INSTITUTE OF MATHEMATICS
POLISH ACADEMY OF SCIENCES

Open call for postdoctoral position
in the *Dioscuri Centre in Topological Data Analysis*

This is an announcement of a postdoctoral researcher position at the Dioscuri Centre in Topological Data Analysis located within the Institute of Mathematics of the Polish Academy of Sciences in Warsaw, Poland. Dioscuri is a program devised by the Max Planck Society to support the development of lighthouses of scientific excellence in Central and Eastern Europe.

About the project:

The mission of the Centre is to develop mathematically rigorous geometry and topology based shape descriptors to solve important applied problems. That includes, but is not restricted to:

1. Designing new mathematically rigorous methods of data analysis and visualization, integrating them with statistical, machine learning and artificial intelligence frameworks.
2. Developing new methods of time series analysis and underlying dynamic reconstruction, with the aim to analyze financial, biological and medical time series.
3. Developing invariants of geometrical objects, including airways, blood vessels, polymers, porous materials and more.
4. Developing geometry based methods in engineering, including new polyhedral mesh generators as well as geometry-inspired numerical methods in engineering.

All the projects will have theoretical, algorithmic and implementation components and will be conducted in the wide international environment of the Centre, including at partner scientific and industrial institutions in Germany, UK, France, US and worldwide. To support the successful candidate's work, a generous travel and equipment budget is included.

Project webpage: http://dioscuri-tda.org/

Requirements:

A PhD in mathematics, computer science or related discipline is required before starting employment. A successful candidate should have the ability and desire to solve practical problems. Expertise in an area of topological data analysis, data science or scientific computing are desirable. Good communication skills in English is required as the Centre is an English speaking institution.

To apply:

Please submit the following documents:
1. A detailed CV, including a list of publications.
2. A research statement, including description how your research interests match the mission of the Centre. Please feel free to lie down any ideas that come to your mind.
3. Details of two referees who may be contacted at the interview stage.
4. A completed consent for the processing of personal data form for the purposes of the recruitment process available at on the website of the Dioscuri Center.

All documents should be sent by email in PDF format to: pdlotko@impan.pl

Deadline:

Please send you application by **July 31th, 2025** for full consideration. The position shall remain open until filled. If you cannot meet this deadline and would be interested in working with us, please contact the PI and explain the situation.

In case of questions please contact Pawel Dłotko directly at pdlotko@impan.pl

Environment of the Centre:

Institute of Mathematics of the Polish Academy of Sciences is the leading mathematical institution in Poland and one of the major ones in Europe. It has strong expertise in numerous areas of pure mathematics and desire to develop applied mathematics groups. The Dioscuri Centre is a part of the Max Planck Society environment. It is strongly linked to the Institute of Algebra, Geometry, Topology and their Applications in Bremen lead by Prof. Dmitry Feichtner-Kozlov. Long term mutual visits in the Partner Institution as well as other institutions are possible and desired.

The Centre is led by D.Sc. Paweł Dłotko, who is a mathematician and computer scientists; he graduated in 2012 from Jagiellonian University. Subsequently he worked as a researcher at the University of Pennsylvania, Inria in Saclay, and in Swansea University. Paweł's aim is to use rigorous methods of mathematics outside mathematics. To achieve this Paweł has developed a number of computational techniques that have been implemented in software libraries including Persistence Landscape Toolbox, development of the Gudhi library as well as the RBallMapper CRAN package. Paweł is actively working with experts in electrical engineering, economics, finance, material science, neuroscience, medical professionals and more.

Dioscuri Centres of Scientific Excellence – a programme initiated by the Max Planck Society (MPG), jointly managed with the National Science Centre in Poland (NCN), and mutually funded by the Polish Ministry of Science and Higher Education (MNiSW) and the German Federal Ministry of Education and Research (BMBF).

Deputy Director
Institute of Mathematics of PAS

Dr. hab. Piotr Nowak