

## Personal Information

University of Warsaw  
Institute of Informatics  
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## Work Experience

2010-today	Associated professor at Institute of Informatics at University of Warsaw.
2006-2010	Assistant professor at Institute of Informatics at University of Warsaw.
2009-2010	Post-doc at Department of Computer and Systems Sciences at "Sapienza" University of Rome.
2008	Post-doc at Department of Computer Science at Swiss Federal Institute of Technology Zurich.
2006-2008	Post-doc at Department of Computer and Systems Sciences at "Sapienza" University of Rome.
2005-2006	Assistant lecturer at Institute of Informatics at University of Warsaw.

## Education

2009	Habilitation in computer science at University of Warsaw (with honorable mention) 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 honorable mention) Thesis title: Algebraic Methods in Algorithmic Graph Theory.
2003	M.Sc. Physics, University of Warsaw Thesis title: Interlayer Coupling in EuS Based Superlattices.
2002	M.Sc. Computer Science, University of Warsaw (with honorable mention) Thesis title: Multisampling: A New Approach to Uniform Sampling and Approximate Counting.
2000	Student at Saarland University, Saarbrücken, Germany.

## Professional Awards and Activities

- 2012 Program committee member of the 39th International Colloquium on Automata, Languages and Programming (ICALP '12).
- 2011 Awarded with ERC StG Grant 259515 Practical Approximation Algorithms (PAAl).
- 2011 'Ideas for Poland' Scholarship awarded by The Foundation for Polish Science (FNP).
- 2011 Program committee chair of the 36th International Symposium on Mathematical Foundations of Computer Science (MFCS '11).
- 2010 Program committee member of the 7th International Conference on Algorithms (CIAC '10).
- 2009 Program committee member of the 17th International Symposium on Fundamentals of Computation Theory (FCT '09).
- 2009 Program committee member of the 17th Annual European Symposium on Algorithms (ESA '09).
- 2009 Program committee member of the 36th International Colloquium on Automata, Languages and Programming (ICALP '09).
- 2008 Invited lecture at the 33rd International Symposium on Mathematical Foundations of Computer Science (MFCS '08).
- 2007 Program committee member of the 10th Italian Conference on Theoretical Computer Science (ICTCS '07).
- 2006 Invited lecture at 35th International School on the Physics of Semiconducting Compounds "Jaszowiec 2006".
- 2005 Winner of Witold Lipski prize for Young Researchers in Computer Science.
- 2005 'Stay with Us' Scholarship awarded by Polityka, Polish weekly magazine.
- 2005 13th Annual European Symposium on Algorithms, Best Student Paper Award.
- 2004 45th Annual IEEE Symposium on Foundations of Computer Science, Best Student Paper Award.
- 2004 12th Annual European Symposium on Algorithms, Best Student Paper Award.

## Grant Participation

- 2011-2014 Polish government grant no. N N206 567940, participant.
- 2010-2014 ERC StG grant PAAl no. 259515, principal investigator.
- 2009-2012 Polish government grant no. N N206 355636, leader.
- 2009-2010 DARPA research grant no. 339/W-USA/2008/0, participant.
- 2007-2009 Polish government grant no. N206 005 32/0807, participant.
- 2006-2008 European DELIS and ARRIVAL Project, participant.
- 2006-2008 Japanese ERATO Semiconductor Spintronics Project, participant.
- 2006-2008 European NANOSPIN Project, participant.
- 2006-2007 Polish government grant no. 1 PO3A 018 30, leader.
- 2002-2006 European FENIKS Project, participant.

