

Geometry,
Mechanics
and Control
Network
Infosheet

July 2020

Editors: Viviana Díaz, Iván Gutiérrez, Rodrigo Sato

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### Network's activities

15th International Young Researchers Workshop on Geometry, Mechanics, and Control (Online).

30 November-4 December 2020, Utrecht, The Netherlands.

### **Outstanding** event

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

#### Virtual seminars

Western Hemisphere Colloquium on Geometry and Physics.

Online colloquium about current research on topics in the interface of the two fields.

One World IAMP Mathematical Physics Seminar.

Online Seminar of International Association of Mathematical Physics.

Virtual Seminar on Geometry with Symmetries.

Virtual research seminar on the topic of "Lie group actions in Riemannian geometry".

Geometry and Topology Online.

Warwick Mathematics Institute.

Regensburg Low-Dimensional Geometry and Topology Seminar.

Virtual seminar about interactions between arithmetic geometry and global analysis.

#### Conferences

Calculus of Variations.

2-8 August 2020, Oberwolfach, Germany.

Workshop on Classical and Quantum Integrable Systems. 2–8 August 2020, Sochi, Russia.

Tematic Program: Higher Structures and Field Theory.

3 August-25 September 2020, Wien, Austria.

The 32nd Canadian Conference on Computational Geometry (online).

5–7 August 2020, Saskatoon, Canada.

Symplectic geometry and dynamical systems (Live-streamed online).

6-7 August 2020, Berkeley, USA.

25th International Summer School on Global Analysis and Applications (interesting courses).

16-22 August 2020, Shenyang, China.

7th International Conference on Applied Physics and Space Science (Webinar).

17–18 August 2020, Paris, France.

The 7th International Conference on Control and Optimization with Industrial Applications.

26–28 August 2020, Baku, Azerbaijan.

The 1st International Conference on Contemporary Problems of Physics and Mathematics with Applications.

4-6 September 2020, Baku, Azerbaijan.

Summer School on Méthodes Probabilistes et Stochastiques en Mécanique.

6 – 12 September 2020, Quiberon, France.

International conference on Geometry in the Large.

14–19 September 2020, Saint Petersburg, Russia.

Women in Mathematical Physics.

20–25 September 2020, Alberta, Canada.

Geometric Structures in Integrable Systems 2020.

20–26 September 2020, Gallipoli, Italy.

2nd World Wide Congregation on Physics.

21-22 September 2020, Rome, Italy.

The unity of mathematics: A conference in honour of Sir Michael Atiyah.

22--24 September 2020, Cambridge, United Kingdom.

Symplectic singularities in geometry and representation theory.

5–9 October 2020, Paris, France.

Locality and Functoriality in Symplectic Geometry.

18–23 October 2020, Oaxaca, Mexico.

Nonlocal Problems in Mathematical Physics, Analysis and Geometry.

8–13 November 2020, Banff, Canada.

Foliation Theory and Complex Geometry. 23–27 November 2020, Luminy, France.

7th Symposium on Prospects in the Physics of Discrete Symmetries.

23–27 November 2020, Bergen, Germany.

5th International Conference on Quantum Physics and Mechanics (Webinar).

25–27 November 2020, Edinburg, United Kingdom.

59th Conference on Decision and Control (virtual format).

8–11 December 2020, Jeju Island, Korea.

Quantum Groups and Cohomology Theory of Quiver and Flag Varieties.

14–18 December 2020, Luminy, France.

Topics at the Interface of Low Dimensional Group Actions and Geometric Structures.

4–15 January 2021, Singapore.

### Job offers, fellowships and supports

Ph.D. offers

PhD position in Dynamical Systems.

University of Rijeka, Rijeka, Croatia Closing date: 14 August 2020.

PhD position in Dynamical Systems.

University of Groningen, Groningen, The Netherlands

Closing date: 31 August 2020.

Doctoral researcher in applied mathematics.

Technical University Munich, Munich, Germany Closing date: 30 November 2020.

PhD Positions in Mathematics.

