

GEOMETRY, DYNAMICS AND FIELD THEORY NETWORK

August 2025

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# Geometry, Dynamics and Field Theory Network Infosheet

### Network's activities

VIII Iberoamerican Meeting on Geometry, Dynamics and Field theory (commemorating the 60th birthday of Juan Carlos Marrero).

19–23 January 2026, La Laguna, Tenerife, Spain.

### **Outstanding workshop**

XXXIII International Fall Workshop on Geometry and Physics.

9–12 September 2025, Córdoba, Spain.

### Other scientific events

Quantum control of rotational dynamics.

1-3 September 2025, Paris, France.

Mathematical Results in Quantum Theory.

1–5 September 2025, Munich, Germany.

Topology, Dynamics, and Logic in interaction.

1–5 September 2025, Cetraro, Italy.

Modern Problems of Mathematics and Mechanics.

3-6 September 2025, Baku, Azerbaijan.

7th International Applied Mathematics, Modelling and Simulation Conference.

5–7 September 2025, Athens, Greece.

Equivariant Topological Quantum Field Theory.

7–12 September 2025, Oaxaca, Mexico.

Differential Geometry and its Applications.

8–12 September 2025, Brno, Czechia.

Quantum Many-Body Dynamics: Thermalization and its Violations.

8–19 September 2025, São Paulo, Brazil.

### On Modern Mathematical Tools in Mechanics

8–19 September 2025, Douala, Cameroon.

### Online course in Quantum Field Theory.

8 September 2025–30 January 2026, Trieste, Italy.

### 2D Conformal Field Theory.

9 September 2025–31 January 2026, Trieste, Italy.

## Workshop: Hydrodynamic models and multi-scale analysis in PDEs.

14-17 September 2025, Warszawa, Poland.

## QFT at the crossroads between mathematics and physics.

15-17 September 2025, Rome, Italy.

## Geometric Measure Theory on Metric Spaces with Applications to Physics and Geometry.

15–19 September 2025, New York, USA.

### Geometry of classical and quantum spacetimes.

15–19 September 2025, Warszawa, Poland.

## 3rd IMA Conference on Mathematics of Robotics.

 $24\hbox{--}26$  September 2025, Manchester, United Kingdom.

## ICMAM Latin America Satellite Conference on Differential Geometry (Virtual).

25–26 September 2025.

## Frontiers of Lie Theory: Computational Aspects and Applications.

28 September-4 October 2025, Bedlewo, Polonia.

### Analysis of Many-body Quantum Systems.

5-10 October 2025, Oberwolfach, Germany.

## Spectra of Analysis in Geometry and Physics.

6–10 October 2025, Göttingen, Germany.

### Integrable systems and quantum theory.

6–11 October 2025, Saint Petersburg, Russia.

## 6th International Conference on Fluid Flow and Thermal Science.

9-31 October 2025, Barcelona, Spain.

## 3D mirror symmetry and equivariant Lagrangian correspondence.

12-19 October 2025, Banff, Canada.

## Advances in the geometric analysis of Smith maps.

12-19 October 2025, Banff, Canada.

## Omsk conference on geometry and its applications.

13–16 October 2025, Omsk, Russia.

## Phase Transitions and Turbulence including Fluids.

19–24 October 2025, Oberwolfach, Germany.

## Workshop on New Pathways in Exploration of Quantum Field Theory and Quantum Gravity beyond Supersymmetry IV.

22-26 October 2025, Trieste, Italy.

## The Yang-Baxter Equation and Representations of Braid Groups.

26–31 October 2025, Oberwolfach, Germany.

## End of CRISIS: a mathematical school and conference on fluid dynamics.

27–31 October 2025, Luminy, France.

### Regular and Chaotic Dynamics.

27-31 October 2025, Sochi, Russia.

## Holomorphic-topological field theories and representation theory.

3–7 November 2025, Toronto, Canada.

### Dynamics of multiple maps.

3–7 November 2025, Pasadena, USA.

## XVIII Meeting on Recent Advances in Physics of Fluids and its Applications.

5-7 November 2025, Bariloche, Argentina.

## Slow Dynamics in Classical and Quantum Physics.

10–12 November 2025, Trieste, Italy.

