



**prof. dr hab. Piotr Sankowski**  
**Dyrektor Instytutu Badawczego IDEAS**  
**Profesor w Instytucie Informatyki na Uniwersytecie Warszawskim**

Jest dyrektorem Instytutu Badawczego IDEAS oraz profesorem w Instytucie Informatyki na Uniwersytecie Warszawskim, gdzie w 2009 r. otrzymał habilitację, a w 2005 r. doktorat z informatyki. Jego zainteresowania badawcze dotyczą algorytmiki, ze szczególnym uwzględnieniem algorytmicznej analizy grafów i algorytmów analizy danych.

W 2009 r. otrzymał doktorat z fizyki w dziedzinie teorii ciała stałego na Polskiej Akademii Nauk.

Jako pierwszy Polak otrzymał cztery granty Europejskiej Rady ds. Badań Naukowych (ERC – European Research Council): ERC Starting Independent Researcher Grant (2010), ERC Proof of Concept Grant (2015, 2023), ERC Consolidator Grant (2017).

Jest współtwórcą konferencji Highlights of Algorithms.

W latach 2021-2024 był prezesem IDEAS NCBR, gdzie kierował grupą roboczą „Inteligentne algorytmy i struktury danych”.

Jest współzałożycielem i CTO spin-offu MIM Solutions. Jest także członkiem ELLIS Unit Warsaw ze statusem ELLIS Fellow. Członek Rady Przyszłości oraz Międzynarodowego Panelu Naukowego ds. AI przy ONZ.

**ENG:**

**Highlights**

Co-founder and CEO of MIM Solutions – AI Software House:

- managed a team of 10+ data scientists and engineers;
- value of completed projects – 10M Euro;
- successfully deployed more than 50 projects for companies like: Orange, Rossmann, RTB

House, Comarch, VOSS, Play, Miele, frisco.pl.

– since 2023, MIM Solutions serves on the Business Advisory Board for the EU Global Gateway

strategy;

– in 2025, recognized as one of the fastest growing companies in the region by inclusions in

Deloitte Technology Fast 50 Central Europe and EMEA Technology Fast 500 rankings.

- Chief Scientific Advisor to MIM Fertility – company working on AI for IVF:
  - working with a team of 30+ data scientists, engineers and doctors,
  - the company secured FDA clearance in the USA and MDR clearance in the EU,
  - products are present on 6 continents and in more than 25 countries.
  
- Director of IDEAS Research Institute – co-supervised by Ministry of Defense and Ministry of Digitization:
  - managing 15 teams including basic research and applied AI,
  - deployed several projects in military application domain,
  - created a 140 person cutting edge research center in less than a year;
  - managing yearly budget of 10M Euro.
  
- CEO and architect of IDEAS NCBR – the first AI Research Institute in Poland:
  - building all teams needed for the functioning of the institute, i.e., HR, procurement, IT, finance, administration and PR.
  - hiring all 12 team and group leaders in research via competitive processes,
  - setting up a country wide PhD programme,
  - managing yearly budget of 8M Euro.

- The first Polish researcher that received 4 ERC grants: StG, CoG, 2xPoC.
- Double PhD in Computer Science and Physics.
- Founding Member of Interest Group on Algorithmic Foundations of Information Technology (IGAFIT).
- Member of the Future Council advising Polish Prime Minister Donald Tusk.
- Member of the United Nations Independent International Scientific Panel on AI.

