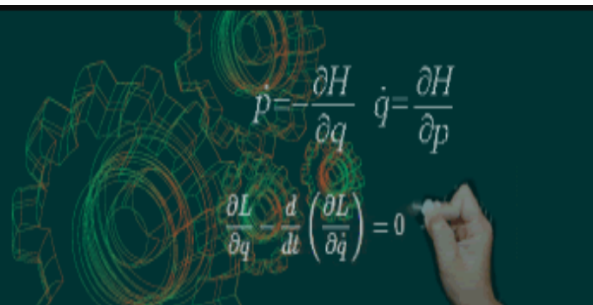# GMC Network

Geometry, Mechanics and Control Network Infosheet

January 2021

Editors: Viviana Díaz, Iván Gutiérrez, Rodrigo Sato

CONTENTS

Outstanding event

Winter School and Workshop Wisla 20-21 (Online).
25 January–5 February 2021, Warsaw, Poland.

Virtual seminars

Online Seminar on Geometry, Dynamics and Mechanics.
A series of online seminars on these topics.

Online Seminar on Geometric Mechanics and Control.
Instituto de Ciencias Matemáticas' seminars on these topics.

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

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.

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

Utrecht Geometry Centre Seminar.
Mathematical Institute, Utrecht University.

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

Symplectic zoominar.
Online Seminar organized by University of Torino.

Geometry and Topology Online.
Warwick Mathematics Institute.

Regensburg Low-Dimensional Geometry and Topology Seminar.
About arithmetic geometry and global analysis.

Conferences

Dynamic Control and Optimization.
3–5 February 2021, Aveiro, Portugal.

Geometry, Topology and their Applications in Control System Design.
21–26 February 2021, Banff, Canada.

Quantum Field Theories and Quantum Topology Beyond Semisimplicity.
14–19 March 2021, Banff, Canada.

Conformal symplectic structures, contact topology, and foliations.
15–19 March 2021, San Jose, USA.

Geometric Numerical Integration.
28 March–3 April 2021, Oberwolfach, Germany.

Digital Geometry and Discrete Variational Calculus.
29 March–2 April 2021, Luminy, France.

CIMPA School on Optimal Control and Applications in Engineering.
29 March–8 April 2021, Arba Minch, Ethiopia.

International Conference on Mathematical Methods in Physics.
5 – 9 April 2021, Marrakech, Morocco.

1st Young Geometers Meeting on Geometric Analysis and Differential Geometry.
19 –23 April 2021, Copenhagen, Denmark.

Spring School on Symplectic and Contact Topology.
19 –23 April 2021, Luminy, France.

CIMPA School on Complex Analysis, Geometry and Dynamics.
19 April–1 May 2021, Urgench, Uzbekistan.

Mini-Workshop: Analysis of Data-driven Optimal Control.
9–15 May, 2021, Oberwolfach, Germany.

Mini-Workshop: Mathematics of Dissipation - Dynamics, Data and Control.
9–15 May, 2021, Oberwolfach, Germany.

GAP XVII - Deformations and higher structures.
17–21 May, 2021, Vancouver, Canada.

CIMPA School on Structures Symplectiques en Mathématiques, Physique et Applications au Contrôle.
1–12 June 2021, Casablanca, Morocco.

Computational Aspects of Discrete Subgroups of Lie Groups.
14–18 June 2021, Providence, USA.

Third School and Workshop Mathematical Challenges in Quantum Mechanics.
14–19 June 2021, Como, Italy.

8th European Congress of Mathematics.
20–26 June 2021, Portoroz, Slovenia.

VI International Conference on Finite Dimensional Integrable Systems in Geometry and Mathematical Physics.
21–25 June 2021, Tel-Aviv, Israel.

XIV. International Workshop Lie Theory and its Applications in Physics.
21–27 June 2021, Varna, Bulgaria.

International Conference on Theoretical and Applicable Optimization and Control.
23–25 June 2021, Baku, Azerbaijan.

IX School on Geometry and Physics.
27 June–3 July 2021, Białowieża, Poland.