## Teaching Experience

- Spring '11      Lecturer, New Trends in Approximation Algorithms, University of Warsaw.
- Spring '11      Seminar, Algorithmics, University of Warsaw.
- Fall '10        Seminar, Algorithmics, University of Warsaw.
- Fall '09        Lecturer, Theoretical Computer Science, Sapienza University of Rome.
- Spring '08     Lecturer, Dynamic Algorithms, University of Warsaw.
- Spring '05     Lecturer, Dynamic Algorithms, University of Warsaw.
- Spring '05     Seminar, Algorithmics, University of Warsaw.
- Fall '05        Lecturer, Matchings in Graphs, University of Warsaw.
- Fall '05        Seminar, Algorithmics, University of Warsaw.
- Spring '05     Teaching assistant, Algorithmics, University of Warsaw.
- Fall '04        Teaching assistant, Algorithms and Data Structures, University of Warsaw.
- Spring '04     Teaching assistant, Artificial Intelligence and Expert Systems, University of Warsaw.
- Fall '03        Teaching assistant, Algorithms and Data Structures, University of Warsaw.
- Spring '03     Teaching assistant, Artificial Intelligence and Expert Systems, University of Warsaw.
- Fall '02        Teaching assistant, Practical Algorithmics, University of Warsaw.

## Languages

- Polish            mother tongue
- English          very good
- German          very good
- Italian          intermediate
- Spanish          basics
- Japanese        basics

## Publications

### Computer Science

- G. F. Italiano, Y. Nussbaum, P. Sankowski, C. Wulff-Nilsen, *Improved Minimum Cuts and Maximum Flows in Undirected Planar Graphs*, Proceedings of the 43rd ACM Symposium on Theory of Computing (STOC 2011).
- A. Fiat, S. Leonardi, J. Saia, P. Sankowski, *Single Valued Combinatorial Auctions with Budgets*, Proceedings of 12th ACM Conference on Electronic Commerce (EC 2011).

- J. Łącki, P. Sankowski, *Min-cuts and Shortest Cycles in Planar Graphs in  $O(n \log \log n)$  Time*, Proceedings of the 19th Annual European Symposium on Algorithms (ESA 2011).
- A. Anagnostopoulos, L. Becchetti, S. Leonardi, I. Mele, P. Sankowski, *Stochastic query covering*, Proceedings of the Fourth International Conference on Web Search and Data Mining (WSDM 2011).
- G. S. Frandsen, P. Sankowski, *Dynamic normal forms and dynamic characteristic polynomial*, Theor. Comput. Sci. 412(16): 1470-1483 (2011).
- G. Borradaile, P. Sankowski, C. Wulff-Nilsen, *Min st-Cut Oracle for Planar Graphs with Near-Linear Preprocessing Time*, Proceedings of the 51th Annual IEEE Symposium on Foundations of Computer Science (FOCS 2010).
- M. Cygan, L. Kowalik, M. Mucha, M. Pilipczuk, P. Sankowski, *Fast Approximation in Subspaces by Doubling Metric Decomposition*, Proceedings of the 18th Annual European Symposium on Algorithms (ESA 2010).
- A. Anagnostopoulos, F. Grandoni, S. Leonardi, P. Sankowski, *Online Network Design with Outliers*, Proceedings of the 37th International Colloquium on Automata, Languages and Programming (ICALP 2010).
- M. Mucha, P. Sankowski, *Fast Dynamic Transitive Closure with Lookahead*, Algorithmica 56(2): 180-197 (2010).
- P. Sankowski, *Maximum weight bipartite matching in matrix multiplication time*, Theor. Comput. Sci., 410(44): 4480-4488 (2009).
- F. Grandoni, A. Gupta, S. Leonardi, P. Miettinen, P. Sankowski, M. Singh, *Set Covering with Our Eyes Closed*, Proceedings of the 49th Annual IEEE Symposium on Foundations of Computer Science, 347-356 (FOCS 2008).
- G.S. Frandsen, P. Sankowski, *Dynamic Normal Forms and Dynamic Characteristic Polynomial*, Proceedings of the 35th International Colloquium on Automata, Languages and Programming (ICALP 2008).
- P. Sankowski, *Processor Efficient Parallel Matching*, Theory Comput. Syst. 42(1): 73-90 (2008).
- N. Garg, A. Gupta, S. Leonardi, P. Sankowski, *Stochastic Analyses for Online Combinatorial Optimization Problems*, Proceedings of the Nineteenth Annual ACM-SIAM Symposium on Discrete Algorithms, (SODA 2008).
- K. Diks, P. Sankowski, *Dynamic Plane Transitive Closure*, Proceedings of the 15th Annual European Symposium on Algorithms (ESA 2007).