### **Systems & Applied AI Impact**

- POLISH POLICE: AI-driven spatiotemporal crime prediction system supporting proactive crime prevention.
- SAGENSO: Detecting ransomware attacks within seconds.
- VOSS: Detection of faulty automotive parts from videos.
- GIVT: Flight disruption prediction (delays and cancellations).
- INVICTA: Automatic analysis of medical documentation.
- CSW (REMWAVE): Analysis of noisy physiological signals to detect arrhythmias and support safe device operation.
- ACORAI (ASFITET): Analysis of intracardiac pressure in patients with heart failure and early detection of clinically relevant physiological abnormalities.
- MIM FERTILITY: Measurement of follicle size in ovaries during ultrasound examinations.
- MIM FERTILITY: Embryo scoring based on image data.
- AMS: Advanced image classification for marketing and retail / anonymization of people's faces and vehicle license plates.
- Gazetkowo: Automated extraction of product names and prices from retail flyers.
- COMARCH: Prediction of benefits performance in loyalty programs.
- ROSSMANN: Predicting the optimal discount point for the individual on-line customer.
- FRISCO.PL: Recommendation system for on-line grocery store and product listings.
- RTB HOUSE: Accurate estimation of click-through and conversion probability in a RTB model on websites.

- ERLI: Shopping assistant turning conversations into a structured “shopping specification”.
- IDEAS Research Institute: Projects deployed within military domain.
- IDEAS Research Institute: Project automating analysis of notary documents for local government.

### **Research Program Leadership**

- IDEAS NCBR: Leading the research done by 12 teams within the center together with the International Scientific Advisory Board.
- IDEAS Research Institute: Leading the 15 research and applied AI teams together with deputydirector for science and research.
- University of Warsaw: Leading the research team of 10+ researchers over the course of 10 years funded by several EU and Polish grants.

### **Work Experience**

2025-present Director of IDEAS Research Institute – research institute dedicated to both civil and military applications of artificial intelligence

2025-present Full professor at Institute of Informatics at University of Warsaw

2020-2025 Chief Scientific Adviser of MIM Fertility – a company developing AI for IVF

2023-2025 Chief Scientific Adviser of MIM Solutions – a spin-off created with University of Warsaw

2010-2025 Associate professor at Institute of Informatics at University of Warsaw

2021-2024 CEO of IDEAS NCBR – a research institute dedicated to artificial intelligence and digital economy

2021-2023 Chief Scientific Officer of MIM Solutions – spin-off created with University of Warsaw

2018-2020 Head of R&D for AI, Givt, Warsaw

2015-2021 CEO of MIM Solutions – spin-off created with University of Warsaw

## **Work Experience**

2006-2010 Assistant professor at Institute of Informatics at University of Warsaw

2009-2010 Post-doc at "Sapienza" University of Rome

2008 Post-doc at Swiss Federal Institute of Technology Zurich

2006-2008 Post-doc at "Sapienza" University of Rome

2005-2006 Assistant lecturer at Institute of Informatics at University of Warsaw

## **Education**

2025 Full Professor in Computer Science

2009 Habilitation in Computer Science at University of Warsaw

Thesis title: Matrix Polynomials, and Graph Algorithms

2009 Ph.D. in Physics at Polish Academy of Science

Thesis title: Spin related phenomena in GaMnAs based heterostructures

2005 Ph.D. in Computer Science at University of Warsaw (with distinction)

Thesis title: Algebraic Methods in Algorithmic Graph Theory

2003 M.Sc. in Physics, University of Warsaw

Thesis title: Interlayer Coupling in EuS Based Superlattices

2002 M.Sc. in Computer Science, University of Warsaw (with distinction)

Thesis title: Multisampling: A New Approach to Uniform Sampling and

Approximate Counting

2000 Student at Saarland University, Saarbrücken, Germany

## **Fellowships and Awards**

2026 Winner of the Ulam Award - Visionary Leadership

2025 Winner of the Internationalization Stars 2026 – Research Star award

2025 Winner of the Digital Shapers 2025 award

2024 Winner of the Innowatory Award by Wprost – Polish weekly magazine

2018 Winner of the individual Crystal Brussels Sprout Award

2018 Winner of the National Science Centre Award

2017 Visiting scientist in the Simons Institute for the Theory of Computing in the semester "Bridging Continuous and Discrete Optimization"

2016 Visiting scientist in the Simons Institute for the Theory of Computing in the semester "Algorithms and Uncertainty"

2011 Best Poster Award – 4th ACM International Conference on Web Search and Data Mining (WSDM '11)

2010-2015 'Ideas for Poland' Scholarship awarded by The Foundation for Polish Science (FNP)