XXXIX Workshop on Geometric Methods in Physics.
27 June–3 July 2021, Białowieża, Poland.

CIMPA School on Optimal Control and its Applications in Economics, Engineering and the Environment.
28 June–3 July 2021, Rabat, Morocco.

Gauge Theory in Geometry and Topology.
5–16 July 2021, Berkeley, USA.

SIAM Conference on Control and Its Applications.
19–21 July 2021, Washington, USA.

Mathematical Congress of the Americas 2021 (online).
19–24 July 2021, Buenos Aires, Argentina.

5th Conference on Geometric Science of Information.
21–23 July 2021, Paris, France.

Job offers, fellowships and supports

Ph.D. offers

PhD positions in Mathematics.
Fondation Sciences Mathematiques de Paris, Paris, France
Closing date: 13 February 2021.

PhD position on spectral aspects of magnetic fields via sub-Riemannian geometry.
University of Groningen, Groningen, Netherlands
Closing date: 28 February 2021.

Short-Term Research Grants DAAD.
Any institution of higher education in Germany
Closing date: 13 April 2021.

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.

Doctoral candidate (PhD student) in the Systems Control Group.
University of Luxembourg, Luxembourg
Closing date: Open until filled.

Open PhD Positions in Geometry.
Max Planck Institute For Informatics, Saarbrücken, Germany
Closing date: Open until filled.

Doctoral candidate in applied algebraic geometry.
Aalto University, Espoo, Finland
Closing date: Open until filled.

Postdoctoral fellowships

Postdoc in Geometric Modeling for Numerical Simulation.
Radon Institute for Computational and Applied Mathematics, Linz, Austria.
Mail to: bert.juettler@jku.at.
Closing date: 30 March 2021.

Postdoc Predictive Causal Relations in Complex Systems.
Eindhoven University of Technology, Eindhoven, Netherlands
Closing date: 12 April 2021 .

Short-Term Research Grants DAAD.
Any institution of higher education in Germany
Closing date: 13 April 2021.

Postdoctoral researchers in Geometry.
University of Luxembourg, Belval, Luxembourg
Closing date: 15 April 2021.

Postdoctoral Fellow position in the mathematical sciences.
Harvard University, Massachusetts, United States
Closing date: 30 June 2021.

Several Postdoctoral positions in Mathematics.
Henri Lebesgue Center, Nantes, France
Closing date: 31 May 2021.

Postdoctoral positions in geometry.
Heidelberg University, Germany
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.

Research scientist in Mathematics.
Massachusetts Institute of Technology, Massachusetts, United States
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

Director of ICMS and Professor at Edinburgh and Heriot Watt University.
ICMS, Edinburgh, United Kingdom
Closing date: 21 February 2021.

Tenure Track positions in Mathematics.
Aarhus University, Aarhus, Denmark
Closing date: 1 March 2021.

ICREA Senior call.
Universities or research centres in Catalonia, Spain
Closing date: 9 March 2021.

Faculty position in Physics.
Universidad Austral de Chile, Valdivia, Chile.
Mail to: concursofisica@uach.cl.
Closing date: 20 March 2021.

Associate Senior Lecturer in Mathematics for Applied Optimization.
Karlstad University, Karlstad, Sweden
Closing date: 21 March 2021.

Faculty Positions in Mathematics.
Duke Kunshan University, Kunshan, China
Closing date: Open until filled.

Research Professor in Mathematics.
Beijing Institute of Mathematical Sciences and Applications, Beijing, China
Closing date: Open until filled.

Differential geometry expert.
Barcelona, Spain.
Mail to: mcastellano@talentocientifico.com.
Closing date: Open until filled.

Several Tenure Track positions.
TU Delft, Delft, The Netherlands
Closing date: Open until filled.

Assistant professor in Mathematics.
Deusto University, Bilbao, Spain
Closing date: Open until filled.

Mathematics adjunct instructors.
Portland State University, Oregon, United States
Closing date: Open until filled.

Tenure track position in geometry.
McMaster University, Ontario, Canada
Closing date: Open until filled.

