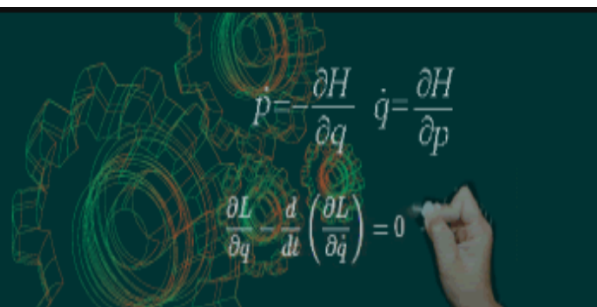




GMC Network



Geometry, Mechanics and Control Network Infosheet

May 2022

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Network's activities

14th International Summer School on Geometry, Mechanics and Control.

4–8 July 2022, Burgos, Spain.

Outstanding event

XXX International Fall Workshop on Geometry and Physics.

29 August–2 September 2022, Madrid, Spain.

Virtual seminars

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

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.

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.

ICMAT Geometry Seminar.

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

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.

Geometry and Topology Online.

Warwick Mathematics Institute.

Theory of Duality Seminar.

Department of Mathematical Methods in Physics, University of Warsaw.

Conferences

Poisson Geometry, Lie Groupoids and Differentiable Stacks.

5–10 June 2022, Banff, Canada.

Great Lakes Mathematical Physics Meeting.

9–12 June 2022, Michigan, USA.

Deep Exploration of non-Euclidean Data with Geometric and Topological Representation Learning.

10–15 June 2022, Banff, Canada.

String Math.

11–15 June 2022, Warsaw, Poland.

Mathematical and Conceptual Aspects of Quantum Theory.

12–17 June 2022, Oaxaca, Mexico.

Recent developments in Gauge theory - string theory duality (Online).

13–17 June 2022, Moscow, Russia.

Theoretical and numerical trends in inverse problems and control for PDE's, and Hamilton-Jacobi equation.

13–17 June 2022, Luminy, France.

Mathematical Challenges in Quantum Mechanics.

13–18 June 2022, Como, Italy.

Geometric and Variational Methods in Celestial Mechanics.

19–24 June 2022, Banff, Canada.

Geometry, Mechanics and Computation: from Soft Matter to Animation and Beyond.

19–24 June 2022, Banff, Canada.

Optimization, Simulation and Control.

20–22 June 2022, Ulaanbaatar, Mongolia.

VI International Conference on Finite Dimensional Integrable Systems in Geometry and Mathematical Physics.

20–24 June 2022, Tel-Aviv, Israel.

Summer Graduate School on Geometric Flows.

20 June–1 July 2022, Athens, Greece.

Physics and Quantum Physics (Hybrid).

22–23 June 2022, Berlin, Germany.

Spectral Theory and Mathematical Physics.

22–26 June 2022, Saint Petersburg, Russia.

Mathematical Physics, Geometry and Integrability.

26 June–2 July 2022, Moscow, Russia.

Probability and Mathematical Physics.

28 June–5 July 2022, Helsinki, Finland.

41th Benelux Meeting on Systems and Control.

5–7 July 2022, Brussels, Belgium.

Summer School on Geometry and Topology.

7 July–6 August 2022, Hradec Králové, Czech Republic.

15th Viennese Conference on Optimal Control and Dynamic Games.

12–15 July 2022, Wien, Austria.

Conference on Differential Geometry and its Applications.

17–23 July 2022, Hradec Králové, Czech Republic.

The 34th International Colloquium on Group Theoretical Methods in Physics.

18–22 July 2022, Strasbourg, France.

Geometry and Physics of ALX Metrics in Gauge Theory.

25–29 July 2022, California, USA.

Moduli Spaces and Vector Bundles — New Trends.

25–29 July 2022, Coventry, United Kingdom.

Driving Global Inference for New Physics with Machine Learning, Big Data and Large-scale Statistical Simulation.

31 July–5 August 2022, Banff, Canada.

Frontiers in Geometry and Topology Summer School.

1–5 August 2022, Trieste, Italy.

Frontiers in Geometry and Topology Conference.

8–12 August 2022, Trieste, Italy.

Symplectic and Contact Topology.

8–12 August 2022, Davis, USA.

Calculus of Variations.

14–20 August 2022, Oberwolfach, Germany.

Quantum Dynamics: From Electrons to Qbits.

