Prof. dr hab. inż. Artur Bednarkiewicz

Deputy Director for Scientific Affairs
Head of Division of Biomedical Physicochemistry

Institute of Low Temperature and Structure Research,
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https://www.intibs.pl/en
FACTS & FIGURES

• One of top polish institutes (2 disciplines chemistry and physics)
• 102 scientists, >30 ph.d. students, c.a. 290 articles / year
• Successful in external research projects acquisition and realization (82 running project, total budget 80 mln PLN ~ 19 mln$~/17 mln€) – polish, bi-lateral and international
• Doctorate school & PhD and PhD hab. Degrees in physics and chemistry
• INT-TECH technology transfer spin-off (http://ctt-intech.pl/en/)

• Wrocław is:
  • Located on south-west part of Poland – close to Germany and Czech Republic, warmest part of Poland
  • Beautiful, historical city, well communicated (train, airport) with EU/World
  • University city, ca. 700 000 inhabitants + 200 000 students/year
RESEARCH
• We are specializing in physics, chemistry and materials science of magnetic 5f- and 4f- electron systems, superconductors, catalysis, phase transitions, luminescence and optical (bio) spectroscopy

7 SCIENTIFIC DIVISIONS:
• Theory of Condensed Matter
• Nanomaterials Chemistry and Catalysis
• Optical Spectroscopy
• Magnetic Research
• Structure Research
• Low Temperature and Superconductivity
• Biomedical Physico-Chemistry

WHAT WE OFFER
• Excellent scientific and friendly environment: modern equipment, theory & experiments
• We care: Gender Equality plan, HR Excellence in Research, Green Charter
• Post-docs (NCN), NAWA, local, bi-lateral and international (COST, PATHFINDER, MSCA) grant acquisition and realization as coordinator or partner
EXAMPLES OF POSSIBLE COLLABORATIONS

MIROSŁAW MĄCZKA [ M.Maczka@intibs.pl ]
• New hybrid perovskites with functional properties such as luminescence, ferroelectricity and multiple nonlinear optical phenomena (materials science)
• Lattice dynamics of hybrid perovskites (spectroscopy)

Brief info: H-index=46, PI in numerous National Research Council projects

DARIUSZ KACZOROWSKI [ D.Kaczorowski@intibs.pl ]
• Emergent phenomena in strongly correlated electron systems: quantum criticality, unconventional superconductivity, heavy fermions, exotic magnetic orders, spin and valence fluctuations, non-Fermi liquids
• Topological matter: extraordinary electronic transport in topological insulators and semimetals, interplay of topology and magnetism, topological superconductors

Brief info: >600 publications, 3 monographs, >6600 citations, H=35, PI in numerous National Research Council and EU projects, member of the Polish Academy of Sciences
EXAMPLES OF POSSIBLE COLLABORATIONS

ANNA GĄGOR [ A.Gagor@intibs.pl ]

- Structural analysis of crystalline materials via single-crystal and powder x-ray diffraction, structure-property relations and phase transitions in ferroic and multiferroic materials;
- disordered, commensurately and incommensurately modulated structures

Brief info: H-index = 33; PI and researcher in numerous National Research Council projects, a member of IUCr Commission on Inorganic and Mineral Structures

ARTUR BEDNARKIEWICZ [ A.Bednarkiewicz@intibs.pl ]

- New photon avalanching materials/mechanisms and more efficient up-converting luminescent nanomaterials (materials science)
- Superresolution imaging, nano-bio-imaging and other applications (imaging, bio-sensing, neuromorphic computing, new DNA sequencing methods)

Brief info: H-index = 42; PI in numerous National Research Council and EU projects.
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<tr>
<td><strong>dr. hab. Michael Nones - Prof PAN</strong></td>
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<td>expertise in monitoring/modelling fluvial environments</td>
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<tr>
<td>Institute of Geophysics PAS, Warsaw</td>
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<td>Department of Hydrology and Hydrodynamics</td>
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<td>top Institute in Poland, long-expertise in international projects and in hosting researchers</td>
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<td>interaction with international scientists with different backgrounds</td>
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<td>development of scientific and soft skills, opportunity to interact with MSCA fellows</td>
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| MSCA experience - chair MCAA Poland Chapter |
| help in training and networking activities |
extreme events are likely to happen in the future, and current river management approaches might be outdated

changes in water dynamics will change fluvial dynamics, affecting vegetation, sediments and pollutants transport and spread

people living along watercourses will have to adapt to new conditions, but how?

Michael Nones
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