR COLLABORATION WITHIN

metals and alloys, thermodynamic properties, materials for hydrogen storage in the solid phase

## RELEVANT PROJECTS

NCN/NCBR

PhD, DSc
Kazimierz Drabczyk
PHOTOVOLTAIC LABORATORY

INSTITUTE OF FLUID-FLOW MACHINERY, PAS
DIVISION IV - ENGINEERING SCIENCES
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## EXPERTISE

Our ILAC-accredited Photovoltaic Laboratory focuses on diagnostics of PV modules and solar cells and researching technological processes used in the photovoltaic industry. Research on module manufacturing technologies focuses on new materials for encapsulation, luminescent concentrators, and glassless PV modules for BIPV. We also study materials and processes for tandem solar cells.

## SEEKING FOR COLLABORATION WITHIN

luminescent solar concentrators, tandem solar cells, determining PV modules' I-V characteristics

## RELEVANT PROJECTS

IN-LINE

WOLTER

EPF

PV innovations

Professor
Anna Wysocka
DEPOSITIONAL SYSTEMS RESEARCH GROUP (DEPOS)

INSTITUTE OF GEOLOGICAL SCIENCES, PAS
DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
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## EXPERTISE

DEPOS conducts research on depositional systems from various perspectives and on various scales: from understanding the origin of sedimentary rocks, their depositional environment, paleoenvironmental and paleoclimatic conditions, and subsequent transformations, to reconstructing the provenance of clastic material, analyzing sedimentary basins, and recognizing the architecture of depositional systems. We use both classical and modern interdisciplinary research combining sedimentology with petrographic, mineralogical, and geochemical methods.

## SEEKING FOR COLLABORATION WITHIN

analysis of sedimentary basins, provenance of clastic material, bioturbation, diagenesis

## RELEVANT PROJECTS

NCN no. 2018/29/N/ST10/02028

NCN no. 2024/53/B/ST10/03806

NCN no. 2024/53/B/ST10/03806

Professor

## Edyta Zawisza

EVIRONMENTAL CHANGE - CLIMATE AND HUMAN (PALEO)

**INSTITUTE OF GEOLOGICAL SCIENCES, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES

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## EXPERTISE

The PALEO research group conducts studies focusing on the environmental changes, evoked by natural factors such climate changes as well as human presence and activity. The studies concern on the processes and phenomena occurring in the last several hundred thousand years (during the Quaternary period). The environmental reconstructions are based on the multi-proxy analyses of lake, peat bog and cave sediments, using the biological (pollen, diatoms, cladocerans, vertebrates, macrofossils) and geochemical (organic matter, stable isotopes) methods as well the archaeological data.

## SEEKING FOR COLLABORATION WITHIN

environmental changes, diatomological and palynological analysis, geochemical and isotopic sediment analyses

## RELEVANT PROJECTS

NCN no. 2023/49/B/ST10/03175

NCN no. 2021/43/B/HS3/02636

NCN Minitura no. 2021/05/X/ST10/00774

NCN Miniatura no. 2017/01/X/ST10/01216

NCN no. 2012/05/B/ST10/00469

# Cluster 6

## Food, Bioeconomy, Natural Resources, Agriculture and Environment

This cluster aims at reducing environmental degradation, halting and reversing the decline of biodiversity on land, inland waters and sea and better managing natural resources through transformative changes of the economy and society in both urban and rural areas.

It will ensure food and nutrition security for all within planetary boundaries through knowledge, innovation and digitalisation in agriculture, fisheries, aquaculture and food systems and steer and accelerate the transition to a low carbon, resource efficient circular economy and sustainable bioeconomy, including forestry.

### AREAS OF INTERVENTION

- environmental observation
- biodiversity and natural resources
- agriculture, forestry and rural areas
- seas, oceans and inland waters
- food systems
- bio-based innovation systems in the EU's bioeconomy
- circular systems

*Source: Cluster 6*

PhD, DSc
## Oskar Kowalewski
RESEARCH LABORATORY OF ADVANCED STUDIES

**INSTITUTE OF ECONOMICS, PAS**
DIVISION I - HUMANITIES AND SOCIAL SCIENCES
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### EXPERTISE

Our laboratory is focused on research in the field of finance, in particular in the fields of corporate governance, banking, and new technologies (fin-tech). In the last area, the subject of study is the impact of innovation on the activities of financial intermediaries. The research carried out by the team is also interdisciplinary in nature, combining elements of finance, in particular banking, with agro-economics, and analyzes of the impact of climate change on the financial sector.

### SEEKING FOR COLLABORATION WITHIN

finance, corporate governance, fintech, climate finance, agro-economics

### RELEVANT PROJECTS

FINEXCA
Drought

PhD, DSc
## Krzysztof Niedziałkowski
ENVIRONMENTAL SOCIOLOGY LAB

**INSTITUTE OF PHILOSOPHY AND SOCIOLOGY, PAS**
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### EXPERTISE

Our laboratory is focused on the sociological and political analyses of the interactions between society and the environment. In particular, we are interested in the development of environmental governance and policies over time and the impact of human agency, social structures, culture, and environmental changes on the institutions regulating socio-ecological systems. We work on such policy areas as biodiversity conservation, forest policy, land use planning, and climate policy.

### SEEKING FOR COLLABORATION WITHIN

environmental policy and governance, biodiversity, water, food, energy, climate nexus

### RELEVANT PROJECTS

LEARNFORCLIMATE
LINKAGE
Max Planck Society funded project
NCN/OPUS

PhD, DSc
## Katarzyna Zawalińska
LABORATORY OF ECONOMIC MODELLING

**INSTITUTE OF RURAL AND AGRICULTURAL DEVELOPMENT, PAS**
DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
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### EXPERTISE

The laboratory is focused on research and evaluation of policy instruments aimed at performance of farming systems and delivery of their functions. In particular, we are interested in resilience and sustainability of farming and seek to support its thrive towards ecologisation, climate-neutrality and environmental friendliness. In our research we employ both quan-titative and qualitative approaches within economic, social, environmental and institutional dimensions.

### SEEKING FOR COLLABORATION WITHIN

agriculture, resilience, sustainability, food production, farming practices, policy evaluation

### RELEVANT PROJECTS

SURE-Farm
LIFT
BioMonitor4CAP
SoilValues

PhD, DSc
## Paweł Chmieliński
LABORATORY ON SUSTAINABLE EUROPEAN FOOD SYSTEMS

INSTITUTE OF RURAL AND AGRICULTURAL DEVELOPMENT, PAS
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### EXPERTISE

The team is focused on studying local and regional food systems, as well as small to medium sized farms. We mobilize data, research, and university resources to advocate for more sustainable, equitable food systems. We explore how food systems interact with public health, economics, society, and the environment and convene and connect researchers, community partners, food system stakeholders and consumers to mobilize for societal change.

### SEEKING FOR COLLABORATION WITHIN

sustainable food systems, agriculture, public policy, governance, research and innovation, CEECs

### RELEVANT PROJECTS

FoodPathS

BIOEASTsUP

PhD
## Anna Rosa
RESEARCH TEAM ON REGENERATIVE AGRICULTURE

INSTITUTE OF RURAL AND AGRICULTURAL DEVELOPMENT, PAS
DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
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### EXPERTISE

The team focuses on disseminating the idea of sustainable farming systems (regenerative agriculture) encompassing both productive, economic, and, social aspects. Our research considers all of them. Trends related to environmental protection and respect for the climate force agriculture to conduct production using the latest technologies, minimisation of mineral fertilisation and pesticide use, reduction of energy consumption in production, and maintaining the transparency of operations.

### SEEKING FOR COLLABORATION WITHIN

regenerative agriculture, biologization, sustainable development, adaptability to climate change

### RELEVANT PROJECTS

Biologization

PhD, DSc
## Edyta Kiedrzyńska
RESEARCH TEAM: WASTEWATER PURIFICATION

EUROPEAN REGIONAL CENTRE FOR ECOHYDROLOGY, PAS
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### EXPERTISE

The main focus of our research is on quantifying the transfer of nutrients, xenobiotics, and pharmaceutics along the river continuum from source to estuary, evaluating the influence of Wastewater Treatment Plants (WWTPs) on the eutrophication and contamination of rivers and the Baltic Sea, and developing innovative Nature-Based Solutions for enhancing the efficiency of small and medium-sized WWTPs.

### SEEKING FOR COLLABORATION WITHIN

WWTP, P, N, xenobiotics, pharmaceuticals, ecohydrology, nature-based solutions

### RELEVANT PROJECTS

NEURON

FARMIKRO

AZOSTOP

PhD, DSc
Katarzyna Izydorczyk
RESEARCH TEAM: WATER MANAGEMENT IN AGRICULTURE BASIN

EUROPEAN REGIONAL CENTRE FOR ECOHYDROLOGY, PAS
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## EXPERTISE

The main study area of our team is the holistic approach to water management in agricultural landscapes, with a special emphasis on developing Nature-Based Solutions for reducing non-point source pollution output into the water catchment, and creating means for local cooperation between landowners, farmers, and authorities. Our research and networking also serve to develop, test, assess, and implement Nature-Based Solutions on local and regional scale.

## SEEKING FOR COLLABORATION WITHIN

agriculture landscape, non-point source pollutions, nitrogen, phosphorus, land/water ecotones

## RELEVANT PROJECTS

EKOROB
WATERDRIVE
RECONECT

Professor
Joanna Mankiewicz-Boczek
LABORATORY OF MOLECULAR ECOHYDROLOGY

EUROPEAN REGIONAL CENTRE FOR ECOHYDROLOGY, PAS
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## EXPERTISE

Our Lab is focused on gaining knowledge about the diversity and role of microorganisms in both the cycling of N and P and the interaction of micro-organisms in aquatic ecosystems in order to better understand their interrelationships, and consequently the benefits as well as the threat to the environment. We are in- terested in interactions between microorganisms associated with toxic cyanobacterial blooms, in terms of both threat management and searching for bio-technological solutions involving microorganisms.

## SEEKING FOR COLLABORATION WITHIN

microorganisms, toxic cyanobacterial harmful algal bloom, genetic tools, environment, ecohydrology

## RELEVANT PROJECTS

ALGICYDY
NCBR/TANGO
CYANOCOST

Professor
Magdalena Urbaniak
PLANT-BACTERIA PARTNERSHIP RESEARCH GROUP

EUROPEAN REGIONAL CENTRE FOR ECOHYDROLOGY, PAS
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## EXPERTISE

Our team is focused on investigating the plant–-bacteria partnership for the purposes of effective removal of xenobiotics (POPs, CECs) from the environment. In particular we are interested in elucidating the orchestrated net of interactions between bacteria, plants, and plant exudates and har-nessing these for the detoxification of soil and water. Our aim is to integrate phyto- and bioremediation (rhizobacteria- or endophyte-assisted phytoreme-diation) methods for xenobiotics removal.

## SEEKING FOR COLLABORATION WITHIN

bioremediation, phytoremediation, persistent organic pollutants, compounds of emerging concern

## RELEVANT PROJECTS

Ministry funded project
NCN funded project
CHEMFELLS4UCTP

PhD

## Kinga Krauze

RESEARCH TEAM: SOCIO-ECOHYDROLOGY AND ECOSYSTEM SERVICES

**EUROPEAN REGIONAL CENTRE FOR ECOHYDROLOGY, PAS**

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### EXPERTISE

Our laboratory is focused on social, economic, and ecological drivers of natural capital and water management issues, from the perspective of both resource quality and availability and people's conflicting needs (nexus) and attitudes. In particular, we are interested in long-term processes at the nature--human interface. We work on ecosystem services assessment, implementation of Nature-Based So- lutions in rural and urban areas, and biodiversity and risk assessment.

### SEEKING FOR COLLABORATION WITHIN

NBS, coupled human and nature systems (CHANS), water management, modelling

### RELEVANT PROJECTS

eLTER PPP

BioAgora

Eupolis

ATENAS

Assoc. Prof.

## Adam Jurgoński

BIOLOGICAL FUNCTION OF FOOD TEAM

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

A.JURGONSKI@PAN.OLSZTYN.PL

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### EXPERTISE

Elucidating the physiological and molecular mechanisms through which both well-known and novel dietary components influence gut function and metabolic health. The team conducts controlled feeding experiments using animal models of disorders characteristic of diet-related diseases. The research to date has focused on: • phenolic extracts and fiber–phenolic preparations, • prebiotic preparations and food additives, • unconventional sources of unsaturated fatty acids, • trace minerals in nanoparticle form.

### SEEKING FOR COLLABORATION WITHIN

preparation, chemical analysis, evaluation of the properties of novel food ingredients

### RELEVANT PROJECTS

NCN/OPUS

NCN/OPUS

NCN/SONATA

Assoc. Prof.

## Radosław Kowalski

AQUATIC ORGANISM REPRODUCTIVE BIOTECHNOLOGY TEAM

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

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### EXPERTISE

The research interests focus broadly on the reproduction of aquatic organisms and its support under controlled conditions. This includes understanding physiological and biochemical mechanisms underlying gamete function, as well as developing and optimizing methods that enhance reproductive success in both experimental and applied contexts, including aquaculture and conservation programs. Specific expertise: sperm motility and kinematic analysis, seminal plasma biochemistry and functional biomarkers, sperm cryopreservation and long-term storage of genetic resources.

### SEEKING FOR COLLABORATION WITHIN

genetic and genomic analyses, molecular data, reproductive processes

### RELEVANT PROJECTS

Salmocross

Professor
## Izabela Wocławek-Potocka
EMBRYO BIOLOGY TEAM

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

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### EXPERTISE

We research advanced reproductive biotechnology in cattle, focusing on pre-implantation embryo development and oocyte quality markers to assess embryo viability. Our core method is in vitro embryo production (IVP), supporting micromanipulation, gene expression analysis, immunofluorescence, embryo culture, cryopreservation, and transfer. We study oocytes collected post-mortem and in vivo (OPU) from mature and immature animals, including young cattle to accelerate genetic progress. Our findings are translated into practical field applications for veterinarians and cattle breeders.

### SEEKING FOR COLLABORATION WITHIN

embryotransfer, in vitro embryo production, veterinary

### RELEVANT PROJECTS

NCN OPUS Lap
NCN OPUS
NCN OPUS

Professor
## Iwona Grabowska
BIOELECTROANALYTICS TEAM

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

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### EXPERTISE

Studying the interactions between biomolecules using electroanalytical methods to develop innovative analytical systems that can be applied in medicine, veterinary science, food analysis, and environmental protection. We are particularly interested in: • testing of antibodies, single-stranded nucleic acids (ssDNA, ssRNA), and aptamers as recognition element in electrochemical biosensors, • exploring new carbon or gold nanomaterials as transducer element in biosensors, • systems for targeted and controlled delivery of therapeutically significant compounds to cancer cells.

### SEEKING FOR COLLABORATION WITHIN

electrochemical biosensors, aptasensors, immunosensors, genosensors, biomarkers

### RELEVANT PROJECTS

ADEVASCO
NCN OPUS
NCN OPUS

Professor
## Jaroslaw Olav Horbańczuk
DEPARTMENT OF BIOTECHNOLOGY AND NUTRIGENOMICS

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

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### EXPERTISE

Our team is focused on improving food quality of animal origin in sustainable production systems with reference to bioactive components, nutrigenomics and biotechnology. We work on the genetic aspect of food quality improvement and the influence of feeding and housing systems on modifying the chemical composition and nutritive value of milk, meat, and eggs, with special reference to bioactive components.

