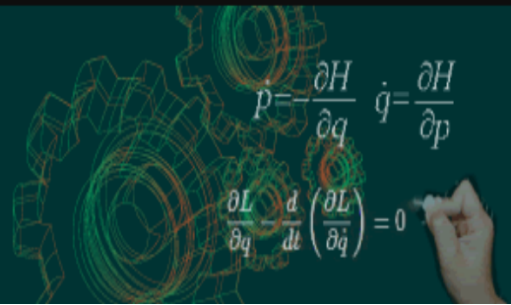




# GMC Network



## *Geometry, Mechanics and Control Network Infosheet*

July 2023

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### Contents

Outstanding event	1
Other conferences	1
Online Course	2
Virtual seminars	2
Job offers, fellowships and supports	3
Ph.D. offers . . . . .	3
Postdoctoral fellowships . .	3
Offers for researchers . . . .	4
Offers for visiting researchers	4
Financial support . . . . .	5
Preprints	5
Network's members . . . . .	5
Network's collaborators . .	6
Links of interest	7

### Outstanding event

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

4–8 September 2023, Santiago de Compostela, Spain.

### Other conferences

**VIASM-IAMP Summer School in Mathematical Physics.**  
1–5 August 2023, Quy Nhon, Vietnam.

**Finite Dimensional Integrable Systems in Geometry and Mathematical Physics.**

7–11 August 2023, Antwerp, Belgium.

**Groups, Actions, and Geometries.**

7–11 August 2023, Medford, USA.

**Women in Mathematical Physics II.**

13–18 August 2023, Banff, Canada.

**The 4th International Conference on Dynamics of Differential Equations.**

14–17 August 2023, Toronto, Canada.

**Higher Structures in Functorial Field Theory.**

14–18 August 2023, Regensburg, Germany.

**Summer School on Differential Geometry.**

14–25 August 2023, Hanoi, Vietnam.

**Symplectic Paradise.**

16–20 August 2023, Montana, USA.

**12th International Conference on Mathematical Modeling in Physical Sciences.**

18–31 August 2023, Belgrade, Serbia.

**DANGER 3: Data, Numbers, and Geometry.**

24–25 August 2023, London, United Kingdom.

**12th International Conference on Mathematical Modeling in the Physical Sciences.**

28–31 August 2023, Belgrade, Serbia.

### **Categorical Symmetries in Quantum Field Theory.**

28 August–1 September 2023, Les Diablerets, Switzerland.

### **Geometric Science of Information.**

30 August–1 September 2023, Saint-Malo, France.

### **XLIII Dynamics Days Europe.**

3–8 September 2023, Naples, Italy.

### **Classical and Quantum Mechanical Models of Many-Particle Systems.**

3–8 September 2023, Oberwolfach, Germany.

### **School on Categorical Symmetries in Quantum Field Theory.**

3–8 September 2023, Les Diablerets, Switzerland.

### **Many-Body Quantum Systems.**

10–15 September 2023, Oberwolfach, Germany.

### **Summer school in theoretical mechanics.**

11–16 September 2023, Quiberon, France.

### **Geometric, Algebraic and Topological Methods in Quantum Field Theory.**

17–23 September 2023, Villa de Leyva, Colombia.

### **Women in Geometry 3.**

24–29 September 2023, Banff, Canada.

### **2nd International Conference on Advanced Physics and Quantum Physics.**

2–4 October 2023, Vienna, Austria.

### **Marvellous Event On Geometric Analysis.**

8–13 October 2023, Bedlewo, Poland.

### **Complex Lagrangians, Mirror Symmetry, and Quantization.**

15–20 October 2023, Banff, Canada.

### **Lagrangian Multiform Theory and Pluri-Lagrangian Systems.**

22–27 October 2023, Banff, Canada.

### **Control of PDEs Models for Living Systems.**

22–27 October 2023, Oberwolfach, Germany.

### **Differential Galois Theory and Applications to Mechanics (CIMPA School).**

23 October–3 November 2023, Santo Domingo, Dominican Republic.

### **On Symmetries of Differential and Difference Equations and Their Applications.**

25–27 October 2023, Stellenbosch, South Africa.

