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DEGREES AND TITLES

Professor title in Mathematics	07.2021, awarded by the President of Poland
Habilitation in Mathematics	06. 2014, University of Warsaw
PhD in Mathematics	07.2004, Darmstadt University of Technology, Germany
MS in Mathematics	2001, University of Warsaw

AFFILIATIONS

since 09.2021	Full Professor at University of Warsaw, Institute of Applied Mathematics and Mechanics,
2015- 08.2021	Associate Professor at University of Warsaw, Institute of Applied Mathematics and Mechanics,
2010-2015	Assistant Professor, Institute of Applied Mathematics and Mechanics, University of Warsaw, Poland
6.2005 -7.2005	EU-RTN post-doc position, University of Ferrara/University of Brescia, Italy
3.2005 - 5.2005	EU-RTN post-doc position, IMATI CNR Pavia, Italy
10.2004 - 3.2005	Assistant, Darmstadt University of Technology, Dept. of Mathematics, Germany

FELLOWSHIPS AND LONGER RESEARCH STAYS

11.2015, 02.2016	two-month research position at University of Mainz, Germany,
06-07.2011	two-month research stay at University of Duisburg-Essen, Germany
03.2011	one-month research position at the Necas Center for Mathematical Modeling, Charles University in Prague, Czech Republic
1.2010, 5.2010	two-month research position at the Necas Center for Mathematical Modeling,
8.2006 - 1.2007	DAAD Scholarship, University of Heidelberg, Germany
10.2001 - 9.2004	Scholarship at DFG Graduate College, Darmstadt University of Technology, Department of Mathematics, Germany

GRANTS

2024 – 2029	Grant of the National Science Centre (MAESTRO) <i>Beyond classical hydrodynamics - new mathematical description of physical phenomena</i> , (Principal Investigator) 700 000 EUR
2022 – 2026	Grant of the National Science Centre (OPUS) <i>Open systems</i> (Principal Investigator), 190 000 EUR
2019 – 2023	Grant of the National Science Centre (HARMONIA) <i>Transport processes</i>

- in mathematical biology*, (Principal Investigator, foreign partner: Benoit Perthame), 128 000 EUR
- 2018 – 2022 Grant of the National Science Centre (OPUS) *Relative entropy method for nonlinear systems*, (Principal Investigator), 120 000 EUR
- 2013–2019 Grant of the National Science Centre (SONATA-BIS) for young group leaders *Hyperbolic conservation laws: theory and applications in geoscience and public health* (Principal Investigator), 117 500 EUR
- 2015–2018 Grant of the National Science Centre (HARMONIA) *Hyperbolic systems in physics and biology* (Co-investigator)
- 2015–2018 Grant of the National Science Centre (OPUS) *Complex flows* (Co-investigator)
- 2014-2015 Grant POLONIUM *Nonlocal hyperbolic conservation laws: modeling, analysis, approximations*, common project with Universite de Franche-Comte, Besançon, France, 2014-2015, (Principal Investigator on Polish side)
- 2009–2014 International Ph.D. Projects Programme of Foundation for Polish Science "Mathematical Methods in Natural Sciences", (Co-investigator)
- 2012–2014 Research Group Linkage Programme (Warsaw, Berlin, Essen), Alexander von Humboldt Foundation, (Co-investigator)
- 2011 – 2014 Grant IdeasPlus of the Ministry of Sci. and Higher Edu. *Physical systems in the eyes of mathematics*, (Co-investigator)
- 2011–2014 Grant of the National Science Centre – *The measure and Orlicz spaces in the mathematical description of growth and flow phenomena* (Co-investigator)
- 2008–2009 Visegrad Fund international standard grant (collaboration with Charles University in Prague and Comenius University in Bratislava) – *Non-newtonian fluids* (Principal Investigator)
- 2007–2010 Grant of Ministry of Sci. and Higher Educ. *Analysis of problems arising in physics and biology in the framework of mathematical entropies*, (Co-investigator)

