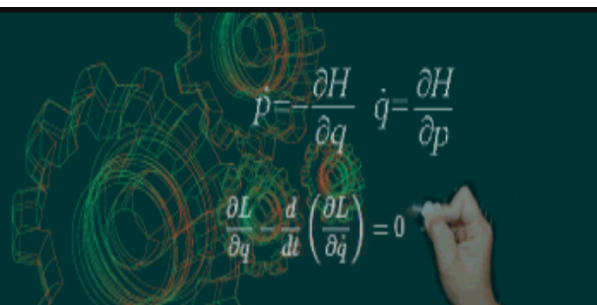




GMC Network



Geometry, Mechanics and Control Network Infosheet

December 2022

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Network's activities

Winter Meeting on Geometry, Mechanics and Control.
19–20 January 2023, Zaragoza, Spain.

Special session on Differential Geometry, Mathematical Physics and Control Theory at Young Researchers Conference of the Royal Spanish Mathematical Society.
9 February 2023, León, Spain.

17th International Young Researchers Workshop on Geometry, Mechanics and Control.
29–31 March 2023, KU Leuven, Belgium.

Outstanding event

Workshop on Nonlinear Systems III.
3–9 January 2023, Istanbul, Turkey.

Other conferences

Lie Groups, Singular Spaces, and Higher Structures.
9–13 January 2023, Toronto, Canada.

Higher Structures, Gravity and Fields.
9–27 January 2023, Berlin, Germany.

Workshop on the Geometry and Dynamics of Groups of Transformations.
16–20 January 2023, Toronto, Canada.

Workshop on the Discrete Geometry, Dynamics and Statistics.
23–27 January 2023, Bangkok, Thailand.

Young Geometric Group Theory XI.
13–17 February 2023, Münster, Germany.

New Trends in Geometric and Variational PDEs.
20–22 February 2023, Trento, Italy.

Gauge Fields in Arithmetic, Topology and Physics.

6–10 March 2023, Edinburgh, United Kingdom.

Crossroads of Representation Theory, Geometry and Higher Structures.

13–26 March 2023, Puerto Madryn, Argentina.

SuperGeometry and SuperModuli.

27–31 March 2023, New York, United States.

8th International Conference on Control and Robotics Engineering.

14–16 April 2023, Niigata, Japan.

Higher Structures in Geometry and Mathematical Physics.

17–21 April 2023, Marseille, France.

International Conference on Mathematical Methods in Physics.

24–28 April 2023, Marrakesh, Morocco.

Modern Problems of Mathematics and Mechanics.

26–28 April 2023, Baku, Azerbaijan.

School on conformal symplectic dynamics and related fields.

8–12 May 2023, Marseille, France.

Virtual seminars

Online Seminar of the Geometry, Mechanics and Control Thematic Network.

Instituto de Ciencias Matemáticas' seminars on these topics.

One World IAMP Mathematical Physics Seminar.

Seminar of International Association of Mathematical Physics.

Virtual Seminar on Geometry with Symmetries.

On the topic of Lie group actions in Riemannian geometry.

Control and Optimization Seminar.

Louisiana State University.

Global Poisson Webinar.

CRM-Montreal, Princeton/IAS, Tel Aviv, and Paris Seminar.

Sixth International Conference on Physics, Mathematics and Statistics.

20–22 May 2023, Sanya, China.

Mathematical Physics in Quantum Technology: From Finite to Infinite Dimensions.

22–26 May 2023, Edinburgh, United Kingdom.

The Geometry, Algebra, and Physics of Higgs Bundles.

28 May–2 June 2023, Banff, Canada.

Groups and Dynamics in Geometry.

29 May–2 June 2023, Ascona, Switzerland.

Geometry, Topology and Control System Design.

11–16 June 2023, Banff, Canada.

Machine Learning for Science: Mathematics at the Interface of Data-driven and Mechanistic Modelling.

11–17 June 2023, Oberwolfach, Germany.

15th International Workshop “Lie Theory and Its Applications in Physics”.

19–25 June 2023, Varna, Bulgaria.

The 4th International Conference on Symmetry.

21–23 June 2023, Barcelona, Spain.

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.

ICMAT Geometry Seminar.

Instituto de Ciencias Matemáticas' seminars on algebraic and differential geometry.

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.

Job offers, fellowships and supports

Ph.D. offers

PhD positions in Geometry and Representation Theory.

Collaborative Research Center, Bielefeld and Paderborn, Germany

Closing date: Ranges from 6th to 15th January 2023.

PhD positions in Mathematics.

KTH Royal Institute of Technology Stockholm, Sweden

Closing date: 10 January 2023.

PhD position in Topological Quantum Field Theory.

University of Hamburg, Hamburg, Germany

Closing date: 18 January 2023.

