



GEOMETRY, DYNAMICS  
AND FIELD THEORY NETWORK

March 2025

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# *Geometry, Dynamics and Field Theory Network Infosheet*

## Network's activities

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**XVII International ICMAT Summer School on Geometry, Dynamics and Field theory.**

23–27 June 2025, Miraflores de la Sierra, Spain.

## Outstanding workshop

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**XXXIII International Fall Workshop on Geometry and Physics.**

9–12 September 2025, Córdoba, Spain.

## Other scientific events

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**Hyperbolic & Dispersive Equations on Curved Geometries: Connections to Physics and General Relativity.**

7–11 April 2025, New York, USA.

**Applications of NonCommutative Geometry to Gauge Theories, Field Theories, and Quantum Space-Time.**

7–11 April 2025, Luminy, France.

**Geometry of Materials.**

7–11 April 2025, Providence, USA.

**15th International Conference on Applied Physics and Mathematics.**

10–12 April 2025, Tokio, Japan.

**Interactions of Geometric and Quantum Topology focused on Links in Thickened Surfaces.**

13–18 April 2025, Banff, Canada.

**Integro-differential Equations in Many-particle Interacting Systems.**

14–18 April 2025, California, USA.

**Geometric Structures and Discrete Group Actions.**

14–18 April 2025, Luminy, France.

**Higher rank geometric structures.**

14 April–11 July 2025, Paris, France.

**11th International Conference on Control, Automation and Robotics.**

18–20 April 2025, Kyoto, Japan.

**Fluid Solid Interactions and Related Problems.**

21–25 April 2025, Luminy, France.

**Geometry at Large.**

21–25 April 2025, Madrid, Spain.

**3rd International Conference on Intelligent Control and Computing.**

25–27 April 2025, Changchun, China.

**Dynamics of Density Operators.**

28 April–2 May 2025, Los Angeles, USA.

**Dispersive Integrable Equations: Pathfinders in Infinite-Dimensional Hamiltonian Systems.**

28 April–2 May 2025, Luminy, France.

**Gauge Theory and Floer Homology in Low Dimensional Topology.**

28 April–2 May 2025, New York, USA.

**Minicourse on Partial Differential Equations: Analytical and Numerical Tools.**

1 May–30 June 2025, São Paulo, Brazil.

**Advanced School on Mapping Class Groups, Surface Subgroups, Bundles, and Group Extensions.**

5–9 May 2025, Madrid, Spain.

**Spring Time in Mathematical Quantum Physics.**

5–9 May 2025, Vancouver, Canada.

**Trimester Program: Probabilistic methods in quantum field theory.**

5 May–15 August 2025, Bonn, Germany.

**Workshop for Research and Workforce Development in Fluid Mechanics.**

9 May–11 May 2025, Lincoln, USA.

**SIAM Conference on Applications of Dynamical Systems.**

11–15 May 2025, Denver, USA.

**Effective theories for many-body systems out of equilibrium.**

11–16 May 2025, Les Diablerets, Switzerland.

**Mathematical Advances in Geophysical Fluid Dynamics.**

11–16 May 2025, Oberwolfach, Germany.

**Nonlinear Dispersive Equations: Advances and Perspectives.**

12–16 May 2025, Luminy, France.

**School: Probabilistic methods in quantum field theory.**

12–16 May 2025, Bonn, Germany.

**Rencontre Poisson à La Rochelle and Poisson Sigma model days.**

14–16 May 2025, La Rochelle, France.

**International Conference on Dynamical Systems, Control & Related Fields.**

15–16 May 2025, Fes, Morocco.

**Differential games, control theory and optimization.**

19–21 May 2025, Chelyabinsk, Russia.

**Basics of Nonequilibrium Statistical Mechanics.**

19–23 May 2025, Leuven, Belgium.

**Workshop: Random geometry and its connections to QFT.**

19–23 May 2025, Bonn, Germany.

**The International Conference on Riemannian Geometry and Applications.**

23–25 May 2025, Bucharest, Romania.

**Modern topics in quantum many-body physics, from chaos to integrability.**

25–30 May 2025, Les Diablerets, Switzerland.

**Physics and Mathematics of Hydrodynamic and Wave Turbulence.**

26–30 May 2025, Luminy, France.

**Structure Preserving Schemes for Complex Nonlinear Systems.**

1–6 June 2025, Hangzhou, China.