AWARDS

- 2008 The scholarship of the Rector of University of Warsaw,
 2014 The award of the Rector of University of Warsaw for scientific and organizational activities

OTHER FUNDING

- 2023 Oberwolfach Research Fellows program, Mathematisches Forschungsinstitut Oberwolfach, Germany, title of the project: Measure-Valued Solutions for Time-Dependent Partial Differential Equations, (commonly with T. Dębiec, P. Gwiazda and E. Wiedemann)
- 2015 Research in Pairs, Mathematisches Forschungsinstitut Oberwolfach, title of the project: Rigidity and flexibility for compressible and granular flows (commonly with E. Feireisl, P. Gwiazda and E. Wiedemann)
- 2010-2020 Multiple funding from the Banach Centre (Poland) for organizing conferences

ORGANISATION OF SCIENTIFIC MEETINGS (SELECTED)

- 2023 Workshop *Crossing the borderlines in fluids and biology*, Chęciny
 2022 Conference 30th Birthday of Acta Numerica, Będlewo, Poland

- 2022 Workshop on Recent Advances in Kinetic Theory and Fluid Dynamics Models in honour of Claude Bardos, Warsaw
- 2020 Multiscale Models for Complex Fluids Modeling and Analysis, Banff, Canada (online)
- 2019 Mini-symposium *Inviscid Fluid Dynamics* at SIAM PDE, La Quinta USA,
- 2018 Workshop *Mathematical Analysis in Broad Understanding*, Warsaw,
- 2018 Workshop *Transport phenomena in mathematical biology*, Warsaw,
- 2017 Mini-symposium: *Conservation/dissipation of energy in equations of fluid mechanics* at SIAM PDE, Baltimore USA,
- 2017 Workshop *Current Topics in Kinetic Theory*, Warsaw,
- 2017 Workshop *Ideal Fluids and Transport*, Warsaw,
- 2016 Winter school CrossFields PDEs, Będlewo, Poland
- 2017 Simons Semester Crossfields PDEs, Banach Center in Warsaw, (4 months)
- 2016 Conference *X Forum of Partial Differential Equations*, Będlewo, Poland,
- 2015 Mini-symposium *Around Euler Equations* at SIAM PDE, Phoenix, USA,
- 2015 Mini-symposium *Multi-scale complex flows* at ICIAM 2015, Beijing, China,
- 2015 *Bio+Fluids in Warsaw*, workshop, Poland,
- 2014 Session *Evolutionary PDEs* at Joint PTM-DMV Meeting, Poznan, Poland
- 2013 Mini-symposium *Fluid mechanics* at SIAM PDE, Orlando, USA,
- 2012 Mini-symposia *Hyperbolic conservation laws and Fluid mechanics* at 6th European Congress of Mathematics, Krakow,
- 2011 Bialka Tatrzanska, Poland, Winterschool: *Mathematical analysis in fluid mechanics*,
- 2010 *VII Forum of Partial Differential Equations*,
- 2009 Korbiew, International Winter School: *Thermodynamics and Mathematical Analysis of Non-Newtonian Fluids*.

PLENARY AND INVITED LECTURES (SELECTED)