2010 Second class scientific award from Minister of Higher Education

2005 Winner of Witold Lipski prize for Young Researchers in Computer Science

2005 'Stay with Us' Scholarship awarded by Polityka, Polish weekly magazine

2005 Best Student Paper Award – 13th Annual European Symposium on Algorithms (ESA' 05)

2004 Best Student Paper Award – 45th Annual IEEE Symposium on Foundations of Computer Science (FOCS' 04)

2004 Best Student Paper Award – 12th Annual European Symposium on Algorithms (ESA '04)

### **Supervision of Graduate Students and Postdoctoral Fellows**

2006-present Institute of Informatics, University of Warsaw, Poland

9 Postdocs Anna Zych, Attila Bernath, Gianpiero Monaco, Qiang Zhang, Krzysztof

Fleszar, Mathieu Mari, Anish Mukherjee, Adam Karczmarz, Runtian Ren

5 PhD Stud. Jakub Łącki, Adam Karczmarz, Dariusz Leniowski, Piotr Wygocki, Dario Masa

8 MSc Stud. Piotr Godlewski, Adam Karczmarz, Paweł Kępka, Jakub Oćwieja, Tomasz

Stróżak, Karol Węgrzycki, Emila Wiśnoś, Robert Laskowski

### **Teaching Activities**

I have been teaching full-time since starting my PhD studies in 2002, with a few years break during postdoc. Apart from standard teaching duties, I have prepared my own courses on:

matchings in graph, dynamic algorithms, approximation algorithms, planar graph algorithms and algorithmic game theory.

## **Organization of Scientific Meetings**

I am one of the co-founders of the Highlights of Algorithms Conference that was organized for the first time in 2016 in Paris and will be organized for the second time in Berlin<sup>1</sup>. Till 2018, I was a member of Steering Committee, whereas I was a member of the Programme Committee in 2016 and 2017.

In 2019, I was chairing the Programme Committee when the conference took place in Copenhagen.

In 2024, I was chairing the Organizing Committee and we organized the conference in Warsaw.

I was PC chair of Track A of 24th Annual European Symposium on Algorithms (ESA 2016) which is the major European algorithms conference. Additionally, in 2017-2018 I was a chair of ESA Steering Committee. During my term ESA introduced a double-blind review process. In 2011, I was PC co-chair of the 36th International Symposium on Mathematical Foundations of Computer Science (MFCS '11). I was co-chair of the Organization Committee of the 44th International Colloquium on Automata, Languages, and Programming (ICALP 2017) that was held in Warsaw. I organized a few smaller scientific meetings like: 1st European Meeting on Algorithmic Challenges of Big Data (ACBD '14) – 25 participants, Polish Theoretical Computer Science Forum (FIT '15, FIT '16 & FIT '17) – 100 participants, 5th Workshop on Flexible Network Design (FND '12) – 33 participants. This year I am organizing the following events in Warsaw: 3rd European Meeting on Algorithmic Challenges of Big Data (ACBD 2022), Emerging Models of Colossal Computation (E=mc<sup>2</sup> 2022), Workshop on Local Algorithms (WOLA 2022).

<sup>1</sup><http://highlightsofalgorithms.org/>

## **Membership of Programme Committees**

2026 24th Symposium on Experimental Algorithms (SEA 2026)

2024 27th European Conference on Artificial Intelligence (ECAI 2024)

2021 53rd ACM Symposium on Theory of Computing (STOC 2021)

2020 18th Workshop on Approximation and Online Algorithms (WAOA 2020)

2018 59th Annual IEEE Symposium on Foundations of Computer Science (FOCS 2018)

2017 44th International Colloquium on Automata, Languages and Programming (ICALP 2017)

