Janusz Grabowski
Prof. Dr.

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Education

1978 **MA**, *University of Warsaw*, Institute of Mathematics, Warsaw
with distinction

1982 **Ph.D.**, *University of Warsaw*, Institute of Mathematics, Warsaw
The Individual Prize of the Minister of Science, Higher Education, and Technology

1993 **Habilitation**, *University of Warsaw*, Institute of Mathematics, Warsaw

2001 **Professor Title**, *University of Warsaw*, Warsaw,
The President of the Republic of Poland

Employment

1978–1982 **University of Warsaw**, *Institute of Mathematics*, Warsaw,
Assistant Professor

1982–1993 **University of Warsaw**, *Institute of Mathematics*, Warsaw,
Associate Professor

1993–2001 **University of Warsaw**, *Institute of Mathematics*, Warsaw,
Professor

1995–1997 **Polish Academy of Sciences**, *Institute of Mathematics*, Warsaw,
Docent

1999–2001 **Polish Academy of Sciences**, *Institute of Mathematics*, Warsaw,
Docent

2009–2012 **Cardinal Stefan Wyszyński University**, *College of Science*, Warsaw,
Full Professor

2001–present **Polish Academy of Sciences**, *Institute of Mathematics*, Warsaw,
Full Professor

Grants and fellowships

○ 1987-1989, Alexander von Humboldt Fellowship (Tübingen, Germany)

○ 1993-1995, grant of the Polish Research Committee (KBN) Nr 2 P301 046 03, *Structures of local Lie algebras*.

○ 1995-1998, grant of the Polish Research Committee (KBN) Nr 2 P03A 074 10, *Infinite-dimensional Lie algebras*.

○ 1999-2000, promotor's grant of the Polish Research Committee (KBN) Nr 2 P03A 039 16, *Gabor frames and affine frames* (for Dr. P. Wojdyłło).

○ 1999-2002, grant of the Polish Research Committee (KBN) Nr 2 P03A 031 17, *Brackets-constructions, properties, applications*.

- 2003-2006, grant of the Polish Ministry of Scientific Research Nr 2 P03A 020 24, *Algebraic structures in geometry and physics*.
- 2006-2009 grant of the Polish Ministry of Science and Higher Education Nr N201 005 31/0115, *Super-algebras and graded differential geometry with applications*.
- 2010-2013 grant of the Polish Ministry of Science and Higher Education Nr N201 416839, *Differential geometry of graded bundles*.
- 2015-2017 Marie Skłodowska-Curie Individual Fellowships European, European Commission, scientific coordinator.
- 2012-2015 grant HARMONIA of the Polish National Science Centre, Nr 2012/04/M/ST1/00523, *Lie systems: theory, generalizations applications*.
- 2013-2018 grant MAESTRO of the Polish National Science Centre, Nr 2012/06/A/ST1/00256, *Geometry of jets and field theories*.
- 2017-2022 grant HARMONIA of the Polish National Science Centre, Nr 2016/22/M/ST1/00542, *Lie systems and selected methods of Lie theory in differential equations*.
- 2024-2027 grant WEAVE-UNISONO of the Polish National Science Centre and the Czech Science Foundation, Nr 2023/05/Y/ST1/00043, *Graded differential geometry with applications*.

Promoted doctorates

1. Dr. Piotr Stachura, 1999, Thesis: *Differentiable groupoids and their C^*-algebras*.
2. Dr. Piotr Wojdyłło, 2001, Thesis: *Gabor frames and affine frames. Their geometry and applications*.
3. Dr. Mikołaj Rotkiewicz, 2004, Thesis *On n-Lie algebras*.
4. Dr. Michał Jóźwikowski, 2011, Thesis *Optimal control on quasi-Lie algebroids*.
5. mgr Adam Szczepan Maskalaniec, doktorant.