- 2024 Conference Equadiff 2024, Karlstad, Sweden (plenary lecture)
 - 2022 Mathflows, CIRM Luminy, France (plenary lecture)
 - 2021 XI Forum of Partial Differential Equations, Będlewo, Poland (plenary lecture)
 - 2017 1st Workshop on Advances in Evolution Problems and Continuum Mechanics, Fez, Marocco, (plenary lecture)
 - 2017 International Conference on Partial Differential Equations, Silkroad Mathematics Center, Series International Conferences, Beijing, China, (plenary lecture)
 - 2014 IX Forum of Partial Differential Equations, Będlewo, Poland, (plenary lecture)
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- 2023 13th AIMS Conference on Dynamical System and Differential Equations, Wilmington, USA (invited lecture)
 - 2022 Tata Institute for Fundamental Research - Centre for Applicable Mathematics Bangalore, India (invited seminar lecture)
 - 2022 Conference Equadiff, Brno, Czech Republic (invited lecture)
 - 2020 Workshop Classical and quantum mechanical models of many-particle systems, Oberwolfach, Germany (invited lecture)
 - 2019 Workshop Recent Advances in Nonlocal Kinetic, Fluid and Diffusive PDEs, Jeju, South Korea, (invited lecture)
 - 2019 BIRS Convex Integration in PDEs, Geometry, and Variational Calculus, Banff, Canada (invited lecture)
 - 2019 Workshop Transport, Mixing and Fluids 2019, Münster, Germany (invited lecture)
 - 2018 Workshop on kinetic and fluid partial differential equations, Paris, France, (invited lecture)

- 2018 Workshop Hydrodynamic models in PDEs, Imperial College, London, UK, (invited lecture)
- 2018 Workshop Differential Equations arising from Organising Principles in Biology, Oberwolfach, Germany, (invited lecture)
- 2017 University of Maryland, USA, (invited seminar lecture)
- 2017 University of Oxford, UK, (invited seminar lecture)

INSTITUTIONAL RESPONSIBILITIES

- since 2016 Vice-dean of the Faculty of Mathematics, Informatics and Mechanics,
- since 2019 member of the Coordinating Committee of Priority Research Area in the in the program Excellence Initiative - Research University (IDUB) at the University of Warsaw
- since 2019 Head of the Action Thematic Research Programmes within IDUB, University of Warsaw
- 2019-2021 Coordinator of a flagship (Transforming science and society by advancing information, computation and communication) at the University of Warsaw, which is one of the four priority activities of the 4EU + Alliance.
- 2015–2017 Vice-chairman of the Executive Committee of the Warsaw Center of Mathematics and Computer Science (the center was a joint project of two scientific units: the Faculty of Mathematics, Informatics and Mechanics of the University of Warsaw and the Institute of Mathematics of the Polish Academy of Sciences. The Center was designated as the Leading National Research Center by Polish Ministry of Science and Higher Education in July 2012).

OTHER ACTIVITIES

- 2023/24 co-organizer of the Thematic Research Programme Hyperbolic conservation laws and fluid dynamics, Warsaw
- 2022/23 co-organizer of the Thematic Research Programme Recent Advances in Kinetic Theory and Fluid Dynamics Models, Warsaw
- 2019 Head of the expert panel ST1 (Mathematics), National Science Center, Poland
- 2022 co-organizer of Simons Semester in Banach Center: Around transport and diffusion phenomena, Warsaw
- 2016/2017 co-organizer of Simons Semester in Banach Center: CrossFields PDEs, Warsaw,
- 2009-2011 Member of the selection committee for Ph.D. Programme: Mathematical Methods in Natural Sciences, 2009-2011
- since 2016 Member of Polish Mathematical Society
- since 2022 Member of European Mathematical Society (Activity Group Mixtures)

SUPERVISION OF PHD STUDENTS (COMPLETED)

- 2015 Filip Klawe, *Mathematical analysis of thermo-visco-elastic models*, (co-supervisor),
- 2020 Tomasz Dębiec, *Weak convergence methods for equations of mathematical physics and biology*,
- 2020 Kamila Łyczek, *Differentiability of solutions to perturbed transport equation*.

