



GEOMETRY, DYNAMICS
AND FIELD THEORY NETWORK

July 2024

Editors: Miguel Berbel, Viviana
Díaz, Rodrigo Sato

Contents

Outstanding event	1
Other conferences	1
Virtual seminars	3
Job offers, fellowships and supports	4
Ph.D. offers	4
Postdoctoral fellowships . .	4
Offers for researchers	5
Offers for visiting researchers	5
Financial support	6
News and publications	7
Journals	7
Preprints	7
Network's members	7
Network's collaborators . .	7
Links of interest	8

Geometry, Dynamics and Field Theory Network Infosheet

Outstanding event

XXXII International Fall Workshop on Geometry and Physics.

2–5 September 2024, Coimbra, Portugal.

Other conferences

Courses in Quantum Field Theory (ICTP-Online).

1 August–9 September 2024, Dhaka, Bangladesh.

Mathematical aspects of general relativity.

4–9 August 2024, Oberwolfach, Germany.

Patterns in solutions to the incompressible Euler equations.

5–9 August 2024, Będlewo, Poland.

VIASM Summer School in Mathematical Physics.

5–10 August 2024, Hue City, Vietnam.

Summer School in Mathematical Physics.

5–10 August 2024, Hue City, Vietnam.

Analysis and Mathematical Physics (online).

5–17 August 2024, Mexico, Mexico.

Calculus of Variation.

11–16 August 2024, Oberwolfach, Germany.

Optimal Transport and Dynamics.

11–16 August 2024, Oaxaca, Mexico.

Utrecht Summer School in Geometry.

12–23 August 2024, Utrecht, Netherlands.

Mathematics, Statistics, and Geometry of Extreme Events in High Dimensions.

18–23 August 2024, Oberwolfach, Germany.

Rutgers Symplectic Summer School 2024.

19–23 August 2024, New Jersey, USA.

Special Geometric Structures and Analysis.

19 August–20 December 2024, Berkeley, USA.

New Frontiers in Curvature: Flows, General Relativity, Minimal Submanifolds, and Symmetry.

19 August–20 December 2024, Berkeley, USA.

Rutgers Symplectic Summer School.

19–23 August 2024, Bremen, Germany.

Connections Workshop: New Frontiers in Curvature and Special Geometric Structures and Analysis.

21–23 August 2024, Berkeley, USA.

Variational methods in applications to PDEs.

26–30 August 2024, Będlewo, Poland.

PDE methods in complex geometry.

26–30 August 2024, California, United States.

10th International Conference on Quantum Information and Quantum Control.

26–30 August 2024, Toronto, Canada.

Introductory Workshop: New Frontiers in Curvature.

26–30 August 2024, Berkeley, USA.

The 9th International Conference on Control and Optimization with Industrial Applications.

27–29 August 2024, Istanbul, Turkey.

Geometry and Physics of Mirror Symmetry.

2–6 September 2024, Sheffield, United Kingdom.

Conference on Recent Developments in Topological Quantum Field Theory.

2–7 September 2024, Beijing, China.

Introductory Workshop: Special Geometric Structures and Analysis.

3–6 September 2024, Berkeley, USA.

Introductory Workshop: Special Geometric Structures and Analysis.

3–6 September 2024, Berkeley, USA.

Non-Hermitian topology, geometry and symmetry across physical platforms.

3 September–11 October 2024, New York, USA.

Modeling and Simulations in Fluids.

7–8 September 2024, Providence, USA.

Stochastics and Geometry.

8–13 September 2024, Banff, Canada.

Towards Routine Orbital-free Large-Scale Quantum-Mechanical Modelling of Materials.

8–13 September 2024, Hangzhou, China.

Bridges between Machine Learning and Quantum Information Science.

9–10 September 2024, Luminy, France.

Summer school on Inverse Problems in Mechanics.

9–14 September 2024, Quiberon, France.

Quantization in Representation Theory, Derived Algebraic Geometry, and Gauge Theory.

15–20 September 2024, Les Diablerets, Switzerland.

Nonlocal Problems in Mathematical Physics, Analysis and Geometry.

15–20 September 2024, Hangzhou, China.

Calculus of Variations: a New Generation.

16–20 September 2024, Bonn, Germany.

The Fundamentals Summer School in High-Energy and Gravitational Physics.

16–20 September 2024, Split, Croatia.

Non-Commutative Geometry and Higher Structures.

17–21 September 2024, Thessaloniki, Greece.