Organization of workshops and conferences (since 2010)

- 2010 Roads to Reality with Roger Penrose, Warszawa-Kraków, 17-21.05.2010, member of the Organizing Committee.
- 2010 Poisson Geometry in Mathematics and Physics, IMPA, Rio de Janeiro (Brazil), 24.07 - 01.08.2010, member of the Advisory Committee.
- 2011 Geometry of Manifolds and Mathematical Physics, to celebrate the 80th birthday of Włodzimierz Tulczyjew - Polska, Kraków, 27.06-01.07. 2011, member of the Scientific Committee.
- 2011 New Developments in Geometric Mechanics: Discrete and Continuous Settings, Warszawa, 11-16.12.2011, organizer of the workshop.
- 2011 Geometry of Mechanics - Poland, Warszawa, 19-26.06.2011, organizer of the workshop.
- 2012 Covariant Field Theories I, Warszawa, 3-10.06.2012, organizer of the workshop.
- 2012 Covariant Field Theories II, Warszawa, 7-14.11.2012, organizer of the workshop.
- 2012 ESF Follow-Up Strategic Meeting, Banach Center, Warszawa, 13-16.02.2012, co-convenor.
- 2012 Workshop on Graded Algebra and Geometry, Luxembourg, 4-8.12.2012, member of the Scientific Committee.
- 2013 Lie systems: theory, generalizations, applications I, Banach Center, Warszawa, 20-24.05.2013, workshop organizer.
- 2014 Lie systems: theory, generalizations, applications II, Banach Center, Warszawa, 22-26.09.2014, workshop organizer.

- 2015 "III Meeting on Lie systems", Poland, Warszawa, Banach Center, 21-26.09.2015, organizer of the workshop.
- 2016 "50th Seminar Sophus Lie" - Poland, Będlewo, 25.09.-01.10.2016, organizer of the conference.
- 2018 Classical and Quantum Physics: Geometry, Dynamics and Control. 60 Years Alberto Ibort Fest, 5 - 9 March, Madrid 2018, member of the Scientific Committee.
- 2018 Homotopy algebras, deformation theory and quantization, 16.09.2018 - 22.09.2018, Będlewo (Poland), organizer of the conference.
- 2019 Supergeometry, supersymmetry and quantization, University of Luxembourg, December 16-19, 2019, member of the Scientific Committee.
- 2021 XXXIX Workshop on Geometric Methods in Physics, Poland, Białowieża 28.06.-02-07., 2021, the workshop organizer.
- *COVID*
- 2023 LOOPS'23, Poland, Będlewo, 25.06.2023 - 02.07.2023, organizer of the conference.
- 2025 Graded Structures in Geometry and Physics, Poland, Warszawa, 8-14 June 2025 (in preparation), the workshop organizer.

Plenary and invited conference talks (since 2015)

- *Tulczyjew triples in the dynamics of strings*, invited talk at the conference Integrability and Nonlinearity in Field Theory - Italy, Vietri sul Mare, 28-29.03.2015.
- *New developments in geometric mechanics*, invited talk at the conference Geometry of Jets and Fields - Poland, Będlewo, 10-16.05.2015.
- *Loopoids with applications to discrete mechanics*, invited talk at "LOOPS15"-The International Mathematical Conference on Quasigroups and Loops - Macedonia, Ohrid, 28.06. - 04.07. 2015.
- *Generalized Schmidt rank and entanglement for composite systems of indistinguishable particles*, poster at the conference The 18th Conference on Quantum Information Processing - Australia, Sydney, UTS, 12-16.01.2016.
- *Weighted groupoids and algebroids with applications*, invited talk at the conference Workshop on Poisson Geometry and Mathematical Physics, China, Tianjin, Chern Institute, 4-8.01.2016.
- *Introduction to graded bundles*, invited talk at The First International Conference on Differential Geometry, Morocco, Fez, 11-15.04.2016.
- *Introduction to the theory of graded bundles*, mini-course at the school 10th International School on Geometry, Mechanics and Control, Spain, Miraflores, 20-24.06.2016.
- *Entanglement measure for composite systems of indistinguishable particles*, poster at the Quantum Communication Measurement and Computing conference, Singapore, NUS, 4-6.07.2016.
- *Geometry of quantum systems*, invited talk at the conference Geometria é Fisica, a geometrical vision of physics, Italy, San Rufo, 11-13.07.2016.
- *Mechanics on graded bundles*, invited talk at the conference XXV International Fall Workshop on Geometry and Physics, Madrid, August 29th-September 2nd, 2016.
- *Graded geometry and field theory*, invited talk at XIXth International Conference on Geometry, Integrability and Quantization - Bulgaria, Varna, 1-8.06.2017.
- *Geometric Mechanics a la Tulczyjew on agebroids*, invited talk at the 61st Souriau Colloquium - France, Amboise, 25-10.06.2017
- *Introduction to graded manifolds*, a mini-course at the school Geometry of PDEs and Secondary Calculus - Italy, Lizzano in Belvedere, 20-31.07.2017
- *Splitting theorem for colored supermanifolds*, invited talk at the conference "Supergeometry and Applications", December 14-15, 2017, University of Luxembourg.