### SEEKING FOR COLLABORATION WITHIN

nutrigenomics, epigenetics, biotechnology, food quality of animal origin

### RELEVANT PROJECTS

BIOFOOD
Centre of Excellence
Bio-Centre

PhD, DSc

## Joanna Marchewka

DEPARTMENT OF ANIMAL BEHAVIOR AND WELFARE

INSTITUTE OF GENETICS AND ANIMAL BIOTECHNOLOGY, PAS

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

J.MARCHEWKA@IGBZPAN.PL

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### EXPERTISE

Our team is focused on research in farm animal behavior, animal welfare and neurobiology. In particular, we are interested in assessing and improving animals' welfare through understanding of their needs and reactions to stressors. We work on developing animal welfare indicators, social bonds, activity and use of resources, as well as basic research on stress genetics and effects. We investigate animals reared in various production systems, from intensive to organic.

### SEEKING FOR COLLABORATION WITHIN

immunology, microbiome, nutrition, ITsolutions, data handling, economy of animal production & welfare

### RELEVANT PROJECTS

mEATquality

aWISH

Best Practice Hens

PhD, DSc

## Irene Camerlink

ANIMAL SOCIAL BEHAVIOR GROUP, DEPARTMENT OF ANIMAL BEHAVIOR AND WELFARE

INSTITUTE OF GENETICS AND ANIMAL BIOTECHNOLOGY, PAS

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

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### EXPERTISE

Our group focuses on animal social behavior, with studies dealing with animal cognition, social inter-actions, and physiology. The main study animal is the pig, as a versatile research model with rele-vance to human science and animal welfare. Our team members have backgrounds in ethology, ani-mal sciences, and evolutionary biology. Strong international collaboration, mainly with European countries, facilitate large-scale data collection and the use of novel techniques.

### SEEKING FOR COLLABORATION WITHIN

animal behavior, animal welfare, oxytocin, cognition, social behavior, ethology

### RELEVANT PROJECTS

aWISH

LIFT

NCN/OPUS20

FORMAS funded project

PhD, DSc

## Hiroaki Taniguchi

TEAM FOR GENOME EDITING AND TRANSCRIPTIONAL REGULATION/DEPARTMENT OF EXPERIMENTAL EMBRYOLOGY

INSTITUTE OF GENETICS AND ANIMAL BIOTECHNOLOGY, PAS

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

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### EXPERTISE

With expertise in the field of genome and molecular biology in humans and animals, our group is one of the very few laboratories in Poland that are uniquely positioned to make exciting new contributions to this field of study using CRISPR-mediated gene editing. Our research mission is to prove novel mechanisms in which genetic and epigenetic and transcriptional regulation play essential roles in regulating genetic diseases in animals using recent gene editing tools.

### SEEKING FOR COLLABORATION WITHIN

Cancer Biology, Neuronal Disease, Transcription Factors, Functional Annotation of Mammalian Genome

### RELEVANT PROJECTS

BOVREG

NCN/PRELUDIUMBIS

NCN/OPUS13

Professor
## Iwona Żur
GROUP OF MICROSPORE EMBRYOGENESIS

INSTITUTE OF PLANT PHYSIOLOGY, PAS

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
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### EXPERTISE

Our laboratory is focused on the mechanisms regulating the process of microspore embryogenesis (ME) in agronomically important plant species. In particular, we are interested in the physiological, molecular, and (epi)genetic background of the for-mation of embryo-like structures and their regeneration into haploid/doubled haploid plants. We seek to identify factors determining the efficiency of ME induction in both responsive (e.g. rapeseed, barley) and recalcitrant crops (e.g. rye).

### SEEKING FOR COLLABORATION WITHIN

cell death, gene/transcriptome regulation, gene editing, post-translational modification, signaling

### RELEVANT PROJECTS

NCN funded project
NCN funded project
NCN funded project

Professor
## Anna Janeczko
GROUP OF PLANT STRESS: STEROIDS

INSTITUTE OF PLANT PHYSIOLOGY, PAS

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### EXPERTISE

This laboratory is focused on: (1) uncovering the physiological function and metabolism of brassinosteroids in the context of the acclimation and deacclimation of crop plants in changing climate conditions; (2) studying the presence and physiological activity of mammalian steroid hormones and ecdysteroids (insect hormones) in plants.

### SEEKING FOR COLLABORATION WITHIN

climate changes & plant stress, crop plants, hormonal regulation, hormone crosstalk, photosynthesis

### RELEVANT PROJECTS

NCN funded project
NCN funded project
NCN funded project
NCN funded project

PhD, DSc
## Ilona Czyczyło-Mysza
GROUP OF PLANT STRESS: ROLE OF EPICUTICULAR WAX

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### EXPERTISE

The laboratory is focused on the role of the wax layer in rye resistance to drought stress, including its chemical composition and crystal morphology; to study the mechanisms of drought resistance, including physiological, biochemical, and genetic aspects; to characterize developmental, stage-dependent, physiological, biochemical and molecular characteristics of ears, stems, flag leaves, and grains during abiotic stress.

### SEEKING FOR COLLABORATION WITHIN

drought, gene expression, genetic mapping, phenotyping, photosynthesis, proteome, wax, yield

### RELEVANT PROJECTS

NCN/WaxyGen

Professor
## Ewa Niewiadomska
ABIOTIC STRESS RESEARCH: REDOX SIGNALS

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DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
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### EXPERTISE

Our aim is to elucidate the multi-level acclimation of plants' photosynthetic machinery to salinity and drought. This includes the structural and functional modifications of photosynthetic apparatus for efficient photochemical reactions (rearrangement of photosynthetic antennae, mechanism of switching between the linear and cyclic electron flows, updating of ROS production and scavenging, redox signaling from chloroplasts), as well as for optimal $CO_2$ fixation. We are also interested in redox-regulated modulation of primary and secondary metabolite production.

### SEEKING FOR COLLABORATION WITHIN

drought, photosynthesis, redox signaling, salinity, secondary metabolites

### RELEVANT PROJECTS

NCN/Miniatura

DAAD-MNiSW funded project

NCN funded project

NCN funded project

Professor
## Ireneusz Ślesak
CYANOBACTERIA AND ALGAE RESEARCH

INSTITUTE OF PLANT PHYSIOLOGY, PAS

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
I.SLESAK@IFR-PAN.EDU.PL
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### EXPERTISE

Our research group focuses on the metabolism of cyanobacteria and microalgae. We are interested in photosynthetic activity in response to selected abiotic stress factors, e.g. UV radiation and cosmic-ray components, and in possible inducers of the biosynthesis of nutrients/proteins in cyano-bacteria and algae. In addition, analyses using molecular phylogenetics are carried out to reveal the evolution of oxygenic photosynthesis in the early stages of the evolution of life on Earth.

### SEEKING FOR COLLABORATION WITHIN

abiotic stress, algae, cosmic rays, cyanobacteria, nutrients, oxygenic photosynthesis, UV radiation

### RELEVANT PROJECTS

Project

NCN/MINIATURA 5

PhD, DSc
## Ewa Surówka
ABIOTIC STRESS RESEARCH: HALOPHYTES AND GLYCOPHYTES IN AGRICULTURE AND BIOECONOMY

INSTITUTE OF PLANT PHYSIOLOGY, PAS

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
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### EXPERTISE

Our research focuses on halo-/glycophytes performing C3, C4, or CAM metabolism, including native and invasive species and crops. Our interests include: physiological, biochemical, and molecular resistance mechanisms and signal transduction at the plant, organ, and cellular levels under (a)biotic stresses (e.g. drought, salinity), the interaction of halo- and glycophytes – including in the root system, and the use of halophytes and in- vasive species in soil remediation (e.g. for agriculture) as well as in the bioeconomy.

### SEEKING FOR COLLABORATION WITHIN

arid & saline environment, bioactive compounds, genes, oxidative stress, photosynthesis, transcript

### RELEVANT PROJECTS

NCN funded project

NCN funded project

NCN funded project

NCN funded project

PhD
Łukasz Kajtoch
DEPARTMENT OF MOLECULAR BIODIVERSITY

INSTITUTE OF SYSTEMATICS AND EVOLUTION OF ANIMALS, PAS
DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
KAJTOCH@ISEZ.PAN.KRAKOW.PL
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## EXPERTISE

Our research is focused on the evolution and ecology of insects. In particular, we are interested in the use of molecular information for solving phylogenetic, population genetic, or ecological questions. We work on taxa that are of particular interest for reasons of a taxonomic (for systematic revisions, barcoding, delimitation, etc.), evolutionary (for speciation and hybridization studies), population genetic (for conservation or management) or ecological (e.g. interactions among organisms) nature.

## SEEKING FOR COLLABORATION WITHIN

barcoding, integrative taxonomy, molecular ecology, phylogenetics, population & conservation genetics

## RELEVANT PROJECTS

NCN/OPUS 22

PhD
Dawid Moroń
DEPARTMENT OF ECOLOGY

INSTITUTE OF SYSTEMATICS AND EVOLUTION OF ANIMALS, PAS
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## EXPERTISE

Our research strives to expand the comprehensive understanding of the impact of global change on the ecological processes affecting organisms living in the Anthropocene. Our team background includes pollinator ecology and related ecosystem services. The questions considered in our projects concern environmental factors acting at the level of organisms (such as stressors), communities (invasive species), the landscape (habitat fragmentation) and the globe (climate change).

## SEEKING FOR COLLABORATION WITHIN

bees, biological conservation, climate change, ecosystem services, farmland, landscape, pollination

## RELEVANT PROJECTS

NCN/OPUS 19

NCN/OPUS 21

Professor
Arkadiusz Derkowski
CLAY MINERALS RESEARCH GROUP

INSTITUTE OF GEOLOGICAL SCIENCES, PAS
DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
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## EXPERTISE

The ClayLab is one of few in the world and the only one in Poland laboratory fully equipped with all tools used to study clay minerals and other layered aluminosilicates. Experimental and analytical facilities are employed in pursuing questions in paleogeography, thermal transformations of clay minerals, and clean energy transition, including nuclear waste disposal, CO2 sequestration, natural H2 exploration. The team develops its own methodology to analyze qualitative and quantitative composition of sedimentary rocks and soils, and the properties of clay materials.

## SEEKING FOR COLLABORATION WITHIN

nuclear waste disposal, CO2 sequestration, natural H2 exploration, clay minerals, analysis of sedimentary rocks

## RELEVANT PROJECTS

NCN no. 2019/35/D/ST10/02814

NCN no. 2025/57/B/ST10/01022

NCN no. 2020/37/B/ST10/01697

NCN no. 2021/41/B/ST10/01951

DSc, Associate Professor

## Krzysztof Lamorski

DEPARTMENT OF METROLOGY AND MODELLING OF AGROPHYSICAL PROCESSES

**INSTITUTE OF AGROPHYSICS, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

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### EXPERTISE

Modeling of climate change adaptation measures; modeling of the soil transport processes and hydrological properties of soil; development of dielectric methods for soil and other material moisture measurement; data fusion procedures for soil moisture measurements (various temporal and spatial scales); studying the relationship between soil water status and the crop cover status /gas exchange; biophysical modeling for agricultural policy impact assessment (agent-based modeling).

### SEEKING FOR COLLABORATION WITHIN

climate change, biophysical modeling, agrophysical metrology, soil water status, modeling in soil hydrology

### RELEVANT PROJECTS

AGRICORE

MACSUR

SoilAqChar, Biostrateg III Project

PhD, DSc, Associate Professor

## Katarzyna Szewczuk-Karpisz

DEPARTMENT OF PHYSICAL CHEMISTRY OF POROUS MATERIALS

**INSTITUTE OF AGROPHYSICS, PAS**

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### EXPERTISE

The laboratory investigates the mechanisms of physicochemical phenomena occurring between solid (clay minerals, organic matter, etc.), liquid (soil solution) and gaseous phases of the soil. We explore interfacial phenomena occurring on the ‘nano’ and ‘micro’ scales to control and manage processes occurring on the ‘macro’ one, which determines proper soil functioning. Soil modification is carried out using safe additives to reduce its degradation, improve quality and decontamination.

### SEEKING FOR COLLABORATION WITHIN

soil remediation, soil modification, biochar, zeolite, biopolymer, hydrogel, contamination

### RELEVANT PROJECTS

SoilAqChar, Biostrateg III Project

BIOSTRATEG

NCN/OPUS21

NCN/SONATA17

PhD, DSc

## Anna Walkiewicz

DEPARTMENT OF NATURAL ENVIRONMENT BIOGEOCHEMISTRY

**INSTITUTE OF AGROPHYSICS, PAS**

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### EXPERTISE

Investigations of the water erosion of soil, especially first stages (splash erosion and soil surface deformation after raindrop impact). Aim: understand the physical aspects of erosion processes. Our developed instruments and infrastructure (among others set of high-speed cameras and a 3D surface scanner) allow testing the splash events on the leaves of various plants, solid and liquid surfaces. Based on isotopic measurements we are able to trac water origin.

### SEEKING FOR COLLABORATION WITHIN

soil water erosion modelling, measurement methods development, erosion prevention by novel materials

### RELEVANT PROJECTS

NCN/PRELUDIUM19

NCN/PRELUDIUM16

NCN/SONATA13

NCN/SONATABIS4

NCN/OPUS23

Professor, DSc
## Magdalena Frąc
DEPARTMENT OF SOIL AND PLANT SYSTEM

INSTITUTE OF AGROPHYSICS, PAS

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### EXPERTISE

The department is focused on research concerning microorganisms biodiversity and resilient plant. We are interested in soil quality indicators, microbial soil health markers and living labs concept. Our interests concern soil-plant-microbiome interactions inclusive biotic and abiotic stress factors. We conduct work on bioproduct, biofertilizers and biotechnological solutions for agro-ecology, including diagnostics, control and monitoring of pathogens in sustainable agriculture and horticulture.

### SEEKING FOR COLLABORATION WITHIN

antimicrobials; microbial diversity; one health; plant holobiont; soil-plant-microbiome interactions

### RELEVANT PROJECTS

LEGUMINOSE
SoilCare
iSQAPER
SPIN-FERT

PhD, Assistant Professor
## Szymon Swiezewski
LABORATORY OF SEEDS MOLECULAR BIOLOGY

INSTITUTE OF BIOCHEMISTRY AND BIOPHYSICS, PAS

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
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### EXPERTISE

Our lab focuses on molecular seed biology. We investigate the expression regulation of a key seed dormancy regulator, DOG1, which we have shown to be regulated by several lncRNAs. Antisense 1GOD suppresses dormancy by inhibiting DOG1 expression, while DOG1 antisense is itself negatively regulated by ABA and DOG1 alternative polyA site selection. PUPPIES are sense lncRNAs that, in response to salt, activate DOG1 expression, delaying germination. PUPPIES activate DOG1 expression by enhancing Pol II pausing.

### SEEKING FOR COLLABORATION WITHIN

seed molecular biology, transcription and posttranscriptional gene expression regulation in plants

### RELEVANT PROJECTS

OPUS 25
HOMING
TEAM
NCN/SONATABIS8

PhD
## Marcin Pietras
DEPARTMENT OF BIOGEOGRAPHY AND SYSTEMATICS

INSTITUTE OF DENDROLOGY, PAS

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### EXPERTISE

Our Department is interested in taxonomy, systematics and biogeography of woody plants and fungi. We use classical taxonomy-based approaches, integrated with well-tested molecular methods (e.g. metabarcoding and population genetics), and also carry out species distribution modeling. We are focused on plant micromorphology, taxonomy and systematics of Rosaceae taxa, dioecious plants, genetic and functional structure of woody plants, and the distribution and ecology of invasive trees and fungi.