6 PhD positions in Arithmetic Geometry.

Universities of Leiden, Groningen and Utrecht, Netherlands

Closing date: 22 January 2023.

6 PhD positions in Mathematics.

Instituto de Ciencias Matemáticas, Madrid, Spain

Closing date: 26 January 2023.

2 PhD Positions in Numerical Analysis.

Technical University of Munich, Munich, Germany

Closing date: 30 January 2023.

PhD position in System Identification.

Czech Technical University, Prague, Czech Republic

Closing date: 31 January 2023.

PhD position in Discrete Mathematics.

Umeå university, Umeå, Sweden

Closing date: 7 February 2023.

PhD position in Spectral Theory of Relativistic Quantum Hamiltonians.

Loughborough University, Loughborough, UK

Closing date: 28 February 2023.

PhD position in Modeling Fracture of Metamaterials.

ETH Zurich, Zurich, Switzerland

Closing date: Open until filled.

PhD positions.

TU Delft, Delft, The Netherlands

Closing date: Open until filled.

Postdoctoral fellowships

Postdoctoral position in Mathematical Physics.

University of Edinburgh, Edinburgh, United Kingdom

Closing date: 9 January 2023.

Postdoctoral Fellow in Applied Algebra and Geometry.

Harvard University, Cambridge (MA), United States

Closing date: 15 January 2023.

Research Fellow in Geometric Analysis.

University of Leeds, Leeds, United Kingdom

Closing date: 20 January 2023.

Postdoctoral positions in Algebraic Geometry.

University of Luxembourg, Esch sur Alzette, Luxembourg

Closing date: 20 January 2023.

Postdoctoral position in Control Theory.

University of South Florida, Tampa (FL), United States

Closing date: 20 January 2023.

Postdoc in Variational Problems for Curved Surfaces.

Catholic University of Louvain, Louvain-la-Neuve, Belgium

Closing date: 30 January 2023.

Postdoctoral position in Geometry.

Université Grenoble Alpes, Grenoble, France

Closing date: 30 January 2023.

Postdoctoral scholarship in Discrete Dynamical Systems .

Sao Paulo State University, Sao Paulo, Brazil

Closing date: 31 January 2023.

Post-doctoral Fellow in Mathematics.

University of Agder, Kristiansand, Norway

Closing date: 31 January 2023.

Postdoctoral Fellowship in Algebraic Geometry and Singularity Theory.

Basque Center of Applied Mathematics, Bilbao, Spain

Closing date: 3 February 2023.

Postdoctoral position in Mathematical Physics.

Aix-Marseille University, Marseille, France

Closing date: 15 February 2023.

Humboldt research fellowship for postdoctoral researchers.

Alexander von Humboldt Foundation

Closing date: Open.

Offers for researchers

Professor Position in Quantum Mathematics.

University of Southern Denmark, Odense, Denmark

Closing date: 3 January 2023.

Tenure Track in Mathematics.

Aalto University, Espoo, Finland

Closing date: 4 January 2023.

Tenure Track in Algebra and Discrete Mathematics.

Aalto University, Espoo, Finland

Closing date: 4 January 2023.

W1 Professorship in Differential Equations and Dynamical Systems.

University of Hamburg, Hamburg, Germany

Closing date: 12 January 2023.

W2 Professorship in Differential Geometry .

University of Cologne , Köln, Germany

Closing date: 15 January 2023.

Full professor in Algebra, Geometry and Number Theory.

Leiden University , Leiden, Netherlands

Closing date: 23 January 2023.

Assistant Professor in Mathematical Physics.

University of California San Diego, La Jolla (CA), United States

Closing date: 30 January 2023.

Full professor in Applied Algebra and Geometry.

Eindhoven University of Technology, Eindhoven, Netherlands

Closing date: 30 January 2023.

Permanent position in Applied Statistics.

BCAM, Bilbao, Spain

Closing date: Open until filled.

Offers for visiting researchers

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 for research projects and conferences

IMU Conference support program.

For conferences in developing or economically disadvantaged countries.

Deadline: 15 January, 15 April, 15 July and 1 October 2023.

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.

IMU Volunteer Lecturer Program.

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

Deadline: 15 March, 1 June and 1 September 2023.

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.

Interesting publication

Special Issue "Symmetry in Geometric Mechanics and Mathematical Physics". A special issue of Symmetry.

Section "Physics and Symmetry/Asymmetry".

MDPI Open Access Journals.

Editors: Manuel de León and Narciso Román-Roy.

Deadline for submissions: 15 February 2023.

Special Issue "Contact Geometry: Reduction, Symmetries and Applications". A special issue of Symmetry.

Section "Physics and Symmetry/Asymmetry".

MDPI Open Access Journals.

Editor: Cristina Sardon.

