



GEOMETRY, DYNAMICS
AND FIELD THEORY NETWORK

June 2024

Editors: Miguel Berbel, Viviana
Díaz, Rodrigo Sato

Contents

Outstanding event	1
Other conferences	1
Virtual seminars	4
Job offers, fellowships and supports	4
Ph.D. offers	4
Postdoctoral fellowships . . .	5
Offers for researchers	5
Offers for visiting researchers	6
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

Applied Nonlinear Dynamical Systems and Chaos.
1–3 July 2024, Madrid, Spain.

Workshop on Geometric Control and Mechanics.
5–6 July 2024, Thessaloniki, Greece.

XXXII International Fall Workshop on Geometry and Physics.
2–5 September 2024, Coimbra, Portugal.

Other conferences

Lie groups, geometry, integrability, hydrodynamics.
1–5 July 2024, Nordfjordeid, Norway.

Poisson 2024 School.
1–5 July 2024, Napoli, Italy.

XXI International Congress On Mathematical Physics.
1–6 July 2024, Strasbourg, France.

Poisson 2024 Conference.
8–12 July 2024, Napoli, Italy.

XXI International Congress on Mathematical Physics.
1–6 July 2024, Strasbourg, France.

XI Modern Problems of Mathematics and Mechanics.
3–6 July 2024, Baku, Azerbaijan.

Dg-manifolds in Geometry and Physics.
3–7 July 2024, Paris, France.

The 14th Asian Control Conference.
5–8 July 2024, Da Lian Shi, China.

Alhambra PDE days.
8–12 July 2024, Granada, Spain.

Fourth Symposium on Machine Learning and Dynamical Systems.
8–12 July 2024, Toronto, Canada.

Poisson 2024 Conference.
8–12 July 2024, Napoli, Italy.

Geometric And Variational Analysis.
9–15 July 2024, Będlewo, Poland.

International Conference on Nonlinear Quantum Dynamics (Digital).
13–14 July 2024, Ottawa, Canada.

Integrable Techniques in Theoretical Physics.
14–19 July 2024, Bad Honnef, Germany.

International Conference on Nonlinear Quantum Dynamics (Digital).
15–16 July 2024, Bali, Indonesia.

International Conference on Nonlinear Quantum Dynamics (Digital).
15–16 July 2024, Stockholm, Sweden.

33rd/35th International Colloquium on Group Theoretical Methods in Physics.
15–19 July 2024, Cotonou, Benin.

Integrability, Dualities and Deformations.
15–19 July 2024, Swansea, United Kingdom.

Workshop on Hamiltonian Geometry and Quantization.
15–19 July 2024, Toronto, Canada.

Workshop on Probabilistic Field Theories.
17–19 July 2024, Aalto, Finland.

Mathematics of General Relativity and Fluids.
21 July–2 August 2024, Forth, Greece.

International Conference on Nonlinear Quantum Dynamics (Digital).
22–23 July 2024, Tokyo, Japan.

Bridging PDE and Geometric Flows.
22–26 July 2024, Wales, United Kingdom.

An introduction to dynamics on surfaces and random walks.
22–26 July 2024, Luminy, France.

Summer School Data-driven Dynamical Systems.
22–26 July 2024, Bremen, Germany.

School and Workshop on Dynamical Systems.
22 July–9 August 2024, Trieste, Italy.

Data-driven Dynamical Systems.
24–26 July 2024, Bremen, Germany.

International Conference on Control, Robotics and Informatics.

26–28 July 2024, Danang, Vietnam.

Polynomial Optimization for Nonlinear Dynamics: Theory, Algorithms, and Applications.
28 July–2 August 2024, Oberwolfach, Germany.

Summer School on Geometric Analysis and PDEs.
28 July–2 August 2024, Będlewo, Poland.

International Conference on Nonlinear Quantum Dynamics (Digital).
29–30 July 2024, Vienna, Austria.

XLIV Dynamics Days Europe.
29 July–2 August 2024, Bremen, Germany.

Geometry, dynamics and randomness.
29 July–2 August 2024, Luminy, France.