22 August– 9 September 2022, Trieste, Italy.

25th International Summer School on Global Analysis and Applications.

22–26 August 2022, Ostrava, Czech Republic.

Geometric Structures and Supersymmetry 2022.

23–26 August 2022, Tromsø, Norway.

Control and Optimization with Industrial Applications.

24–26 August 2022, Baku, Azerbaijan.

Connections Workshop: Analytic and Geometric Aspects of Gauge Theory.

25–26 August 2022, Berkeley, USA.

Job offers, fellowships and supports

Ph.D. offers

PhD positions in Mathematics.

Gran Sasso Science Institute, L'Aquila, Italy

Closing date: 1 June 2022.

Research Technician Position in Minimax Risk Classifiers.

BCAM, Bilbao, Spain

Closing date: 2 June 2022.

Research Technician on Computational Methods.

BCAM, Bilbao, Spain

Closing date: 13 June 2022.

Introductory Workshop: Analytic and Geometric Aspects of Gauge Theory.

29 August–2 September 2022, Berkeley, USA.

Quantum Information in many body physics: a mathematical invitation.

29 August–2 September 2022, Munich, Germany.

Geometric Structures and Moduli Spaces.

29 August–2 September 2022, Córdoba, Argentina.

Applied Mathematical Challenges and Recent Advances in the Micro-Mechanics of Matter.

1–2 September 2022, Bristol, United Kingdom.

Nonlocal Problems in Mathematical Physics, Analysis and Geometry.

4–9 September 2022, Hangzhou, China.

Summer School on Phase-field Methods in Mechanics.

4–10 September 2022, Quiberon peninsula, France.

QMATH 15-Mathematical Results in Quantum Physics.

12–16 September 2022, California, USA.

Noncommutative Geometry and Noncommutative Invariant Theory.

25–30 September 2022, Banff, Canada.

Workshop on Complex Geometry and Geometric Group Theory.

26–30 September 2022, Karlsruhe, Germany.

New Four-Dimensional Gauge Theories.

24–28 October 2022, Berkeley, USA.

PhD position in Partial Differential Equations.

University of Graz, Graz, Austria

Closing date: 14 June 2022.

University assistant without doctorate.

14 June 2022

Closing date: University of Graz, Graz, Austria .

2 PhD positions in Foundations of Stochastic Partial Differential Equations.

TU Delft, Delft, Netherlands

Closing date: 23 June 2022.

PhD positions in Dynamics, Control and Numerics.

FAU Erlangen-Nurnberg, Erlangen, Germany

Closing date: 30 December 2022.

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

NTU Singapore, Singapore

Closing date: Open until filled.

Postdoctoral fellowships

Post-Doc in Probability Theory.

University of Paderborn, Paderborn, Germany

Closing date: 6 June 2022.

Post-doc in Ergodic Theory and Dynamical systems.

University of Sao Paulo, Sao Carlos, Brazil

Closing date: 10 June 2022.

Postdoctoral position at BCAM.

BCAM, Bilbao, Spain

Closing date: 12 June 2022.

Postdoctoral positions in complex analysis.

University of Ljubljana, Ljubljana, Slovenia

Closing date: 14 June 2022.

Post-Doctoral Positions at KAIST.

KAIST, Daejeon, Republic of Korea

Closing date: 29 June 2022.

Postdoc fellow positions for Biomedical Math.

IBS Biomedical Mathematics Group, Daejeon, South Korea

Closing date: 29 June 2022.

Postdoctoral positions in Dynamics, Control and Numerics.

Offers for researchers

Professor in Representation Theory.

Technical University of Munich, Munich, Germany

Closing date: 6 June 2022.

Tenure Track Professor of Algebraic Structures and Geometry.

University of Graz, Graz, Austria

Closing date: 7 June 2022.

University Assistant.

University of Graz, Graz, Austria

Closing date: 14 June 2022.

Senior researcher positions for Biomedical

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.

FAU Erlangen-Nurnberg, Erlangen, Germany

Closing date: 30 December 2022.

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.

Math.

IBS Biomedical Mathematics Group, Daejeon, South Korea

Closing date: 29 June 2022.

Junior group leader with focus on Control and Optimization.

Austrian Academy of Sciences, Linz, Austria

Closing date: 29 June 2022.

Research Professor.

KU Leuven, Leuven, Belgium

Closing date: 14 September 2022.

Offers for visiting researchers

CIMPA-ICTP Research in Pairs for mathematicians in developing countries.