Deadline for submissions: 15 July 2023.

Preprints

Network's members

Daniel Reyes Nozaleda, Piergiulio Tempesta and Giorgio Tondo: *Generalized Nijenhuis Torsions and block-diagonalization of operator fields.*

2205.09432

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

2209.12716

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

Miguel A. Rodríguez and Piergiulio Tempesta: *On higher-dimensional superintegrable systems: A new family of classical and quantum Hamiltonian models.*

2210.02208 (version 2)

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

Jordi Gaset, Manuel Lainz, Arnau Mas and Xavier Rivas: *The Herglotz variational principle for dissipative field theories.*

2211.17058

[math-ph, math.MP]

Ángel Ballesteros, Giulia Gubitosi, Iván Gutiérrez-Sagredo and Francisco J. Herranz: *-Galilean and -Carrollian noncommutative spaces of worldlines.*

2212.01125

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

Joaquim Brugués, Eva Miranda and Cédric Oms: *The Arnold conjecture for singular symplectic manifolds.*

2212.01344

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

Kehan Long, Yinzhuang Yi, Jorge Cortes and Nikolay Atanasov: *Distributionally Robust Lyapunov Function Search Under Uncertainty.*

Network's collaborators

Valentin Duruisseaux, Thai Duong, Melvin Leok and Nikolay Atanasov: *Lie Group Forced Variational Integrator Networks for Learning and Control of Robot Systems.*

2211.16006 (version 3)

[cs.RO, cs.LG, math.DS]

Dario Di Pinto and Giulia Dileo: *Anti-quasi-Sasakian manifolds.*

2211.16396

[math.DG]

Katarzyna Grabowska and Janusz Grabowski: *Reductions: precontact versus presymplectic.*

2211.16792

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

Alberto S. Cattaneo: *The canonical BV Laplacian on half-densities.*

2212.00451

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

Alexey V. Bolsinov, Andrey Yu. Konyaev and Vladimir S. Matveev: *Orthogonal separation of variables for spaces of constant curvature.*

2212.01605

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

Thierry Daudé, Niky Kamran and François Nicoleau: *Hölder Stability in the Inverse Steklov Problem for Radial Schrödinger operators and Quantified Resonances.*

2212.03148 (version 2)

2212.01554

[math.OC, cs.RO]

Ángel Ballesteros, Iván Gutiérrez-Sagredo and Francisco J. Herranz: *A general approach to noncommutative spaces from Poisson homogeneous spaces: Applications to $(A)dS$ and Poincaré.*

2212.11750

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

Ángel Ballesteros, Amene Najafzade, Hossein Panahi, Hassan Hassanabadi and Shi-Hai Dong: *The Dunkl oscillator on a space of nonconstant curvature: an exactly solvable quantum model with reflections.*

2212.13575

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

Jordi Gaset, Asier López-Gordón and Xavier Rivas: *Symmetries, conservation and dissipation in time-dependent contact systems.*

2212.14848

[math-ph, math.MP]

[math.AP, math-ph, math.MP, math.SP]

Alexei Kotov, Camille Laurent-Gengoux and Vladimir Salnikov: *Normal forms of \mathbb{Z} -graded Q -manifolds.*

2212.05579

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

Chengshuai Wu, Meng Zhang and Dimos V. Dimarogonas: *On Disturbance Propagation in Vehicular Platoons with Different Communication Ranges.*

2212.07927

[math.DS, math.OC]

Rutwig Campoamor-Stursberg, Marc de Montigny and Michel Rausch de Traubenberg: *Generalisation of affine Lie algebras on compact real manifolds.*

2212.08300

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

Bozidar Jovanovic and Katarina Lukic: *Integrable systems in cosymplectic geometry.*

2212.09427

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

Davide Lonigro, Rocco Maggi, Giuliano Angelone, Elisa Ercolessi, Paolo Facchi, Giuseppe Marmo, Saverio Pascazio and Francesco V. Pepe: *Dimensional reduction of the Dirac equation in arbitrary spatial dimensions.*

2212.11965

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

Links of interest

Geometry, Mechanics and Control Network

Journal of Geometric Mechanics - Current Issue

International Mathematical Union (IMU) Newsletter - November 2022

International Association of Mathematical Physics Bulletin - October 2022

European Mathematical Society

Royal Spanish Mathematical Society (RSME)

International Association of Mathematical Physics

Open Access American Institute of Mathematical Sciences (AIMS) Journal

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 Physics Journals

Societat Catalana de Matemàtiques (SCM) journal on Mathematics

SIAM Activity Group on Control and Systems Theory Prize

SIAM Activity Group on Control and Systems Theory Best SICON Paper Prize

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

European Mathematical Society Funding and Sponsorship

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 gmactivities@gmail.com