- *On Lie's result about integrability of vector fields by quadratures*, contributed talk at the conference Dynamics and integrability of nonholonomic and other non-Hamiltonian systems, 24-27 January, 2018 - Dipartimento di Matematica "Tullio Levi-Civita", Universitá degli Studi di Padova.
- $\mathbb{Z}_2^n$-*supermanifolds*, the invited talk at the conference Classical and Quantum Physics: Geometry, Dynamics, and Control. 60 Years Alberto Ibort Fest, 5 - 9 March, Madrid 2018.
- *On a Lie's theorem about integrability by quadratures*, the invited talk at the conference Group Analysis of Differential Equations and Integrable Systems, Ninth Workshop (June 10-14, 2018, Larnaca, Cyprus)
- *On a Lies theorem about integrability of quadratures*, contributed talk at the conference The 32nd International Colloquium on Group Theoretical Methods in Physics (Group32), Czech Technical University in Prague, Czech Republic, 9-13.07.2018.
- *Solvability implies integrability*, plenary talk at the conference XXVII International Fall Workshop on Geometry and Physics, Sevilla (Spain), 3-7 September 2018.
- *Remarks on contact geometry*, plenary talk at the conference Poisson Geometry and Higher Structures, Istituto Nazionale di Alta Matematica, Roma (Italy), 10-14 September 2018.
- *On integrability in quadratures*, plenary talk at the conference Operators, Functions and Systems of Mathematical Physics - Azerbaijan, Baku, 9-15.06.2019.
- *Tangent and cotangent loopoids*, plenary talk at the conference LOOPS2019 - Hungary, Budapest, 7-13.07.2019.
- *Lie groupoids in information geometry*, plenary talk at the conference Quantum Mechanics and Applications - Spain, Grajera, 23-30.06.2019.
- *Introduction to graded bundles*, mini-course at 6th Workshop on Topics in Theoretical Physics - Iran, Tabriz, 15-22.09.2019.
- *Contact Courant algebroids*, plenary talk at the conference Supergeometry, supersymmetry and quantization, University of Luxembourg, December 16-19, 2019.
- *COVID*.
- *Graded bundles in geometry and mechanics*, mini-course (online), Jilin University (China), 22-25 February 2021.
- *Graded bundles in geometry and physics*, mini-course at XXXIX Workshop on Geometric Methods in Physics- Poland, Białowieża 28.06.-02-07.2021.
- *Contact geometry as a chapter in symplectic geometry*, invited talk in XL Workshop on Geometric Methods in Physics- Poland, Białowieża, 2-8 July 2023.
- *Graded manifolds and homogeneity*, invited talk at the conference " DG Manifolds in Geometry and Physics", Tsinghua Sanya Mathematics Forum, China, Sanya J22-26 June 2024.
- *Information geometry on groupoids*, invited talk at the meeting "From affine geometry to statistical structures" in honour of Prof. Barbara Opozda, Jagiellonian University, Kraków, 7-8 June 2024.
- G-*groupoids, Jacobi Algebroids, and Lifts of Jacobi Structures*, invited talk at the conference "Lie Groupoids, Lie Algebroids & Differentiable Stacks", Italy, Naples, 11-14 June 2024.
- *On integrability by quadratures*, invited talk at the 52nd Conference on Applications of Mathematics, Poland, Kościelisko, 16-21 September 2024.