Non-Hermitian topology, geometry and symmetry across physical platforms.

23–27 September 2024, New York, USA.

Workshop on Time Delay Systems.

24–27 September 2024, Udine, Italy.

Anabelian Geometry and Representations of Fundamental Groups.

29 September–4 October 2024, Oberwolfach, Germany.

Integrability, Geometry and QFT.

7–11 October 2024, Madrid, Spain.

Mathematical Billiards: at the Crossroads of Dynamics, Geometry, Analysis, and Mathematical Physics.

9 October–15 December 2024, New York, USA.

Quantum Groups and Representation Theory

.

12–15 October 2024, Raleigh, USA.

Poisson Geometry and Artin-Schelter Regular Algebras.

13–18 October 2024, Hangzhou, China.

Random paths to QFT: New probabilistic approaches to field theory.

14 October–22 November 2024, New York, United States.

Recent progress on geometric analysis and Riemannian geometry.

21–25 October 2024, Berkeley, USA.

New trends in Geometry, Combinatorics, and Mathematical Physics.

21–25 October 2024, Vieille Perrotine, France.

Deep learning for PDE-based inverse problems.

27–31 October 2024, Oberwolfach, Germany.

2nd International Conference on Differential Geometry.

28–31 October 2024, Fez, Morocco.

Mathematics of fluids in motion: Recent results and trends.

11–15 November 2024, Luminy, France.

Geometry and analysis of special structures on manifolds.

18–22 November 2024, Berkeley, USA.

Control and Machine Learning.

24–29 November 2024, Oberwolfach, Germany.

Frontiers in Sub-Riemannian Geometry.

25–29 November 2024, Luminy, France.

24th Australasian Fluid Mechanics Conference.

1–5 December 2024, Canberra, Australia.

Quantum information dynamics and non-equilibrium quantum matter.

2–6 December 2024, New York, USA.

Data-driven Modeling, Analysis, and Control of Dynamical Systems.

8–13 December 2024, Oberwolfach, Germany.

High-Dimensional Control Problems and Mean-Field Equations with Applications in Machine Learning.

8–13 December 2024, Oberwolfach, Germany.

Foliations and Diffeomorphism Groups.

9–13 December 2024, Luminy, France.

The AIMS Conference Series on Dynamical Systems and Differential Equations.

16–20 December 2024, Abu Dhabi, United Arab Emirates.

Energy Operators in Particle Physics, Quantum Field Theory and Gravity.

16–20 December 2024, New York, USA.

Representation Theory and Noncommutative Geometry.

6 January–4 April 2025, Paris, France.

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.

Patterns, Dynamics, and Data in Complex Systems.

21 January–24 February 2025, Providence, USA.

Virtual seminars

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

Instituto de Ciencias Matemáticas' seminars on these topics.

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.

Job offers, fellowships and supports

Ph.D. offers

PhD position in Computational Geometry.

Aalto University, Espoo, Finland

Closing date: 11 August 2024.

5 PhD positions in Optimisation.

Linköping University, Linköping, Sweden

Closing date: 22 August 2024.

PhD position in Geometric Deep Learning.

Umeå University, Umeå, Sweden

Closing date: 25 August 2024.

PhD position in Machine Learning.

University of Würzburg, Würzburg, Germany

Closing date: 30 August 2024.

3 PhD positions in Computational Illumination.

Eindhoven University of Technology, Eindhoven, Netherlands

Closing date: 30 August 2024.

Postdoctoral fellowships

Postdoctoral position in Complex Geometry.

University of Antwerp, Antwerp, Belgium

Closing date: 12 August 2024.

Postdoctoral position in Holomorphic Dynamics.

University of Southampton, Southampton, United Kingdom

Closing date: 27 August 2024.

Postdoctoral position in Computational Fluid Dynamics.

University of Würzburg, Würzburg, Germany

Closing date: 30 August 2024.

Postdoctoral position in Complex and Symplectic Geometry.

University of Florence, Florence, Italy

Closing date: 11 September 2024.

Postdoctoral position in Analysis/Geometry.

University of Fribourg, Fribourg, Switzerland

Closing date: 14 September 2024.

Postdoctoral positions in Analysis and Geometry.

PhD position in Optimal Transport.

Weierstrass Institute for Applied Analysis and Stochastics, Berlin, Germany

Closing date: 30 September 2024.

PhD position in Stochastic Algorithms.

