

# 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

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## 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

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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 (fintech). 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

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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

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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](#)

[NEP4DISSSENT](#)



Professor

**Anna Zielińska**

DEPARTMENT OF LINGUISTICS

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### 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

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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**

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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**

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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**

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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

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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

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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-OPENSOURCE-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 rejuvenation, 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

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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



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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, • probiotic 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  
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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

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Professor

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Assoc. Prof.

**Joanna Wiśniewska**

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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](#)

## 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](#)

## 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

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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



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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**

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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

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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

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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

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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, immuno-oncology

## RELEVANT PROJECTS

[STIMUNO ERC Starting Grant](#)

[ArTCell EIC PATHFINDER](#)

MAVERICK Swiss-Polish Cooperation Programme

[MAESTRO15](#)



PhD

**Magdalena Moskal-del Hoyo**

PALAEOBOTANY AND PALAEOENVIRONMENT GROUP

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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, palaeoenvironment, vegetation reconstruction, palaeodiet

## RELEVANT PROJECTS

[NCN/SONATABIS](#)

[NCN/OPUS](#)

[NCN/OPUS](#)

[NCN/OPUS](#)



PhD

**Adam Flakus**

BIODIVERSITY AND EVOLUTION GROUP

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## 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

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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

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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

**Michał Adamski**

FUNCTIONAL AND EVOLUTIONARY ECOLOGY GROUP

INSTITUTE OF GEOLOGICAL SCIENCES, PAS



DIVISION III - MATHS, PHYSICS, CHEMISTRY, EARTH SCIENCES



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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



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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



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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



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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 geo-system 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



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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

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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



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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



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## 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

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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](#)