▬▬▬ Teaching experiences

- More than 20 years of teaching in the Faculty of Mathematics, Informatics and Mechanics, Warsaw University: lectures and exercises on Calculus 1, 2, 3, Functional Analysis, Differential Geometry, Analytical Mechanics, Representation Theory, etc.
- 3 years of courses in Probability and Mathematical Statistics, Differential Geometry, and Analysis on Manifolds in the Faculty of Mathematics and Natural Sciences, College of Sciences, Cardinal Stefan Wyszyński University, Warsaw.

- Classes on Mathematics (Linear Algebra and Calculus) in the Faculty of Management and Administration, Warsaw University, 1991-1993.
- Seminars on Differential Geometry and Mathematical Methods of Physics at the Institute of Mathematics, Polish Academy of Sciences.
- co-organizer of Seminars on Geometry and Differential Equations at the Institute of Mathematics, Polish Academy of Sciences.
- co-organizer of the The Trans-Carpathian Seminar on Geometry & Physics, University of Warsaw, Faculty of Physics.

Membership in Editorial Boards

- *Banach Center Publications* (Warsaw) - Managing Editor (2006-2010).
- *Dissertationes Mathematice* (Warsaw) - Managing Editor (2007-2018), Editor (since 2018).
- *Extracta Mathematicae* (Universidad Badajoz, Spain) (since 2006).
- *Journal of Geometric Mechanics* (AIMS, USA) (since 2008).

Other Experiences

- **The Chair of the Mathematical Panel of the European Research Council** (PE1) of Starting Grants, European Research Council 2010-2013.
- **Member of the Scientific Council of the Center for Application of Mathematics**, the Institute of Mathematics, Polish Academy of Sciences, 2004-2006.
- **The Head of the Department of Mathematical Physics and Differential Geometry**, the Institute of Mathematics, Polish Academy of Sciences, 2005 - present.
- **Member of Grant Panels** of many Science Foundations, e.g., the European Science Foundation, the Polish Science Foundation, FCT (Portugal), FWO (Netherlands), the Science Fund of the Republic of Serbia, the Polish National Science Centre, etc.
- **The Scientific Secretary of the Stefan Banach International Mathematical Center**, 2006-2010.
- **Member of the EPDI panel**, the European Post-Doc Institutes, 2006-2010.
- **The Conventor of the Polish-Spanish** joint research project within a cooperation agreement between PAN and CSIC (Consejo Superior de Investigaciones Cientificas) for the years 2009-2012, "Geometry of constraints and control".
- **Member of the Scientific Council** of the Center for Theoretical Physics, Polish Academy of Sciences, 2015-2018.
- **Member of the Scientific Council** of the Institute of Mathematics, Polish Academy of Sciences 2003 - present.
- **Member of the Committee on Employment and Evaluation of Scientific Activities** of the Institute of Mathematics, Polish Academy of Sciences 2003 - present.
- **Disciplinary Spokesman** of the Institute of Mathematics, Polish Academy of Sciences, 2019 - 2023.

Distinctions

- **1973 Laureate of the Physics Olympiad;**

- **The 1978 First Prize of the Polish Mathematical Society** in the Józef Marcinkiewicz Competition for the best student paper in mathematics;

- **The 1981 prize of Polish Mathematical Society for Young Mathematicians;**

- **The 1983 Individual Prize of the Minister of Science, Higher Education and Technology, Poland** for the achievements in scientific research;

- **The Gold Cross of Merit**, The President of the Republic of Poland, 2008.