2017 Highlights of Algorithms Conference (HALG 2017)

2016 31st IEEE International Parallel & Distributed Processing Symposium (IPDPS 2016)  
2016 Highlights of Algorithms Conference (HALG 2016)  
2015 Workshop on Algorithms and Systems for Map-Reduce and Beyond (BeyondMR15)  
2015 23rd European Symposium on Algorithms (ESA 2015)  
2015 18th European Symposium on Algorithms (APPROX 2015)  
2015 40th International Symposium on Mathematical Foundations of Computer Science (MFCS 2015)  
2015 9th International Conference on Algorithms and Complexity (CIAC 2015)  
2014 7th International conference on Fun with Algorithms (FUN 2014)  
2014 46th ACM Symposium on Theory of Computing (STOC 2014)  
2014 41th International Colloquium on Automata, Languages and Programming (ICALP 2014)  
2013 10th annual conference on Theory and Applications of Models of Computation (TAMC 2013)  
2013 24th ACM-SIAM Symposium on Discrete Algorithms (SODA 2013)  
2012 37th International Symposium on Mathematical Foundations of Computer Science (MFCS 2012)  
2012 39th International Colloquium on Automata, Languages and Programming (ICALP 2012)  
2010 7th International Conference on Algorithms (CIAC 2010)  
2009 17th International Symposium on Fundamentals of Computation Theory (FCT 2009)  
2009 17th Annual European Symposium on Algorithms (ESA 2009)  
2009 36th International Colloquium on Automata, Languages and Programming (ICALP 2009)  
2007 10th Italian Conference on Theoretical Computer Science (ICTCS 2007)

### **Institutional Responsibilities**

2016-2021 Faculty Hiring Committee, University of Warsaw, Poland  
2014-2018 Faculty Ph.D. Award Committee, University of Warsaw, Poland  
2010-2020 Organizer of the Algorithms Seminar, University of Warsaw, Poland  
2009- Faculty Council Member, University of Warsaw, Poland

## **Selected Invited Presentations**

2020 Euro-Par: 26th International European Conference on Parallel and Distributed Computing

2017 Erice School on "Graph Theory, Algorithms and Applications"

2015 Invited lecture – 41st International Conference on Current Trends in Theory and Practice of Computer Science (SOFSEM 2015)

2014 ICERM Workshop on Stochastic Graph Models (March 17-21, 2014)

2014 5th Polish Combinatorial Conference (5PCC)

2013 Workshop on Kernelization 2013 (WorKer '13)

2008 33rd International Symposium on Mathematical Foundations of Computer Science (MFCS '08)

2006 35th International School on the Physics of Semiconducting Compounds "Jaszowiec 2006"

## **Commissions of Trust**

2026- Member of the Future Council advising Polish Prime Minister Donald Tusk

2026- Member of the United Nations Independent International Scientific Panel on AI

2025- Member of the Board of Experts on Digitalization, Development, and Research Support within the "SprawdzaMy"deregulation campaign led by Rafał Brzoska

2025- Chair of the Prize Council, Witold Lipski prize for Young Researchers in Computer Science

2020-2024 Steering Committee member of INFOSTRATEG Strategic Programme, National Center for Research and Development

2018-2024 Programme Committee member of Norwegian funds for Basic Research in Poland, National Science Centre

2017-2023 Board member, National Centre for Research and Development in Poland

2015, 2016, 2020 START Scholarship Panel Member, Foundation for Polish Science

2011, 2014 Grant Review Panel Member, Polish National Science Center

2015-2028 Editorial Board, Journal of Discrete Algorithms, Elsevier

2011-2025 Prize Board, Witold Lipski prize for Young Researchers in Computer Science

## **Membership of Scientific Societies**

2024- Fellow of the European Laboratory for Learning and Intelligent Systems (ELLIS)

2015- Chair of the Polish chapter of the ACM

2014- Founding member, Interest Group on Algorithmic Foundations of Information Technology (IGAFIT) that aims to integrate European algorithms community (<http://igafit.mimuw.edu.pl/>)

## **Leading Role in Grants**

2023-2025 Principal Investigator in the ERC PoC Grant 101082299 – Explainable ALgorithmic Tools (budget 150 000 euro)

2021-2026 Principal Investigator in the Polish NCN grant no. 2020/37/B/ST6/04179 – Advanced Methods for Modeling Viral Processes (budget 1 063 200 PLN)