### SEEKING FOR COLLABORATION WITHIN

seed biology, cryopreservation, redox regulation, chloroplast biogenesis, mitochondrial function

### RELEVANT PROJECTS

Projects

Professor
## Andrzej M. Jagodziński
DEPARTMENT OF ECOLOGY

INSTITUTE OF DENDROLOGY, PAS

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
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### EXPERTISE

Our research covers (1) the ecological and ecophysiological mechanisms of woody plant responses to abiotic, biotic, and anthropogenic factors, (2) the structure and functions of plant organs and their impact on the functioning of forest ecosystems in different climatic zones (including functional ecology), and (3) modelling of natural processes in forest ecosystems. We also investigate the effects of forest management practices and conservation strategies on various ecosystems.

### SEEKING FOR COLLABORATION WITHIN

forest management, nature conservation, novel ecosystems, tree biology, ecosystem functioning

### RELEVANT PROJECTS

Projects

PhD
## Emilia Pers-Kamczyc
DEPARTMENT OF GENETICS AND ENVIRONMENTAL INTERACTIONS

INSTITUTE OF DENDROLOGY, PAS

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
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### EXPERTISE

Our team has experience in assessing the genetic variability of the phenotypic traits and local adaptation of economically important woody plant species, in searching for new genetic markers for breeding and genomic selection of forest trees, in assessing the genetic diversity of local populations, and in species restoration. We also study the molecular mechanisms underlying how plants and their reproductive traits respond to environmental conditions, phytoremediation, N deposition, and climate change.

### SEEKING FOR COLLABORATION WITHIN

genetic adaptation, genomic selection, seed germination, OMICs, phytoremediation, abiotic stress

### RELEVANT PROJECTS

Projects

PhD
## Tomasz Leski
DEPARTMENT OF SYMBIOTIC ASSOCIATIONS

INSTITUTE OF DENDROLOGY, PAS

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
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### EXPERTISE

Our team studies the diversity and functioning of ectomycorrhizal and arbuscular fungal communities. The factors that shape these communities are investigated, including tree species and genotype, forest community type, pollution, alien and invasive tree species, and nature conservation strategies. Our research also includes the study of fungal and soil microbial biomass and the interactions between woody plants and herbivorous insects.

### SEEKING FOR COLLABORATION WITHIN

fungi, mycorrhiza, diversity, forest ecosystems, fungal biomass, soil microorganisms

### RELEVANT PROJECTS

Projects

PhD
## Ewelina Ratajczak
DEPARTMENT OF DEVELOPMENTAL BIOLOGY

**INSTITUTE OF DENDROLOGY, PAS**

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### EXPERTISE

Our research covers all stages of seed handling: collection, storage, dormancy breaking, germination, and quality testing. We focus on exceptional species requiring cryostorage and *in vitro* propagation. Our expertise includes investigating the role of redox regulation in seed viability, identifying key thioredoxin proteins, and Seahorse-based respiratory analysis. We investigate chloroplast biogenesis and metabolic changes that affect seed ageing and longevity.

### SEEKING FOR COLLABORATION WITHIN

seed biology, cryopreservation, redox regulation, chloroplast biogenesis, mitochondrial function

### RELEVANT PROJECTS

Projects

Professor
## Anna Wysocka
DEPOSITIONAL SYSTEMS RESEARCH GROUP (DEPOS)

**INSTITUTE OF GEOLOGICAL SCIENCES, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
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### EXPERTISE

DEPOS conducts research on depositional systems from various perspectives and on various scales: from understanding the origin of sedimentary rocks, their depositional environment, paleoenvironmental and paleoclimatic conditions, and subsequent transformations, to reconstructing the provenance of clastic material, analyzing sedimentary basins, and recognizing the architecture of depositional systems. We use both classical and modern interdisciplinary research combining sedimentology with petrographic, mineralogical, and geochemical methods.

### SEEKING FOR COLLABORATION WITHIN

analysis of sedimentary basins, provenance of clastic material, bioturbation, diagenesis

### RELEVANT PROJECTS

NCN no. 2018/29/N/ST10/02028

NCN no. 2024/53/B/ST10/03806

NCN no. 2024/53/B/ST10/03806

Professor
## Stanisław Mazur
DEPOSITIONAL SYSTEMS RESEARCH GROUP

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### EXPERTISE

We combine potential field geophysics with seismic and geological data for basic and applied studies. We are interested in tectonics, structural geology in relation to fold-and-thrust belts, sedimentary basins, and passive continental margins. We conduct research related to prospecting for critical raw materials and the geohazard impact on critical infrastructure. Our experience in geophysics and geology allows to create integrated geosystem models at various scales and levels of precision.

### SEEKING FOR COLLABORATION WITHIN

geophysics, critical raw materials prospection, tectonics, structural geology, seismology

### RELEVANT PROJECTS

Rifting mechanism of cratonic lithosphere

PhD, Associate Professor

## Piotr Krzywiec

SEISMIC INTERPRETATION AND BASIN ANALYSIS RESEARCH GROUP (SEISSED)

**INSTITUTE OF GEOLOGICAL SCIENCES, PAS**

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### EXPERTISE

Our research, mostly based on seismic reflection data, is focused on regional analysis of sedimentary basins, structure and evolution of fold-and-thrust belts, on salt tectonics, and on interplay of tectonic and sedimentary processes. We combine interpretation of seismic data (Kingdom Suite) with seismic forward modelling (Tesseral), cross-section balancing (MOVE) and basin modelling (BasinMod, Dionysos). We currently work on data from Poland, China, Australia, offshore E Africa and Gabon.

### SEEKING FOR COLLABORATION WITHIN

studies of fold-and-thrust belts and foreland basis, salt tectonics, carbonate buildups

PhD

## Magdalena Szechyńska-Hebda

PLANT BIOLOGY GROUP

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### EXPERTISE

Our research focuses on plant physiological and ecological responses to environmental stresses, with particular emphasis on climate change. We investigate stress signalling pathways and photosynthetic performance at multiple spatial and temporal scales, integrating satellite and remote sensing, thermal imaging and advanced hyperspectral methods with chlorophyll fluorescence and biochemical analyses. Our innovative tools for environmental monitoring contributes to the creation of smart biotechnological solutions.

### SEEKING FOR COLLABORATION WITHIN

biochemistry, biophysics, AI-based solutions, biotechnological applications, system biology

### RELEVANT PROJECTS

COUTECH

COOLCITY

PhD

## Paweł Kapusta

FUNCTIONAL AND EVOLUTIONARY ECOLOGY GROUP

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### EXPERTISE

Our research group aims to explain the relationships between organisms and the environment, and their evolutionary factors and effects. Specifically, we focus on understanding the importance of plant-animal interactions for ecosystem functioning and the plant-soil biota feedback under environmental stresses, such as biological invasions, pollution, and climate change. We also study the spatial aspects of ecological processes and assess environmental quality using bioindicators.

### SEEKING FOR COLLABORATION WITHIN

biodiversity, soil microbes, invasive plants, heavy--metal pollution, plant-animal interactions

### RELEVANT PROJECTS

NCN/OPUS

NCN/PRELUDIUM

NCN/OPUS

NCN/SONATA

PhD
Adam Flakus
BIODIVERSITY AND EVOLUTION GROUP

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## EXPERTISE

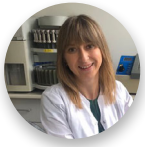
Our team studies the evolution of symbiotic fungal systems in biodiversity hotspots, focusing on molecular phylogeny, climate change, adaptive processes, and systematics of lichen-forming fungi in the tropical Andes. We employ environmental studies, high-throughput sequencing, and bioinformatics, exploring fungi co-occurrence, evolution, host specificity, and biogeography.

## SEEKING FOR COLLABORATION WITHIN

lichenology, mycology, molecular biology, biodiversity, evolution, taxonomy, tropics, climate change

## RELEVANT PROJECTS

NCN/PRELUDIUM
NCN/OPUS
NCN/OPUS
NCN/OPUS



PhD
Małgorzata Stanek
LABORATORY OF ECOCHEMISTRY AND ENVIRONMENTAL ENGINEERING

W. SZAFER INSTITUTE OF BOTANY, PAS
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## EXPERTISE

We specialize in researching plant invasion and soil pollution, particularly soil interactions with plants and microbial communities. We study secondary metabolites in plants, allelopathic properties, and their roles in habitat decomposition and revitalization, using both classical and advanced analytical methods (GC-MS, NGS).

## SEEKING FOR COLLABORATION WITHIN

invasive plants, heavy metals, ecosystems, secondary metabolites, plant-soil-microbe interactions

## RELEVANT PROJECTS

IMPAWOS
QRUBRA
ToBeLawn
INVASION

PhD
Michał Adamski
FUNCTIONAL AND EVOLUTIONARY ECOLOGY GROUP

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## EXPERTISE

Our research investigates bioactive compounds synthesized by algae and cyanobacteria, focusing on cyanotoxins, their decomposition, and their impact on cells of living organisms. We explore ecological relationships between microorganisms and aquatic plants, with a focus on phytoremediation and antioxidants.

## SEEKING FOR COLLABORATION WITHIN

harmful algal blooms, cyanotoxins, antioxidant systems, phytoremediation, aquatic microorganisms

## RELEVANT PROJECTS

ExtrAlgae
NCN/OPUS

PhD
Aleksandra Biedrzycka
DEPARTMENT OF WILDLIFE CONSERVATION

INSTITUTE OF NATURE CONSERVATION, PAS
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BIEDRZYCKA@IOP.KRAKOW.PL
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## EXPERTISE

The genetic diversity of endangered species, the impact of climate and environmental change on genetic diversity, the genetics of species invasions. Novel genomic methods in studying natural selection and species resilience. The genomics of host-parasite interactions. Applying genomic methods to inform conservation policy. Using the genetic metabarcoding approach to study biodiversity and host-parasite relationships.

## SEEKING FOR COLLABORATION WITHIN

invasion genomics, conservation genomics, metabarcoding of environmental samples

## RELEVANT PROJECTS

NCN 2020
NCN 2014
NN304017240
POMOST

PhD
Magdalena Lenda
ECOLOGY OF AGRICULTURAL LANDSCAPE AND FOOD PRODUCTION

INSTITUTE OF NATURE CONSERVATION, PAS
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## EXPERTISE

My expertise as team leader is in community ecology, with a focus on the ecological impacts of biological invasions. I have worked with a variety of organisms, ranging from plant to insect pollinators to bird communities. My current research emphasis is on using social science research methods to gain a better understanding of how humans influence nature, both to gain a better understanding of the mechanisms and to develop better strategies to improve nature conservation.

## SEEKING FOR COLLABORATION WITHIN

ecology, botany, ornithology, behavioural ecology, environmental psychology, iEcology

## RELEVANT PROJECTS

2021/43/D/NZ9/02990

PhD
Agnieszka Bednarska
DEPARTMENT OF BIODIVERSITY

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## EXPERTISE

I specialize in ecotoxicology, mainly being interested in the effects of stressors (including, but not limited to pesticides) and their interactions on life history traits and physiology of invertebrates (including insect pollinators), and their consequences for population levels and biodiversity. Our team has expertise in acute bioassays and chronic tests, using different exposure routes and both laboratory- and field-based studies.

## SEEKING FOR COLLABORATION WITHIN

ecotoxicology, landscape ecology, pollinators, pesticides, TK modelling, agriculture

## RELEVANT PROJECTS

PollinERA
EcoStack

PhD
## Wojciech Solarz
RESEARCH TEAM - BIOLOGICAL INVASIONS

**INSTITUTE OF NATURE CONSERVATION, PAS**

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SOLARZ@IOP.KRAKOW.PL
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### EXPERTISE

The causes and consequences of biological invasions and practical solutions to mitigate this problem. The socio-economic background of human attitudes towards invasive alien species. The role of climate change in escalating the problem. The complexity of existing social networks in natural resources management (i.e. protected vs invasive alien species). Legal aspects of invasive and alien species management. Support for national and local authorities regarding biological invasions management.

### SEEKING FOR COLLABORATION WITHIN

alien species, biological invasions, social-ecological systems, conservation social science

### RELEVANT PROJECTS

IAS/EcoSystemCARE
NCN 2017/26/D/HS6/00850
PL12-0049 LINKAGE

PhD
## Maciej Liro
LABORATORY OF MACROPLASTIC POLLUTION/DEPARTMENT OF GEOCONSERVATION

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### EXPERTISE

Our laboratory investigates the critical issue of macroplastic pollution in mountain rivers and Arctic regions, focusing on the processes of macroplastic delivery, deposition, and fragmentation. Through advanced fieldwork and experiments, we explore how rivers transport, store, and break down macroplastic. Specializing in physical geography and fluvial geomorphology, we aim to develop theories and methodologies that advance scientific understanding of plastic pollution.

### SEEKING FOR COLLABORATION WITHIN

macroplastic fragmentation, degradation & storage, secondary microplastic formation, rivers

### RELEVANT PROJECTS

Macroplastic storage
The role of woody debris

PhD, DSc
## Magdalena Niedziałkowska
MOLECULAR BIOGEOGRAPHY TEAM

**MAMMAL RESEARCH INSTITUTE, PAS**

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### EXPERTISE

Our study focuses on the molecular biogeography and ecology of mammals, particularly ungulates and carnivores. We investigate the genetic diversity and phylogeographic patterns of these species at both regional and continental scales, analysing samples dating back 50,000 years. Our research also examines how factors like climatic oscillations influence population genetics, phylogenetic patterns, and the ecology of Eurasian mammals across various temporal and spatial scales.

### SEEKING FOR COLLABORATION WITHIN

biogeography, population genomics, landscape genetics, ecology, GIS analyses, stable isotopes

### RELEVANT PROJECTS

NCN/OPUS15
NCN/OPUS6
SPUB-BIOGEAST

PhD, DSc

## Dries Kuijper

KUIJPER'S LAB

**MAMMAL RESEARCH INSTITUTE, PAS**

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### EXPERTISE

Our research examines trophic cascades in temperate ecosystems, focusing on large carnivores' effects on prey behaviour and distribution, as well as subsequent impacts on vegetation. We explore how wolves influence meso-carnivore behaviour and structure, integrating the effects of human interactions. Primary research is conducted in the Białowieża Forest, and as wolves recolonize Europe, we investigate human-induced modifications to their ecological impacts.

### SEEKING FOR COLLABORATION WITHIN

predator-prey interaction, wolf, human-wildlife interaction, trophic cascades, herbivore-plant interaction

### RELEVANT PROJECTS

BIG_PICTURE

DISTANCE

INTACT

NCN funded project

PhD, DSc

## Michał Żmihorski

ŻMIHORSKI'S LAB

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### EXPERTISE

Our research examines spatial and temporal biodiversity patterns, seeking to understand the mechanisms driving population dynamics and declines in species of conservation concern. We aim to develop effective wildlife management strategies and conservation measures, asking questions like: What management approach benefits threatened mammals, birds, or insects the most? When and where should conservation actions be applied? Are conservation measures like agri-environment schemes or organic farming truly effective?