### **Mini-Workshop: Standard Subspaces in Quantum Field Theory and Representation Theory.**

29 October–3 November 2023, Oberwolfach, Germany.

### **Infinite Dimensional Geometry and Fluids.**

5–10 November 2023, Banff, Canada.

### **Recent advances in geometric analysis.**

6–10 November 2023, Luminy, France.

### **Small scale dynamics in incompressible fluid flows.**

6–10 November 2023, Pasadena, California.

### **Emergent Hydrodynamics of Integrable Systems and Soliton Gases.**

13–17 November 2023, Luminy, France.

### **Vortex Dynamics: the Crossroads of Mathematics, Physics and Applications.**

3–8 December 2023, Banff, Canada.

### **8th Iberoamerican Congress on Geometry.**

10–15 December 2023, Pucón, Chile.

### **Winter School in Mathematical Physics.**

7–12 January 2024, Les Diablerets, Germany.

## **Online Course**

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### **ICTP–PWF Latin America - Advanced Lectures on Theoretical Physics: Quantum Field**

### **Theory I.**

11 September 2023–31 January 2024.

## **Virtual seminars**

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

Instituto de Ciencias Matemáticas' seminars on these topics.

### **Mathematics and High Energy Physics Seminars.**

ICTP-PWF Latin America-Physics Latam New Seminar Series.

### **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.

### **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.

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

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

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#### **PhD position in PDEs.**

TU Delft, Delft, The Netherlands

Closing date: 7 August 2023.

#### **PhD position in Biomathematics.**

University of Bielefeld, Bielefeld, Germany

Closing date: 10 August 2023.

#### **PhD positions in Geometric Variational Problems.**

University of Vienna, Vienna, Austria

Closing date: 13 August 2023.

#### **PhD position in Algebraic Geometry.**

University of Antwerp, Antwerp, Belgium

Closing date: 17 August 2023.

#### **PhD position in Analysis/Geometry.**

University of Fribourg, Fribourg, Switzerland

Closing date: 30 August 2023.

#### **PhD position in Data-Driven Control.**

TU Delft, Delft, The Netherlands

Closing date: 31 August 2023.

#### **PhD position in Algebraic Geometry.**

Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany

Closing date: 14 September 2023.

#### **PhD position in Differential Geometry.**

Université libre de Bruxelles, Brussels, Belgium

Closing date: 30 September 2023.

#### **PhD candidate in Tensor Calculus.**

Czech Technical University, Prague, Czech Republic

Closing date: 25 October 2023.

#### **3 PhD positions in Robotics.**

University of Twente, Twente, Austria

Closing date: Open Until Filled.

### **Postdoctoral fellowships**

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#### **Postdoctoral fellowship in Applied Mathematics.**

Fundação Getulio Vargas, Rio de Janeiro, Brazil

Closing date: 6 August 2023.

#### **Postdoctoral position in Applied Mathematics.**

University of Liverpool, Liverpool, United Kingdom

Closing date: 11 August 2023.

#### **Associate Professor in Networks and Complex Systems.**

Royal Institute of Technology, Stockholm, Sweden

Closing date: 16 August 2023.

#### **Postdoctoral position in Mathematics.**

Czech Academy of Sciences, Prague, Czechia

Closing date: 19 August 2023.

#### **Postdoctoral position in Geometry.**

Technical University of Graz, Graz, Germany

Closing date: 26 August 2023.

#### **Postdoctoral position in Geometry.**

Technical University Graz, Graz, Austria

Closing date: 27 August 2023.

#### **Postdoctoral position in Representation Theory.**

Uppsala University, Uppsala, Sweden

Closing date: 30 August 2023.

**Postdoctoral position in PDE Analysis.**

National Taiwan University, Taipei, Taiwan

Closing date: 31 August 2023.

**Postdoctoral position in Multi-body Systems.**

University of Grenoble, Montbonnot, France

Closing date: 31 August 2023.

**Postdoctoral positions in Mathematics.**

Max Planck Institute for Mathematics in the Sciences,  
Leipzig, Germany

Closing date: 30 November 2023.

**Postdoctoral position in Scientific Computing.**

Ecole Polytechnique Fédérale de Lausanne, Lausanne,  
Switzerland

Closing date: Open until filled.