### Symplectic structures and trisections.

17–21 November 2025, Luminy, France.

## Dynamical Systems: Theory, Modelling and AI.

19–22 November 2025, , South Africa.

### Fluid Dynamics and Turbulence.

22–23 November 2025, Providence, USA.

### Operator Algebraic Quantum Groups.

30 November-5 December 2025, Banff, Canada.

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30 November–30 December 2025, Banff, Canada.

## Emergent Phenomena in Many-body Quantum Systems.

8–12 December 2025, Luminy, France.

Geometry, higher structures, and physics. 8–12 December 2025, Edinburgh, United Kingdom.

Winter School in Mathematical Physics. 4–9 January 2026, Les Diablerets, Switzerland.

Uncertainty in Combinatorial and Computational Geometry.

4-9 January 2026, Banff, Canada.

Winter School: Shocks and Implosions in Fluids.

6-9 January 2026, Toronto, Canada.

Turbulence and Mixing in Fluid Dynamics. 11–16 January 2026, Les Diablerets, Switzerland.

Calculus of Variations and applications. 12–16 January 2026, Luminy, France.

High Energy Spectral Theory: geometry and dynamics.

12-16 January 2026, Cambridge, United Kingdom.

Geometry and Dynamics for Discrete Subgroups of Higher Rank Lie Groups. 20 January–22 May 2026, Berkeley, USA.

Pathways Workshop: Topological and Geometric Structures in Low Dimensions & Geometry and Dynamics for Discrete Subgroups of Higher Rank Lie Groups.

21–23 January 2026, Berkeley, USA.

Stability of Hamiltonian Systems and Beyond.

26–29 January 2026, Padova, Italy.

Introductory Workshop: Topological and Geometric Structures in Low Dimensions & Geometry and Dynamics for Discrete Subgroups of Higher Rank Lie Groups.

26-30 January 2026, Berkeley, USA.

Conformal Geometry, Einstein Metrics, and General Relativity.

26–30 January 2026, New York, USA.

Fasso'Fest.

30-31 January 2026, Padova, Italy.

Numerical Analysis for Geometric and Nonlinear PDEs.

1–6 February 2026, Oberwolfach, Germany.

High-Dimensional Learning Dynamics. 1–6 February 2026, Banff, Canada.

Contact geometry, general relativity and thermodynamics.

9 February–20 March 2026, New York, USA.

7th African Conference on Computational Mechanics.

25–27 February 2026, Cape Town, South Africa.

### Online course

Quantum Field Theory.

8 September 2025–30 January 2026, Trieste, Italy.

### Virtual seminars

Seminar of the Geometry, Dynamics, and Field Theory Thematic Network.

Instituto de Ciencias Matemáticas' seminars on these topics.

Geometry and Applications: Modern Mathematical Approaches (GAMMA) Seminar.

University of Warsaw, the Universitat Rovira i Virgili, and the Polytechnic University of Catalonia.

Reading Groupoid Sessions (In person or virtually).

A collective study sessions dedicated to Lie Groupoids and their connection to Mathematical Physics.

Advanced Lectures on Theoretical Physics and Mathematics.

ICTP-PWF Latin America-Physics Latam New Seminar Series.

Trans-Carpathian Seminar on Geometry and Physics.

A merger of Bucharest Geometry and Physics Seminar and Warsaw Seminar on Geometric Methods in Physics.

### One World IAMP Mathematical Physics Seminar.

Seminar of International Association of Mathematical Physics.

### Seminar on Geometry with Symmetries.

On Lie group actions in Riemannian geometry.

### Control and Optimization Seminar.

Louisiana State University.

### Differential Geometry Seminar Torino.

Organised by the Differential Geometry groups of Università di Torino and Politecnico di Torino.

Symplectic Zoominar.

Online Seminar organized by CRM-Montréal, Princeton/IAS, Tel Aviv, and Paris.

### ICTP Virtual Seminars.

Online Seminar organized by International Centre for Theoretical Physics.

### Theory of Duality Seminar.

Department of Mathematical Methods in Physics, University of Warsaw.

### Geometry and Topology Online.

Warwick Mathematics Institute.