The Forschungsverbund Berlin, Berlin, Germany

Closing date: 1 October 2024.

PhD position in Mechanical design.

University of Southampton, Southampton, United Kingdom

Closing date: 2 October 2024.

PhD position in Control of Multi-Drone.

INRIA Université de Rennes, Rennes, France

Closing date: 31 October 2024.

15 PhD positions in Tensor Modelling, Geometry and Optimisation.

Université Côte d'Azur, Antibes, France

Closing date: 31 December 2024.

Instituto de Matematica Pura e Aplicada, Rio De Janeiro, Brazil

Closing date: 22 September 2024.

Postdoctoral position in Analysis .

UCLouvain, Louvain-la-Neuve, Belgium

Closing date: 29 September 2024.

Postdoctoral position in Mathematics.

Baylor University, Waco (TX), United States of America

Closing date: 8 November 2024.

Postdoctoral position in Optimal Control.

INRIA, Montpellier, France

Closing date: 31 December 2024.

Postdoctoral positions in Applied Mathematics.

National Institute of Standards and Technology, Gaithersburg (MD), United States of America

Closing date: 1 February 2025.

Postdoctoral position in Geometry and Physics.

University of Science and Technology of China, Hefei, China

Closing date: Open until Filled.

Humboldt research fellowship for postdoctoral researchers.

Alexander von Humboldt Foundation

Closing date: [Open](#).

Postdoctoral position in applied mathematics

and theoretical mechanics.

School of Mathematics, Jilin University, China, and
Laboratory of Engineering Sciences for Environment,
La Rochelle University, France

Closing date: [Open until filled](#).

Offers for researchers

Professor in Theoretical Physics.

Dublin Institute for Advanced Studies, Dublin, Ireland

Closing date: [15 August 2024](#).

Assistant Professor in Probability and Calculus of Variations.

University of Cyprus, Nicosia, Cyprus

Closing date: [25 August 2024](#).

Senior Lecturer in Mathematics .

Lund University, Lund, Sweden

Closing date: [30 August 2024](#).

Lecturer in Geometry.

University of St Andrews, St Andrews, United Kingdom

Closing date: [12 September 2024](#).

Tenure-track position in Mathematics.

New York City College of Technology, New York, United States of America

Closing date: [5 October 2024](#).

2 Tenure track positions in Applied Mathematics.

Utah State University, Logan(UT), United States of America

Closing date: [28 October 2024](#).

Tenured/Tenure-track in Differential Geometry.

ShanghaiTech University, Shanghai, China

Closing date: [10 January 2025](#).

Associate Professor in Mathematics.

New York City College of Technology, New York, United States of America

Closing date: [Open Until Filled](#).

Offers for visiting researchers

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, 31 May](#).

Abel Visiting Scholar Program.

International Mathematical Union.

Postdoctoral mathematician to visit a research collaborator for a month.

Closing date: [31 December, 30 April and 31 August](#).

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.

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

Summer Graduate Schools.

Simons Laufer Mathematical Sciences Institute, Berkeley, United States.

Deadline: [1 September every year](#).

IMU Volunteer Lecturer Program.

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

Deadline: [1 September, 1 December 2024 and 1 March 2025](#).

Trimester Program.

Hausdorff Research Institute, Bonn, Germany.

Deadline: [30 September 2024](#).

Thematic programs at MSRI.

Mathematical Sciences Research Institute, Berkeley, 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](#).

Simons Fellows in Mathematics.

Simons Laufer Mathematical Sciences Institute, Berkeley, United States.

Deadline: [2 October 2024](#).

Targeted Grants to Institutes.

Simons Laufer Mathematical Sciences Institute, Berkeley, United States.

Deadline: [3 October 2024](#).

CIMPA School Projects.

Financial support for research schools in developing countries.

Deadline: [12 October 2024](#).

Simons Collaborations in Mathematics and the Physical Sciences.

Simons Laufer Mathematical Sciences Institute, Berkeley, United States.

Deadline: [31 October 2024](#).

ICTP Mathematics Visiting Fellowships.

Grants for visits for a maximum period of 3 months.

Deadline: [31 December 2024](#).

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

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.

Section on "Geometric methods in mechanics

and physics" on Mathematics and Mechanics of Complex Systems Journal.

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

Deadline: No precise deadline.