CIMPA in Côte d'Azur or ICTP in Trieste, Italy) .

For periods of at least 6 weeks.

Closing date: 1 July.

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.

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.

Three years ahead.

Hot topics Workshop at MSRI.

Mathematical Sciences Research Institute, Berkeley, United States.

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

Summer graduate schools at MSRI.

Mathematical Sciences Research Institute, Berkeley, United States.

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

CIMPA School 2024.

For organizing research schools in mathematics in developing countries.

Deadline: 9 October.

Workshop at CIRM.

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.

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 dis-

advantaged countries.

Deadline: Several calls.

Interesting publication

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

M. J. H. Al-Kaabi, K. Ebrahimi-Fard, D. Manchon and H. Z. Munthe-Kaas: *Algebraic aspects of connections: from torsion, curvature, and post-Lie algebras to Gavrilov's double exponential and special polynomials.*

2205.04381

[math.DG, math.RA]

Florio M. Ciaglia, Fabio Di Cosmo, Alberto Ibort and Giuseppe Marmo: *Dynamical maps and symmetroids.*

2205.06734

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

Manuel de León, Jordi Gaset, Xavier Gràcia, Miguel Carlos Muñoz-Lecanda and Xavier Rivas: *Time-*

dependent contact mechanics.

2205.09454

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

Anastasia Matveeva and Eva Miranda: *Reduction theory for singular symplectic manifolds and singular forms on moduli spaces.*

2205.12919

[math.SG, math.DG]

Begüm Ateşli, Oğul Esen, Manuel de León and Cristina Sardón: *On Locally Conformally Cosymplectic Hamiltonian Dynamics and Hamilton-Jacobi Theory.*

2205.13329

[math.DG]

Network's collaborators

Boris Khesin, Gerard Misiolek and Alexander Shnirelman: *Geometric Hydrodynamics in Open Problems.*

2205.01143

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

Genly Leon, A. Paliathanasis and P. G. L. Leach: *New analytic solutions in $f(R)$ -Cosmology from Painlevé analysis.*

2205.01363

[gr-qc, math-ph, math.MP, nlin.SI]

Brian Tran and Melvin Leok: *Geometric Methods for Adjoint Systems.*

2205.02901

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

Marcos Salvai: *A split special Lagrangian calibration associated with helicity.*

2205.03754

[math.DG]

Yamile Godoy, Michael Harrison and Marcos Salvai: *Tangent ray foliations and their associated outer billiards.*

2205.04443

[math.GT, math.DG, math.DS]

Claudio A. Buzzi, Yagor Romano Carvalho and Jaume Llibre: *Crossing limit cycles of planar discontinuous piecewise differential systems formed by isochronous centers.*

2205.04554

[math.DS]

Amna Shaddad: *The momentum polytope of actions on contact manifolds via toric varieties.*

2205.04839

[math.SG, math.AG, math.DG]

Catherine Meusburger: *State sum models with defects based on spherical fusion categories.*

2205.06874

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

Nicolas Kardous, Amaury Hayat, Sean T. McQuade, Xiaoqian Gong, Sydney Truong, Tinhinane Mezair, Paige Arnold, Ryan Delorenzo, Alexandre Bayen and Benedetto Piccoli: *A rigorous multi-population multi-lane hybrid traffic model and its mean-field limit for dissipation of waves via autonomous vehicles.*

2205.06913

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

N. Aizawa and S. Doi: *Irreducible representations of \mathbb{Z}_2^2 -graded $\mathcal{N} = 2$ supersymmetry algebra and \mathbb{Z}_2^2 -graded supermechanics.*

2205.07263

[math-ph, math.MP]

Karl-Hermann Neeb and Gestur Olafsson: *Wedge domains in non-compactly causal symmetric spaces.*

2205.07685

[math-ph, math.MP]

Yacine Chitour, Ihab Haidar, Paolo Mason and Mario Sigalotti: *Upper and lower bounds for the maximal Lyapunov exponent of singularly perturbed linear switching systems.*

2205.07699

[math.DS]

Rui Loja Fernandes and Ioan Marcu: *Poisson geometry around Poisson submanifolds.*

2205.11457

[math.SG, math.DG]

Links of interest

Geometry, Mechanics and Control Network

Journal of Geometric Mechanics - March 2022, Volume 14, Issue 1

International Mathematical Union (IMU) Newsletter - March 2022

International Association of Mathematical Physics Bulletin - April 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 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