### SEEKING FOR COLLABORATION WITHIN

biological conservation, forest management, ecology, applied ecology, biostatistics

### RELEVANT PROJECTS

NCN funded project

NCN funded project

PhD

## Magdalena Moskal-del Hoyo

PALAEOBOTANY AND PALAEOENVIRONMENT GROUP

**W. SZAFER INSTITUTE OF BOTANY, PAS**

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### EXPERTISE

Our research focuses on understanding vegetation development in the context of long-term climate shifts, from the Mesozoic to the Holocene. We use fossil plant and fungal remnants from natural and archaeological sites to reconstruct historical flora diversity and study plant-environment interactions and adaptation mechanisms to microclimatic changes.

### SEEKING FOR COLLABORATION WITHIN

palaeobotany, archaeobotany, systematics, taxonomy, palaeoenvironment, vegetation reconstruction

### RELEVANT PROJECTS

NCN/SONATABIS

NCN/OPUS

NCN/OPUS

NCN/OPUS

PhD, DSc

## Maciej Szaleniec

JOINT LABORATORY OF BIOTECHNOLOGY AND ENZYME CATALYSIS

**INSTITUTE OF CATALYSIS AND SURFACE CHEMISTRY, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES

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### EXPERTISE

Our laboratory is focused on studying enzyme catalysis. We are interested in basic research on reaction mechanisms as well as development of novel biocatalytic methods for industrial appli-cations.We work on enzymes catalyzing the synthesis of al- cohols (alcohol dehydrogenases, molybdenum hydroxylases), the introduction of double bonds in a steroid core (3-ketosteroid dehydrogenases), the formation of C–C bonds and oxidation of aldehydes/reduction of carboxylic acids (tungsten aldehy-de oxidoreductases).

### SEEKING FOR COLLABORATION WITHIN

directed evolution of enzymes, rational-based engineering of enzymes, cascade systems

### RELEVANT PROJECTS

FAEREACTION

Project

PhD, DSc

## Maciej Guzik

BIOPROCESS DEVELOPMENT LABORATORY

**INSTITUTE OF CATALYSIS AND SURFACE CHEMISTRY, PAS**

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### EXPERTISE

Our research interests are closely related to a group of bacterial polymers – polyhydroxyalkanoates (PHA). In our research we focus on understanding the processes by which these polymers are produced by microorganisms from various renewable carbon sources. Within our Laboratory, we focus on the search for applications for these polymers. Parallel research concerns PHA monomers; here we develop of a range of new and unique chemical compounds.

### SEEKING FOR COLLABORATION WITHIN

bioprocess development, industrial microbiology, chemistry, medicine

### RELEVANT PROJECTS

TMS

FunBioMed

Professor

## Ksenia Pazdro

MARINE CHEMISTRY & BIOCHEMISTRY DEPARTMENT

**INSTITUTE OF OCEANOLOGY, PAS**

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### EXPERTISE

The Marine Chemistry and Biochemistry Department investigates the following topics in marine eco-systems (the Baltic Sea and Arctic): heavy metals, radionuclides, cycling of organic emerging con-taminants (Marine Geotoxicology Laboratory), C, N, P, O cycling (Marine Biogeochemistry Labo-ratory), mercury cycling, dumped munitions and wrecks containing hazardous materials, sediment/water interface fluxes of pollutants (Laboratory of Contemporary Threats to Marine Ecosystems), and biochemical processes (Marine Biochemistry Laboratory).

### SEEKING FOR COLLABORATION WITHIN

pollutants, environmental impact, marine $CO_2$ system, ocean acidification, Mercury, dumped munition, wrecks

### RELEVANT PROJECTS

CHEMSEA

DAIMON

CONTRA

AMMOTRACE

Professor
## Maria Włodarska-Kowalczuk
MARINE ECOLOGY DEPARTMENT

INSTITUTE OF OCEANOLOGY, PAS

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MARIA@IOPAN.PL
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### EXPERTISE

The Department of Marine Ecology focuses on marine diversity and ecosystem function. We are a diverse group with expertise in marine protists, zooplankton, benthic vegetation, and invertebrates. We work in a wide range of marine habitats, including the sea-ice/water interface, water column, sandy beaches and rocky coasts, underwater meadows, and marine sediments from coastal waters to abyssal depths, with a geographical focus on temperate and polar regions.

### SEEKING FOR COLLABORATION WITHIN

marine ecology, biodiversity, productivity, blue carbon, plankton, benthos, Arctic, Baltic Sea

### RELEVANT PROJECTS

MARBEFES
CoastCarb
ECOTIP
ARICE

Professor
## Mirosław Darecki
MARINE PHYSICS DEPARTMENT

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### EXPERTISE

The main research areas are marine optics, bio-optics, remote sensing, and acoustics. We have expertise in conducting optical measurements and analyzing optical and remote sensing data in various marine environments, in developing optical methods for investigating biological and physical processes in the sea and remote sensing algorithms for retrieval of water constituents, and in devising hydroacoustic techniques for classifying benthic habitats, seabed morphometry, and biological organisms.

### SEEKING FOR COLLABORATION WITHIN

development of hydroacoustic classification techniques to monitor marine ecosystems and environment

### RELEVANT PROJECTS

DAIMON2
AMMOTRACe
ProBaNNt
BONUS OPTIMUS

Professor
## Artur Burzyński
GENETICS & MARINE BIOTECHNOLOGY DEPARTMENT

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### EXPERTISE

Our research tasks are focused on the biochemistry and genetics of marine organisms. We study the mole-cular mechanisms associated with adaptation to marine environment. Investigating the unique genetic features of model marine organisms, molecular biodiversity, and methods of marine environment pre-servation are our essential scientific goals.

### SEEKING FOR COLLABORATION WITHIN

marine biogeography, fish welfare, stress, mitochondrial genome evolution, antibiotic resistance genes

### RELEVANT PROJECTS

REDESCHILE
SKINSTRESS

PhD

## Agnieszka Gąszczak

LABORATORY OF BIOREACTORS AND BIOCATALYTIC PROCESSES

**INSTITUTE OF CHEMICAL ENGINEERING, PAS**

DIVISION IV - ENGINEERING SCIENCES

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### EXPERTISE

Our team is interested in green chemistry and bio-process technologies for ecological pollution management, particularly in the application of xeno-biotics biodegradation for environmental treat-ment. We are experienced in developing biological gas purification technologies. Our activities include both stoichiometric and kinetic tests as well as bioprocess modelling. We pay special attention to process opti-mization and creating a database necessary to design effective bioreactors.

### SEEKING FOR COLLABORATION WITHIN

biotechnology, biodegradation of organic compounds, air bio-purification

### RELEVANT PROJECTS

INTERACT

PhD, DSc

## Magdalena Jabłońska-Czapla

DEPARTMENT OF WASTE MANAGEMENT AND ENVIRONMENTAL ANALYZES

**INSTITUTE OF ENVIRONMENTAL ENGINEERING, PAS**

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MAGDALENA.CZAPLA@IPISPAN.EDU.PL

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### EXPERTISE

Our team is interested in environmental analytical chemistry, impact of antropogenic activity on trans-formations and mobility of various elements in the environment. We are particularly interested in me-tal(loid)s (e.g. As, Sb, Cr, Tl, Te, In, Ge) and their species in the water–soil–sediment environment, using ICP-OES, ICP-MS and HPLC-ICP-MS techniques. We are developing new methods for element speciation, fra-ctionation and we use it in environmental research.

### SEEKING FOR COLLABORATION WITHIN

environmental and material science, environmental analytical chemistry, electrowaste, photovoltaics

### RELEVANT PROJECTS

MOSPESIL

NCN funded project

Professor

## Tadeusz Magiera

DEPARTMENT OF ENVIRONMENTAL MAGNETISM AND RECLAMATION

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### EXPERTISE

Our laboratory is focused on the study of soil con-tamination, especially using geophysical methods (e.g. soil magnetometry in line with ISO 21226:2019) and practical implementation of “in situ” methods for the identification and precise location of contaminated areas, as well as the development of guidelines for reclamation and bioremediation of post-industrial areas. We also work on assessing the ecological qua-lity of biomass growing on contaminated soils, used for domestic heating.

### SEEKING FOR COLLABORATION WITHIN

soil deal for Europe, living labs & lighthouses, soil pollution monitoring & database development

### RELEVANT PROJECTS

IMPACT

NCN funded project

NCN funded project

NCN funded project

PhD
## Krzysztof Klejnowski
DEPARTMENT OF AIR PROTECTION
– POLLUTION IMMISSION TEAM

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### EXPERTISE

Our laboratory focuses on the study of the chemical composition of atmospheric aerosols. In particular, we are interested in the carbon fraction. We work on assessing the time-space variability of the chemical composition of atmospheric pollutants, the impact of selected types of source on the state of air quality, and the identification of emission sources based on the chemical profile of aerosols. We cooperate on the use of low-cost sensors to assess and monitor air quality.

### SEEKING FOR COLLABORATION WITHIN

aerosols, OC/EC & biomass burning markers analysis, measurement campaigns, low cost samplers

### RELEVANT PROJECTS

ACTRIS 2
ACTRIS
ACTRIS PL
NCN funded project

Professor
## Marzena Smol
DIVISION OF BIOGENIC RAW MATERIALS

**MINERAL AND ENERGY ECONOMY RESEARCH INSTITUTE, PAS**

DIVISION IV - ENGINEERING SCIENCES
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### EXPERTISE

Our division focuses on environmental management & engineering. We work on the recovery of raw materials from waste (e.g. phosphorus); fertilizers from waste; water in a circular economy & water footprint; water & wastewater treatment; the technological, legal, environmental & social aspects of biogenic raw material management; eutrophication; recommendations/roadmaps for sustainable & circular management of biogenic resources; education for a circular economy; stakeholders engagement (e.g. farmers).

### SEEKING FOR COLLABORATION WITHIN

nutrients recovery, wastewater, water reuse, circular economy, green deal, phosphorus; education

### RELEVANT PROJECTS

LEX4BIO
NOVAFERT
Doc-ECE
Water-CE-management

PhD
## Alicja Kot-Niewiadomska
DIVISION OF MINERAL POLICY

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### EXPERTISE

Our division is focused on the analysis of mineral resource management strategies in Poland, the EU, and worldwide, including trends in critical raw materials demand and supply. We are interested in the broadly understood mineral economy – from sources to end products – in the light of energy transformation and other global events. We work on the economic, environmental, social, and spatial possibilities of resource extraction from primary and secondary sources.

### SEEKING FOR COLLABORATION WITHIN

mineral economy, raw materials policy, mineral deposit safeguarding, environmental impact assessment

### RELEVANT PROJECTS

NCN/MINATURA2020
MinLand
ROBOMINERS

Associate Professor
## Adam Cenian
CENTRE OF PLASMA AND LASER ENGINEERING / DEPARTMENT OF PHYSICAL ASPECTS OF ECOENERGY

**INSTITUTE OF FLUID-FLOW MACHINERY, PAS**

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### EXPERTISE

Our team specializes in waste anaerobic digestion and pre-treatment methods, bioethanol production from lignocellulosic biomass, and the circular economy. Our expertise includes managing food, industrial and agro- waste, waste plastics. We also focus on biogas purification technologies, recovering nutrients from digestates, preparing fertilizers/soil amendments. Additionally, we verify agronomic effectiveness via glasshouse tests and agri-environmental modelling. Our work extends to microbial bioremediation of polluted soil and water, nano- and micro- aeration of wastewater.

### SEEKING FOR COLLABORATION WITHIN

microbial analyses of various bioprocesses and their products, socio-economic aspects of bioenergy

### RELEVANT PROJECTS

NURSECOAST-II
CiNURGi
BALTWRECK
WasteMan

PhD, DSc
## Krzysztof Grochla
INTERNET OF THINGS GROUP

**INSTITUTE OF THEORETICAL AND APPLIED INFORMATICS, PAS**

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### EXPERTISE

Internet of Things (IoT) research, with emphasis on wireless communication and network protocols. We design and analyze the performance of network protocols, address issues related to interoperability, and the semantic description of data and operation of IoT systems. We investigate auto-configuration, energy consumption minimization, and localization in embedded devices, especially in LP WAN and indoor localization using UWB and BLE AoA.

### SEEKING FOR COLLABORATION WITHIN

practical application of IoT, long-range low-power wireless communication and indoor positioning

### RELEVANT PROJECTS

Infrastructure Recovery
DOSS
Methodology

PhD
## Izabela Sabała
LABORATORY OF PROTEIN ENGINEERING

**MOSSAKOWSKI MEDICAL RESEARCH CENTRE, PAS**

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### EXPERTISE

We focus on developing novel antibacterials based on bacteriolytic enzymes to target antibiotic resistant pathogens, e.g. *Staphylococcus aureus, Streptococci, Enterococci, Pseudomonas aeruginosa, Klebsiella pneumoniae* and fungi. Each of our novel proteins is engineered to meet the requirements of future applications and tested as a preventive agent or potential drug to treat infectious diseases, e.g., chronic wounds, diabetic foot ulcers, atopic dermatitis, psoriasis, impedigo.

### SEEKING FOR COLLABORATION WITHIN

biological antimicrobials, antibiotic resistance, , OneHealth

### RELEVANT PROJECTS

Prev-Eco POLNOR19
SafeFoodCtrl POLNOR19

Professor
## Magdalena Zielińska
DEPARTMENT OF NEUROTOXICOLOGY

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### EXPERTISE

Our research focuses on the mechanisms underlying brain function in hyperammonemic encephalopathies (including rare diseases), anxiety, epilepsy, and metabolic disorders, as well as interorgan crosstalk with the liver and intestine. We combine cell biology, biochemical, and omics approaches with behavioural studies. We aim to decipher the role of the glutamine-glutamate cycle and oxidative stress in the pathobiology of gliomas, in search of therapeutic strategies in collaboration with clinicians and chemists.

### SEEKING FOR COLLABORATION WITHIN

hyperammonemic encephalopathies, anxiety, metabolic diseases, epilepsy, gliomas, anticancer drugs

### RELEVANT PROJECTS

HEPENTRANS EEA and Norway Grants
NCN/OPUS20,
NCN/OPUS15
NCN/OPUS21

Professor
## Edyta Zawisza
EVIRONMENTAL CHANGE - CLIMATE AND HUMAN (PALEO)

**INSTITUTE OF GEOLOGICAL SCIENCES, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
EZAWISZA@TWARDA.PAN.PL
+48 22 69 78 813

### EXPERTISE

The PALEO research group conducts studies focusing on the environmental changes, evoked by natural factors such climate changes as well as human presence and activity. The studies concern on the processes and phenomena occurring in the last several hundred thousand years (during the Quaternary period). The environmental reconstructions are based on the multi-proxy analyses of lake, peat bog and cave sediments, using the biological (pollen, diatoms, cladocerans, vertebrates, macrofossils) and geochemical (organic matter, stable isotopes) methods as well the archaeological data.