**Summer School on Dynamics and Geometry in Dimension 1, 2 and 3.**

2–6 June 2025, Luminy, France.

**Beyond Uniform Hyperbolicity I: Higher rank actions, random walks and holomorphic dynamics.**

2–6 June 2025, Trieste, Italy.

**LG&TBQ2: Geometry, Topology, and Dynamics.**

2–6 June 2025, Montreal, Canada.

**Distributed Computing and Cyber-Physical Systems.**

2–6 June 2025, Opatija, Croatia.

**Geometry, topology and mathematical physics.**

2–6 June 2025, Moscow, Russia.

**XXVth International Conference Geometry, Integrability and Quantization.**

5–12 June 2025, Varna, Bulgaria.

**Great Lakes Mathematical Physics Meeting.**

6–8 June 2025, Lexington, USA.

**Physical Mathematics of Quantum Field Theory.**

9–13 June 2025, Amherst, USA.

**Workshop on Optimization, Dynamics and Convex Analysis.**

11–14 June 2025, Aveiro, Portugal.

**School - Topological Symmetries and Defects in Quantum Field Theory.**

15–20 June 2025, Les Diablerets, Switzerland.

**The Yang-Baxter equation and all that.**

15–21 June 2025, Będlewo, Poland.

**School: Topological Symmetries and Defects in Quantum Field Theory.**

15–27 June 2025, Les Diablerets, Switzerland.

**Control Theory and Mathematical Modeling.**

16–20 June 2025, Izhevsk, Russia.

**Perfectly matched perspectives on statistical mechanics, combinatorics and geometry.**

16–20 June 2025, Luminy, France.

**Workshop on Model Theory, Algebraic Dynamics, and Differential-Algebraic Geometry.**

16–20 June 2025, Toronto, Canada.

**International Workshop on Lie Theory and Its Applications in Physics.**

16–22 June 2025, Varna, Bulgaria.

**Research School in Geometry.**

16–27 June 2025, Cuernavaca, Mexico.

**Optimal Transport, Heat Flow and Synthetic Ricci Bounds.**

17–21 June 2025, Pisa, Italy.

**5th IFAC Workshop on Control of Systems Governed by Partial Differential Equations.**

18–20 June 2025, Beijing, China.

**Workshop: Topological Symmetries and Defects in Quantum Field Theory.**

22–27 June 2025, Les Diablerets, Switzerland.

**Blooming Beasts: A Conference on the Geometry, Topology, and Dynamics of Infinite-Type Surfaces.**

22–27 June 2025, Oaxaca, Mexico.

**Effective theories in classical and quantum particle systems.**

23–27 June 2025, Trieste, Italy.

**Sub-Riemannian geometry, spectral asymptotics and noncommutative geometry.**

23–27 June 2025, Lund, Sweden.

**Connections with Diffeomorphism Groups.**

23–27 June 2025, Austin, USA.

**Workshop: Integrable QFT: conformal bootstrap, bosonization, near-critical perturbations, and Coulomb gas.**

23–27 June 2025, Bonn, Germany.

**Barcelona Summer School on Floer Theory.**

25–27 June 2025, Barcelona, Spain.

**The William Rowan Hamilton Geometry and Topology Workshop.**

30 June–4 July 2025, Dublin, Ireland.

**Quantum Field Theory and Topological Phases via Homotopy Theory and Operator Algebras.**

30 June–11 July 2025, Bonn, Germany.

**Noncommutative Algebraic Geometry.**

30 June–11 July 2025, Antwerp, Belgium.

**Dynamische Systeme.**

6–11 July 2025, Oberwolfach, Germany.

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

7–11 July 2025, Trieste, Italy.

**Complex Geometry, Complex Analysis and Dynamics.**

7–11 July 2025, Luminy, France.

**Partial Differential Equations of Classical Physics.**

7–25 July 2025, New York, USA.

**Women in Groups, Geometry, and Dynamics III.**

13–18 July 2025, Banff, Canada.

**Geometry and Dynamics in Higher Rank Lie Groups.**

14–25 July 2025, Berkeley, USA.

**16th Viennese Conference on Optimal Control and Dynamic Games.**

15–18 July 2025, Wien, Austria.

**IFAC Joint Symposia on Mechatronics & Robotics.**

15–18 July 2025, Paris, France.

**10th International Conference on Automation, Control and Robotics Engineering.**

16–19 July 2025, Wuxi, China.