**Humboldt research fellowship for postdoctoral researchers.**

Alexander von Humboldt Foundation

Closing date: Open.

**Offers for researchers**

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**Open rank faculty positions in Applied Mathematics .**

Fundação Getulio Vargas, Rio de Janeiro, Brazil

Closing date: 6 August 2023.

**Professor positions in Mathematics.**

ETH Zurich, Zurich, Switzerland

Closing date: 15 August 2023.

**Tenure-track professorship in Data Science and Optimization.**

Heidelberg University, Heidelberg, Germany

Closing date: 30 August 2023.

**Lecturer in Applied Algebra or Applied Topology.**

Swansea University, Swansea, United Kingdom

Closing date: 4 September 2023.

**Tenure-track position in Applied Mathematics.**

California State University, San Bernardino (CA),

United States of America

Closing date: 15 September 2023.

**Tenured professor in Mathematics.**

Stony Brook University, Stony Brook (NY), United States of America

Closing date: 5 October 2023.

**Full Professor in Computational PDE.**

Murdoch University, Perth, Australia

Closing date: 18 October 2023.

**Two Tenure-track positions in Geometry or Topology .**

University of Missouri, Columbia (MI), United States of America

Closing date: 1 October 2023.

**Professor of Mathematics.**

Harvard University, Cambridge (MA), United States of America

Closing date: 1 December 2023.

**Offers for visiting researchers**

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**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.

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.

## Financial support

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### IMU Volunteer Lecturer Program.

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

Deadline: 1 September 2023, 15 March and 1 June 2024.

### SwissMAP Research Station in Les Diablerets.

Financial support for scientific events.

Deadline: 30 September 2023.

### IMU Conference support program.

For conferences in developing or economically disadvantaged countries.

Deadline: 1 October 2023, 15 April 2024 and 15 July.

### 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 every year.

### Summer graduate schools at MSRI.

Mathematical Sciences Research Institute, Berkeley, United States.

### 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 every year.

### CIMPA Schools call for proposals.

Research schools in developing countries.

Deadline: 10 October 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.

## Preprints

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### Network's members

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J. L. Alonso, C. Bouthelier-Madre, J. Clemente-Gallardo and D. Martínez-Crespo: *Hybrid Geometrodynamics: A Hamiltonian description of classical gravity coupled to quantum matter.*

2307.00922

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

A. Bravetti, S. Grillo, J. C. Marrero and E. Padrón: *Kirillov structures and reduction of Hamiltonian systems by scaling and standard symmetries.*

2307.04177

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

Manuel de León, Manuel Lainz, Asier López-Gordón and Juan Carlos Marrero: *A new perspective on non-holonomic brackets and Hamilton-Jacobi theory.*

2307.06049

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

J. de Lucas, X. Rivas and M. Zając: *Hamiltonian stochastic Lie systems and applications.*

2307.06232

[math.PR, math.CA, math.DG]

Jaap Eising and Jorge Cortés: *Cautious optimization via data informativity.*

2307.10232  
[math.OC]

Marco Castrillón, M. Eugenia Rosado María and Alberto Soria: *Ruled surfaces in 3-dimensional Riemannian manifolds.*

2307.13077  
[math.DG, 53B25, 53B20, 53A55]

## Network's collaborators

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Ercüment Ortaçgil: *Prehomogeneous geometries vs. bundles with connections.*

2306.17129  
[math.DG]

Anna Cima, Armengol Gasull, Víctor Mañosa and Francesc Mañosas: *On some rational piecewise linear rotations.*

2306.17543  
[math.DS]

Jaume Llibre, Douglas D. Novaes and Claudia Valls: *Existence of a cylinder foliated by periodic orbits in the generalized Chazy differential equation.*

2307.00087  
[math.DS]

Vincenzo Morinelli, Karl-Hermann Neeb and Gestur Olafsson: *Modular geodesics and wedge domains in non-compactly causal symmetric spaces.*

2307.00798  
[math.DG, math-ph, math.MP, math.OA]

Chengming Bai, Li Guo and Jianqi Liu: *Classical Yang-Baxter equation for vertex operator algebras and its operator forms.*

2307.01977  
[math.QA, math-ph, math.MP]