- S. Leonardi, P. Sankowski, *Network Formation Games with Local Coalitions*, Proceedings of the twenty-sixth annual ACM symposium on Principles of distributed computing (PODC 2007).
- P. Sankowski, *Faster Dynamic Matchings and Vertex Connectivity* Proceedings of ACM-SIAM Symposium on Discrete Algorithms (SODA 2007).
- P. Sankowski, *Weighted Bipartite Matching in Matrix Multiplication Time* Proceedings of the 33rd International Colloquium on Automata, Languages and Programming (ICALP 2006).
- M. Mucha, P. Sankowski, *Maximum Matchings in Planar Graphs via Gaussian Elimination*, *Algorithmica* **45(1)**: 3-20 (2006).
- P. Sankowski, *Shortest Paths in Matrix Multiplication Time*, Proceedings of the 13th Annual European Symposium on Algorithms (ESA 2005).
- P. Sankowski, *Processor Efficient Parallel Matching*, Proceedings of the 17th ACM Symposium on Parallelism in Algorithms and Architectures (SPAA 2005).
- P. Sankowski, *Subquadratic Algorithm for Dynamic Shortest Distances*, Proceeding of the 11th International Computing and Combinatorics Conference (COCOON 2005).
- P. Sankowski, *Dynamic Transitive Closure via Dynamic Matrix Inverse*, Proceedings of the 45th Annual IEEE Symposium on Foundations of Computer Science (FOCS 2004).
- M. Mucha, P. Sankowski, *Maximum Matchings via Gaussian Elimination*, Proceedings of the 45th Annual IEEE Symposium on Foundations of Computer Science (FOCS 2004).
- M. Mucha, P. Sankowski, *Maximum Matchings in Planar Graphs via Gaussian Elimination*, Proceedings of th 12th Annual European Symposium on Algorithms (ESA 2004), LNCS 3221.
- K. Ciebiera, P. Sankowski, *Improving Web Sites by Automatic Source Code Analysis and Modification*, Proceedings of the 4th International Conference on Web Engineering (ICWE 2004), LNCS 3140.
- P. Sankowski, *Alternative Algorithm for Counting All Matchings in Graphs*, Proceedings of the 20th International Symposium on Theoretical Aspects of Computer Science (STACS 2003), LNCS 2607.
- P. Sankowski, *Multisampling: a New Approach to Uniform Sampling and Approximate Counting*, European Symposium on Algorithms (ESA 2003), LNCS 2832.