**Summer School of Mathematical Physics.**

16 July–16 August 2025, Hradec Králové, Czech Republic.

**Partial Differential Equations.**

20–25 July 2025, Oberwolfach, Germany.

**Recent Developments in Logarithmic Conformal Field Theory.**

20–25 July 2025, Banff, Canada.

**Formalizing Class Field Theory.**

21–25 July 2025, Oxford, United Kingdom.

**Non-equilibrium statistical physics: mathematical and physical advances.**

21–25 July 2025, Firenze, Italy.

**Topological and Geometric Structures in Low Dimensions.**

21 July–1 August 2025, Berkeley, USA.

**13th IFAC Symposium on Nonlinear Control Systems.**

23–25 July 2025, Reykjavik, Iceland.

**SIAM Conference on Control and Its Applications.**

28–30 July 2025, Montréal, Canada.

**Workshop: Gauge theories and spin systems: Yang-Mills theory, continuous symmetry, and disorder.**

28 July–1 August 2025, Bonn, Germany.

**Recent Advances in PDE and Mathematical Physics.**

3–8 August 2025, Oaxaca, Mexico.

**Around Singularities in Poisson Geometry.**

3–8 August 2025, Hangzhou, China.

**Finite Dimensional Integrable Systems in Geometry and Mathematical Physics.**

4–8 August 2025, Guanajuato, Mexico.

**Holomorphic-topological field theories and representation theory.**

11–15 August 2025, Toronto, Canada.

**Structures and Processes: Dynamical, Geometric, and Random.**

18–22 August 2025, Toronto, Canada.

**School on Quantum Dynamics of Matter, Light and Information.**

18 August–5 September 2025, Trieste, Italy.

**Holomorphic Dynamics.**

24–29 August 2025, Oaxaca, Mexico.

**Intersections of Topological Recursion, Conformal Field Theory, and Random Geometry.**

24–29 August 2025, Les Diablerets, Switzerland.

**Orbit equivalence and topological and measurable dynamics.**

25–29 August 2025, Luminy, France.

**Geometry and Convergence in Mathematical General Relativity.**

25 August–3 October 2025, New York, USA.

**Mathematical Results in Quantum Theory.**

1–5 September 2025, Munich, Germany.

**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.

**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.

**3rd IMA Conference on Mathematics of Robotics.**

24–26 September 2025, Manchester, United Kingdom.

## Online courses

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### **Introduction to Numerical Methods for Partial Differential Equations.**

23–26 June 2025, Calicut, India.

### **Numerical Simulation and Analysis of Elliptic and Parabolic PDEs using Differential Quadrature Methods and FEMs.**

21–24 July 2025, Roorkee, India.

## Virtual seminars

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### **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.

### **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.

## Job offers, fellowships and supports

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### Ph.D. offers

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#### **PhD Position in Probability Theory and Geometry.**

Delft University of Technology, Netherlands

**Closing date: 6 April 2025.**

#### **Doctoral student in Topological Data Analysis.**

KTH – Royal Institute of Technology, Stockholm, Sweden

**Closing date: 11 April 2025.**

#### **PhD positions in Mathematics.**

Stockholm University, Sweden

**Closing date: 22 April 2025.**

#### **Research Associate in Dynamical Systems.**

Imperial College London, England, UK

**Closing date: 22 April 2025.**

#### **Research Associate for the Project “Emmy Noether Group ‘Vertex Algebras Associated with 2- and 4-dimensional Conformal Field Theories’”.**

University of Hamburg, Germany

Closing date: 24 April 2025.

**PhD Position Distributed Optimization and Control for Drone Swarms.**

Delft University of Technology, Netherlands

Closing date: 30 April 2025.

**PhD Studentship in the Mathematical Modelling of Infectious Disease Transmission and Control.**

University of Sussex, England, UK

Closing date: 1 May 2025.

**Doctoral student in applied and computational mathematics.**

KTH – Royal Institute of Technology, Stockholm, Sweden

Closing date: 5 May 2025.

**13 PhD positions in Cohomology, Geometry, Explicit Number Theory.**

Stichting Vrije Universiteit Amsterdam (VUA), Netherlands; Technische Universität Braunschweig (TUB), Germany; Université de Bordeaux (UBx), France; and University of Galway, Ireland.

Closing date: 30 May 2025 - 16:00 (Europe/Paris).

**Postdoctoral fellowships**

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**Postdoc in Dynamical Systems.**

Vrije Universiteit Amsterdam, Netherlands

Closing date: 4 April 2025.

