



GEOMETRY, DYNAMICS
AND FIELD THEORY NETWORK

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Geometry, Dynamics and Field Theory Network Infosheet

Network's activities

26th Winter Meeting: Geometry, Dynamics, and Field Theory.

13–14 January 2025, Zaragoza, Spain.

19th International Young Researchers Workshop on Geometry, Dynamics, and Field Theory.

20–22 January 2025, Verona, Italy.

Other conferences

Winter School in Mathematical Physics.

5–10 January 2025, Les Diablerets, Switzerland.

Winter School: Boundary and Singularity in Fluid Mechanics.

6–10 January 2025, New York, USA.

Representation Theory and Noncommutative Geometry.

6 January–4 April 2025, Paris, France.

22nd International Workshop on Computational Physics and Materials Science: Total Energy and Force Methods.

8–10 January 2025, Trieste, Italy.

Workshop on Resurgence, wall-crossing & geometry.

12–17 January 2025, Les Diablerets, Switzerland.

Infinite-dimensional Geometry: Theory and Applications.

13 January–14 February 2025, Vienna, Austria.

Algebra and Quantum Geometry of BPS Quivers.

19–24 January 2025, Les Diablerets, Switzerland.

Arithmetic, Algebraic and Analytic Dynamics.

20–24 January 2025, Luminy, France.

Patterns, Dynamics, and Data in Complex Systems.

21–24 January 2025, Luminy, France.

Rotating Turbulence: Interplay and Separability of Bulk and Boundary Dynamics.

27–31 January 2025, Los Angeles, USA.

Singularities, differential equations, transcendence.

27 January–28 February 2025, Luminy, France.

Statistical mechanics, Algebra, and Geometry.

2–7 February 2025, Les Diablerets, Switzerland.

Lectures on Statistical Field Theories.

3–14 February 2025, Firenze, Italy.

The 30th Southern California Geometric Analysis Seminar.

8–9 February 2025, Irvine, USA.

Geometric Structures in Group Theory.

9–14 February 2025, Oberwolfach, Germany.

Stochastic Equations and Stochastic Dynamics.

9–14 February 2025, Les Diablerets, Switzerland.

Mathematical Challenges in Quantum Mechanics.

9–14 February 2025, L'Aquila, Italy.

Geometric partial differential equations from unified string theories.

10–14 February 2025, Pasadena, USA.

Circle Packings, Minimal Surfaces, and Discrete Differential Geometry.

10–14 February 2025, Providence, USA.

Microlocal and Global Analysis, Interactions with Geometry.

10–14 February 2025, Postdam, Germany.

MATRIX-MFO Tandem Workshop: Non-linear Geometric Diffusion Equations.

23–28 February 2025, Oberwolfach, Germany.

Geometric Analysis.

3–7 March 2025, Geilo, Norway.

Evolving Design and Discrete Differential Geometry: towards Mathematics Aided Geometric Design.

10–13 March 2025, Kyushu, Japan.

Workshop on Differential Geometry.

10–14 March 2025, Maceio, Brazil.

Non-commutative Optimal Transport.

10 March–13 June 2025, Los Angeles, USA.

Conformal Field Theory, Integrability, and Geometry.

11–15 March 2025, New York, USA.

Geometric Mechanics Formulations for Continuum Mechanics.

16–21 March 2025, Banff, Canada.

Supersymmetric Quantum Field Theories, Vertex Operator Algebras, and Geometry.

17 March–18 April 2025, New York, USA.

Kinetic theory and fluid mechanics: couplings, scalings and asymptotics.

24–28 March 2025, Luminy, France.

Representation Theory, Symplectic Geometry, and Cluster Algebras.

30 March–4 April 2025, Banff, Canada.

New directions in G2 geometry.

31 March–4 April 2025, Pasadena, USA.

Symplectic Singularities, Supersymmetric QFT, and Geometric Representation Theory.

31 March–4 April 2025, New York, USA.

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, Tokyo, 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.

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.

Trimester Program: Probabilistic methods in quantum field theory.

5 May–15 August 2025, Bonn, Germany.

Mathematical Advances in Geophysical Fluid Dynamics.

11–16 May 2025, Oberwolfach, Germany.

Nonlinear Dispersive Equations: Advances and Perspectives.

12–16 May 2025, Luminy, France.

SIAM Conference on Applications of Dynamical Systems.

11–15 May 2025, Denver, USA.

The International Conference on Riemannian Geometry and Applications.

23–25 May 2025, Bucharest, Romania.

Physics and Mathematics of hydrodynamic and wave turbulence.

26–30 May 2025, Luminy, France.

Summer School on Dynamics and geometry in dimension 1, 2 and 3.

2–6 June 2025, Luminy, France.

LG&TBQ2: geometry, topology, and dynamics.

2–6 June 2025, Montreal, Canada.

