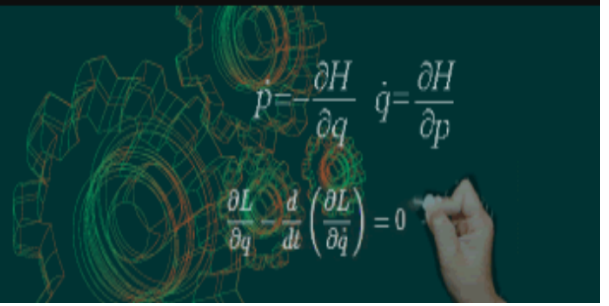




# GMC Network



## *Geometry, Mechanics and Control Network Infosheet*

November 2022

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### CONTENTS

Network's activities ...	1
Outstanding event ...	1
Other conferences ...	1
Virtual Seminars ...	2
Job offers, fellowships and supports	
Ph.D. offers ...	3
Postdoctoral offers ...	3
Offers for seniors ...	4
Visiting researchers ...	4
Projects and conferences ...	5
Interesting publication ...	5
Preprints	
Network's members ...	5
Network's Collaborators ...	6
Links of interest ...	6

### Network's activities

**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

**Tenth Workshop on Integrable Systems.**  
1–2 December 2022, Sydney, Australia.

**International Conference on Computational Mechanics.**  
9–11 December 2022, Guilin, China.

**International Conference on Soft Computing, Control and Mathematics.**  
17–18 December 2022, Dubai, United Arab Emirates.

**Statistical Mechanics Conference.**  
18–20 December 2022, New Jersey, USA.

**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.

**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.

**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.

**Groups and Dynamics in Geometry.**

29 May–2 June 2023, Ascona, Switzerland.

**Virtual seminars**

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**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.

**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.

**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

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### Ph.D. offers

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#### PhD in Geometric, Stochastic and Numerical Analysis.

University of Bielefeld, Bielefeld, Germany

Closing date: 4 December 2022.

#### PhD position in Machine Learning for Polymer Systems .

Basque Center for Applied Mathematics, Bilbao, Spain

Closing date: 10 December 2022.

#### PhD positions in Quantum Mathematics.

University of Southern Denmark, Odense, Denmark

Closing date: 15 December 2022.

#### Research Associate in Fluid Dynamic Applications.

University of Hamburg, Hamburg, Germany

Closing date: 18 December 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.

#### Doctoral candidates in Statistics and Probability.

Esch sur Alzette, Luxembourg, Luxembourg

Closing date: 31 December 2022.

#### PhD position in Applied Mathematics.

Safran Tech, Paris, France

Closing date: 31 December 2022.

#### 6 PhD positions in Arithmetic Geometry.

Universities of Leiden, Groningen and Utrecht, Netherlands

Closing date: 22 January 2023.

#### PhD position in Computational Mechanics.

Universidad Politécnica de Madrid, Madrid, Spain

Closing date: Open until filled.

#### PhD positions.

TU Delft, Delft, The Netherlands

Closing date: Open until filled.

### Postdoctoral fellowships

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#### IST-BRIDGE: International Postdoctoral Program.

Institute of Science and Technology Austria, Klosterneuburg, Austria

Closing date: 6 December 2022.

#### Postdoc in Geometric Analysis and Differential Geometry.

KTH Royal Institute of Technology, Stockholm, Sweden

Closing date: 9 December 2022.

#### Postdoc in Symplectic Dynamics.

Sorbonne Université and Université de Paris, Paris, France

Closing date: 12 December 2022.

#### Postdoctoral positions in Quantum Mathematics.

University of Southern Denmark, Odense, Denmark

Closing date: 15 December 2022.

#### Postdoctoral position in Numerical PDEs .

Universität Jena, Jena, Germany

Closing date: 15 December 2022.

#### Postdoctoral Researchers in Mathematical Physics.

Aalto University, Espoo, Finland

Closing date: 16 December 2022.

#### Postdoctoral Position in Geometric Representation Theory.

University of Edinburgh, Edinburgh, United Kingdom

Closing date: 20 December 2022.

#### Postdoctoral position on Homogeneous Spaces.

University of Campinas , São Paulo, Brazil

Closing date: 30 December 2022.

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

FAU Erlangen-Nurnberg, Erlangen, Germany

Closing date: 30 December 2022.