**Post doctor (2 years) within geometric deep learning.**

Umeå University, Sweden

Closing date: 7 April 2025.

**Research Associate in Mathematical Physics Lagrangian Multiforms.**

Loughborough University, England, UK

Closing date: 10 April 2025.

**Postdoctoral researcher in symplectic topology and Hamiltonian dynamics.**

Sorbonne University, Paris, France

Closing date: 22 April 2025 00:00:00 Paris time.

**One or two postdoctoral positions.**

Instituto de Matemáticas (IM) of the Universidad Nacional Autónoma de México (UNAM), Mexico City, Mexico

Closing date: 4 May 2025.

**Open call for temporary research positions for young mathematicians.**

**Doctoral Researcher in Computational Mechanics.**

University of Luxembourg, Luxembourg

Closing date: 31 May 2025.

**PhD position in Numerical simulation of coupled Seismo-Hydro-Mechanical processes in seismicity induced by subsurface fluid injection.**

University Cote d'Azur, Nice, France

Closing date: 30 August 2025.

**4 PhD positions in Mathematics.**

University of Luxembourg, Luxembourg

Closing date: Open. Applications will be processed upon reception.

**Several PhD opportunities.**

University of Birmingham, England, UK

Closing date: Applications accepted all year round.

**PhD Position in Differential Geometry.**

UniDistance Suisse, Brig, Switzerland

Closing date: Applications are reviewed on a rolling basis.

Institute of Mathematics of the Polish Academy of Sciences, several cities in Poland

Closing date: 16 May 2025.

**Postdoctoral position in Quantum Information Theory.**

Centre Inria de Saclay, Palaiseau, France

Closing date: 30 June 2025.

**Post-doc offer in optimization.**

CentraleSupélec, Paris-Saclay University, France

Closing date: Open. Applications will be processed on a rolling basis.

**Humboldt Research Fellowship for Postdoctoral Researchers.**

Alexander von Humboldt Foundation

Closing date: Open.

**Two postdoctoral positions at the Topological, Computational, and Algebraic Aspects of Complex Systems Research Group.**

Institute of Mathematics and Informatics, Bulgarian Academy of Sciences, Sofia, Bulgaria

Closing date: The selection process will begin on March 10, 2025, and applications will be reviewed on a rolling basis until 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.

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## Offers for researchers

### **(Senior) Scientist.**

Department of Mathematics and Scientific Computing at the University Graz, Austria  
**Closing date:** 10 April 2025.

### **Associate Professor in Mathematics.**

Stockholm University, Sweden  
**Closing date:** 15 April 2025 11:59 PM CEST.

### **Professor of Mathematics – Algebra, Geometry, and Topology.**

ETH Zurich, Switzerland  
**Closing date:** 15 April 2025.

### **ValER 2025 Call for Permanent Positions of Distinguished Researcher in the Valencian Community.**

Several host institutions in Alicante, Elche, Castelló and Valencia  
**Closing date:** 22 April 2025 at 14:00 (CET).

### **Open Call: Full Professorship (W3 level) in Pure Mathematics.**

University of Münster, Germany  
**Closing date:** 30 April 2025.

### **Senior Lecturer on the Division of Algebra and Geometry.**

University of Gotheburg, Sweden

**Closing date:** 4 May 2025.

### **Associate Professor in Geometry and Dynamics.**

Côte d’Azur University, Nice, France  
**Closing date:** 15 May 2025.

### **Assistant/Associate/Full Professor, Mathematics.**

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

### **Tenure-track faculty.**

Institute of Mathematical Sciences, ShanghaiTech 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.

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## Offers for visiting researchers

### **Abel Visiting Scholar Program.**

International Mathematical Union.  
Postdoctoral mathematician to visit a research collaborator for a month.  
**Closing date:** 30 April, 31 August, and 31 December.

### **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:** 31 May.

### **Simons Visiting Professors at Mathematisches Forschungsinstitut 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 Research 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.

## Financial support

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### TWAS Research Grants Programme in Basic Sciences: Individuals.

For research projects in biology, chemistry, mathematics and physics in a S&T-lagging countries.

Deadline: 3 April.

### TWAS Research Grants Programme in Basic Sciences: Groups.

For research projects in biology, chemistry, mathematics and physics in a S&T-lagging countries.

Deadline: 3 April.

