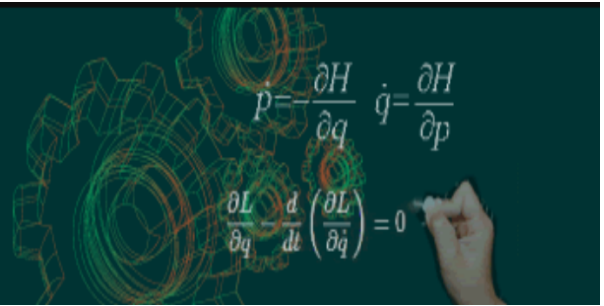




GMC Network



Geometry, Mechanics and Control Network Infosheet

September 2022

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Network's activities

17th International Young Researchers Workshop on Geometry, Mechanics and Control.
29–31 March 2022, KU Leuven, Belgium.

Outstanding event

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

Other conferences

Quantization of Complex Symplectic Varieties.
2–8 October 2022, Oberwolfach, 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.

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.

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

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

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

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.

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.

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

Ph.D. offers

PhD student in Mathematics.

Aarhus University, Aarhus, Denmark

Closing date: 1 November 2022.

PhD positions in Dynamics, Geometry and Structure.

University of Münster, Münster, Germany

Closing date: 1 November 2022.

PhD stipends in Mathematics.

University of Copenhagen, Copenhagen, Denmark

Closing date: 15 November 2022.

PhD position in Mathematical Models in Biology.

University of Surrey, Guildford, United Kingdom

Closing date: 25 November 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.

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

NTU Singapore, Singapore

Closing date: Open until filled.

Postdoctoral fellowships

Postdoc position in Machine Learning in Physics.

Laboratoire de Physique Corpusculaire, Caen, France

Closing date: 12 October 2022.

Postdoc position in Geometry and Theoretical Physics.

Simons Center for Geometry and Physics, Stony Brook(NY), United States

Closing date: 15 October 2022.

IST-BRIDGE: International Postdoctoral Program.

Institute of Science and Technology Austria, Klosterneuburg, Austria

Closing date: 4 November 2022.

Postdoctoral positions Maria de Maeztu.

CRM, Barcelona, Spain

Closing date: 15 November 2022.

PostDoc positions in Geometry and Physics.

IBS Center for Geometry and Physics, Pohang, Korea

Closing date: 30 November 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

Offers for researchers

University Assistant in Control Theory and Optimization.

University of Graz, Graz, Austria

Closing date: 12 October 2022.

2 Tenure-track faculty positions.

Universidad de La Frontera, Temuco, Chile

Closing date: 17 October 2022.

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.

Closing date: 30 December 2022.

Postdoctoral Fellow in Applied Algebra and Geometry.

Harvard University, Cambridge (MA), United States

Closing date: 15 January 2023.

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.

Assistant Professor positions.

Institute of Science and Technology Austria, Klosterneuburg, Austria

Closing date: 26 October 2022.

Professor positions in Mathematics .

Institute of Science and Technology Austria, Klosterneuburg, Austria

Closing date: 26 October 2022.

W2 professorship in Algebra .

University of Cologne, Cologne, Germany

Closing date: 31 October 2022.

2 Tenure-Track Faculty Positions in Mathematics.

Michigan State University, East Lansing, United States

Closing date: 1 November 2022.

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.

Financial support for research projects and conferences

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.

Assistant/Associate Professor of Mathematical Physics.

Radboud University, Nimega, Netherlands

Closing date: 30 November 2022.

Tenure-track faculty positions.

National Taiwan University, Taipei, Taiwan

Closing date: 31 December 2022.

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 University.

Mathematics Department-KSU, Ohio, USA.

Visiting for scholar researchers.

Closing date: Open.

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.

CIMPA School 2024.

For organizing research schools in mathematics in developing countries.

Deadline: 9 October 2022.

European Cooperation in Science and Technology (COST) programme.

Funding for interdisciplinary research network for 4 years.

Deadline: 20 October 2022.