### Instituto Balseiro Seminar.

Instituto Balseiro' public seminars live on Youtube.

### **Opportunities**

### Ph.D. offers

### PhD Position Quantum Computational Fluid Dynamics.

Delft University of Technology, Netherlands Closing date: 14 September 2025.

### Doctoral Researcher in nonlinear systems and control.

Aalto University, Espoo, Helsinki region, Finland Closing date: 15 September 2025.

### PhD scholarship in Graded differential geometry with applications.

Institute of Mathematics, Polish Academy of Sciences, Warsaw, Poland

Closing date: 15 September 2025.

### PhD Fellowship in Algebraic and Symplectic Geometry.

University of Stavanger, Norway Closing date: 15 September 2025.

### PhD position on Stochastic geometric numerical methods.

University of Twente, Enschede, Netherlands Closing date: 30 September 2025.

### PhD position in reconstruction of turbulence from partial observations.

KU Leuven, Belgium

Closing date: 31 October 2025, 23:59 CET.

### ISTA PhD program.

Institute of Science and Technology Austria (ISTA), Klosternuburg, Austria

Closing date: 8 January 2026, 15:00 CET.

### 4 PhD positions in Mathematics.

University of Luxembourg, Luxembourg Closing date: Open. Applications will be processed upon reception.

### Doctoral Researcher in Computational Mechanics.

University of Luxembourg, Luxembourg Closing date: Open. Applications will be processed upon reception.

### PhD in Theoretical Quantum Physics.

University of Luxembourg, Luxembourg Closing date: Open. Applications will be processed upon reception.

### Postdoctoral fellowships

### Postdoctoral Fellowship in Algebraic and Symplectic Geometry.

University of Stavanger, Norway Closing date: 15 September 2025.

### ISTA-Fellow: Postdoctoral Program.

Institute of Science and Technology Austria

(ISTA), Klosternuburg, Austria Closing date: 16 September 2025.

### NOMIS-ISTA Fellowship.

Institute of Science and Technology Austria (ISTA), Klosternuburg, Austria Closing date: 18 September 2025.

### MATHRIX Assistant Professor Programme.

University of Münster, Germany Closing date: 30 September 2025.

### Postdoc in Representation Theory.

EPFL, Lausanne, Switzerland Closing date: 1 November 2025.

### Postdoctoral Fellowship in Mathematics.

Instituto de Matemática Pura e Aplicada (IMPA), Rio de Janeiro, Brazil

Closing date: 30 November 2025.

## Faculty and Postdoctoral Fellow Positions in Mathematics.

School of Sciences, Great Bay University, China Closing date: 1 December 2025.

## Humboldt Research Fellowship for Postdoctoral Researchers.

Alexander von Humboldt Foundation

Closing date: Open.

### Tenure-Track and Post-Doc Positions.

Mathematics Research Lab, Baku State University, Azerbaijan

Closing date: The hiring committee will begin reviewing applications immediately. Positions will remain open until filled.

## Postdoctoral Positions in Differential Geometry, Algebraic Geometry, Topology and Quantum Field Theory.

Institute of Geometry and Physics, University of Science and Technology of China, Hefei, China Closing date: none.

### Research Assistant Professor Positions in Differential Geometry, Algebraic Geometry, Topology and Quantum Field Theory.

Institute of Geometry and Physics, University of Science and Technology of China, Hefei, China Closing date: none.

### Offers for researchers

### Associate Professor in Mathematics.

Uppsala University, Sweden Closing date: 11 August 2025.

## Assistant Professor (tenure track) or Associate Professor in Geometry and Algebraic Geometry.

University of Luxembourg, Luxembourg Closing date: 31 August 2025.

## Assistant/Associate/Full Professor, Mathematics

Yale University, Connecticut, USA Closing date: 31 August 2025.

### Lecturer in Theoretical Physics.

King's College London, England, UK Closing date: 8 September 2025.

#### Senior Research Fellow Positions.

Center for Geometry and Physics, Institute for Basic Science, South Korea

Closing date: 8 September 2025.

## Tenure-track/Associate professor position in geometry.

Scuola Internazionale Superiore di Studi Avanzati, Trieste, Italy

Closing date: 15 September 2025.