Tenure track positions in Mathematics.
University of Texas at Dallas, United States
Closing date: Open until filled.

Assistant professor in Mathematics.
Embry-Riddle Aeronautical University at Prescott, Arizona, United States
Closing date: Open until filled.

Offers for visiting researchers

SAMSI visiting research fellows.
Statistical and Applied Mathematical Sciences Institute, USA.
Applications from junior and senior researchers.
Closing date: Open.

Simons Visiting Professors at Mathematisches Forschunginstitut Oberwolfach.
Oberwolfach, Germany.
Junior or senior scientists from outside Europe.
Closing date: Open.

Research in pairs at Mathematisches Forschunginstitut Oberwolfach.
Oberwolfach, Germany.
Between 2 and 4 people, from 2 weeks to 3 months.
Closing date: Six months before planned stay.

Focused research groups in Banff, Canada.
Banff International Researh 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 Researh Station, Canada.
Teams of 2 to 4 researchers for 1 to 2 weeks.
Closing date: Minimum 4 months before the event.

Centre International de Rencontres Mathematiques (CIRM).
CIRM, Marseille, France.
2 to 3 researchers for 1 to 2 weeks.
Closing date: Open all year.

Research in pairs program: Centro Internazionale per la Ricerca Matematica.
Fondazione Bruno Kessler, Trento, Italy.
2-3 people from 1 to 6 weeks.
Closing date: Open.

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 Centre de Recerca Matemàtica.
CRM, Catalonia, Spain.
Any time between 6 and 12 months before the start of the desired stay.
Closing date: Open.

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

Thematic Programs at MSRI.
Mathematical Sciences Research Institute, Berkeley, United States.
Deadline: March 1st., October 1st. and December 1st. Three years ahead.

Hot Topics Workshop at MSRI.
Mathematical Sciences Research Institute, Berkeley, United States.
Deadline: March 1st., October 1st. and December 1st.

Summer Graduate Schools at MSRI.
Mathematical Sciences Research Institute, Berkeley, United States.
Deadline: March 1st., October 1st. and December 1st.

CIMPA Courses program.
Geographic areas of activities of CIMPA (Africa, Central or South America, Asia).
Deadline: Open all year.

Support for workshop organization.
Banff International Research Station.
Deadline: No precise deadline.

Proposal of a workshop in the Mathematisches Forschunginstitut Oberwolfach.
Oberwolfach, Germany.
Deadline: Open.

Mathematical and physical sciences funding.
National Science Foundation, United States of America.
Deadline: No precise deadline.

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.

Preprints

Network's members

Ángel Ballesteros, Flaminia Giacomini and Giulia Gubitosi: *The group structure of dynamical transformations between quantum reference frames.*
2012.15769
[quant-ph, gr-qc, hep-th, math-ph, math.MP]

Ángel Ballesteros, Rutwig Campoamor-Stursberg, Eduardo Fernández-Saiz, Francisco J. Herranz and Javier de Lucas: *Poisson-Hopf deformations of Lie-Hamilton systems revisited: deformed superposition rules and applications to the oscillator algebra.*
2101.00616
[math-ph, math.MP]

Paula Balseiro and Nicola Sansonetto: *First Integrals and symmetries of nonholonomic systems.*
2101.01216 (version 2)
[math.DS, math-ph, math.DG, math.MP]

Gianluca Bianchin, Jorge Cortés, Jorge I. Poveda and Emiliano Dall'Anese: *Time-Varying Optimization of LTI Systems via Projected Primal-Dual Gradient Flows.*
2101.01799
[math.OC]

Narciso Román-Roy: *An overview of the Hamilton–Jacobi theory: the classical and geometrical approaches and some extensions and applications.*
2101.03830
[math-ph, hep-th, math.MP]

Manuel de León, Manuel Lainz and Asier López-Gordón: *The geometry of Rayleigh dissipation.*

2101.09036
[math-ph, math.MP, math.SG, physics.class-ph]