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

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

Network's members

Florio M. Ciaglia, Fabio Di Cosmo, Alberto Ibort, Giuseppe Marmo, Luca Schiavone and Alessandro Zampini: *The Geometry of the solution space of first order Hamiltonian field theories I: from particle dynamics to free Electrodynamics.*

2208.14136

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

Florio M. Ciaglia, Fabio Di Cosmo, Alberto Ibort, Giuseppe Marmo, Luca Schiavone and Alessandro Zampini: *The Geometry of the solution space of first order Hamiltonian field theories II: non-Abelian gauge theories.*

2208.14155

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

Mariano Santander: *A perspective on the Magic Square and the 'special unitary' realizations of simple Lie algebras.*

2208.14702

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

Ángel Ballesteros and Iván Gutiérrez-Sagredo: *Shannon information entropy for a quantum nonlinear oscillator on a space of non-constant curvature.*

2209.05293

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

Antonio Michele Miti and Marco Zambon: *Observables on multisymplectic manifolds and higher Courant algebroids.*

2209.05836

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

Oğul Esen, Cristina Sardón and Marcin Zając: *A Discrete Hamilton–Jacobi Theory for Contact Hamiltonian Dynamics.*

2209.05922

[math-ph, math.MP]

G. Manjunath and Juan-Pablo Ortega: *Transport in reservoir computing.*

2209.07946

[cs.NE, math.DS]

François Gay-Balmaz, Juan C. Marrero and Nicolás Martínez: *A new canonical affine BRACKET formulation of Hamiltonian Classical Field theories of first order.*

2209.08736

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

Manuel de León, Jordi Gaset, Miguel Carlos Muñoz-Lecanda, Xavier Rivas and Narciso Román-Roy: *Multicontact formulation for non-conservative field theories.*

2209.08918

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

Pau Mir, Eva Miranda and Pablo Nicolás: *Hamiltonian facets of classical gauge theories on E-manifolds.*

Network's collaborators

David J. Fernández C. and Dennis I. Martínez-Moreno: *Multiphoton coherent states for bilayer graphene.*

2209.00690

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

Omri Dalin, Ron Ofir, Eyal Bar Shalom, Alexander Ovseevich, Francesco Bullo and Michael Margaliot: *Verifying k -Contraction without Computing k -Compounds.*

2209.01046

[math.DS]

B. M. Shali, H. M. Heidema, A. J. van der Schaft and B. Bessink: *Series composition of simulation-based assume-guarantee contracts for linear dynamical systems.*

2209.01844

[math.DS]

Katarzyna Grabowska and Janusz Grabowski: *Contact geometric mechanics: the Tulczyjew triples.*

2209.03154

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

Antonio Linero Bas and Daniel Nieves Roldán: *On the relationship between Lozi maps and max-type difference equations.*

2209.03582

[math.DS]

2209.10653

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

Mohammad Khajenejad and Sonia Martínez: *Guaranteed Privacy of Distributed Nonconvex Optimization via Mixed-Monotone Functional Perturbations.*

2209.11418

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

Alexandre Anahory Simões and Leonardo Colombo: *Contracting Forced Lagrangian and Contact Lagrangian Systems: application to nonholonomic systems with symmetries.*

2209.14149

[math.OC, cs.SY, eess.SY, math-ph, math.MP]

Alexandre Anahory Simões, Asier López-Gordón, Anthony Bloch and Leonardo Colombo: *Discrete Mechanics and Optimal Control for Passive Walking with Foot Slippage.*

2209.14255

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

J. Andersson, V. Kozlov, V. G. Tkachev and U. Wennergren: *Bifurcations and the exchange of stability with coinfection.*

2209.03600

[math.DS]

Soroush Zare, Marc de Montigny, Hao Chen and Hassan Hassanabadi: *Lorentz violation in a family of $(1+2)$ -dimensional wormhole.*

2209.05630

[math-ph, math.MP]

Giuliano Angelone, Manuel Asorey, Paolo Facchi, Davide Lonigro and Yisely Martínez: *Boundary conditions for the quantum Hall effect.*

2209.09629

[cond-mat.mes-hall, math-ph, math.MP, quant-ph]

Kevin D. Smith and Francesco Bullo: *Contractivity of the Method of Successive Approximations for Optimal Control.*

2209.10046

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

Yi Lin, Yiannis Loizides, Reyer Sjamaar and Yanli Song: *Riemannian foliations and geometric quantization.*

2209.13766

[math.SG, math.DG]

Links of interest

Geometry, Mechanics and Control Network

Journal of Geometric Mechanics - December 2022, Volume 14, Issue 4

International Mathematical Union (IMU) Newsletter - July 2022

International Association of Mathematical Physics Bulletin - July 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