### Associate Professor.

Research Institute for Mathematical Sciences (RIMS), Kyoto University, Japan Closing date: 29 September 2025.

### Faculty Positions.

Department of Mathematics, Bilkent University, Ankara, Turkey

Closing date: 15 October 2025.

## Professor/Associate Professor/Assistant Professor positions.

Department of Mathematics, The Chinese University of Hong Kong, Hong Kong Closing date: 22 October 2025.

## Tenure-track position in Pure, Applied and Industrial Mathematics.

Instituto de Matemática Pura e Aplicada (IMPA), Rio de Janeiro, Brazil

Closing date: 16 November 2025.

## Faculty and Postdoctoral Fellow Positions in Mathematics.

School of Sciences, Great Bay University, China Closing date: 1 December 2025.

### Tenured/tenure-track faculty.

Institute of Mathematical Sciences, Shanghai<br/>Tech University, Shanghai, China

Closing date: Open. Applications will be evaluated on a rolling basis until all the positions are filled.

### Tenure-Track and Post-Doc Positions.

Mathematics Research Lab, Baku State University, Azerbaijan

Closing date: The hiring committee will begin reviewing applications immediately. Positions will remain open until filled.

### Faculty Positions in Mathematical Sciences.

School of Mathematics and Statistics, Beijing Institute of Technology, China

Closing date: Applications are reviewed on a rolling basis year-round. Early submission is encouraged.

## Tenure-track Assistant Professor Positions in Differential Geometry, Algebraic Geometry, Topology and Quantum Field Theory.

Institute of Geometry and Physics, University of Science and Technology of China, Hefei, China Closing date: none.

### Associate and Full Professor Positions in Differential Geometry, Algebraic Geometry, Topology and Quantum Field Theory.

Institute of Geometry and Physics, University of Science and Technology of China, Hefei, China Closing date: none.

### Research visit offers

### Abel Visiting Scholar Program.

International Mathematical Union.

Postdoctoral mathematician to visit a research collaborator for a month.

Closing date: 31 August, 31 December and 30 April.

## Visiting Scholars or Consultants to Institutes in Developing Countries.

International Centre of Theoretical Physics (ICTP).

To expert advice to enhance existing activities or to initiate a new research programme.

Closing date: 30 September.

## Simons Visiting Professors at Mathematisches Forschunginstitut Oberwolfach.

Oberwolfach, Germany.

Junior or senior scientists from outside Europe.

Closing date: Open.

### Focused research groups in Banff, Canada.

Banff International Research Station, Canada. Up to 8 researchers for periods of 1 to 2 weeks. Closing date: Minimum 4 months before the event.

### Research in Teams in Banff, Canada.

Banff International Researh Station, Canada.
Teams of 2 to 4 researchers for 1 to 2 weeks.

Closing date: Minimum 4 months before the event.

### International Research in Groups at CIRM.

Centre International de Rencontres Mathématiques (CIRM), France.

Small groups of researchers for 2 to 4 weeks.

Closing date: Open at any time.

### Research in Residence at CIRM.

Centre International de Rencontres Mathématiques (CIRM), France.

2 to 4 researchers.

Closing date: Open at any time.

### Visiting scholar opportunity in Cambridge.

University of Cambridge, United Kingdom.

Scholars and fellows for development of research, teaching and collaboration.

Closing date: Open.

### Small team visiting the CRM.

Centre de Recerca Matemàtica, Catalonia, Spain. Postdoctoral positions and research in pairs.

Closing date: Any time between 6 and 12 months before the start of the desired stay.

## Visiting research fellow in Kent State University.

Mathematics Department-KSU, Ohio, USA.

Visiting for scholar researchers.

Closing date: Open.

### Financial support

### IMU Volunteer Lecturer Program.

Financial assistance to universities in developing countries to host a 3-4-week intensive course.

Deadline: 1 September.

### CIMPA Schools in Partnership.

Asian and European schools in mathematics

(AESIM).

Deadline: 30 September 2025.

### Trimester Programs.

Hausdorff Research Institute for Mathematics,

Bonn, Germany.

Deadline: 30 September 2025.