2018-2023 Principal Investigator in the ERC CoG Grant 772346 – Towards Unification of Algorithmic Tools (budget 1 510 800 euro + 2 294 320 PLN)

2015-2018 Site Leader in National Centre for Research and Development in Poland grant – Crime Prediction and Police Force Management System (total budget 7 200 000 PLN)

2015-2018 Principal Investigator in the Polish NCN grant no. 2014/13/B/ST6/01811 – Efficient Planar Graph Algorithms (budget 501 723 PLN)

2015-2017 Principal Investigator in the ERC PoC Grant 680912 – Practical Approximation Algorithms - Proof of Concept (budget 150 000 Euro)

2012-2016 Site Leader in EU-FET 317532 – Foundational Research on MULTIllevel comPLEX networks and systems (total budget 7 861 905 EURO)

2010-2015 Principal Investigator in the ERC StG Grant 259515 – Practical Approximation Algorithms (budget 1 000 000 Euro + 600 000 PLN)

2009-2012 Principal Investigator in the Polish NCN grant no. N N206 355636 – Approximation Algorithms with Bounded Resources (budget 419 890 PLN)

2006-2007 Principal Investigator in the Polish KBN grant no. 1 PO3A 018 30 – Algebraic Graph Algorithms (budget 58240 PLN)

## **Selected Publications in Computer Science**

- Jan Ludziejewski, Maciej Pióro, Jakub Krajewski, Maciej Stefaniak, Michal Krutul, Jan Malasnicki, Marek Cygan, Piotr Sankowski, Kamil Adamczewski, Piotr Milos, Sebastian Jaszczur, Joint MoE Scaling Laws: Mixture of Experts Can Be Memory Efficient, ICML 2025.
- Mateusz Olko, Mateusz Gajewski, Joanna Wojciechowska, Mikolaj Morzy, Piotr Sankowski, Piotr Milos, Since Faithfulness Fails: The Performance Limits of Neural Causal Discovery, ICML 2025.
- Julia Puczynska, Youcef Djenouri, Michal Bizon, Tomasz P. Michalak, Piotr Sankowski, Knowledge- Driven Bayesian Uncertainty Quantification for Reliable Fake News Detection, ECAI 2025: 612-619.
- Gracjan Góral, Emilia Wisnios, Piotr Sankowski, Pawel Budzianowski, Wait, that's not an option: LLMs Robustness with Incorrect Multiple-Choice Options, ACL (1) 2025: 1495-1515.
- Mateusz Gajewski, Adam Karczmarz, Mateusz Rapicki, Piotr Sankowski, Accurate Estimation of Feature Importance Faithfulness for Tree Models, AAAI 2025: 16691-16698.
- Mathieu Mari, Michal Pawlowski, Runtian Ren, Piotr Sankowski, Multi-level Aggregation with Delays and Stochastic Arrivals (AAMAS 2024) 2378-2380.
- Jan Ludziejewski, Jakub Krajewski, Kamil Adamczewski, Maciej Pióro, Michal Krutul, Szymon Antoniak, Kamil Ciebiera, Krystian Król, Tomasz Odrzygózd, Piotr Sankowski, Marek Cygan, Sebastian Jaszczur, Scaling Laws for Fine-Grained Mixture of Experts (ICML 2024).
- Mathieu Mari, Michal Pawlowski, Runtian Ren, Piotr Sankowski, Online Matching with Delays and Stochastic Arrival Times (AAMAS 2023) 976-984.
- Adam Karczmarz, Tomasz P. Michalak, Anish Mukherjee, Piotr Sankowski, Piotr Wygocki, Improved feature importance computation for tree models based on the Banzhaf value, (UAI 2022) 969-979.
- Kyriakos Axiotis, Adam Karczmarz, Anish Mukherjee, Piotr Sankowski, Adrian Vladu, Decomposable Submodular Function Minimization via Maximum Flow, 38th International Conference on Machine Learning (ICML 2021).