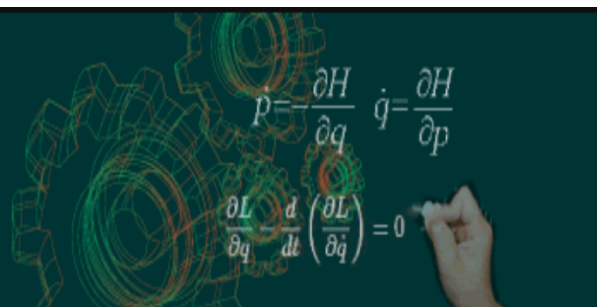# GMC Network

Geometry, Mechanics and Control Network Infosheet

March 2021

Editors: Viviana Díaz, Iván Gutiérrez, Rodrigo Sato

CONTENTS

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.

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.

Utrecht Geometry Centre Seminar.
Mathematical Institute, Utrecht University.

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

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 University of Torino.

Geometry and Topology Online.
Warwick Mathematics Institute.

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

Theory of Duality Seminar.
Department of Mathematical Methods in Physics, University of Warsaw.

Conferences

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

The 37th European Workshop on Computational Geometry.
7–9 April 2021, Saint Petersburg, .

Koopman Methods in Classical and Classical-Quantum Mechanics (online).
18 –23 April 2021, Wilhelm and Else Heraeus Foundation, Germany.

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.

10th Workshop on Geometry and Dynamical Systems (Virtual).
20–22 April 2021, Hermosillo, Mexico.

From Hamiltonian Dynamics to Symplectic Topology.
26 –30 April 2021, Luminy, France.

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.

Rencontre Poisson à La Rochelle.
27–28 May, 2021, La Rochelle, France.

XVI Dr. Antonio Monteiro Congress on Geometry, with a homage to Hernán Cendra (Online).
31 May–4 June, 2021, Bahía Blanca, Argentina.

CIMPA School on Structures Symplectiques en Mathématiques, Physique et Applications au Contrôle.

1–12 June 2021, Casablanca, Morocco.

6th International Conference on Quantum Physics and Mechanics (Webinar).
7–8 June 2021, Barcelona, Spain.

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.

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

Dynamics and Geometry Summer School.
21 June–2 July, 2021, Bristol, United Kingdom.

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.

Spectra in Riemannian and Symplectic Geometry.
3–14 July 2021, Zanjan, Iran.

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

Quantum Fields, Geometry and Representation Theory (Online).
5–23 July 2021, Bengaluru, India.

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.

International Congress on Mathematical Physics.
2–7 August 2021, Geneva, Switzerland.

The 3rd International Conference on Symmetry (online).
9–13 August 2021, Negev, Israel.

Summer school on Differential Geometry in Mechanics.
5–11 September 2021, Brittany, France.

XXIX International Fall Workshop on Geometry and Physics.
7 – 10 September 2021, Covilhã, Portugal.

Second IMA Conference on Mathematics of Robotics (Online).
8 – 10 September 2021, Manchester, United Kingdom.

Summer School in Mathematical Physics 2020.
13–17 September 2021, Munich, Germany.

SIAM Conference on Geometric and Physical Modeling.
27–29 September 2021, California, United States.

Quantum Field Theory at the Boundary.
27 September– 8 October 2021, Mainz, Germany.

Job offers, fellowships and supports

Ph.D. offers

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

3 PhD positions in Mathematics.
University of Luxembourg, Luxembourg, Luxembourg
Closing date: 14 April 2021.

IMU Breakout Graduate Fellowship Program.
Universities or research institutions based in a developing country
Closing date: 31 May 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 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 Researcher in "Multi-Agent Control Systems and Machine Learning".
ICMAT, Madrid, Spain

Closing date: 14 April 2021.

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

Postdoctoral Positions at Vanderbilt University.
Nashville, Tennessee, United States
Closing date: 3 May 2021.

Several Postdoctoral positions in Mathematics.

Henri Lebesgue Center, Nantes, France
Closing date: 31 May 2021.

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

Research Fellow in Mathematics.
University College London, London, United Kingdom
Closing date: 11 Apr 2021.

Research Associate in Mathematics.
Imperial College London, London, United Kingdom
Closing date: 15 April 2021.

Assistant Professor in Mathematics.
University of Texas, Austin, United States
Closing date: 1 August 2021.

Researcher at Óptica Prats (Differential geometry).
Barcelona/Madrid, Spain
Closing date: Open until filled.

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.

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: October 1st., December 1st., and March 1st. Three years ahead.