### SEEKING FOR COLLABORATION WITHIN

environmental changes, diatomological and palynological analysis, geochemical and isotopic sediment analyses

### RELEVANT PROJECTS

NCN no. 2023/49/B/ST10/03175
NCN no. 2021/43/B/HS3/02636
NCN Minitura no. 2021/05/X/ST10/00774
NCN Miniatura no. 2017/01/X/ST10/01216
NCN no. 2012/05/B/ST10/00469

Professor
## Jarosław Tyszka
BIOGEOSYSTEM MODELLING GROUP (BIOGEO)

**INSTITUTE OF GEOLOGICAL SCIENCES, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
J.TYSZKA@INGPAN.KRAKOW.PL
+48 12 422 19 10

### EXPERTISE

The BIOGEO interdisciplinary research team studies multiscale processes at the biosphere–geosphere interface, focusing on marine paleoenvironmental systems. Research spans spatial and temporal scales from molecular to global, aiming to reconstruct past environments and predict future ecosystem changes using a multiscale approach.The team combines *in fossilio*, *in vivo*, and *in silico* methods. Microfossils of *Dinoflagellata* and *Foraminifera* are used for biostratigraphy and reconstructions of palaeobathymetry, sea level, circulation, and temperature, salinity, and pH trends.

### SEEKING FOR COLLABORATION WITHIN

environmental modelling, marine environment reconstruction, palaeoclimate and palaeoceanography

### RELEVANT PROJECTS

NCN no. 2020/37/B/ST10/01953
NCN no. 2024/53/B/ST10/01311
NCN no. 2022/47/B/ST10/03020
NCN no. 2022/47/D/ST10/01103

# EIC/EIT

## The European Innovation Council (EIC) / The European Institute of Innovation and Technology (EIT)

The European Innovation Council (EIC) has been established under the EU Horizon Europe programme. It has a budget of €10.1 billion to support game changing innovations throughout the lifecycle from early stage research, to proof of concept, technology transfer, and the financing and scale up of start-ups and SMEs.

The European Institute of Innovation and Technology (EIT) supports the development of dynamic, long-term European partnerships among leading companies, research labs and higher education. These partnerships are called EIT Knowledge and Innovation Communities and each is dedicated to finding solutions to a specific global challenge, from climate change and sustainable energy to healthy living and food.

*Source: EIC & EIT*

PhD, DSc
## Anna Ujwary-Gil
LABORATORY OF PROCESS AND NETWORK ANALYSIS

**INSTITUTE OF ECONOMICS, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES

UJWARY@INEPAN.WAW.PL

+48 22 656 64 31

### EXPERTISE

Our Laboratory is at the forefront of exploring how inter-organizational networks, digital innovation hubs, and ecosystems drive sustainability, digital transformation, and innovative business models in the digital era. We excel in utilizing advanced social network analysis techniques within the dynamic digital economy and sustainability landscape. Our research is dedicated to examining economic ecosystems such as industry clusters, innovation networks, and food cooperatives from network structure and relational perspectives.

### SEEKING FOR COLLABORATION WITHIN

sustainability, digital transformation, digital innovation hubs, industry clusters, social network analysis

### RELEVANT PROJECTS

REINVENT

REV4.0

Professor
## Marek Figlerowicz
DEPARTMENT OF MOLECULAR AND SYSTEMS BIOLOGY

**INSTITUTE OF BIOORGANIC CHEMISTRY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

MAREKF@IBCH.POZNAN.PL

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### EXPERTISE

Our group focuses on cell engineering, particularly for the purposes of regeneration and interceptive medicine. We study factors shaping cell identities and states in the context of epigenetic rejuvenation, direct cell reprogramming, and intercellular communication via short- and long-distance RNA transport.

We combine cutting-edge single-cell spatial multi-omics, micro-patterned cell cultures, organoid models, and machine learning to model cell tra-jectories and control cell fate and functions.

### SEEKING FOR COLLABORATION WITHIN

aging, cardiology, AI,epigenetics, transdifferentiation, RNA, extracellular vesicles, CRISPR, APOBEC

### RELEVANT PROJECTS

ECBiG-MOSAIC

NEBI

LifeTime

Assoc. Prof.
## Adam Jurgoński
BIOLOGICAL FUNCTION OF FOOD TEAM

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

A.JURGONSKI@PAN.OLSZTYN.PL

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### EXPERTISE

Elucidating the physiological and molecular mechanisms through which both well-known and novel dietary components influence gut function and metabolic health. The team conducts controlled feeding experiments using animal models of disorders characteristic of diet-related diseases. The research to date has focused on: • phenolic extracts and fiber–phenolic preparations, • prebiotic preparations and food additives, • unconventional sources of unsaturated fatty acids, • trace minerals in nanoparticle form.

### SEEKING FOR COLLABORATION WITHIN

preparation, chemical analysis, evaluation of the properties of novel food ingredients

### RELEVANT PROJECTS

NCN/OPUS

NCN/OPUS

NCN/SONATA

PhD, Assistant Professor

## Kevin Waldron

LABORATORY OF METALLOPROTEIN BIOLOGY

**INSTITUTE OF BIOCHEMISTRY AND BIOPHYSICS, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

KWALDRON@IBB.WAW.PL

+48 22 592 33 42

### EXPERTISE

My work sits at the interface between biochemistry/ /structural biology and computational chemistry. This makes our work highly suited to research in drug discovery. Furthermore, we characterize proteins at the level of protein family, rather than just single isozymes, making our work highly relevant to biotechnology. As such, we are keen to apply our academic studies in tandem with industrial and commercial partners, to help create technological solutions for real-world problems.

### SEEKING FOR COLLABORATION WITHIN

biotechnology, microbiology, drug discovery, chemistry

### RELEVANT PROJECTS

MAESTRO

NIH R01 AI155611-01

Assoc. Prof.

## Radosław Kowalski

AQUATIC ORGANISM REPRODUCTIVE BIOTECHNOLOGY TEAM

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

R.KOWALSKI@PAN.OLSZTYN.PL

+48 692 901 511

### EXPERTISE

The research interests focus broadly on the reproduction of aquatic organisms and its support under controlled conditions. This includes understanding physiological and biochemical mechanisms underlying gamete function, as well as developing and optimizing methods that enhance reproductive success in both experimental and applied contexts, including aquaculture and conservation programs. Specific expertise: sperm motility and kinematic analysis, seminal plasma biochemistry and functional biomarkers, sperm cryopreservation and long-term storage of genetic resources.

### SEEKING FOR COLLABORATION WITHIN

genetic and genomic analyses, molecular data, reproductive processes

### RELEVANT PROJECTS

Salmocross

Professor

## Łukasz Marciniak

LUMINESCENT NANOPARTICLE FOR SENSING AND IMAGING
LUNASI GROUP,
DIVISION OF BIOMEDICAL PHYSICOCHEMISTRY

**INSTITUTE OF LOW TEMPERATURE & STRUCTURE RESEARCH, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

L.MARCINIAK@INTIBS.PL

+48 71 395 42 91

### EXPERTISE

Our laboratory is focused on developing multi-functional nano- and microparticles for sensing and imaging of physical and chemical quantities. We are interested in applications of luminescence thermometry and manometry. We work on the implementation of remote temperature and pressure readout techniques for controlling biological and industrial processes. Additionally, we have developed a phosphor for LED, the plant cultivation industry, and NIR lightning.

### SEEKING FOR COLLABORATION WITHIN

optical spectroscopy, luminescence, luminescent materials, sensing, nanoparticles, nanomaterials

### RELEVANT PROJECTS

HSTI

SensiTherm

Professor
## Artur Bednarkiewicz
LUMINESCENT NANOPARTICLE ASSISTED SENSING AND IMAGING GROUP (LUNASI), DIVISION OF BIOMEDICAL PHYSICOCHEMISTRY

INSTITUTE OF LOW TEMPERATURE & STRUCTURE RESEARCH, PAS

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

A.BEDNARKIEWICZ@INTIBS.PL

+48 71 395 42 91

### EXPERTISE

Our laboratory is focused on new colloidal luminescent nanomaterials and biodetection techniques (imaging, FRET biosensing) based on luminescence. We have expertise in synthesis of core–multiple shell nanoparticles doped with lanthanide ions, which could be alternative to organic fluorescent labels. They can be used for nanothermometry, FRET biosensing, optical cooling and heating, etc. We have experience in building customized optical/imaging/spectroscopic methods and instruments.

### SEEKING FOR COLLABORATION WITHIN

biospectroscopy, biosensing, imaging, optical instruments, FRET, nanothermometry, hyperthermia

### RELEVANT PROJECTS

NanoTBTech

Sensitized Photon avalanche

Photon avalanche

Professor
## Rafał Wiglusz
BBRA - BIOMATERIALS FOR BIO-RELATED APPLICATIONS, DIVISION OF BIOMEDICAL PHYSICOCHEMISTRY

INSTITUTE OF LOW TEMPERATURE & STRUCTURE RESEARCH, PAS

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

R.WIGLUSZ@INTIBS.PL

+48 71 395 41 59

### EXPERTISE

Our laboratory is focused on the preparation of nanosized biomaterials, followed by the creation of periodically ordered nanostructures based on single nanoparticles. An important factor is the design and fabrication of nanocomponents with new functionalities and characteristics for improving existing materials: photonic and conductive materials, polymers and composites. The aim is to develop innovative products and applications in electronics and biomedicine based on nanoscale technology.

### SEEKING FOR COLLABORATION WITHIN

biomaterials, tissue regeneration, cells proliferation, biopolymers, hydrogels, block copolymers

### RELEVANT PROJECTS

NCN funded project

NCN funded project

POIR

POWR

Professor
## Bartłomiej Witkowski
GROUP OF PHYSICS OF OXIDE STRUCTURES

INSTITUTE OF PHYSICS, PAS

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES

BWITKOW@IFPAN.EDU.PL

+48 22 116 33 41

### EXPERTISE

Our team specializes in the production and characterization of various types of oxide nanostructures. Among our recent achievements is the development of a simple and cheap method for the growth of CuO layers exhibiting memristor properties, which hold significant promise for applications in electronics. We have successfully demonstrated a memory cell that does not require power to maintain its logical state.

### SEEKING FOR COLLABORATION WITHIN

memory cells, electrical characterization, in-situ TEM measurements, Electron Lithography

### RELEVANT PROJECTS

NCN projects

Ministry of Science and Higher Education projects

EAgLE

NCBR projects (TECHMATSTRATEG, POIR, POIG, PBS)

Professor
## Yaroslav Zhydachevskyy
GROUP OF HIGH-PRESSURE SPECTROSCOPY

**INSTITUTE OF PHYSICS, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
ZHYDACH@IFPAN.EDU.PL
+48 22 116 35 18

### EXPERTISE

Our group is focused on the spectroscopy of optical materials in ambient and extreme conditions including high pressures, cryogenic and high temperatures. We are interested in studies of novel crystalline phosphors, semiconductors and quantum structures based on nitrides and oxides as laser materials, optical radiation converters, ionizing radiation detectors, luminescent temperature and pressure sensors, biological markers. We are also interested in materials for mechanoluminescent applications.

### SEEKING FOR COLLABORATION WITHIN

optical spectroscopy, high-pressure spectroscopy, mechanoluminescence, thermoluminescence

### RELEVANT PROJECTS

NCN project
NATO SPS
NCN project
NCN project
POIG

PhD, DSc
## Marcin Klepka
LABORATORY OF X-RAY AND ELECTRON MICROSCOPY RESEARCH

**INSTITUTE OF PHYSICS, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
MKLEPKA@IFPAN.EDU.PL
+48 22 116 34 79

### EXPERTISE

Our lab focuses on the characterization of the structural and electronic properties of matter, ranging from bulk material, through 1D/2D/3D nanoobjects, to biologically active molecules. We apply experimental techniques based on X-ray (XRD, XAS, XPS), electron (SEM, TEM) and ion beams (SIMS), supported with theoretical modelling (DFT). Our research extends towards non-ambiguous (low/high temperature, high pressure) conditions and dynamic studies (down to sub-ps time scale).

### SEEKING FOR COLLABORATION WITHIN

x-ray spectroscopy and diffraction, atomic structure and structural transformation

### RELEVANT PROJECTS

NCN projects
Ministry of Science and Higher Education projects
EAgLE
Science Link
Baltic Tram

PhD, DSc
## Bożena Sikora-Dobrowolska
LABORATORY OF BIOLOGICAL PHYSICS

**INSTITUTE OF PHYSICS, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
BOZENA.SIKORA@IFPAN.EDU.PL
+48 22 116 35 39

### EXPERTISE

Our research concentrates on the optical and thermoelectric properties of van der Waals-type materials and low-dimensional quantum structures obtained based on chalcogenides of metals from groups II and IV, as well as on developing methods for their growth. In particular, we focus on photonic and topological effects in semiconductor quantum structures to apply these effects to next-generation optical and thermoelectric devices.

### SEEKING FOR COLLABORATION WITHIN

hyperthermia, protein labeling, MRI measurements, *in vivo* testing, nanoparticle synthesis

### RELEVANT PROJECTS

NCN/SONATA8

Professor

## Iwona Grabowska

BIOELECTROANALYTICS TEAM

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

I.GRABOWSKA@PAN.OLSZTYN.PL

+48 89 500 33 44

### EXPERTISE

Studying the interactions between biomolecules using electroanalytical methods to develop innovative analytical systems that can be applied in medicine, veterinary science, food analysis, and environmental protection. We are particularly interested in: • testing of antibodies, single-stranded nucleic acids (ssDNA, ssRNA), and aptamers as recognition element in electrochemical biosensors, • exploring new carbon or gold nanomaterials as transducer element in biosensors, • systems for targeted and controlled delivery of therapeutically significant compounds to cancer cells.

### SEEKING FOR COLLABORATION WITHIN

electrochemical biosensors, aptasensors, immunosensors, genosensors, biomarkers

### RELEVANT PROJECTS

ADEVASCO

NCN OPUS

NCN OPUS

Professor

## Marek Strączkowski

HEAD OF PROPHYLAXIS OF METABOLIC DISEASES TEAM

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

M.STRACZKOWSKI@PAN.OLSZTYN.PL

+48 85 722 25 58

### EXPERTISE

Research within the Prophylaxis of Metabolic Diseases Team focuses on the pathogenesis of insulin resistance, with particular emphasis on assessment of insulin resistance in individuals at increased risk of type 2 diabetes, pathogenesis of skeletal muscle and adipose tissue insulin resistance - tissue transcriptomic, cell cultures mechanisms of an improvement in insulin sensitivity during lifestyle intervention.

### SEEKING FOR COLLABORATION WITHIN

pathogenesis of skeletal muscle and adipose tissue insulin resistance

### RELEVANT PROJECTS

NCN OPUS

PhD, DSc, Assoc. Prof.

## Tomasz Wypych

LABORATORY OF HOST-MICROBIOME INTERACTIONS

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

T.WYPYCH@NENCKI.EDU.PL

+48 22 589 21 84

### EXPERTISE

Our research aims to unravel bidirectional interactions between the commensal microbiota and the host, which could be harnessed to treat inflammatory diseases. On the microbial side, we focus on identifying immunomodulatory metabolites active in the lungs and brain, and tailoring them toward the formulation of therapeutics against inflammatory conditions such as respiratory infections, asthma, and neuroinflammation. On the host side, we dissect IgA bacteria interactions that promote colonization of specific bacterial strains and exert far reaching effects on airway immunity.