Francisco Correa, Andreas Fring and Octavio Quintana: *Infinite affine, hyperbolic and Lorentzian Weyl groups with their associated Calogero models.*

2307.02613  
[math-ph, hep-th, math.MP, nlin.SI]

B. Basu-Mallick, F. Finkel, A. González-López and D. Sinha: *Integrable coupled massive Thirring model with field values in a Grassmann algebra.*

2307.03626  
[nlin.SI, hep-th, math-ph, math.MP]

Silvestro Fassari, Manuel Gadella, Luis-Miguel Nieto and Fabio Rinaldi: *Analysis of a one-dimensional Hamiltonian with a singular double well consisting of two nonlocal' interactions.*

2307.03674 (version 3)  
[math-ph, math.MP, quant-ph]

S. Leyendecker, S. Maslovskaya, S. Ober-Blöbaum, R. T. Sato Martín de Almagro and F. O. Szemenyei: *A new Lagrangian approach to control affine systems with a quadratic Lagrange term.*

2307.13402  
[math.OC]

Andreas Knauf and Richard Montgomery: *Compactification of the energy surfaces for n-bodies.*

2307.03837  
[math.DS]

Alberto S. Cattaneo: *Phase space for gravity with boundaries.*

2307.04666  
[math-ph, gr-qc, math.MP, math.SG]

Boris Khesin, Klas Modin and Luke Volk: *Simple unbalanced optimal transport.*

2307.05703  
[math.DG, math.OC]

Farhad Mehdifar, Lars Lindemann, Charalampos P. Bechlioulis and Dimos V. Dimarogonas: *Control of Nonlinear Systems Under Multiple Time-Varying Output Constraints: A Single Funnel Approach.*

2307.06465  
[eess.SY, cs.SY, math.DS]

Mohammad Enayati, Jean-Pierre Gazeau, Mariano A. del Olmo and Hamed Pejhan: *Anti-de Sitterian "massive" elementary systems and their Minkowskian and Newtonian limits.*

2307.06690  
[math-ph, gr-qc, math.MP, quant-ph]

Geoff Prince: *Quadratic forms and the expansion and rotations of linear endomorphisms.*

2307.07132  
[math.RA, math.DG]

Maria Przybylska, Wojciech Szumiński and Andrzej J. Maciejewski: *Destructive relativity.*

2307.10070  
[math-ph, math.MP, nlin.CD]

Alberto S. Cattaneo, Pavel Mnev and Michele Schiavina: *BV Quantization.*

2307.07761  
[math-ph, hep-th, math.MP, math.SG]

Kai Behrend, Hsuan-Yi Liao and Ping Xu: *Differential graded manifolds of finite positive amplitude.*

2307.10242  
[math.DG, hep-th, math.AG, math.AT, math.CT]

Kai Behrend, Hsuan-Yi Liao and Ping Xu: *On the structure of étale fibrations of  $L_\infty$ -bundles.*

2307.08179

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

Simon Hochgerner: *Nonlinear feedback, double bracket dissipation and port control of Lie-Poisson systems.*

2307.09235

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

Chengming Bai, Li Guo, Jianqi Liu and Xiaoyan Wang: *On Rota-Baxter vertex operator algebras.*

2307.09826

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

Matías I. Caruso, Javier Fernández, Cora Tori and Marcela Zuccalli: *Lagrangian reduction of forced discrete mechanical systems.*

2307.13167

[math.DG, math.DS]

Giovanni Canepa, Alberto S. Cattaneo, Filippo Filabattino and Manuel Tecchiolli: *Boundary structure of the standard model coupled to gravity.*

2307.14955

[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

International Mathematical Union (IMU)  
Newsletter - May 2023

Instituto de Ciencias Matemáticas (ICMAT)  
Newsletter - June 2023

International Association of Mathematical  
Physics Bulletin - July 2023

European Mathematical Society

Royal Spanish Mathematical Society (RSME)

International Association of Mathematical  
Physics

Open Access American Institute of Mathemat-  
ical Sciences (AIMS) Journal

International Centre for Theoretical Physics  
(ICTP)

European Research Council

European Commission - Research and Innova-  
tion

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 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

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  
gmcactivities@gmail.com