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

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

Priyank Srivastava and Jorge Cortés: *Solving Linear Equations with Separable Problem Data over Directed Networks.*
2103.03507
[math.OC, cs.SY, eess.SY]

Oğul Esen, Cristina Sardón Muñoz and Marcin Zając: *Matched Pair Analysis of Euler-Poincaré Flow on Hamiltonian Vector Fields.*
2103.04401
[math-ph, math.MP]

J. Fernando Barbero G., Juan Margalef Bentabol, Valle Varo and Eduardo J. S. Villaseñor: *Covariant phase space for gravity with boundaries: metric vs tetrad formulations.*
2103.06362
[gr-qc, hep-th, math-ph, math.MP]

Priyank Srivastava and Jorge Cortés: *Nesterov Acceleration for Equality-Constrained Convex Optimization via Continuously Differentiable Penalty Functions.*
2103.06494

Network's collaborators

César Contreras and Tomoki Ohsawa: *Controlled Lagrangians and Stabilization of Euler–Poincaré Mechanical Systems with Broken Symmetry II: Potential Shaping.*
2103.03787
[math.OC]

Pablo Linares, Felix Otto and Markus Tempelmayr: *The structure group for quasi-linear equations via universal enveloping algebras.*
2103.04187
[math-ph, math.AP, math.MP, math.PR, math.RA]

Andronikos Paliathanasis, Genly Leon and P. G. L. Leach: *Singularity analysis and analytic solutions for the Benney-Gjevik equations.*
2103.06934
[nlin.SI, math-ph, math.AP, math.MP]

José Ignacio Royo Prieto, Martintxo Saralegi-Aranguren and Robert Wolak: *Lefschetz Duality for Isometric Flows.*
2103.07441
[math.DG]

Zhuo Chen, Maosong Xiang and Ping Xu: *Hochschild cohomology of dg manifolds associated to integrable distributions.*
2103.08096
[math.DG, math-ph, math.MP]

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

Marco Zambon: *Holonomy transformations for Lie subalgebroids.*
2103.10409
[math.DG]

Javier Fernández, Sebastián Graiff Zurita and Sergio Grillo: *Error analysis of forced discrete mechanical systems.*
2103.11060
[math.NA, cs.NA, math-ph, math.DG, math.DS, math.MP]

Madeleine Jotz Lean and Kirill Mackenzie: *Transitive double Lie algebroids via core diagrams.*
2103.13189
[math.DG]

Juan Carlos Marrero, David Martín de Diego and Eduardo Martínez: *Local convexity for second order differential equations on a Lie algebroid.*
2103.14418
[math.DG, math-ph, math.CA, math.MP]

Brian Tran and Melvin Leok: *Variational Structures in Cochain Projection Based Variational Discretizations of Lagrangian PDEs.*
2103.09338
[math.NA, cs.NA, math-ph, math.MP]

Andrzej J. Maciejewski and Tomasz Stachowiak: *Non-integrability of the Kepler and the two-body problem on the Heisenberg group.*
2103.10495
[math-ph, math.CA, math.MP, nlin.CD]

S. Doi and N. Aizawa: $\mathbb{Z}_2^3$-*Graded extensions of Lie superalgebras and superconformal quantum mechanics.*
2103.10638
[math-ph, math.MP]

Damien Calaque, Ricardo Campos and Joost Nuiten: *Lie algebroids are curved Lie algebras.*
2103.10728
[math.AT, math.DG, math.QA]

Petre Birtea, Ioan Casu and Dan Comanescu: *Constraint optimization and $\mathcal{SU}(N)$ quantum control landscapes.*
2103.11132
[quant-ph, math-ph, math.MP, math.OC]

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Alexander Davydov, Saber Jafarpour and Francesco Bullo: *Non-Euclidean Contraction Theory via Semi-Inner Products.*
2103.12263
[math.OC, cs.SY, eess.SY]

B. M. Shali, A. J. van der Schaft and B. Besselink: *Behavioural contracts for linear dynamical systems: input assumptions and output guarantees.*
2103.12646
[math.DS]

Andreas Fring and Takanobu Taira: *Non-Hermitian gauge field theories and BPS limits.*

2103.13519
[hep-th, math-ph, math.MP, nlin.SI]

Jacques Féjoz, Andreas Knauf and Richard Montgomery: *Classical n-body scattering with long-range potentials.*
2103.13717
[math.DS, math-ph, math.MP]

Taeyoung Lee, Molei Tao and Melvin Leok: *Variational Symplectic Accelerated Optimization on Lie Groups.*
2103.14166
[math.OC]

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_i
ssues/Quantum_Group_Symmetry_Quantum_Geometry

Links of interest

Geometry, Mechanics and Control Network

Journal of Geometric Mechanics - March 2021, Volume 13, Issue 1

International Mathematical Union (IMU) Newsletter - March 2021

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

International Association of Mathematical Physics Bulletin - January 2021

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