Aachen University, Aachen, Germany

Closing date: 31 December 2020.

#### 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.

### Postdoctoral fellowships

#### Junior Researcher Positions in Coimbra.

University of Coimbra, Coimbra, Portugal Closing date: 13 August 2020.

### Postdoctoral position in Mathematics.

Czech Academy of Sciences, Prague, Czech Republic Closing date: 15 August 2020.

#### Postdoctoral Position in Analysis.

Ruprecht-Karls-Universitat Heidelberg, Heidelberg, Germany

Closing date: 16 August 2020.

# Postdoctoral researcher in Dynamical Systems.

University of Zagreb, Zagreb, Croatia Closing date: 31 August 2020.

#### Postdoctoral Associate in Mathematics.

New York University Abu Dhabi, Abu Dhabi, United Arab Emirates

Closing date: 1 September 2020.

## Postdoctoral researcher in Dynamical Systems.

University of Rijeka, Rijeka, Croatia Closing date: 14 September 2020.

#### Postdoctoral researcher.

Technical University Munich, Munich, Germany

Closing date: 30 September 2020.

#### Offers for researchers

#### Professor of Mathematics.

University of Padova, Padova, Italy Closing date: 20 September 2020.

# Tenure-track assistant professor in pure mathematics.

KU Leuven, Kortrijk

Closing date: 30 September 2020.

#### 6 Academic Positions.

Ghent University, Gent, Belgium

#### 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 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.

### Closing date: 1 October 2020.

#### 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

#### Research Professorships at MSRI.

Mathematical Sciences Research Institute, USA. Distinguished researchers including mentoring of postdoctoral fellows, minimum of three months. Closing date: 1st October, 2020.

#### Research Members at MSRI.

Mathematical Sciences Research Institute, USA. Mathematicians with Ph.D.s, for at least 30 consecutive days or longer.

Closing date: 1st December, 2020.

#### Postdoctoral Fellows at MSRI.

Mathematical Sciences Research Institute, USA. Ph.D. in mathematics, no more than five years prior. For the entire duration of the program.

Closing date: 1st December, 2020.

#### 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 $\mathbf{at}$ 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 Univer-

Mathematics Department-KSU, Ohio, USA.

Visiting for scholar researchers.

Closing date: Open.

#### Financial support for research projects and conferences

#### Individual Fellowships 2020.

European Commission.

Deadline: 9 September 2020.

#### Call for projects of CIMPA Schools 2022.

Research schools in emerging countries.

Deadline: 18 September 2020.

# Co-funding of regional, national and international programmes 2020.

European Commission.

Deadline: 29 September 2020.

#### 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..

IAMP Supported Conferences.

International Association of Mathematical Physics.

Deadline: October 15.

#### 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.

### Interesting news and publications

### **Preprints**

#### Network's members

Alberto Enciso and Niky Kamran: Ramified local isometric embeddings of singular Riemannian metrics.

2007.02061

[math.DG, math.AP]

Giulia Gubitosi, Ángel Ballesteros and Francisco J. Herranz: Generalized noncommutative Snyder spaces and projective geometry.

2007.09653

[hep-th, gr-qc, math-ph, math.MP]

Robert Cardona and Eva Miranda: Integrable systems on singular symplectic manifolds: From local to global.

2007.10314

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

Lyudmila Grigoryeva and Juan-Pablo Ortega: *Dimension reduction in recurrent networks by canonicalization*.

2007.12141

[math.OC, cs.LG, cs.NE, math.DS]

#### Network's collaborators

David J. Fernández C. and Dennis I. Martínez-Moreno: *Bilayer graphene coherent states*. 2007.02229

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

Tagir Farkhutdinov, François Gay-Balmaz and Vakhtang Putkaradze: Geometric variational approach to the dynamics of porous media filled with incompressible fluid.

2007.02605

[physics.flu-dyn, math.DS, nlin.CD]

Otto Rutwig Campoamor-Stursberg and Ian Marquette: Hidden symmetry algebra and construction of quadratic algebras of superintegrable systems. 2007.03925

[math-ph, math.MP]

Andrew James Bruce and Janusz Grabowski:  $Riemannian\ structures\ on\ \mathbb{Z}_2^n$ -manifolds.