Great Lakes Mathematical Physics Meeting.

6–8 June 2025, Lexington, USA.

Workshop on Optimization, Dynamics and Convex Analysis.

11–14 June 2025, Aveiro, Portugal.

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.

Optimal transport, heat flow and synthetic Ricci bounds.

17–21 June 2025, Pisa, Italy.

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

22–27 June 2025, Oaxaca, Mexico.

Noncommutative Algebraic Geometry.

30 June–11 July 2025, Antwerp, Belgium.

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 Vir-

gili, 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

Ph.D. offers

14 PhD positions in Port-Hamiltonian Systems.

University of Wuppertal, Wuppertal, Germany

Closing date: 5 January 2025.

PhD positions in Mathematics.

Institute of Science and Technology Austria, Klosterneuburg, Austria

Closing date: 7 January 2025.

PhD position in Variational Analysis.

KU Eichstätt-Ingolstadt, Eichstätt, Germany

Closing date: 10 January 2025.

PhD positions in Geometric Modelling.

Johannes Kepler University Linz, Linz, Austria

Closing date: 15 January 2025.

PhD position in Symplectic Geometry.

University of Stavanger, Stavanger, Norway

Closing date: 19 January 2025.

PhD position in Optimal Transport.

University of Haute Alsace, Mulhouse, France

Closing date: 30 January 2025.

PhD position in Floer Theory.

Vrije Universiteit Amsterdam, Amsterdam, Netherlands

Closing date: 31 January 2025.

PhD positions in Mathematics.

Aarhus University, Aarhus, Denmark

Closing date: 1 February 2025.

PhD position in Spectral Theory.

Aix-Marseille University, Marseille, France

Closing date: 3 February 2025.

PhD position in Spectral Theory.

University of Gothenburg, Gothenburg, Sweden

Closing date: 24 February 2025.

PhD positions in Pure Mathematics.

KU Leuven, Leuven, Belgium

Closing date: 27 February 2025.

Postdoctoral fellowships

Postdoctoral position in Geometric Finite Elements.

University of Edinburgh, Edinburgh, United Kingdom

Closing date: 4 January 2025.

Postdoctoral position in Fluid Dynamics.

University of Bath, Bath, United Kingdom

Closing date: 5 January 2025.

Postdoctoral position in Lie Theory.

Sapienza University of Rome, University of Parma, Italy

Closing date: 13 January 2025.

Postdoctoral position in Mathematics.

University of Fribourg, Fribourg, Switzerland

Closing date: 15 January 2025.

Postdoctoral position in Variational Analysis.

Autonomous University of Madrid, Madrid, Spain

Closing date: 17 January 2025.

Postdoctoral position in Quantum Optimization.

Curtin University, Perth, Australia

Closing date: 18 January 2025.

4 Postdoctoral positions in Port - Hamiltonian Systems.

University of Wuppertal, Wuppertal, Germany

Closing date: 19 January 2025.

Postdoctoral researcher in Symplectic Topology.

University of Oxford, Oxford, United Kingdom

Closing date: 22 January 2025.

Postdoctoral Fellowship.

UCLouvain, Louvain-la-Neuve, Belgium

Closing date: 30 January 2025.

Postdoctoral position in Mathematical Physics.

Kyiv School of Economics, Kyiv, Ukraine

Closing date: 31 January 2025.

Postdoctoral position in General Relativity.

French National Agency for Research, Various venues in France

Closing date: 12 February 2025.

Postdoctoral position in Group Actions and Dynamics.

University of Luxembourg, Belval, Luxembourg

Closing date: Open Until Filled.

Humboldt Research Fellowship for Postdoctoral Researchers.

Alexander von Humboldt Foundation

Closing date: Open.

Offers for researchers

Tenure-track position in Mathematics.

Queen's University, Kingston, Canada

Closing date: 3 January 2025.

Full professor in Geometry and Dynamics.

Heidelberg University, Heidelberg, Germany

Closing date: 6 January 2025.

Tenured/Tenure-track position in Differential Geometry.

ShanghaiTech University, Shanghai, China

Closing date: 10 January 2025.

University Professor of Mathematical General Relativity.

University of Vienna, Vienna, Austria

Closing date: 10 January 2025.

Professor of Mathematics.

University of Alaska Fairbanks, Fairbanks(AK), United States of America

Closing date: 14 January 2025.

Tenured/Tenure-Track positions in Mathematics.

NYU-Shanghai, Shanghai, China

Closing date: 31 January 2025.

Professor of Mathematics.

University of Oxford, Oxford, United Kingdom

Closing date: 7 February 2025.

Professor in Quantum Mathematics.

University of Southern Denmark, Odense, Denmark

Closing date: 1 March 2025.

Associate Professor in Geometry and Dynamics.

Côte d'Azur University, Nice, France

Closing date: 15 May 2025.