## ICTP Grants for Visiting Scholars or Consultants.

Assistance to institutes or research groups in a developing country requiring expert advice to enhance existing activities or to initiate a new research programme.

Deadline: 30 September.

### Thematic Programs at MSRI.

Mathematical Sciences Research Institute, Berkelev, United States.

Deadline: 1 October, 1 December and 1 March every year. Three years ahead.

### Hot topics Workshop at MSRI.

Mathematical Sciences Research Institute, Berkeley, United States.

Deadline: 1 October, 1 December and 1 March every year.

### Summer Graduate Schools at MSRI.

Mathematical Sciences Research Institute, Berkeley, United States.

Deadline: 1 October, 1 December and 1 March every year.

### Full or Half-year Scientific Programs.

Simons Laufer Mathematical Sciences Institute, Berkeley, United States.

Deadline: 1 October, 1 December and 1 March every year.

### Hot Topic Workshops.

Simons Laufer Mathematical Sciences Institute, Berkeley, United States.

Deadline: 1 October, 1 December and 1 March every year.

Revisiting Fundamental Problems Workshop.

Simons Laufer Mathematical Sciences Institute, Berkeley, United States.

Deadline: 1 October, 1 December and 1 March every year.

### 2027 CIMPA Schools Call for Proyects.

For organizing research schools in developing countries.

Deadline: 3 October 2025.

### Workshop at CIRM.

Centre International de Rencontres Mathématiques, France.

Deadline: Open at any time.

### CIMPA Online Courses Program.

Geographic areas of activities of CIMPA (Africa, Central or South America, Asia).

Deadline: Open all year.

## Support for Workshop Organization at Banff.

Banff International Research Station.

Deadline: No precise deadline.

## Proposal of a Workshop in the Mathematisches Forschunginstitut Oberwolfach.

Oberwolfach, Germany.

Deadline: Open.

## Targeted Grants in Mathematical and Physical Sciences.

Simons Laufer Mathematical Sciences Institute, Berkeley, United States.

Deadline: At any time.

### Hosting a workshop at AIMS South Africa.

Contributions for workshops about AIMS's re-

search focus areas.

Deadline: No precise deadline.

### News and publications

### **Journals**

### Geometric Mechanics.

Published by World Scientific about applications of geometric methods in mechanics, dynamics, control, transport, stochastic processes, data science, and learning.

Deadline: No precise deadline.

Geometric methods in mechanics and

### physics.

Open-access sponsored by the International Research Center for Mathematics & Mechanics of Complex Systems Journal (Italy). On topics such as variational methods, numerical methods, and optimization techniques.

Deadline: No precise deadline.

### In Memoriam

### Special issue of Geometric Mechanics.

In honor of Hernán Cendra, in recognition of his

contributions and influence.

Deadline: 15 December 2025.

### Book

Geometric Mechanics. Part III: Broken Symmetry and Composition of Maps.

The book offers 31 lecture-style chapters that progress from finite-dimensional dynamical sys-

tems to manifolds, Lie groups, and modern PDE applications in continuum mechanics. With examples and nearly 200 exercises, it serves as a valuable resource for advanced students and researchers.

### **Preprints**

### Network's members

Juan-Pablo Ortega and Florian Rossmannek: Stochastic dynamics learning with state-space systems.

2508.07876

[stat.ML, cs.LG, math.DS, math.ST, stat.TH]

J. Fernando Barbero G., Juan Margalef-Bentabol, Aitor Vicente-Cano and Eduardo J. S. Villaseñor: Husain-Kuchař model as the Carrollian limit of the Holst term.

2508.15373

[gr-qc, hep-th, math-ph, math.MP]

Luis Crespo and Álvaro Pelayo: Darboux's Theorem in p-adic symplectic geometry.

2508.15443

[math.SG, math-ph, math.MP]

Juan-Pablo Ortega and Florian Rossmannek: Echoes of the past: A unified perspective on fading memory and echo states.

2508.19145

[stat.ML, cs.LG, math.DS]

### Network's collaborators

Carlos Heredia and Josep Llosa: Nonlocal Mechanics.

2508.03601

[hep-th, math-ph, math.MP]

Klas Modin and Milo Viviani: A brief introduction to matrix hydrodynamics.