## Solid State Physics

- M. Bukała, P. Sankowski, R. Buczko, P. Kacman, *Crystal and electronic structure of PbTe/CdTe nanostructures*, *Nanoscale Research Letters*, **6**, 126 (2011).
- A. Szot, A. Szczerbakow, K. Dybko, L. Kowalczyk, E. Smajek, V. Domukhovski, E. Lusakowska, P. Dziawa, A. Mycielski, T. Story, M. Bukała, M. Galicka, P. Sankowski, R. Buczko, P. Kacman, *Experimental and Theoretical Analysis of PbTe-CdTe Solid Solution Grown by Physical Vapour Transport Method*, **116:5**, 959-961 (2009).
- P. Sankowski, P. Kacman, *Modeling of Tunneling Magnetoresistance in (Ga,Mn)As-Trilayers*, **23:12-13**, 2969-2973 (2009).
- P. Sankowski, P. Kacman, J. A. Majewski, *Modeling of bias anomaly in (Ga,Mn)As structures*, *Journal of Applied Physics*, **10**, 103709 (2008) and *Virtual Journal of Nanoscale Science & Technology*, June 2, (2008).
- P. Sankowski, P. Kacman, J. A. Majewski, *Self-consistent model of spin dependent tunneling in (Ga,Mn)As structures*, to be published in *Physica E* **40**, 1944 (2008).
- P. Sankowski, P. Kacman, J. A. Majewski, T. Dietl, *Spin-dependent tunneling in modulated structures of (Ga,Mn)As*, *Phys. Rev. B* **75**, 045306 (2007) and *Virtual Journal of Nanoscale Science & Technology*, January 22, (2007).
- P. Sankowski, P. Kacman, J. A. Majewski, T. Dietl, *Spin-dependent tunneling in modulated structures of (Ga,Mn)As*, *Physica Status Solidi (c)*, Vol. **4/2/2007**, page 493-496.
- P. Sankowski, R. Oszwaldowski, P. Kacman, J. A. Majewski, T. Dietl, *Coherent spin transport in magnetization modulated semiconductor heterostructures*, *Physica Status Solidi (b)*, Vol. **244/7/2007**, page 2391-2398.
- P. Sankowski, P. Kacman, J. A. Majewski, T. Dietl, *Vertical spin transport in semiconductor heterostructures*, *Low Temp. Phys.* **33**, 187 (2007)
- P. Sankowski, P. Kacman, *Spin-dependent phenomena in (Ga,Mn) As heterostructures*, *Acta Physica Polonica A*, **110:2**, 139-150 (2006).
- P. Sankowski, P. Kacman, J. A. Majewski, T. Dietl, *Theory of spin-dependent tunneling and resonant tunneling in layered structures based on (Ga,Mn)As*, *Physica Status Solidi (c)*, Vol. **3/12/2006**, page 4188-4191.
- P. Van Dorpe, W. Van Roy, J. De Boeck, G. Borghs, P. Sankowski, P. Kacman, J.A. Majewski, T. Dietl, *Voltage controlled spin injection in (Ga,Mn)As/(Al,Ga)As Zener diode*, *Physical Review B* **72** 205322 (2005).
- P. Sankowski, P. Kacman, J. Majewski, T. Dietl, *Tight-binding model of spin-polarized tunneling in (Ga,Mn)As-based structures*, *Physica E* **32:1-2**, 375-378 (2006).

- P. Sankowski, P. Kacman, *Interlayer Exchange Coupling in (Ga,Mn)As-based Superlattices*, Physical Review B **71** 201303R (2005).
- H. Kepa, C.F. Majkrzak, P. Sankowski, P. Kacman, T.M. Giebultowicz, *Neutron diffraction and reflectivity studies of Eu chalcogenide based superlattices*, Journal of Alloys and Compounds **401** 238-248 (2005).
- H. Kepa, P. Sankowski, P. Kacman, A.Yu. Sipatov, C.F. Majkrzak, T.M. Giebultowicz, *Neutron Scattering Studies of the Spin Structure of Magnetic Semiconductor Superlattices*, Physics of Semiconductors, Pts A and B **772**, 313-314 (2005).
- P. Sankowski, H. Kepa, P. Kacman, A.Yu. Sipatov, C.F. Majkrzak, T.M. Giebultowicz, *Interlayer Coupling in EuS-Based Superlattices Deduced from Neutron Scattering Experiments*, Acta Physica Polonica A, **105**, 607 (2004).
- H. Kepa, P.Sankowski, P. Kacman, A.Yu. Sipatov, C.F. Majkrzak i T.M. Giebultowicz, *Antiferromagnetic Interlayer Coupling in EuS/YbSe Superlattices*, Journal of Magnetism and Magnetic Materials, **323**, 272-276 (2004).
- P. Sankowski, P. Kacman, *Interlayer Coupling in EuS-based Superlattices (Dependence on the Energy Structure of Non-magnetic Layer)*, Acta Physica Polonica A, **103**, 621 (2003).