### TWAS Research Grants Programme for Interdisciplinary Research: Collaborative Grants.

To high-level scientists for a collaborative project jointly carried out by two Principal Investigators in the S&T-lagging countries.

Deadline: 3 April.

### 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: 31 May or 30 September.

### IMU Volunteer Lecturer Program.

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

Deadline: 1 September.

### Trimester Programs.

Hausdorff Research Institute for Mathematics, Bonn, Germany.

Deadline: 30 September 2025.

### Thematic Programs at MSRI.

Mathematical Sciences Research Institute, Berkeley, United States.

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

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.

### 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.

### 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 Forschungsinstitut 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 research focus areas.

Deadline: No precise deadline.

## News and publications

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### Journals

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#### Recent Mathematical and Theoretical Progress in Quantum Mechanics.

Special issue of "Frontiers in Physics" aims to promote research on open problems in quantum mechanics and foster idea exchange between related fields of theoretical and mathematical physics.

Deadline: 30 April 2025.

#### Journal 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.

### Preprints

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#### Network's members

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Ángel Ballesteros, Iván Gutiérrez-Sagredo, Víctor Mariscal and José Javier Relancio: *Quantum group deformation of the Kittel-Shore model.*

2502.20884

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

Xavier Rivas, Narciso Román-Roy and Bartosz M. Zawora: *Symmetries and Noether's theorem for multicontact field theories.*

2503.03463

[math-ph, math.MP]

Michael Konopik, Sigrid Leyendecker, Sofya Maslovskaya, Sina Ober-Blöbaum and Rodrigo T. Sato Martín de Almagro: *A new Lagrangian approach to optimal control of second-order systems.*

2503.04466

[math.OC, math-ph, math.DG, math.DS, math.MP]

Ángel González-Prieto, Eva Miranda and Daniel Peralta-Salas: *Topological Kleene Field Theories: A new model of computation.*

2503.16100

[math.DS, cs.FL, math.CT, math.DG]

Dimitris Boskos, Jorge Cortés and Sonia Martínez: *Gradient sampling algorithm for subsmooth functions.*

2503.16638

[math.OC]

Álvaro Rodríguez Abella and Leonardo Colombo: *Variational Collision Integrators for Nonholonomic Lagrangian Systems.*

2503.19724

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

Alfred M. Grundland, Javier de Lucas and Bartosz M. Zawora: *Stability analysis of the  $(1+1)$ -dimensional Nambu-Goto action gas models.*

2503.19842

[math-ph, math.MP]

Rutwig Campoamor-Stursberg, Oscar Carballal and Francisco J. Herranz: *Contact Lie systems on Riemannian and Lorentzian spaces: from scaling symmetries to curvature-dependent reductions.*

2503.20558

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

Leonardo Colombo, María Emma Eyrea Irazú, María Eugenia García, Asier López-Gordón and Marcela Zuccalli: *Reduction of hybrid Hamiltonian*

*systems with non-equivariant momentum maps.*  
2503.22290  
[math-ph, math.DS, math.MP, math.SG]

## Network's collaborators

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L. M. Nieto and S. Zarrinkamar: *Hidden  $sl(2)$ -Symmetry of the Generalized Landau-Zener Vibronic Model.*

2502.21145

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

Luke Volk and Boris Khesin: *Morse-Bott Volume Forms.*

2503.00541

[math.DG, math.DS]

Anna Cima, Armengol Gasull, Víctor Mañosa and Francesc Mañosas: *Further results for a family of continuous piecewise linear planar maps.*

2503.02411

[math.DS, nlin.CD]

Rutwig Campoamor-Stursberg, Danilo Latini, Ian Marquette, Junze Zhang and Yao-Zhong Zhang: *On the construction of polynomial Poisson algebras: a novel grading approach.*

2503.03490

[math-ph, math.MP]

Rutwig Campoamor-Stursberg, Danilo Latini, Ian Marquette, Junze Zhang and Yao-Zhong Zhang: *Polynomial algebra from the Lie algebra reduction chain  $\mathfrak{su}(4) \supset \mathfrak{su}(2) \times \mathfrak{su}(2)$ : The supermultiplet model.*

2503.04108

[math-ph, math.MP]

C. Buzzi, J. Llibre and P. Santana: *Phase portraits of  $(2;1)$  reversible vector fields of low codimension.*

2503.05436

[math.DS]

Yamile Godoy and Marcos Salvai: *Outer billiards in the complex hyperbolic plane.*

