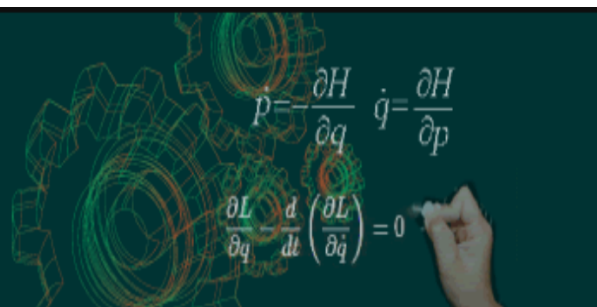




# GMC Network



## *Geometry, Mechanics and Control Network Infosheet*

June 2022

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### Network's activities

**14th International Summer School on Geometry, Mechanics and Control.**

4–8 July 2022, Burgos, Spain.

### Outstanding event

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

29 August–2 September 2022, Madrid, Spain.

### Virtual seminars

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

Instituto de Ciencias Matemáticas' seminars on these topics.

**Colloquium on Geometry and Physics.**

Online colloquium about interface of the two fields.

**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.

**Differential Geometry Seminar Torino.**

Organised by the Differential Geometry groups of Università di Torino and Politecnico di Torino.

**Latin American Seminar on Differential Geometry.**

Virtual seminar aims to establish contact with several research groups and mathematicians in Latin America.

**ICMAT Geometry Seminar.**

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

**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.

**Geometry and Topology Online.**

Warwick Mathematics Institute.

**Theory of Duality Seminar.**

Department of Mathematical Methods in Physics, University of Warsaw.

## Conferences

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**XII Workshop on Geometric Correspondences of Gauge Theories.**

4–7 July 2022, Trieste, Italy.

**41th Benelux Meeting on Systems and Control.**

5–7 July 2022, Brussels, Belgium.

**Summer School on Geometry and Topology.**

7 July–6 August 2022, Hradec Králové, Czech Republic.

**15th Viennese Conference on Optimal Control and Dynamic Games.**

12–15 July 2022, Wien, Austria.

**Conference on Differential Geometry and its Applications.**

17–23 July 2022, Hradec Králové, Czech Republic.

**The 34th International Colloquium on Group Theoretical Methods in Physics.**

18–22 July 2022, Strasbourg, France.

**Geometry and Physics of ALX Metrics in Gauge Theory.**

25–29 July 2022, California, USA.

**Moduli Spaces and Vector Bundles — New Trends.**

25–29 July 2022, Coventry, United Kingdom.

**Driving Global Inference for New Physics with Machine Learning, Big Data and Large-scale Statistical Simulation.**

31 July–5 August 2022, Banff, Canada.

**Frontiers in Geometry and Topology Summer School.**

1–5 August 2022, Trieste, Italy.

**Frontiers in Geometry and Topology Conference.**

8–12 August 2022, Trieste, Italy.

**Symplectic and Contact Topology.**

8–12 August 2022, Davis, USA.

**Calculus of Variations.**

14–20 August 2022, Oberwolfach, Germany.

**Quantum Dynamics: From Electrons to Qbits.**

22 August–9 September 2022, Trieste, Italy.

**25th International Summer School on Global Analysis and Applications.**

22–26 August 2022, Ostrava, Czech Republic.

**Geometric Structures and Supersymmetry 2022.**

23–26 August 2022, Tromsø, Norway.

**Control and Optimization with Industrial Applications.**

24–26 August 2022, Baku, Azerbaijan.

**Connections Workshop: Analytic and Geometric Aspects of Gauge Theory.**

25–26 August 2022, Berkeley, USA.

**Introductory Workshop: Analytic and Geometric Aspects of Gauge Theory.**

29 August–2 September 2022, Berkeley, USA.

**Quantum Information in many body physics: a mathematical invitation.**

29 August–2 September 2022, Munich, Germany.

**Geometric Structures and Moduli Spaces.**

29 August–2 September 2022, Córdoba, Argentina.

**Applied Mathematical Challenges and Recent Advances in the Micro-Mechanics of Matter.**

1–2 September 2022, Bristol, United Kingdom.

**Nonlocal Problems in Mathematical Physics, Analysis and Geometry.**

4–9 September 2022, Hangzhou, China.

**Summer School on Phase-field Methods in Mechanics.**

4–10 September 2022, Quiberon peninsula, France.

**QMATH 15-Mathematical Results in Quantum Physics.**

12–16 September 2022, California, USA.

**Generalized Global Symmetries, Quantum Field Theory, and Geometry.**

19–23 September 2022, New York, USA.

**Noncommutative Geometry and Noncommutative Invariant Theory.**

25–30 September 2022, Banff, Canada.

**Poisson Geometry and Artin-Schelter Regular Algebras.**

25–30 September 2022, Banff, Canada.

**Workshop on Complex Geometry and Geometric Group Theory.**

26–30 September 2022, Karlsruhe, Germany.