School Quantum Geometry (Mathematical Methods for Gravity, Gauge Theories and Non-Perturbative Physics).
29 July–23 August 2024, Les Houches, France.

Courses in Quantum Field Theory (ICTP-Online).
4 August–9 September 2024, Dhaka, Bangladesh.

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.

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.

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

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

Stochastics and Geometry.

8–13 September 2024, Banff, Canada.

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.

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.

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.

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.

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.

Quantum information dynamics and non-equilibrium quantum matter.

2–6 December 2024, New York, USA.

Foliations and Diffeomorphism Groups.

9–13 December 2024, Luminy, France.

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.

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.

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

PhD positions in Spatial Networks.

Utrecht University, Utrecht, Netherlands

Closing date: 7 July 2024.

Two PhD positions in Fluid Dynamics.

KU Eichstätt-Ingolstadt, Ingolstadt, Germany

Closing date: 7 July 2024.

PhD position in Analysis and Geometry.

Radboud University, Nijmegen, Netherlands

Closing date: 7 July 2024.

PhD position in Convex Geometry.

Charles University, Prague, Czechia

Closing date: 12 July 2024.

PhD position in Relativity and Geometry.

Vienna School of Mathematic, Vienna, Austria

Closing date: 19 July 2024.

5 PhD positions on Sensing, Imaging and Modelling.

Lappeenranta-Lahti University of Technology, Lahti, Finland

Closing date: 30 July 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, France

Closing date: 30 August 2024.

PhD position in Optimal Transport.

Weierstrass Institute for Applied Analysis and Stochastics, Berlin, Germany

Closing date: 30 September 2024.

15 PhD positions in Tensor Modelling, Geometry and Optimisation.

Université Côte d'Azur, Antibes, France

Closing date: 31 December 2024.

Postdoctoral fellowships

Postdoctoral position in Analysis.

University of Salzburg, Salzburg, Austria

Closing date: 9 July 2024.

4 Postdoctoral positions in Geometry and Relativity.

University of Vienna, Vienna, Austria

Closing date: 9 July 2024.

Postdoctoral position in Holomorphic Dynamics.

University of Lisbon, Lisbon, Portugal

Closing date: 10 July 2024.

Postdoctoral position in Integral Structures.

University of Bielefeld, Bielefeld, Germany

Closing date: 15 July 2024.

Postdoctoral position in Geometric Methods.

University of Würzburg, Würzburg, Germany

Closing date: 31 July 2024.

Postdoctoral position in Complex Geometry.

University of Antwerp, Antwerp, Belgium

Closing date: 12 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 positions in Analysis and Geometry.

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

Closing date: 22 September 2024.

Postdoctoral position in Mathematics.

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

Closing date: 8 November 2024.

Postdoctoral positions in Applied Mathematics.

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

Closing date: 1 February 2025.

Humboldt research fellowship for postdoctoral researchers.

Alexander von Humboldt Foundation

Closing date: Open.

Offers for researchers

Professorship in Artificial Intelligence.

University of Basel, Basel, Switzerland

Closing date: 31 July 2024.

Tenured/Tenure track positions in Mathematics.

Nagoya University, Nagoya, Japan

Closing date: 31 July 2024.

Two tenure-track positions in Mathematics.

University of Chile, Santiago, Chile

Closing date: 14 August 2024.

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.

Tenure-track position in Mathematics.

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

Closing date: 5 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.

Financial support

CIMPA Fellowships.

Financial support for thematic program “Representation theory and noncommutative geometry at Institut Henri Poincaré”.

Deadline: 15 July 2024.

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.

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.

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.

CIMPA School Projects.

Financial support for research schools in developing countries.

Deadline: 12 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.