#### Postdoctoral Fellow in Geometric Machine Learning.

Harvard University, Cambridge (MA), United States

Closing date: 31 December 2022.

**Postdoctoral Fellow in Applied Algebra and Geometry.**

Harvard University, Cambridge (MA), United States

Closing date: 15 January 2023.

**Offers for researchers**

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**Open-Rank Tenure-Track position in Differential Geometry.**

Clark University, Worcester (MA), United States

Closing date: 15 December 2022.

**Tenure-track faculty positions.**

National Taiwan University, Taipei, Taiwan

Closing date: 31 December 2022.

**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

**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 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.

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

Harvard University, Massachusetts, United States

Closing date: Open until filled.

**Humboldt research fellowship for postdoctoral researchers.**

Alexander von Humboldt Foundation

Closing date: Open.

Closing date: 4 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: Open until filled.

**Permanent position in Applied Statistics.**

BCAM, Bilbao, Spain

Closing date: Open until filled.

**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 Univer-

sity.

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 December, 1 March, and 1 October every year. Three years ahead.

### Hot topics Workshop at MSRI.

Mathematical Sciences Research Institute, Berkeley, United States.

Deadline: 1 December, 1 March, and 1 October every year.

### Summer graduate schools at MSRI.

Mathematical Sciences Research Institute, Berkeley, United States.

Deadline: 1 December, 1 March, and 1 October every year.

### 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 publication

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*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

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### Network's members

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Leonardo Colombo, Manuel de León, María Emma Eyrea Irazú and Asier López-Gordón: *Geometric Hamilton-Jacobi theory and integrability for non-holonomic and forced hybrid systems.*

2211.06252

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

D. Peralta-Salas and R. Slobodeanu: *A Liouville-type theorem for the 3D primitive equations.*

2211.09573 (version 2)

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

José F. Cariñena and José Fernández-Núñez: *Some Applications of Affine in Velocities Lagrangians in Two-dimensional Systems.*

2211.14264

[math-ph, math.MP]

## Network's collaborators

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Mathieu Stiénon, Luca Vitagliano and Ping Xu:  *$A_\infty$  Algebras from Lie Pairs.*

2210.16769

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

Giuseppe Gaeta and Miguel Ángel Rodríguez: *Integrable Ito equations with multiple noises.*

2211.02977 (version 3)

[math-ph, math.MP]

Paolo Aschieri, Giovanni Landi and Chiara Pagani: *Braided Hopf algebras and gauge transformations II: \*-structures and examples.*

2211.02986

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

Robert Cardona and Francisco Presas: *Flexible embeddings in contact and symplectic geometry.*

2211.03713

[math.SG]

Rutwig Campoamor-Stursberg and Michel Rausch de Trautenberg: *Fermion realisations of generalised Kac-Moody and Virasoro algebras associated to the two-sphere and the two-torus.*

2211.04199 (version 2)

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

Rutwig Campoamor-Stursberg and Michel Rausch de Trautenberg: *Vertex operator for generalised Kac-Moody algebras associated to the two-sphere and the two-torus.*

2211.04201 (version 2)

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

Rutwig Campoamor-Stursberg, Danilo Latini, Ian Marquette and Yao-Zhong Zhang: *Algebraic*

*(super-)integrability from commutants of subalgebras in universal enveloping algebras.*

2211.04664

[math-ph, math.MP]

Andreas Fring, Takano Taira and Rebecca Tenney: *Real energies and Berry phases in all PT-regimes in time-dependent non-Hermitian theories.*

2211.05683

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

Arjan van der Schaft and Volker Mehrmann: *Linear port-Hamiltonian DAE systems revisited.*

2211.06676

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

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

2211.08581

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

Jaume Giné, Valery G. Romanovski and Joan Torregrosa: *Time-reversibility and integrability of p:-q resonant vector fields.*

2211.12411 (version 2)

[math.DS]

Yi Lin, Yiannis Loizides, Reyer Sjamaar and Yanli Song: *Symplectic reduction and a Darboux-Moser-Weinstein theorem for Lie algebroids.*

2211.13288

[math.SG, math.DG]

## Links of interest

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**Geometry, Mechanics and Control Network**

**Journal of Geometric Mechanics - Current Issue**

**International Mathematical Union (IMU) Newsletter - September 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**

**Euraxess Spain**

**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 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](mailto:gmactivities@gmail.com)**