**New Four-Dimensional Gauge Theories.**

24–28 October 2022, Berkeley, USA.

**Computational Differential Geometry and its Applications in Physics.**

14–18 November 2022, New York, USA.

## **Job offers, fellowships and supports**

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### **Ph.D. offers**

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**PhD Position in Optimization.**

University of Twente, Enschede, The Netherlands

Closing date: 9 July 2022.

**PhD Position.**

Basque Center for Applied Mathematics, Bilbao, Spain

Closing date: 14 July 2022.

**PhD studentship in Nonlinear Partial Differential Equations.**

University College Cork, Cork, Ireland

Closing date: 28 July 2022.

**PhD student in geometric deep learning.**

Umea university, Umea, Sweden

Closing date: 14 August 2022.

**PhD position in Mathematical Finance and Economics.**

Umea university, Umea, Sweden

Closing date: 14 August 2022.

**Graduate scholarship in mathematics.**

Nanyang Technological University, Nanyang, Singapore

Closing date: 30 December 2022.

**PhD positions in Dynamics, Control and Numerics.**

FAU Erlangen-Nurnberg, Erlangen, Germany

Closing date: 30 December 2022.

**3 PhD positions in Geometry, Probability, and Deep Learning.**

NTU Singapore, Singapore

Closing date: Open until filled.

**PhD in stochastic geometric mechanics.**

Wilfrid Laurier University, Waterloo, Canada

Closing date: Open until filled.

**PhD positions.**

TU Delft, Delft, The Netherlands

Closing date: Open until filled.

### **Postdoctoral fellowships**

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**Research Fellow in Combinatorics .**

Monash University, Monash, Australia

Closing date: 2 July 2022.

**Post-doctoral position.**

University of Innsbruck, Innsbruck, Austria

Closing date: 5 July 2022.

**Postdoctoral Researcher.**

Swansea University, Swansea, UK

Closing date: 13 July 2022.

**One Post-Doctoral Research Fellowship.**

University of Lisbon, Lisbon, Portugal

Closing date: 14 July 2022.

**Postdoctoral researcher in Mathematical Analysis.**

Umea university, Umea, Sweden

Closing date: 30 August 2022.

**Postdoctoral position in mathematics.**

Nanyang Technological University, Nanyang, Singapore

Closing date: 30 December 2022.

**Postdoctoral positions in Dynamics, Control and Numerics.**

FAU Erlangen-Nurnberg, Erlangen, Germany

Closing date: 30 December 2022.

**3 postdoc positions in Geometry, Probability, and Deep Learning.**

NTU Singapore, Singapore

Closing date: Open until filled.

**Postdoctoral fellowships in algebraic geometry and mathematical sciences.**

Harvard University, Massachusetts, United States

Closing date: Open until filled.

**Postdoctoral positions in Mathematics.**

Einstein Institute of Mathematics, Jerusalem, Israel

Closing date: Open until filled.

**Humboldt research fellowship for postdoctoral researchers.**

Alexander von Humboldt Foundation

Closing date: Open.

**Lisa Meitner program.**

FWF Austrian Science Fund, Vienna, Austria

Closing date: Open.

**Funded postdoctoral fellowship.**

University of Reading, United Kingdom

Closing date: Open.

**Offers for researchers**

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**University Assistant.**

University of Graz, Graz, Austria

Closing date: 5 July 2022.

**Lecturer in Applied Mathematics.**

Universidad de Burgos, Burgos, Spain

Closing date: 13 July 2022.

**Professor in Financial Mathematics.**

King's College London, London, UK

Closing date: 19 July 2022.

**Assistant Professor of Computational Science.**

Eindhoven University of Technology, Eindhoven, The Netherlands

Closing date: 30 July 2022.

**Full professor of Discrete Mathematics and Probability.**

TU Graz, Graz, Austria

Closing date: 27 August 2022.

**Tenure-track position.**

University of Cyprus, Cyprus

Closing date: 28 August 2022.

**Lecturer in the Department of Mathematics**

University of Hong Kong, Hong Kong

Closing date: 30 August 2022.

**Research Professor.**

KU Leuven, Leuven, Belgium

Closing date: 14 September 2022.

**Offers for visiting researchers**

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**CIMPA-ICTP Research in Pairs for mathematicians in developing countries.**

CIMPA in Côte d'Azur or ICTP in Trieste, Italy) .

For periods of at least 6 weeks.

Closing date: 1 July.

**Abel Visiting Scholar Program.**

International Mathematical Union.

Postdoctoral mathematician to visit a research collaborator for a month.

Closing date: 31 August, 31 December, and 30 April.

**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

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### Thematic programs at MSRI.

Mathematical Sciences Research Institute, Berkeley, United States.

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

### Hot topics Workshop at MSRI.

Mathematical Sciences Research Institute, Berkeley, United States.