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

Robert Cardona, Eva Miranda and Daniel Peralta-Salas: *Towards a Fluid computer.*

2405.20999

[math.DS, cs.CL, math.AP, math.SG]

Pol Mestres and Jorge Cortés: *Converse Theorems for Certificates of Safety and Stability.*

2406.14823

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

Rutwig Campoamor-Stursberg, Óscar Carballal and

Francisco J. Herranz: *A representation-theoretical approach to higher-dimensional Lie–Hamilton systems: The symplectic Lie algebra $\mathfrak{sp}(4, \mathbb{R})$.*

2406.17479

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

Luis Crespo and Álvaro Pelayo: *The p -adic Jaynes-Cummings model in symplectic geometry.*

2406.18415

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

Network's collaborators

Eduardo Fernández, Javier Martínez-Aguinaga and Francisco Presas: *Parametric satellites and connected-sums in the space of Legendrian embeddings.*

2405.19280

[math.SG, math.DG, math.GT, 53D10]

Tobias Diez, Akito Futaki and Tudor Ratiu: *Cartan Geometry and Infinite-Dimensional Kempf-Ness Theory.*

2405.20864

[math.DG, math.SG]

Amadeu Delshams and Piotr Zgliczynski: *Shadowing of non-transversal heteroclinic chains in lattices.*

2406.00398

[math.DS]

Jonas Kirchhoff and Bernhard Maschke: *Remarks on the geometric structure of port-Hamiltonian systems.*

2406.01036

[math-ph, math.MP]

Hernán Cendra and María Eugenia García: *The Optimal Reduction of a 2-Body Problem in \mathbb{R}^3 .*

2406.01531

[math-ph, math.MP]

Rutwig Campoamor-Stursberg, Danilo Latini, Ian Marquette, Junze Zhang and Yao-Zhong Zhang: *Superintegrable systems associated to commutants of Cartan subalgebras in enveloping algebras.*

2406.01958

[math-ph, math.MP]

Benoît Bonnet-Weill and Mario Sigalotti: *Exponential Consensus Formation in Time-Varying Multiagent Systems via Compactification Methods.*

2406.03286

[math.OC]

L. Álvarez-Cónsul, M. García-Fernandez, O. García-Prada, V. P. Pingali and C. -J. Yao: *Gravitating vortices and Symplectic Reduction by Stages.*

2406.03639

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

Aliaksandr Hancharuk, Camille Laurent-Gengoux and Thomas Strobl: *Koszul-Tate resolutions and decorated trees.*

2406.03955

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

Theo Braune, Yiyong Tong, François Gay-Balmaz and Mathieu Desbrun: *A Discrete Exterior Calculus of Bundle-valued Forms.*

2406.05383

[math.DG, cs.NA, math.NA]

Richard Montgomery: *The negative energy N -body problem has finite diameter.*

2406.05563

[math.DS]

Rutwig Campoamor-Stursberg, Alessio Marrani and Michel Rausch de Traubenberg: *An infinite-rank Lie algebra associated to $SL(2, \mathbb{R})$ and $SL(2, \mathbb{R})/U(1)$.*

2406.09845

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

Rutwig Campoamor-Stursberg and Michel Rausch de Traubenberg: *Kac-Moody and Virasoro algebras on the two-sphere and the two-torus.*

2406.10548

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

Tomoki Ohsawa: *Nonlinear Stability of Relative Equilibria in Planar N -Vortex Problem.*

2406.12144

[math.DS, math-ph, math.MP, physics.flu-dyn]

Naruhiko Aizawa, Ren Ito, Zhanna Kuznetsova, Toshiya Tanaka and Francesco Toppan: *Integrable \mathbb{Z}_2^2 -graded Extensions of the Liouville and Sinh-Gordon Theories.*

2406.13503

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

Andreas Fring, Takano Taira and Bethan Turner: *Nonlinear evolution of disturbances in higher time-derivative theories.*

2406.18255

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

Minhui Zhu and Nigel Goldenfeld: *Self-consistent expansion and field-theoretic renormalization group for a singular nonlinear diffusion equation with anomalous scaling.*

2406.18784

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

Links of interest

Geometry, Dynamics and Field Theory Network

Journal “Geometric Mechanics”

International Mathematical Union (IMU) Newsletter - May 2024

Instituto de Ciencias Matemáticas (ICMAT) Newsletter - May 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