2503.06865

[math.DS, math.DG]

Alberto S. Cattaneo and Filippo Fila-Robattino: *BV description of  $N = 1$ ,  $D = 4$  Supergravity in the first order formalism.*

2503.07373 (version 2)

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

Comlan Edmond Koudjina and Rafael Ramírez-Ros: *High-order persistence of resonant caustics in perturbed circular billiards.*

2503.07488

[math.DS]

Marta Ghirardelli, Brynjulf Owren and Elena Celledoni: *Conditional Stability of the Euler Method on Riemannian Manifolds.*

2503.09434 (version 2)

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

Arash Bahari Kordabad, Eleftherios E. Vlahakis, Lars Lindemann, Sebastien Gros, Dimos V. Dimarogonas and Sadegh Soudjani: *Data-Driven Distributionally Robust Control for Interacting Agents under Logical Constraints.*

2503.09816

[eess.SY, cs.SY, math.OC]

Alexey V. Bolsinov, Andrey Yu. Konyaev and Vladimir S. Matveev: *On the Jordan-Chevalley decomposition problem for operator fields in small dimensions and Tempesta-Tondo conjecture.*

2503.10208

[math.DG, math-ph, math.MP, nlin.SI]

Ziyad AlSharawi, Jose S. Cánovas and Sadok Kallel: *Constrained polynomial roots and a modulated approach to Schur stability.*

2503.11252

[math.DS]

Vicente Muñoz and Juan Rojo: *Constructions of symplectic surfaces in symplectic 4-manifolds with transversal intersections.*

2503.12428

[math.SG, math.DG]

Veronica Centorrino, Francesca Rossi, Francesco Bullo and Giovanni Russo: *Proximal Gradient Dynamics and Feedback Control for Equality-Constrained Composite Optimization.*

2503.15093

[math.OC, cs.SY, eess.SY]

Anna Cima, Armengol Gasull, Víctor Mañosa and Francesc Mañosas: *On two families of iterative methods without memory.*

2503.18815

[math.NA, cs.NA, math.DS]

Tomoki Ohsawa and Andrea Richaud: *Small-Mass Asymptotics of Massive Point Vortex Dynamics in Bose-Einstein Condensates.*

2503.19222 (version 2)  
[cond-mat.quant-gas, math-ph, math.MP]

Rui Loja Fernandes and Wilmer Smilde: *Relative algebroids and Cartan realization problems*.  
2503.19233  
[math.DG]

Ryotaro Shima, Alexander Davydov and Francesco Bullo: *Contractivity Analysis and Control Design for Lur'e Systems: Lipschitz, Incrementally Sector Bounded, and Monotone Nonlinearities*.

2503.20177  
[math.OC]

Andreas Fring, Takano Taira and Bethan Turner: *Quantisations of exactly solvable ghostly models*.  
2503.21447  
[quant-ph, hep-th, math-ph, math.MP]

Davide Murari and Nicola Sansonetto: *From Euler-Jacobi to Bogoyavlensky and back*.  
2503.21950  
[math.DS, math-ph, math.MP, nlin.SI]

## Links of interest

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Geometry, Dynamics and Field Theory Network

Journal "Geometric Mechanics"

International Mathematical Union (IMU) Newsletter - January 2025

Instituto de Ciencias Matemáticas (ICMAT) Newsletter - February 2025

International Association of Mathematical Physics Bulletin - January 2025

European Mathematical Society

Royal Spanish Mathematical Society (RSME)

International Association of Mathematical Physics

International Centre for Theoretical Physics (ICTP)

Association for Women in Mathematics (AWM)

European Research Council

European Commission Funding & Tenders Portal

European Commission - Research and Innovation

International Center of Pure and Applied Mathematics (CIMPA)

Mathematical and physical sciences funding, National Science Foundation, USA

Open Access Mathematics Journals

Open Access American Institute of Mathematical Sciences (AIMS) Journal

Open Access Physics Journals

Societat Catalana de Matemàtiques (SCM) journal on Mathematics

SIAM Activity Groups award various prizes

International Mathematical Union Awards and Prizes

Other Prizes of International Mathematical Union

American Mathematical Society Prizes and Awards

Association for Women in Mathematics Awards

IEEE Control Systems Society Awards

Royal Society of London Premier Medals and Awards

London Mathematical Society Prizes

The Shaw Prize

The Henri Poincaré Prize

The British Royal Society Grants

The British Royal Society's medals and award

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