Eduardo Fernández-Saiz: *A geometric approach to Lie systems: formalism of Poisson-Hopf algebra deformations.*
2101.11064
[math-ph, math.DG, math.MP, math.QA]

Network's collaborators

Eduardo Fernández, Javier Martínez-Aguinaga and Francisco Presas: *The homotopy type of the contactomorphism groups of tight contact 3-manifolds, part I.*
2012.14948
[math.SG, math.GT]

Jean-Marc Ginoux, Dirk Lebiedz and Jaume Llibre: *Generalized Liénard systems, singularly perturbed systems, Flow Curvature Method.*
2101.01927
[math.DS, math-ph, math.MP]

David J. Fernández C., Juan D. García M. and Daniel O-Campa: *Bilayer graphene in magnetic fields generated by supersymmetry.*
2101.05391
[math-ph, math.MP]

V. Kozlov, S. Nazarov and G. Zavorokhin: *Modeling of fluid flow in a flexible vessel with elastic walls.*
2101.06533
[math.AP, math-ph, math.MP]

Valentin Duruisseaux and Melvin Leok: *A Variational Formulation of Accelerated Optimization on Riemannian Manifolds.*
2101.06552
[math.OC]

Janusz Grabowski and Zohreh Ravanpak: *Nonassociative analogs of Lie groupoids.*
2101.07258
[math.DG, math-ph, math.MP]

Nataliya A. Balabanova and James Montaldi: *Two body problem on a sphere in the presence of a uniform magnetic field.*
2101.07170
[math-ph, math.DS, math.MP]

Felix Finster, Niky Kamran and Marco Oppio: *The Linear Dynamics of Wave Functions in Causal Fermion Systems.*
2101.08673
[math-ph, gr-qc, math.AP, math.MP]

Steve Bradlow, Brian Collier, Oscar Garcia-Prada, Peter Gothen and André Oliveira: *A general Cayley correspondence and higher Teichmüller spaces.*
2101.09377
[math.AG, math.DG, math.GT]

Felix Finster and Niky Kamran: *Fermionic Fock Spaces and Quantum States for Causal Fermion Systems.*
2101.10793
[math-ph, hep-th, math.MP, math.OA, quant-ph]

William Clark and Anthony Bloch: *Invariant Forms in Hybrid and Impact Systems.*
2101.11128
[math.DS]

Oğul Esen, Partha Guha and Hasan Gümral: *On Geometrical Couplings of Dissipation and Curl Forces.*
2101.11884
[math-ph, math.DG, math.MP]

Calls for papers

Journals

Special Issue of the journal "Symmetry" entitled "Quantum group symmetry and quantum geometry".
Guest Editors: Angel Ballesteros, Giulia Gubitosi and Francisco J. Herranz.

Publisher: MDPI.
Deadline for submissions: May 31, 2021.
`https://www.mdpi.com/journal/symmetry/special_issues/Quantum_Group_Symmetry_Quantum_Geometry`

Proceedings

Proceedings of 5th Conference on Geometric Science of Information.
Sorbonne University, Paris, France.

Publisher: SPRINGER LNCS.
Deadline for submissions: February 14, 2021.
www.gsi2021.org

Links of interest

Geometry, Mechanics and Control Network

Journal of Geometric Mechanics - December 2020, Volume 12, Issue 4

International Mathematical Union (IMU) Newsletter - November 2020, Net 104

Instituto de Ciencias Matemáticas (ICMAT) Newsletter - Second semester 2020, Number 20

International Association of Mathematical Physics Bulletin - October 2020

European Mathematical Society

Royal Spanish Mathematical Society (RSME)

International Association of Mathematical Physics

Open Access American Institute of Mathematical Sciences (AIMS) Journal

Euraxess Spain

European Research Council

European Commission - Research and Innovation

International Center of Pure and Applied Mathematics (CIMPA)

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 Prizes

European Mathematical Society Joint Mathematical Weekend

European Mathematical Society Summer Schools in Mathematics

The Royal Society Grants

The Royal Society's medals and award

NOTE: If you want to include information in this info-sheet, please send it to
gmcactivities@gmail.com