**Deadline:** 1 October, 1 December, and 1 March.

### Summer graduate schools at MSRI.

Mathematical Sciences Research Institute, Berkeley, United States.

**Deadline:** 1 October, 1 December, and 1 March.

### CIMPA School 2024.

For organizing research schools in mathematics in developing countries.

**Deadline:** 9 October.

### 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.

### International Mathematical Union - Conference support program.

For conferences in developing or economically disadvantaged countries.

**Deadline:** Several calls.

## Interesting publications

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*Volume: 13th Young Researchers Workshop on Geometry, Mechanics and Control. Mathematical Texts of the University of Coimbra.*

Number 48, 2019.

Three mini-courses.

Online, free access.

Editors: Maria Barbero-Liñán, Margarida Camarinha, Raquel Caseiro, Leonardo Colombo, and Joana Nunes da Costa.

*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 manuscript submissions: 15 February 2023.

## Preprints

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## Network's members

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A. Bautista, A. Ibort and J. Lafuente: *The space of light rays: Causality and L-boundary.*

2206.04964

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

A. Bautista, A. Ibort and J. Lafuente: *The sky invariant: A new conformal invariant for Schwarzschild spacetime.*

2206.04970

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

Baptiste Coquiot, Pau Mir and Eva Miranda: *Singular cotangent models and complexity in fluids with dissipation.*

2206.08872

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

Sebastián J. Ferraro, David Martín de Diego and Rodrigo T. Sato Martín de Almagro: *A parallel iterative method for variational integration.*

2206.08968

[math.OC, cs.NA, math.NA]

P. Antunes and J. M. Nunes da Costa: *Higher Multi-Courant Algebroids.*

2206.10231

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

Leonardo J. Colombo, Manuel de León and Asier López-Gordón: *Contact Lagrangian systems subject to impulsive constraints.*

2206.11702

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

Alfonso Blasco, Iván Gutiérrez-Sagredo and Francisco J. Herranz: *Higher-order superintegrable momentum-dependent Hamiltonians on curved spaces from the classical Zernike system.*

2206.12717

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

## Network's collaborators

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Anton Izosimov and Boris Khesin: *Geometry of generalized fluid flows.*

2206.01434 (version 2)

[math.DG, math.AP, math.SG]

Kai Behrend, Matt Peddie and Ping Xu: *Quantization of  $(-1)$ -Shifted Derived Poisson Manifolds.*

2206.02048

[math.SG, math.AG, math.DG, math.QA]

Federico Finkel and Artemio González-López: *The open Haldane-Shastry chain: thermodynamics and criticality.*

2206.02651

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

Yannick Privat, Rémi Robin and Mario Sigalotti: *Existence of surfaces optimizing geometric and PDE shape functionals under reach constraint.*

2206.04357

[math.AP, math.OC]

Ilka Agricola, Giulia Dileo and Leander Stecker: *Curvature Properties of  $\mathfrak{S}(\alpha, \delta)$ -Sasaki Manifolds.*

2206.05150

[math.DG]

Paolo Cifani, Milo Viviani and Klas Modin: *An efficient geometric method for incompressible hydrodynamics on the sphere.*

2206.05466

[math-ph, math.MP]

Petre Birtea, Ioan Casu and Dan Comanescu: *Laplace-Beltrami operator on the orthogonal group in Cartesian coordinates.*

2206.06790

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

M. Kanat Camlibel and Arjan van der Schaft: *Port-Hamiltonian systems and monotonicity.*

2206.09139

[math.OC]

Eric Bergshoeff, José Figueroa-O'Farrill and Joaquim Gomis: *A non-lorentzian primer.*

2206.12177

[hep-th, gr-qc, math.DG]

Ercüment Ortaçgil: *On Hadwiger-Alesker finiteness theorem.*

2206.12872 (version 2)

[math.DG]

Alexey V. Bolsinov, Andrey Yu. Konyaev and Vladimir S. Matveev: *Applications of Nijenhuis Geometry IV: multicomponent KdV and Camassa-Holm equations.*

2206.12942

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

Giovanni Canepa, Alberto S. Cattaneo and Filippo Fila-Robattino: *Boundary structure of gauge and matter fields coupled to gravity.*

2206.14680

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

## Links of interest

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Geometry, Mechanics and Control Network

Journal of Geometric Mechanics - June 2022,  
Volume 14, Issue 2

International Mathematical Union (IMU)  
Newsletter - May 2022

International Association of Mathematical  
Physics Bulletin - April 2022

European Mathematical Society

Royal Spanish Mathematical Society  
(RSME)

International Association of Mathematical  
Physics

Open Access American Institute of Mathe-  
matical Sciences (AIMS) Journal

Euraxess Spain

International Centre for Theoretical Physics  
(ICTP)

European Research Council

European Commission - Research and Inno-  
vation

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 Sys-  
tems Theory Prize

SIAM Activity Group on Control and Sys-  
tems 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 Poincarè 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