Preprints

Network's members

Rutwig Campoamor-Stursberg, Óscar Carballal and Francisco J. Herranz: *Lie-Hamilton systems on Riemannian and Lorentzian spaces from conformal transformations and some of its applications.*

2407.01500

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

Bhathiya Rathnayake, Mamadou Diagne, Jorge Cortés and Miroslav Krstic: *Performance-Barrier Event-Triggered Control of a Class of Reaction-Diffusion PDEs.*

2407.08178

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

Daniel Reyes, Miguel Á. Rodríguez and Piergiulio Tempesta: *A Frobenius-type theory for discrete systems.*

2407.11602

[math-ph, math.MP]

Martina Adamo, Ángel Ballesteros and Flavio Mercati: *Noncommutative Lightcones from Quantum $SO(2,1)$ Conformal Groups.*

2407.12459

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

Solmaz Kia and Sonia Martínez: *Multi-agent Coverage Control: From Discrete Assignments to Continuous Multi-agent Distribution Matching.*

2407.13890

[cs.RO, math.OC]

Madeleine Jotz and Rosa Marchesini: *On the homotopy invariance of the twisted Lie algebroid cohomology.*

2407.19750

[math.DG]

Network's collaborators

Christopher Beem, Anirudh Deb, Mario Martone, Carlo Meneghelli and Leonardo Rastelli: *Free field realizations for rank-one SCFTs.*

2407.01674

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

Camille Laurent and Cristóbal Loyola: *Global propagation of analyticity and unique continuation for semilinear waves.*

2407.02866

[math.AP, math.OC]

Stefano Ronchi and Chenchang Zhu: *Duals of Higher Vector Spaces.*

2407.03306

[math.DG, math.AT, math.CT]

Thomas Bruun Madsen and Andrew Swann: *Multi-toric geometries with larger compact symmetry.*

2407.03693

[math.DG]

Guadalupe Quijón and Santiago Capriotti: *Hamiltonian formalism for general variational problems.*

2407.03991

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

Radhia Ayeche, Moez Khenissi and Camille Laurent: *Indirect stabilization of semilinear coupled wave systems.*

2407.04309

[math.AP, math.OC]

Jaume Llibre and Paulo Santana: *Limit cycles and chaos in planar hybrid systems.*

2407.05151

[math.DS]

Bozidar Jovanovic: *Classical relativistic nonholonomic mechanics and time-dependent G-Chaplygin systems with affine constraints.*

2407.06231

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

Damien Calaque and Pavel Safronov: *Shifted cotangent bundles, symplectic groupoids and deformation to the normal cone.*

2407.08622

[math.AG, math.SG]

A. Alonso-Izquierdo, D. Miguélez-Caballero and L. M. Nieto: *Scattering between orthogonally wobbling kinks.*

2407.09131 (version 2)

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

Maciej Dunajski, Andrzej J. Maciejewski and Maria Przybylska: *Integrability of quantum dots.*

2407.11191

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

W. S. Chung, H. Hassanabadi, L. M. Nieto and S. Zarrinkamar: *Parity-deformed $su(2)$ and $so(3)$ Algebras: a Basis for Quantum Optics and Quantum Communications Applications.*

2407.12157

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

Bireswar Basu-Mallick, Federico Finkel and Artemio González-López: *A novel translationally invariant supersymmetric chain with inverse-square interactions: partition function, thermodynamics and criticality.*

2407.13827 (version 2)

[cond-mat.stat-mech, math-ph, math.MP, nlin.SI, quant-ph]

Camille Laurent-Gengoux, Ruben Louis and Leonid Ryvkin: *An invitation to singular foliations.*

2407.14932

[math.DG]

Damien Calaque and Victor Carmona: *Algebras over not too little discs.*

2407.18192

[math.AT, math-ph, math.MP, math.QA]

O. Cornejo-Pérez, P. Albares and J. Negro: *Solutions of an extended Duffing-van der Pol equation with variable coefficients.*

2407.19788

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

H. W. Braden and Linden Disney-Hogg: *Dihedrally Symmetric Monopoles and Affine Toda Equations.*

2407.20747

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

Links of interest

Geometry, Dynamics and Field Theory Network

Journal “Geometric Mechanics”

International Mathematical Union (IMU) Newsletter - July 2024

Instituto de Ciencias Matemáticas (ICMAT) Newsletter - June 2024

International Association of Mathematical Physics Bulletin - April 2024

European Mathematical Society

Royal Spanish Mathematical Society (RSME)

International Association of Mathematical Physics

International Centre for Theoretical Physics (ICTP)

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

Mathematical Association of America 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

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