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.

Financial support

Individual & Small Group Application in SLMath (MSRI).

On-Site Workshop in Berkeley, California. Dates: June 30 - July 11, 2025.

Deadline: 4 February 2025.

Thematic programs at MSRI.

Mathematical Sciences Research Institute, Berkeley, United States.

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

Hot topics Workshop at MSRI.

Mathematical Sciences Research Institute, Berkeley, United States.

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

Summer graduate schools at MSRI.

Mathematical Sciences Research Institute, Berkeley, United States.

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

Full- or half-year scientific programs.

Simons Laufer Mathematical Sciences Institute, Berkeley, United States.

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

Hot topic workshops.

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.

Simons Laufer Mathematical Sciences Institute, Berkeley, United States.

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

Revisiting Fundamental Problems Workshop.

Simons Laufer Mathematical Sciences Institute, Berkeley, United States.

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

IMU Volunteer Lecturer Program.

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

Deadline: 1 March and 1 September.

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

Journals

Recent Mathematical and Theoretical Progress in Quantum Mechanics.

A 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, con-

trol, 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

Network's members

Rutwig Campoamor-Stursberg, Eduardo Fernández-Saiz and Francisco J. Herranz: *Generalized Buchdahl equations as Lie-Hamilton systems: Quantum deformations and their general solution.*
2412.06057

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

Kai Cieliebak, Urs Frauenfelder, Eva Miranda and Jagna Wiśniewska: *The two-boost problem and La-*

grangian Rabinowitz Floer homology.

2412.08415

[math.SG]

Manuel de León and Jaime Bajo: *A geometric description of some thermodynamical systems.*

2412.18478

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

Network's collaborators

Jaime Muñoz Masqué and Luis Miguel Pozo Coronado: *A new look at the classification of the tri-covectors of a 6-dimensional symplectic space.*

2412.03135

[math.SG]

Bijan Bagchi, A. Ghose-Choudhury, Aritra Ghosh and Partha Guha: *Generalized Liénard systems with momentum-dependent mass: Isochronicity and bound states.*

2412.09100

[quant-ph, math-ph, math.MP, nlin.SI,

physics.class-ph]

Isaac A. García and Jaume Giné: *Characterization of centers by its complex separatrices.*

2412.09197

[math.DS]

Isaac A. García and Jaume Giné: *Principal Bautin ideal of monodromic singularities with inverse integrating factors.*

2412.09205

[math.DS]

Francesco Fassò and Nicola Sansonetto: *Symplectization of certain Hamiltonian systems in fibered almost-symplectic manifolds.*

2412.11265

[math.SG, math.DG, math.DS, nlin.SI]

Amadeu Delshams and Ke Zhang: *Generic global diffusion for analytic uncoupled a priori unstable systems.*

2412.11349

[math.DS]

Andrew James Bruce and Janusz Grabowski: *Principal bundles in the category of \mathbb{Z}_2^n -manifolds.*

2412.12652 (version 2)

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

Alberto S. Cattaneo, Nima Moshayedi and Alberto Smailovic Funcasta: *3D Supergravity In the Batalin–Vilkovisky Formalism.*

2412.14300

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

Tara S. Holm, Liat Kessler and Susan Tolman: *Equivariant cohomological rigidity for four-dimensional Hamiltonian S^1 -manifolds.*

2412.14310

[math.SG, math.DG]

Kael Dixon, Thomas Bruun Madsen and Andrew Swann: *Cohomological lifting of multi-toric graphs.*

2412.15769

[math.DG]

Jaime Muñoz Masqué, Luis Miguel Pozo Coronado and María Eugenia Rosado María: *Differential p-forms and q-vector fields with constant coefficients.*

2412.15771

[math.DG]

Pedro Frejlich and David Martínez Torres: *Dirac products and concurring Dirac structures.*

2412.16342

[math.SG]

Gregorio Falqui, Tamara Grava and Christian Punzini: *Shielding of breathers for the focusing nonlinear Schrödinger equation.*

2412.16696

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

Katarzyna Grabowska, Janusz Grabowski and Rouzbeh Mohseni: *Sasaki structures on general contact manifolds.*

2412.16697

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

François Gay-Balmaz and Meng Wu: *Variational integrators for stochastic Hamiltonian systems on Lie groups: properties and convergence.*

2412.19368

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

Arjan van der Schaft: *Port-Hamiltonian nonlinear systems.*

2412.19673

[math.OC]

Links of interest

Geometry, Dynamics and Field Theory Network

Journal “Geometric Mechanics”

International Mathematical Union (IMU) Newsletter - November 2024

Instituto de Ciencias Matemáticas (ICMAT) Newsletter - November 2024

International Association of Mathematical Physics Bulletin - October 2024

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 - 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 Poincarè Prize

The British Royal Society Grants

The British Royal Society's medals and
award

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