### SEEKING FOR COLLABORATION WITHIN

immunology, asthma, neurodegenerative disease, microbiome, metabolism

### RELEVANT PROJECTS

FIRST TEAM - FENG

Professor

## Izabela Wocławek-Potocka

EMBRYO BIOLOGY TEAM

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

I.WOCLAWEK-POTOCKA@PAN.OLSZTYN.PL

+48 668 398 919

### EXPERTISE

We research advanced reproductive biotechnology in cattle, focusing on pre-implantation embryo development and oocyte quality markers to assess embryo viability. Our core method is in vitro embryo production (IVP), supporting micromanipulation, gene expression analysis, immunofluorescence, embryo culture, cryopreservation, and transfer. We study oocytes collected post-mortem and in vivo (OPU) from mature and immature animals, including young cattle to accelerate genetic progress. Our findings are translated into practical field applications for veterinarians and cattle breeders.

### SEEKING FOR COLLABORATION WITHIN

embryotransfer, in vitro embryo production, veterinary

### RELEVANT PROJECTS

NCN OPUS Lap

NCN OPUS

NCN OPUS

Assoc. Prof.

## Joanna Wiśniewska

LABORATORY OF SPATIAL EPIGENETICS

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

J.BUKOWSKA@PAN.OLSZTYN.PL

+48 89 500 33 12

### EXPERTISE

The research of the Regenerative Biology Team focuses primarily on the cellular and molecular mechanisms of skin wound healing. We are particularly interested in the following areas: • the impact of diet, aging, and metabolic status on the wound healing process; • skin regeneration versus repair; • wound healing–associated skin fibrosis; • metabolic regulation of skin regeneration and fibrosis; • skin immunology; • stem cells in wound healing and skin regeneration; • *in vitro* skin models in translational research

### SEEKING FOR COLLABORATION WITHIN

metabolic diseases, nutrition , aging and regenerative medicine, immunology, inflammation, bioengineering

### RELEVANT PROJECTS

PhD, DSc

## Katarzyna Leszczyńska

LABORATORY OF TUMOUR OF HYPOXIA AND EPIGENOMICS

**NENCKI INSTITUTE OF EXPERIMENTAL BIOLOGY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

K.LESZCZYNSKA@NENCKI.EDU.PL

+48 22 589 22 51

### EXPERTISE

Our research group focuses on tumour progression and therapy resistance in H3K27-altered diffuse midline gliomas (DMG). We investigate how tumour hypoxia and the H3K27M oncohistone can be exploited for therapeutic benefit. We apply CUT&RUN, ATAC-seq and chromatin capture to identify druggable vulnerabilities in DMG cells and their microenvironment. We study hypoxia-driven chromatin reprogramming, evaluate H3K27M-dependent gene targets, and explore strategies to eliminate the detrimental oncohistone from DMG cells.

### SEEKING FOR COLLABORATION WITHIN

tumour microenvironment, mouse glioma models, paediatric high-grade gliomas, epigenomics, radiotherapy

### RELEVANT PROJECTS

HIT-GLIO

PhD
## Michał Szot
GROUP OF PHYSICS AND TECHNOLOGY OF EPITAXIAL LAYERS

**INSTITUTE OF PHYSICS, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
SZOT@IFPAN.EDU.PL
+48 22 116 26 31

### EXPERTISE

Our research concentrates on the optical and thermoelectric properties of van der Waals-type materials and low-dimensional quantum structures obtained based on chalcogenides of metals from groups II and IV, as well as on developing methods for their growth. In particular, we focus on photonic and topological effects in semiconductor quantum structures to apply these effects to next-generation optical and thermoelectric devices.

### SEEKING FOR COLLABORATION WITHIN

van der Waals heterostructures, photonic structures and infrared detectors, thermoelectric devices

### RELEVANT PROJECTS

MagTop

PhD, DSc
## Emilia Witkowska
THEORETICAL PHYSICS

**INSTITUTE OF PHYSICS, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
EMILIA.WITKOWSKA@IFPAN.EDU.PL
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### EXPERTISE

Our research explores the foundations of quantum physics, in the context of applications in quantum information, simulators, metrology and quantum computing. Our work includes the physics of ultra cold atoms, ions and molecules, polariton-excitons, semiconductors and NV centres. Statistical physics methods are employed to study protein activity, the behaviour of cell membranes that control key aspects of biological cell functions, and the dynamics of semiconductor growth.

### SEEKING FOR COLLABORATION WITHIN

quantum information, simulators, ultra-cold atoms, NV centres, semiconductor growth, biophysics

### RELEVANT PROJECTS

Quantera
NCN/SonataBis/OPUS/DAINA/SHENG
FNP/FirstTeam

Professor
## Tadeusz Magiera
DEPARTMENT OF ENVIRONMENTAL MAGNETISM AND RECLAMATION

**INSTITUTE OF ENVIRONMENTAL ENGINEERING,PAS**

DIVISION IV - ENGINEERING SCIENCES
TADEUSZ.MAGIERA@IPISPAN.EDU.PL
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### EXPERTISE

This laboratory is focused on the development of “in situ” geophysical methods for precise location of soil contaminated areas. In particular, we are interested in this implementation of soil magnetometry following the ISO 21226:2019 methodology for fast and precise identification of contaminated areas, for the better land-use management of local and regional soil resources, and to build a relevant database avail-able for policy-makers, citizens, and local investors.

### SEEKING FOR COLLABORATION WITHIN

Soil Mission, Green Deal, soil management practice, Transition Challenge: Environmental Intelligence

### RELEVANT PROJECTS

IMPACT

Professor

## Joanna Kulczycka

DIVISION OF STRATEGIC RESEARCH

**MINERAL AND ENERGY ECONOMY RESEARCH INSTITUTE, PAS**

DIVISION IV - ENGINEERING SCIENCES

KULCZYCKA@MEERI.PL

+48 605 333 363

### EXPERTISE

Our division carries out research in the field of economics, together with eco-efficiency, environmental management, raw material and waste markets, an environmental technology and engineering, including social aspects. We have competences and knowledge in the field of market analysis for raw materials, waste management, recycling, environmental technologies and life cycle assessment, as well as the circular economy. We create environmental policies and indexes.

### SEEKING FOR COLLABORATION WITHIN

circular economy, eco-efficiency and environmental impact assessment, minerals and waste management

### RELEVANT PROJECTS

Pheidias

BattValue

InPhos

PhD, DSc

## Joanna Domańska

SECURITY, MODELLING AND PERFORMANCE EVALUATION GROUP

**INSTITUTE OF THEORETICAL AND APPLIED INFORMATICS, PAS**

DIVISION IV - ENGINEERING SCIENCES

JOANNA@IITIS.PL

### EXPERTISE

My team is working on issues related to: anomaly detection and energy performance in Internet of Things (IoT) networks; semantic spatial orientation as a foundation for autonomous navigation systems that understand natural language context; software vulnerability prediction, particularly focusing on static code analysis using artificial intelligence algorithms; explainability of deep neural networks.

### SEEKING FOR COLLABORATION WITHIN

attack detection, autonomous driving, vulnerability prediction, energy performance, explainable AI

### RELEVANT PROJECTS

SerIoT

SDK4ED

IoTAC

DOSS

Professor

## Zbigniew Puchała

QUANTUM SYSTEMS OF INFORMATICS GROUP

**INSTITUTE OF THEORETICAL AND APPLIED INFORMATICS, PAS**

DIVISION IV - ENGINEERING SCIENCES

ZPUCHALA@IITIS.PL

+48 32 231 73 19

### EXPERTISE

The Group is focusing on developing quantum algorithms, error correction methods, and practical applications of quantum devices. It actively participates in various R&D projects, including the Team Net project, addressing challenges in quantum technologies. Additionally, the Group has developed software for simulating quantum annealers on classical computers, facilitating research into modern quantum architectures and optimization, along with tools for visualizing and analyzing the results.

### SEEKING FOR COLLABORATION WITHIN

quantum computing, quantum error correction, machine learning, and optimization

### RELEVANT PROJECTS

Near-term Quantum Computers Challenges

PhD, DSc

## Michał J. Dąbrowski

COMPUTATIONAL BIOLOGY GROUP

**INSTITUTE OF COMPUTER SCIENCE, PAS**

DIVISION IV - ENGINEERING SCIENCES

M.DABROWSKI@IPIPAN.WAW.PL

### EXPERTISE

Dr. Dąbrowski specializes in bioinformatics, focusing on the epigenetics, especially DNA methylation in NGS data. His team discovers non-coding DNA regions contributing to i.e. gene expression regulation, 3-D chromatin structure composition, whose disorders result in pathological states and due to that are further tested in laboratory. They created a tool for Feature Selection in multidimensional data (MCFS-ID), returning ranking of features to be further used in classification as well as CytoMeth for comprehensive DNA methylation analysis.

### SEEKING FOR COLLABORATION WITHIN

machine learning, feature selection, epigenetics, glioma tumor, single cell, population genetics

### RELEVANT PROJECTS

Unveiling the role of VPS10P domain receptors

Monte Carlo Feature Selection

Professor

## Szymon Jaroszewicz

STATISTICAL ANALYSIS AND MODELING GROUP

**INSTITUTE OF COMPUTER SCIENCE, PAS**

DIVISION IV - ENGINEERING SCIENCES

S.JAROSZEWICZ@IPIPAN.WAW.PL

+48 22 380 05 51

### EXPERTISE

Our group is focused on statistical and machine learning methods, being particularly interested in causal discovery, from experimental and observational data, especially uplift modeling, heterogeneous treatment effect estimation, multi-label classification and positive-and-unlabeled data. We have also significant expertise in analysis of high-dimensional data, especially using information theoretical methods. We are also skilled in practical applications of machine learning and statistical methods.

### SEEKING FOR COLLABORATION WITHIN

causal discovery, high dimensional data, positive-and-unlabeled classification, variable selection

### RELEVANT PROJECTS

SAI

Uplift modeling in marketing and biomedical research.

# Widening

## Widening Participation

Widening Participation and Spreading Excellence actions under Horizon Europe, contribute to building research and innovation capacity for countries lagging behind. They will strengthen their potential for successful participation in transnational research and innovation processes, promote networking and access to excellence.

Participants in the programme will be able to upgrade their research and innovation systems, making them stronger and allowing the EU as a whole to advance together, in line with the policy objectives of the European Research Area.

*Source: REA*

PhD, DSc

## Anna Ujwary-Gil

LABORATORY OF PROCESS AND NETWORK ANALYSIS

**INSTITUTE OF ECONOMICS, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES

UJWARY@INEPAN.WAW.PL

+48 22 656 64 31

### EXPERTISE

Our Laboratory is at the forefront of exploring how inter-organizational networks, digital innovation hubs, and ecosystems drive sustainability, digital transformation, and innovative business models in the digital era. We excel in utilizing advanced social network analysis techniques within the dynamic digital economy and sustainability landscape. Our research is dedicated to examining economic ecosystems such as industry clusters, innovation networks, and food cooperatives from network structure and relational perspectives.

### SEEKING FOR COLLABORATION WITHIN

sustainability, digital transformation, digital innovation hubs, industry clusters, social network analysis

### RELEVANT PROJECTS

REINVENT

REV4.0

PhD, DSc

## Oskar Kowalewski

RESEARCH LABORATORY OF ADVANCED STUDIES

**INSTITUTE OF ECONOMICS, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES

OKOWALE@INEPAN.WAW.PL

+48 501 093 669

### EXPERTISE

Our laboratory is focused on research in the field of finance, in particular in the fields of corporate governance, banking, and new technologies (fin-tech). In the last area, the subject of study is the impact of innovation on the activities of financial intermediaries. The research carried out by the team is also interdisciplinary in nature, combining elements of finance, in particular banking, with agro-economics, and analyzes of the impact of climate change on the financial sector.

### SEEKING FOR COLLABORATION WITHIN

finance, corporate governance, fintech, climate finance, agro-economics

### RELEVANT PROJECTS

FINEXCA

Drought

PhD

## Tomasz Panecki

RESEARCH IN SPATIAL HISTORY,
HISTORICAL GEOGRAPHY & CARTOGRAPHY

**INSTITUTE OF HISTORY, PAS**

DIVISION I - HUMANITIES AND SOCIAL SCIENCES

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### EXPERTISE

Our Department specialises in broadly-construed spatial history, historical geography & cartography. Our expertise stems mainly from the series “Historical Atlas of Poland: Detailed Maps of the 16th century”, which also provides a complete network of localities & administrative boundaries. Experience gained from working on this series will be useful in preparing similar datasets from subsequent timeframes. The data should be treated as a starting point for further research, e.g. on social, economic, political & cultural history.

### SEEKING FOR COLLABORATION WITHIN

financial stability, macroprudential policies, systemic risk, inequality, agent-based modelling

### RELEVANT PROJECTS

MACROPRU

Fulbright Junior Advance Research Award

PhD
Maciej Maryl
DIGITAL HUMANITIES CENTRE

INSTITUTE OF LITERARY RESEARCH, PAS
DIVISION I - HUMANITIES AND SOCIAL SCIENCES
MACIEJ.MARYL@IBL.WAW.PL
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## EXPERTISE

We have several PhD candidates and early-career researchers on our teams, keen to develop their academic careers and continue their involvement in international projects. We have diverse interests in the field of digital humanities: digital tools and methods in literary and cultural studies, corpus linguistics, digital editing, open scholarly communication (including innovations and social media), data, programming, user and stakeholder research. We are experienced in a variety of methods from desk research, through text analysis, to interviews, focus groups, and user testing.

## SEEKING FOR COLLABORATION WITHIN

digital tools and methods, digital editing, open scholarly communication, UX and stakeholder research

## RELEVANT PROJECTS

SHAPE-ID
OBERRED
Dariah.Lab
NEP4DISSENT

Professor
Anna Zielińska
DEPARTMENT OF LINGUISTICS

INSTITUTE OF LITERARY RESEARCH, PAS
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ANNA.ZIELINSKA@ISPAN.EDU.PL
+48 22 826 76 88

## EXPERTISE

I conduct research in the fields of dialectology, sociolinguistics, multilingualism, language con- tacts, language borderlands. I am the PI of the Polish-German research project “Language across generations: contact induced change in morpho-syntax in German-Polish bilingual speech” (financed by the NCN and DFG). This project aims to create an integrated description of Polish-German bi- lingualism in Poland and Germany, covering both grammar and sociolinguistic issues.

## SEEKING FOR COLLABORATION WITHIN

language contacts, multilingualism, studies of multilingual communities, linguistic biographies

## RELEVANT PROJECTS

LANGGENER

PhD, DSc
Nicole Dołowy-Rybińska
DEPARTMENT OF LINGUISTICS

INSTITUTE OF SLAVIC STUDIES, PAS
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## EXPERTISE

Our research team works on minority and minoritized languages of Europe and their communities in a broad political, cultural, and linguistic context. We pursue anthropological and sociolinguistic research that touches upon such issues as language policies, language practices, shift and attitudes, language rights, and language maintenance and revitalization.

## SEEKING FOR COLLABORATION WITHIN

sociolinguistics, multilingualism, minorities and borderlands, language revitalization

## RELEVANT PROJECTS

NCN/SonataBis
NCN/OPUS
SORBIAN

PhD
Karolina Ćwiek-Rogalska
DEPARTMENT OF LITERARY AND CULTURAL STUDIES

INSTITUTE OF SLAVIC STUDIES, PAS
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KAROLINA.CWIEK-ROGALSKA@ISPAN.EDU.PL
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## EXPERTISE

Our team is interested in the emergence of re- settlement cultures in post-displacement regions of Slavic Central Europe. The hypothesis we follow is that they are formed in contact with the materiality left behind by expellees. We work on Polish, Czech, and Slovak case studies, conducting fieldwork in selected regions as well as archival search queries in national and local archives.