2007.07666

 $[math-ph, \ gr-qc, \ math.AG, \ math.DG, \ math.MP, \\ math.QA]$ 

Fabao Gao and Jaume Llibre: Global dynamics of the Horava-Lifshitz cosmological model in a non-flat universe with non-zero cosmological constant. 2007.08049

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

Alberto S. Cattaneo, Benoit Dherin and Alan Weinstein: Symplectic Microgeometry IV: Quantization. 2007.08167 (version 2) [math.SG]

V. Muñoz, M. Schütt and A. Tralle: Negative Sasakian structures on simply-connected 5-manifolds.

2007.08597

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

Tudor S. Ratiu and François Ziegler: Symplectic \*versus\* Prequantum Induction.

2007.09434

[math.SG, math.RT]

Alexey Bolsinov, Andrey Konyaev and Vladimir Matveev: Nijnehuis Geometry III:  $\mathfrak{gl}\text{-}regular$  Nijenhuis operators.

2007.09506

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

Enrico Celeghini, Manuel Gadella and Mariano. A. del Olmo: *Hermite functions and Fourier series*. 2007.10406

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

Chengming Bai, Xing Gao, Li Guo and Yi Zhang: Operator forms of nonhomogeneous associative classical Yang-Baxter equation.

2007.10939

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

Francisco Correa, Mariano A. del Olmo, Ian Marquette and Javier Negro: Polynomial algebras from  $\mathfrak{su}(3)$  and the generic model on the two sphere. 2007.11163

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

Valentina Franceschi, Roberto Monti, Alberto Righini and Mario Sigalotti: The isoperimetric problem for regular and crystalline norms in  $\mathbb{H}^1$ .

2007.11384

[math.DG, math.MG, math.OC]

Donghoon Jang and Susan Tolman: Non-Hamiltonian actions with fewer isolated fixed points. 2007.12592

[math.SG]

Marisa Fernández, Marco Freibert and Jonatan Sánchez: A non Ricci-flat Einstein pseudo-Riemannian metric on a γ-dimensional nilmanifold. 2007.13398

[math.DG]

Simon Hochgerner: A Hamiltonian interacting particle system for compressible flow.

2007.13692

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

#### Links of interest

Geometry, Mechanics and Control Network

Journal of Geometric Mechanics - June 2020, Volume 12, Issue 2

International Mathematical Union (IMU) Newsletter - May 2020, Net 101 Instituto de Ciencias Matemáticas (ICMAT) Newsletter - First semester 2020, Number 19

International Association of Mathematical Physics Bulletin - April 2020

European Mathematical Society	SIAM Activity Group on Control and Systems Theory Best SICON Paper Prize
Royal Spanish Mathematical Society (RSME)	International Mathematical Union Awards and Prizes
International Association of Mathematical Physics	Other Prizes of International Mathematical Union
Research Webinars Around the World (Several topics)	American Mathematical Society Prizes and Awards
Latin American Cyber Colloquium on Mathematics	Mathematical Association of America Awards
Open Access American Institute of Mathematical Sciences (AIMS) Journal	Association for Women in Mathematics Awards
Euraxess Spain	IEEE Control Systems Society Awards
European Research Council  International Cooperation "Open to the	Royal Society of London Premier Medals and Awards
World"	London Mathematical Society Prizes
International Center of Pure and Applied Mathematics (CIMPA)	The Shaw Prize
Mathematics in Spain	The Henri Poincarè Prize
Open Access Mathematics Journals	European Mathematical Society Prizes
Open Access Physics Journals	Fermat Prize
Societat Catalana de Matemàtiques (SCM) journal on Mathematics	Society for Industrial and Applied Mathematics Prizes
Mathematics in Europe	Noether Lectures Award
SIAM Activity Group on Control and Sys-	The Royal Society Grants
tems Theory Prize	The Royal Society's medals and award