TEACHING

2001–2005 TU Darmstadt: Analysis, Partial Differential Equations, Navier-Stokes Equations,
2005–2023 University of Warsaw.
LECTURES: Functional Analysis, Partial Differential Equations,
Hyperbolic Conservation Laws, Non-Newtonian Fluids, Nonlinear Analysis,
Numerical Methods for Hyperbolic Conservation Laws, Transport equation
and compressible fluid dynamics, Nonlinear Functional Analysis, Introduction to Partial
Differential Equations, Measure-valued solutions, Selected topics in functional analysis
TUTORIALS: Analysis, Functional Analysis, Ordinary Differential Equations, Partial
Differential Equations
SEMINARS: Methods of Harmonic Analysis n PDEs, Singular Riesz Operators, Optimal
transportation methods, series of compact seminars for students organized every semester
(ca. 10 editions)
MASTER SEMINAR: Partial differential equations and their applications
BACHELOR SEMINAR: Mathematics in action

CAREER BREAKS

02.2005 – 08. 2005 - maternity break (6 months)

LIST OF MOST IMPORTANT PUBLICATIONS

(Selected, the full list available at: <https://www.mimuw.edu.pl/aswiercz/publications.php>)

1. I. Chlebicka, P. Gwiazda, **A. Świerczewska-Gwiazda**, A. Wróblewska-Kamińska. *Partial Differential Equations in Anisotropic Musielak-Orlicz Spaces*, Springer Monographs in Mathematics, xiii+339pp, 2021.
2. E. Feireisl, P. Gwiazda, **A. Świerczewska-Gwiazda**. Time periodic motion of temperature driven compressible fluids. *Math. Ann.*, 387, no. 3–4, 1603–1627, 2023
3. E. Feireisl, **A. Świerczewska-Gwiazda**. The Rayleigh-Bénard Problem for Compressible Fluid Flows. *Arch. Ration. Mech. Anal.* 247, no. 1, Paper No. 9, 2023
4. P. Gwiazda, O. Kreml, **A. Świerczewska-Gwiazda**. Dissipative measure-valued solutions for general conservation laws, *Ann. Inst. H. Poincaré Anal. Non Linéaire*, 37(3), 683–707, 2020.
5. C. Bardos, P. Gwiazda, **A. Świerczewska-Gwiazda**, E. S. Titi, E. Wiedemann. Onsager's conjecture in bounded domains for the conservation of entropy and other companion laws. *Proc. R. Soc. Lond. Ser. A Math. Phys. Eng. Sci.*, Volume 475, Issue 2230, 2019.
6. P. Gwiazda, B. Perthame, **A. Świerczewska-Gwiazda**. A two species hyperbolic-parabolic model of tissue growth, *Comm. Partial Differential Equations*, 44(12): 1604-1618, 2019.
7. C. Bardos, P. Gwiazda, **A. Świerczewska-Gwiazda**, E. S. Titi, E. Wiedemann. On the extension of Onsager's conjecture for general conservation law, *J. Nonlinear Sci*, 29 (2), 501–510, 2019.
8. P. Gwiazda, M. Michálek, and **A. Świerczewska Gwiazda**. A note on weak solutions of conservation laws and energy/entropy conservation. *Arch. Ration. Mech. Anal.*, 229(3):1223–1238, 2018.
9. T. Dębiec, P. Gwiazda, **A. Świerczewska Gwiazda**, and A. Tzavaras. Conservation of energy for the Euler-Korteweg equations. *Calc. Var. Partial Differential Equations*, 57(6):Art. 160, 12, 2018.
10. Feireisl, Eduard; Gwiazda, Piotr; **Świerczewska-Gwiazda, Agnieszka**; Wiedemann, Emil; Regularity and Energy Conservation for the Compressible Euler Equations, *Arch. Ration. Mech. Anal.*, 223(3):1375–1395, 2017.
11. Feireisl, Eduard; Gwiazda, Piotr; **Świerczewska-Gwiazda, Agnieszka**; Wiedemann, Emil; Dissipative measure-valued solutions to the compressible Navier-Stokes system, *Calc. Var. Partial Differential Equations*, 55, no. 6, 55:141, 2016,
12. De Lellis, Camillo; Gwiazda, Piotr; **Świerczewska-Gwiazda, Agnieszka**; Transport equations with integral terms: existence, uniqueness and stability, *Calc. Var. Partial Differential Equations* 55: 128, 2016,