## SEEKING FOR COLLABORATION WITHIN

studies of material culture

## RELEVANT PROJECTS

SPECTRAL RECYCLING

PhD, DSc
Karolina Bielenin-Lenczowska
DEPARTMENT OF NATIONALITY STUDIES

INSTITUTE OF SLAVIC STUDIES, PAS
DIVISION I - HUMANITIES AND SOCIAL SCIENCES
KAROLINA.BIELENIN-LENCZOWSKA@ISPAN.EDU.PL
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## EXPERTISE

I am social anthropologist and linguist, working on migration and diaspora. My latest research project focuses on border regimes on the outskirts of the European Union, and local responses to mobility regimes and injustices. I am using the Macedonian-Serbian and Polish-Belarusian borders as case studies. I also examined how the social and linguistic landscapes of towns inhabited by the descendants of Poles in southern Brazil have been transformed

## SEEKING FOR COLLABORATION WITHIN

migration studies, diaspora studies, linguistic anthropology, landscape, ethnography

## RELEVANT PROJECTS

UFSC Visiting Professor

PhD
Anna Zawadzka
DEPARTMENT OF NATIONALITY STUDIES

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## EXPERTISE

My research fields are as follows: current historical politics in post-communist countries; the history of anticommunism in comparative perspectives; studies of antisemitism; synergy of antisemitism and anticommunism; the history, socio-political functions, and consequences of the “Jewish Bolshevism” stereotype; studies of the “Jewish Bolshevism” stereotype in an East-West comparative perspective; the social history of cold war era in Eastern and Central Europe; studies of prejudice.

## SEEKING FOR COLLABORATION WITHIN

comparative studies of historical politics in Central and Eastern Europe

## RELEVANT PROJECTS

NCN funded project

The Center for Cultural and Literary Studies of Communis

PhD, Assistant Professor

## Robert Bialik

ABIOTIC STRESS RESEARCH: REDOX SIGNALS

**INSTITUTE OF BIOCHEMISTRY AND BIOPHYSICS, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

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### EXPERTISE

The Department of Antarctic Biology is responsible for the scientific program that is undertaken at the Arctowski Polish Antarctic Station, providing expert opinions about Antarctica for numerous Ministries of the Republic of Poland. We specialize in physical oceanography, marine biology, glaciology, and meteorology, with a particular focus on biology, including conservation biology, ecology, and microbiology.

### SEEKING FOR COLLABORATION WITHIN

Antarctic Important Bird and Biodiversity Areas, radiospectrometry, remote sensing in polar regions

### RELEVANT PROJECTS

NCN/OPUS13

NCN/SONATA7

PhD, DSc

## Jacek Łukasz Kolanowski

CENTRE FOR CHEMICAL BIOLOGY ERIC

**INSTITUTE OF BIOORGANIC CHEMISTRY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

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### EXPERTISE

In our research group we design, develop, and use fluorescent probes and assays for multiparametric imaging in live cells. In our core facility we offer (1) high throughput screening for identification of drug candidates (fluor. & biolum., biochemical and cell-based assays including high content imaging), (2) ultraresolution (<5 nm, MINFLUX) & superresolution fluorescent microscopy (STED, STED-FLIM) in live cells, (3) synthesis of chemical probes, natural compound analogues and hit optimization.

### SEEKING FOR COLLABORATION WITHIN

chemical biology, fluorescent probes, multiplexing, imaging, HTS, protein labelling, core facility

### RELEVANT PROJECTS

EU-OPENSCREEN-DRIVE

ISIDORe

AgroSERV

Professor

## Marek Figlerowicz

DEPARTMENT OF MOLECULAR AND SYSTEMS BIOLOGY

**INSTITUTE OF BIOORGANIC CHEMISTRY, PAS**

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### EXPERTISE

Our group focuses on cell engineering, particularly for the purposes of regeneration and interceptive medicine. We study factors shaping cell identities and states in the context of epigenetic rejuvena-tion, direct cell reprogramming, and intercellular communication via short- and long-distance RNA transport. We combine cutting-edge single-cell spatial multiomics, micro-patterned cell cultures, organoid models, and machine learning to model cell trajectories and control cell fate and functions.

### SEEKING FOR COLLABORATION WITHIN

cardiology, AI,epigenetics, transdifferentiation, RNA, extracellular vesicles, CRISPR, APOBEC

### RELEVANT PROJECTS

ECBiG-MOSAIC

NEB

LifeTime

LifeTime

PhD, DSc, Assoc. Prof.

## Aleksandra Pękowska

DIOSCURI CENTER FOR CHROMATIN BIOLOGY AND EPIGENOMICS

**NENCKI INSTITUTE OF EXPERIMENTAL BIOLOGY, PAS**

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### EXPERTISE

Our group uses stem cell models, high-throughput sequencing technologies (ChIP-seq, ATAC-seq, RNA-seq, Hi-C), CRISPR-Cas9-mediated genome editing, and computational tools to decipher the regulatory networks orchestrating astrocyte evolution and functions in mammals and to understand the interplay between chromatin topology and gene expression.

### SEEKING FOR COLLABORATION WITHIN

chromatin biology, epigenomics and transcriptional regulation, astrocyte biology and neurodevelopment

### RELEVANT PROJECTS

Dioscuri Grant

MSCA Doctoral Network

Assoc. Prof.

## Adam Jurgoński

BIOLOGICAL FUNCTION OF FOOD TEAM

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

A.JURGONSKI@PAN.OLSZTYN.PL

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### EXPERTISE

Elucidating the physiological and molecular mechanisms through which both well-known and novel dietary components influence gut function and metabolic health. The team conducts controlled feeding experiments using animal models of disorders characteristic of diet-related diseases. The research to date has focused on: • phenolic extracts and fiber–phenolic preparations, • prebiotic preparations and food additives, • unconventional sources of unsaturated fatty acids, • trace minerals in nanoparticle form.

### SEEKING FOR COLLABORATION WITHIN

preparation, chemical analysis, evaluation of the properties of novel food ingredients

### RELEVANT PROJECTS

NCN/OPUS

NCN/OPUS

NCN/SONATA

Assoc. Prof.

## Radosław Kowalski

AQUATIC ORGANISM REPRODUCTIVE BIOTECHNOLOGY TEAM

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

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### EXPERTISE

The research interests focus broadly on the reproduction of aquatic organisms and its support under controlled conditions. This includes understanding physiological and biochemical mechanisms underlying gamete function, as well as developing and optimizing methods that enhance reproductive success in both experimental and applied contexts, including aquaculture and conservation programs. Specific expertise: sperm motility and kinematic analysis, seminal plasma biochemistry and functional biomarkers, sperm cryopreservation and long-term storage of genetic resources.

### SEEKING FOR COLLABORATION WITHIN

genetic and genomic analyses, molecular data, reproductive processes

### RELEVANT PROJECTS

Salmocross

Professor
Izabela Wocławek-Potocka
EMBRYO BIOLOGY TEAM

INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS
DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
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## EXPERTISE

We research advanced reproductive biotechnology in cattle, focusing on pre-implantation embryo development and oocyte quality markers to assess embryo viability. Our core method is in vitro embryo production (IVP), supporting micromanipulation, gene expression analysis, immunofluorescence, embryo culture, cryopreservation, and transfer. We study oocytes collected post-mortem and in vivo (OPU) from mature and immature animals, including young cattle to accelerate genetic progress. Our findings are translated into practical field applications for veterinarians and cattle breeders.

## SEEKING FOR COLLABORATION WITHIN

embryotransfer, in vitro embryo production, veterinary

## RELEVANT PROJECTS

NCN OPUS Lap
NCN OPUS
NCN OPUS

Professor
Iwona Grabowska
BIOELECTROANALYTICS TEAM

INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS
DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
I.GRABOWSKA@PAN.OLSZTYN.PL
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## EXPERTISE

Studying the interactions between biomolecules using electroanalytical methods to develop innovative analytical systems that can be applied in medicine, veterinary science, food analysis, and environmental protection. We are particularly interested in: • testing of antibodies, single-stranded nucleic acids (ssDNA, ssRNA), and aptamers as recognition element in electrochemical biosensors, • exploring new carbon or gold nanomaterials as transducer element in biosensors, • systems for targeted and controlled delivery of therapeutically significant compounds to cancer cells.

## SEEKING FOR COLLABORATION WITHIN

electrochemical biosensors, aptasensors, immunosensors, genosensors, biomarkers

## RELEVANT PROJECTS

ADEVASCO
NCN OPUS
NCN OPUS

Assoc. Prof.
Joanna Wiśniewska
LABORATORY OF SPATIAL EPIGENETICS

INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS
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## EXPERTISE

The research of the Regenerative Biology Team focuses primarily on the cellular and molecular mechanisms of skin wound healing. We are particularly interested in the following areas: • the impact of diet, aging, and metabolic status on the wound healing process; • skin regeneration versus repair; • wound healing–associated skin fibrosis; • metabolic regulation of skin regeneration and fibrosis; • skin immunology; • stem cells in wound healing and skin regeneration; • *in vitro* skin models in translational research

## SEEKING FOR COLLABORATION WITHIN

metabolic diseases, nutrition , aging and regenerative medicine, immunology, inflammation, bioengineering

PhD, DSC

## Anna Piliszek

DEPARTMENT OF EXPERIMENTAL EMBRYOLOGY

**INSTITUTE OF GENETICS AND ANIMAL BIOTECHNOLOGY, PAS**

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### EXPERTISE

Our team is interested in the earliest stages of mammalian development. In particular, we are focused on the mechanisms of first lineage differentiation in mammalian embryos. Our studies include establishment and maintenance of pluripotency and extraembryonic lineage formation, as well as the influence of embryonic environment on cell differentiation and reprogramming. We use the mouse and rabbit as our main experimental models.

### SEEKING FOR COLLABORATION WITHIN

pluripotency, extracellular matrices, mechanobiology, modeling of cellular processes in silico

### RELEVANT PROJECTS

NCN/SONATA

NCN/SONATABIS

PhD, DSC

## Jan Zawala

INTERFACIAL INTERACTIONS IN DISPERSED SYSTEMS RESEARCH TEAM

**INSTITUTE OF CATALYSIS AND SURFACE CHEMISTRY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

JAN.ZAWALA@IKIFP.EDU.PL

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### EXPERTISE

The laboratory is focused on fundamental studies on mechanisms underlying dispersed systems stability. In particular we are interested in initial stages of the dispersed systems formation where dynamic conditions are crucial for kinetics of formation of adsorption layers and properties of fluid and solid interfaces. We conduct work on hydrodynamics of bubbles and drops in surfactant solutions, stability of liquid films under dynamic conditions and kinetics of adsorption at various interfaces.

### SEEKING FOR COLLABORATION WITHIN

bubbles and drops, fluid/fluid and fluid/solid interfaces, dispersed systems, foams and emulsions

### RELEVANT PROJECTS

NCN/OPUS

NCN/SONATABIS

PhD.

## Adam Kłosin

LABORATORY OF SPATIAL EPIGENETICS

**NENCKI INSTITUTE OF EXPERIMENTAL BIOLOGY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

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### EXPERTISE

Our laboratory investigates the spatial organization of transcription during animal development and stress responses, focusing specifically on how transcription factors and chromatin interact to form nuclear condensates. By combining biochemical reconstitution with functional studies in the nematode *Caenorhabditis elegans*, the group aims to dissect the molecular composition, assembly mechanisms, and physiological relevance of these dense protein assemblies. Ultimately, we hope to uncover conserved mechanisms of transcriptional control that will enable new therapeutic strategies.

### SEEKING FOR COLLABORATION WITHIN

biological phase separation, heat shock, transcriptional condensates, chromatin biology, embryonic development

### RELEVANT PROJECTS

ERC

Professor

## Ewelina Knapska

LABORATORY OF EMOTIONS NEUROBIOLOGY

**NENCKI INSTITUTE OF EXPERIMENTAL BIOLOGY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

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### EXPERTISE

Our research aims to understand the neural circuit mechanisms controlling social interaction and reward learning in health and disease. We focus on the amygdala and its functional connectivity with other brain structures, using neuroanatomical methods, opto- and chemogenetics, and recording neuronal activity. We have developed social communication, emotion discrimination, and reward learning behavioral protocols, including an automated system to track the behavior of mice in semi-naturalistic settings.

### SEEKING FOR COLLABORATION WITHIN

autism/depression models, social behavior/reward processing in humans, ultrasound brain stimulation

### RELEVANT PROJECTS

BRAINCITY

PainSociOT

EnviroMood

PhD, DSc, Assoc. Prof

## Grzegorz Sumara

DIOSCURI CENTER FOR METABOLIC DISEASES

**NENCKI INSTITUTE OF EXPERIMENTAL BIOLOGY, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

G.SUMARA@NENCKI.EDU.PL

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### EXPERTISE

Our Laboratory seeks to elucidate the signaling pathways regulating basic metabolic processes in adipose tissue, intestine and liver as well as inter-organ cross-talk, perturbations of which often result in metabolic diseases. We combine cell biology, biochemical and -omics approaches with mouse genetics. By determining essential signaling networks we aim to contribute to more targeted pharmacological strategies for the treatment of metabolic diseases such as obesity or type 2 diabetes (T2D).

### SEEKING FOR COLLABORATION WITHIN

metabolism, obesity, diabetes, kinase signaling, ERK3, protein kinase D (PKD), lipolysis, ubiquitin

### RELEVANT PROJECTS

SiCMetabol

Dioscuri Grant

TR 240

PhD

## Magdalena Winiarska

DEPARTMENT OF IMMUNOLOGY

**MOSSAKOWSKI MEDICAL RESEARCH CENTRE, PAS**

DIVISION V - MEDICAL SCIENCES

MWINIARSKA@IMDIK.PAN.PL

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### EXPERTISE

The Department of Immunology is focused on elucidating the mechanisms regulating immune cell activation and advancing cancer immunotherapy using monoclonal antibodies, effector cells and cells engineered with chimeric antigen receptors (CAR). Our work ranges from basic research in the field of cancer immunology to translational research aimed at improving the efficacy of cancer therapy.

### SEEKING FOR COLLABORATION WITHIN

adoptive therapy, CAR-T, monoclonal antibodies, tumour microenvironment, drug target, immunooncology

### RELEVANT PROJECTS

STIMUNO ERC Starting Grant

ArTCell EIC PATHFINDER

MAVERICK Swiss-Polish Cooperation Programme

MAESTRO15

PhD

## Magdalena Moskal-del Hoyo

PALAEOBOTANY AND PALAEOENVIRONMENT GROUP

W. SZAFER INSTITUTE OF BOTANY, PAS

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

M.MOSKAL@BOTANY.PL

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### EXPERTISE

Our focus lies in understanding vegetation development in the context of long-term climate shifts, spanning from the Mesozoic to the Holocene. Utilizing fossil plant and fungi remnants from natural and archaeological sites, we reconstruct flora diversity from pre-Quaternary to Quaternary periods. Alongside taxonomic examinations, we meticulously reconstruct paleoenvironments, analyse plant-environment interactions, and explore adaptation mechanisms to local topographic and microclimatic changes.