2508.07088

[math.NA, cs.NA, math-ph, math.DG, math.MP]

Simonetta Abenda and Petr G. Grinevich:  $Dubrovin\text{-}Natanzon\ divisors\ on\ \textit{MM-curves}.$ 

2508.08426

[math.AG, math-ph, math.CO, math.MP, nlin.SI]

Ari J. Aiolfi, Giovanni da Silva Nunes, Jaime Ripoll, Lisandra Sauer and Rodrigo Soares: An alternative condition for the solvability of the Dirichlet problem for the minimal surface equation on non-mean convex domains.

2508.09806

[math.AP, math.DG]

Vincenzo Morinelli, Karl-Hermann Neeb and Gestur Olafsson: Orthogonal pairs of Euler elements

I. Classification, fundamental groups and twisted duality.

2508.10960

[math.RT, math-ph, math.GR, math.MP]

İsmail Burak Ateş, Şengül Kuru and Javier Negro: SUSY hierarchies of Jaynes-Cummings Hamiltonians with different detuning parameters.

2504.19943 (version 2)

[math-ph, math.MP, quant-ph]

Rui Loja Fernandes and Ning Jiang: Analytic Linearization and Holomorphic Extensions of Proper Groupoids.

2508.18036 (version 2)

[math.DG]

Giovanni Russo and Andrew Swann: Nearly Parallel  $G_2$ -Structures with Torus Symmetry.

2508.21703

[math.DG]

### Thematic partner groups

Prizes and awards

GEOMETRY, DYNAMICS AND FIELD THEORY NETWORK	<b>Q-Math group - Universidad Carlos III</b> (Madrid, Spain)	
Mathematical physics group - Universidad de Burgos (Burgos, Spain)	Geometry, dynamics, and learning team - Nanyang Technological University (Singa	
Geometry group - Universität Würzburg (Würzburg, Germany)	pore, Singapore)	
Geometric mechanics group - Universidad Nacional del Sur (Bahía Blanca, Argentina)	Control and geometry team - Inria Paris Center (Paris, France)	
Geometry group - Università degli Studi di Salerno (Salerno, Italy)	Geometrical mathematical physics research group (Madrid, Spain)	
Geometry and mathematical physics group - Loughborough University (Loughborough, United Kingdom)	Réseau de recherche en physique mathéma- tique (Dijon – Lyon – Metz, France)	
Links of interest		
Newsletters		
International Mathematical Union (IMU) Newsletter - July 2025	MAT) Newsletter - June 2025	
Instituto de Ciencias Matemáticas (IC-	International Association of Mathematical Physics Bulletin - May 2025	
Entities		
European Mathematical Society	European Research Council	
Royal Spanish Mathematical Society (RSME)	European Commission Funding & Tenders Portal	
International Association of Mathematical Physics	European Commission - Research and Innovation	
International Centre for Theoretical Physics (ICTP)	International Center of Pure and Applied Mathematics (CIMPA)	
Association for Women in Mathematics (AWM)	Mathematical and physical sciences funding, National Science Foundation, USA	
Journals		
Geometric Mechanics	matical Sciences (AIMS) Journal	
Computational Mechanics	Open Access Physics Journals	
Open Access Mathematics Journals	Societat Catalana de Matemàtiques (SCM) journal on Mathematics	
Open Access American Institute of Mathe-		
	Journal on Wathernatics	

IACM Computational Mechanics Award  IACM O.C. Zienkiewicz Award	Association for Women in Mathematics Awards
IACM Congress Medal (Gauss-Newton Medal)	IEEE Control Systems Society Awards
IACM John Argyris Award for Young Scientists	Royal Society of London Premier Medals and Awards
IACM Fellows Award	London Mathematical Society Prizes
SIAM Activity Groups award various prizes	The Shaw Prize
International Mathematical Union Awards and Prizes	The Henri Poincarè Prize
Other Prizes of International Mathematical Union	The British Royal Society Grants
American Mathematical Society Prizes and Awards	The British Royal Society's medals and award

NOTE: If you want to include information in this info-sheet, please send it to  ${\tt gmcactivities@gmail.com}$