### SEEKING FOR COLLABORATION WITHIN

palaeobotany, archaeobotany, taxonomy, palaeoenviroment, vegetation reconstruction, palaeodiet

### RELEVANT PROJECTS

NCN/SONATABIS

NCN/OPUS

NCN/OPUS

NCN/OPUS

PhD

## Adam Flakus

BIODIVERSITY AND EVOLUTION GROUP

W. SZAFER INSTITUTE OF BOTANY, PAS

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

A.FLAKUS@BOTANY.PL

+48 12 424 17 11

### EXPERTISE

Our team studies the evolution of symbiotic fungal systems in global biodiversity hotspots. We focus on molecular phylogeny, climate change, adaptive processes and systematics of largely unexplored lichen-forming fungi and their microbiome in the tropical Andes. We employ extensive environmental studies, high-throughput sequencing and advanced bioinformatics. Our group also studies fungi co-occurring with other organisms, their global evolution, host specificity, and biogeography.

### SEEKING FOR COLLABORATION WITHIN

lichenology, mycology, molecular biology, biodiversity, evolution, taxonomy, tropics, climate change

### RELEVANT PROJECTS

NCN/PRELUDIUM

NCN/OPUS

NCN/OPUS

NCN/OPUS

PhD

## Małgorzata Stanek

LABORATORY OF ECOCHEMISTRY AND ENVIRONMENTAL ENGINEERING

W. SZAFER INSTITUTE OF BOTANY, PAS

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

M.STANEK@BOTANY.PL

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### EXPERTISE

We specialize in research on two global environmental problems - plant invasion and soil pollution. We are particularly interested in soil conditions and their interactions with plants as well as the structural and functional biodiversity of microbial communities. Our research interests revolve around the plants' secondary metabolites, their allelopathic properties and roles in the decomposition and revitalization of invaded habitats. We use classical and advanced analytical methods (GC-MS, NGS).

### SEEKING FOR COLLABORATION WITHIN

invasive plants, heavy metals, ecosystems, secondary metabolites, plant-soil-microbe interactions

### RELEVANT PROJECTS

IMPAWOS

QRUBRA

ToBeLawn

INVASION

PhD
## Magdalena Szechyńska-Hebda
PLANT BIOLOGY GROUP

W. SZAFER INSTITUTE OF BOTANY, PAS
DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
M.SZECHYNSKA-HEBDA@BOTANY.PL
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### EXPERTISE

Our research focuses on plant physiological and ecological responses to environmental stresses, with particular emphasis on climate change. We investigate stress signalling pathways and photosynthetic performance at multiple spatial and temporal scales, integrating satellite and remote sensing, thermal imaging and advanced hyperspectral methods with chlorophyll fluorescence and biochemical analyses. Our innovative tools for environmental monitoring contributes to the creation of smart biotechnological solutions.

### SEEKING FOR COLLABORATION WITHIN

biochemistry, biophysics, AI-based solutions, biotechnological applications, system biology

### RELEVANT PROJECTS

COUTECH
COOLCITY

PhD
## Paweł Kapusta
FUNCTIONAL AND EVOLUTIONARY ECOLOGY GROUP

W. SZAFER INSTITUTE OF BOTANY, PAS
DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES
P.KAPUSTA@BOTANY.PL
+48 12 424 17 20

### EXPERTISE

Our research group aims to explain the relationships between organisms and the environment, and their evolutionary factors and effects. Specifically, we focus on understanding the importance of plant-animal interactions for ecosystem functioning and the plant-soil biota feedback under environmental stresses, such as biological invasions, pollution, and climate change. We also study the spatial aspects of ecological processes and assess environmental quality using bioindicators.

### SEEKING FOR COLLABORATION WITHIN

biodiversity, soil microbes, invasive plants, heavy--metal pollution, plant-animal interactions

### RELEVANT PROJECTS

NCN/OPUS
NCN/PRELUDIUM
NCN/OPUS
NCN/SONATA

PhD
## Michał Adamski
FUNCTIONAL AND EVOLUTIONARY ECOLOGY GROUP

INSTITUTE OF GEOLOGICAL SCIENCES, PAS
DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES
M.ADAMSKI@BOTANY.PL
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### EXPERTISE

The team is engaged in the search for bioactive compounds synthesized by algae and cyanobacteria. We specialize in the qualitative and quantitative analysis of cyanobacterial toxins (cyanotoxins), methods of their decomposition, and their impact on the cells of living organisms, including humans. Our research also focuses on the ecological relationships between microorganisms and aquatic plants, as well as phytoremediation. The team's research also involves antioxidants produced by algae.

### SEEKING FOR COLLABORATION WITHIN

harmful algal blooms, cyanotoxins, antioxidant systems, phytoremediation, aquatic microorganisms

### RELEVANT PROJECTS

ExtrAlgae
NCN/OPUS

PhD, DSc

## Krzysztof Szczepanowicz

NANOSTRUCTURES OF SOFT MATTER

**INSTITUTE OF CATALYSIS AND SURFACE CHEMISTRY, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES

KRZYSZTOF.SZCZEPANOWICZ@IKIFP.EDU.PL

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### EXPERTISE

The research group “Soft Matter Nanostructures” under the leadership of associate professor Krzysztof Szczepanowicz at the ICSC PAS has extensive experience in the research in the field of surface chemistry and dispersed systems. Investigations are focused on adsorption phenomena, surfactants, mechanism of foam formation, nano- and colloidal particles interactions, thin films, encapsulation of active chemical compounds, nanostructured coatings in an application for biocompatible materials, and printed electronics.

### SEEKING FOR COLLABORATION WITHIN

surfactants, foams, nanoparticles, thin films, encapsulation, drug delivery, nanocoatings, biomaterials

### RELEVANT PROJECTS

TheraforNerv

NanoPaint

Professor

## Marek Strączkowski

HEAD OF PROPHYLAXIS OF METABOLIC DISEASES TEAM

**INSTITUTE OF ANIMAL REPRODUCTION AND FOOD RESEARCH, PAS**

DIVISION II - BIOLOGICAL AND AGRICULTURAL SCIENCES

M.STRACZKOWSKI@PAN.OLSZTYN.PL

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### EXPERTISE

Research within the Prophylaxis of Metabolic Diseases Team focuses on the pathogenesis of insulin resistance, with particular emphasis on assessment of insulin resistance in individuals at increased risk of type 2 diabetes, pathogenesis of skeletal muscle and adipose tissue insulin resistance - tissue transcriptomic, cell cultures mechanisms of an improvement in insulin sensitivity during lifestyle intervention.

### SEEKING FOR COLLABORATION WITHIN

pathogenesis of skeletal muscle and adipose tissue insulin resistance

### RELEVANT PROJECTS

NCN OPUS

Professor

## Stanisław Mazur

DEPOSITIONAL SYSTEMS RESEARCH GROUP

**INSTITUTE OF GEOLOGICAL SCIENCES, PAS**

DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES

NDMAZUR@CYF-KR.EDU.PL

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### EXPERTISE

We combine potential field geophysics with seismic and geological data for basic and applied studies. We are interested in tectonics, structural geology in relation to fold-and-thrust belts, sedimentary basins, and passive continental margins. We conduct research related to prospecting for critical raw materials and the geohazard impact on critical infrastructure. Our experience in geophysics and geology allows to create integrated geosystem models at various scales and levels of precision.

### SEEKING FOR COLLABORATION WITHIN

geophysics, critical raw materials prospection, tectonics, structural geology, seismology

### RELEVANT PROJECTS

Birth of Pacific Ring of Fire

MSc. Eng.

## Sebastian Bykuć

CENTRE OF HEAT AND POWER ENGINEERING / DEPARTMENT OF DISTRIBUTED ENERGY AND RES / KEZO RESEARCH CENTRE

**INSTITUTE OF FLUID-FLOW MACHINERY, PAS**

DIVISION IV - ENGINEERING SCIENCES

SBYKUC@IMP.GDA.PL

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### EXPERTISE

The team has experience with planning, modelling and management of energy systems (EnergyPro, EnergyPLAN; TRNSYS, PVsyst, Simulink), with analysis of heat/electricity demand in cities and municipalities using limited data (GIS tools, fuzzy analysis), integration of RES, EV and energy storage systems (real world demonstrators), and with aspects such as energy sector coupling, PV, wind turbines, heatpumps, CHP testing, heat and electricity storage testing, CFD analysis (Ansys), V2G technologies.

### SEEKING FOR COLLABORATION WITHIN

energy communities, V2X, spatial analysis, fuzzy processing, decarbonization of heating, RES integration

### RELEVANT PROJECTS

SERENE

SUSTENANCE

HYPERGRYD

LOCALISED

V4Grid

Associate Professor

## Magdalena Mieloszyk

TRICITY DOCTORAL SCHOOL OF THE POLISH ACADEMY OF SCIENCES

**INSTITUTE OF FLUID-FLOW MACHINERY, PAS**

DIVISION IV - ENGINEERING SCIENCES

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### EXPERTISE

TSD PAN offers education for PhD students from all over the world in mechanical engineering; civil engineering, Earth and related environmental sciences. Thanks to NAWA, TSD PAN organizes summer schools with lecturers - experts from national/ international institutes/ universities/ companies. TSD PAN participates in mobilities (e.g. ERASMUS+, NAWA) and promotes Poland (Gdańsk) for foreigners. Since 2020, TSD PAN organizes the annual Doctoral Seminar for PhD students.

### SEEKING FOR COLLABORATION WITHIN

doctoral network, summer schools, clean energy, functional materials, structural health monitoring

### RELEVANT PROJECTS

CenMAT

mTSDPAN

ERASMUS+

PhD, DSc

## Joanna Wojewoda-Budka

DEPARTMENT OF MULTILAYER MATERIALS

**INSTITUTE OF METALLURGY AND MATERIALS SCIENCE, PAS**

DIVISION IV - ENGINEERING SCIENCES

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### EXPERTISE

Our team has a long-time experience in the development, testing and characterization of coatings, including electrodeposited and electroless copper- and nickel-based coatings. Our scientific interests are also focused on the diffusion phenomena at the interconnections dedicated to electronics, joining technologies such as diffusion soldering and explosive welding as well as the wetting tests performed at high temperature.

### SEEKING FOR COLLABORATION WITHIN

coatings, soldering, materials microstructure characterization

### RELEVANT PROJECTS

Pb-free

AntiPathCoat

PhD, DSc

## Krzysztof Grochla

INTERNET OF THINGS GROUP

**INSTITUTE OF THEORETICAL AND APPLIED INFORMATICS, PAS**

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### EXPERTISE

Internet of Things (IoT) research, with emphasis on wireless communication and network protocols. We design and analyze the performance of network protocols, address issues related to interoperability, and the semantic description of data and operation of IoT systems. We investigate auto-configuration, energy consumption minimization, and localization in embedded devices, especially in LP WAN and indoor localization using UWB and BLE AoA.

### SEEKING FOR COLLABORATION WITHIN

practical application of IoT, long-range low-power wireless communication and indoor positioning

### RELEVANT PROJECTS

Infrastructure Recovery

DOSS

Methodology

Professor

## Szymon Jaroszewicz

STATISTICAL ANALYSIS AND MODELING GROUP

**INSTITUTE OF COMPUTER SCIENCE, PAS**

DIVISION IV - ENGINEERING SCIENCES

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### EXPERTISE

Our group is focused on statistical and machine learning methods, being particularly interested in causal discovery, from experimental and observational data, especially uplift modeling, heterogeneous treatment effect estimation, multi-label classification and positive-and-unlabeled data. We have also significant expertise in analysis of high-dimensional data, especially using information theoretical methods. We are also skilled in practical applications of machine learning and statistical methods.

### SEEKING FOR COLLABORATION WITHIN

causal discovery, high dimensional data, positive-and-unlabeled classification, variable selection

### RELEVANT PROJECTS

SAI

Uplift modeling in marketing and biomedical research.

PhD, DSc

## Maciej Ogrodniczuk

DEPARTMENT OF LANGUAGE MODELING

**INSTITUTE OF COMPUTER SCIENCE, PAS**

DIVISION IV - ENGINEERING SCIENCES

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### EXPERTISE

Maciej Ogrodniczuk specializes in language modelling, both linguistic and computational, development of language resources and processing natural language at all levels of complexity, from morphology to discourse. His team creates large datasets of language data, implements innovative methods to analyze them, trains large language models (LLMs) and develops AI-based solutions with linguistic components.

### SEEKING FOR COLLABORATION WITHIN

natural language processing (NLP), artificial intelligence (AI), linguistics, information technology

### RELEVANT PROJECTS

CLARIN

CURLICAT

DARIAH

HOMADOS.

PhD, DSc
## Michał J. Dąbrowski
COMPUTATIONAL BIOLOGY GROUP

**INSTITUTE OF COMPUTER SCIENCE, PAS**

DIVISION IV - ENGINEERING SCIENCES
M.DABROWSKI@IPIPAN.WAW.PL

### EXPERTISE

Dr. Dąbrowski specializes in bioinformatics, focusing on the epigenetics, especially DNA methylation in NGS data. His team discovers non-coding DNA regions contributing to i.e. gene expression regulation, 3-D chromatin structure composition, whose disorders result in pathological states and due to that are further tested in laboratory. They created a tool for Feature Selection in multidimensional data (MCFS-ID), returning ranking of features to be further used in classification as well as CytoMeth for comprehensive DNA methylation analysis.

### SEEKING FOR COLLABORATION WITHIN

machine learning, feature selection, epigenetics, glioma tumor, single cell, population genetics

### RELEVANT PROJECTS

Unveiling the role of VPS10P domain receptors

Monte Carlo Feature Selection

Professor
## Leonora Bużańska
DEPARTMENT OF STEM CELL BIOENGINEERING

**MOSSAKOWSKI MEDICAL RESEARCH CENTRE, PAS**

DIVISION V - MEDICAL SCIENCES
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### EXPERTISE

Our expertise is neurobiology, stem cells (human iPSC and MSC), genetic engineering (gene editing, genetic vectors), bioengineering (natural and synthetic scaffolds, cell/biomaterial or cell/ECM interphase) and GMP compliant precision medicine. We are modeling neural disorders with human iPSCs lines (isogenic/control) and brain organoids (whole brain and region specific) in biomimetic microenvironment. We derive therapeutically competent cells and MVs for preclinical and clinical treatment.

### SEEKING FOR COLLABORATION WITHIN

modeling neuropathology with iPSCs and brain organoids, MSCs and secretome, GMP-based cell therapies

### RELEVANT PROJECTS

NCN/OPUS18

NCN/PRELUDIUM 21

OPUS28 Lap

NCN/Preludium Bis2022

PhD
## Izabela Sabała
LABORATORY OF PROTEIN ENGINEERING

**MOSSAKOWSKI MEDICAL RESEARCH CENTRE, PAS**

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### EXPERTISE

Our studies are focused on peptidoglycan hydrolases. We investigate how their biochemical and structural features interact with bacterial cell walls and the roles they play in bacterial cells and virulence. We also test their bacteriolytic activity and their potential applications in various indications in medicine, veterinary science, as well as the food production chain.

### SEEKING FOR COLLABORATION WITHIN

biological antimicrobials, antibiotic resistance, bacterial cell wall metabolism

### RELEVANT PROJECTS

Prev-Eco POLNOR19

SafeFoodCtrl POLNOR19

Medical Research Agency National Reconstruction Plan

NCN/OPUS26


PAN
POLISH ACADEMY OF SCIENCES
PolSCA
Polish Science
Contact Agency
in Brussels