

Geometry, Mechanics and Control Network Infosheet

September 2011 Editors: María Barbero and Silvia Vilariño

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Focus Program on Geometry, Mechanics and Dynamics, the Legacy of Jerry Marsden. July 2012.

GMC Network Info-sheet

September 2011

NETWORK'S ACTIVITIES

Geometry of Mechanics, Field Theory and Control: a Workshop celebrating the 65th birthday of M. C. Muñoz-Lecanda

Technical University of Catalonia, Barcelona, Spain. December 19-20, 2011.

VI International Young Researchers Workshop on Geometry, Mechanics and Control.

Coimbra, Portugal. January 9-13, 2012.

Speakers:

Tomoki Ohsawa (University of California, San Diego, USA): Hamilton-Jacobi theory.

Mario Sigalotti (INRIA, France): Quantum control.

Ivan Struchiner (Utrecht University, The Netherlands): Lie algebroids and groupoids.

Registration deadline: December 10, 2011.

Abstract submission deadline: November 10, 2011.

To register please send an e-mail to yrwgmc@mat.uc.pt

First Name:

Family Name:

Institution:

Country:

Date of birth:

E-mail address:

- * I wish to give a 30-min talk: Yes/No. If yes, give a title and abstract.
- * I wish to present a poster: Yes/No. If yes, give a title and abstract.

JOB OFFERS, FELLOWSHIPS AND AWARDS

Undergraduate research offers

Collaborations scholarships.

Spanish Ministry of Education announces collaboration scholarships to start in research for students who will complete the second cycle studies or final year Degree the coming course.

Call: BOE 07/06/2011

http://www.boe.es/boe/dias/2011/07/06/pdfs/BOE-A-2011-11628.pdf

Deadline: October 14, 2011.

More information: http://www.educacion.gob.es/horizontales/servicios/becas-ayudas-subvenciones/para-estudiar/grado/beca-colaboracion.html

Ph D offers

PhD position in neural robot control.

Jacobs University Bremen.

Deadline for applications: September 30, 2011.

http://www.euro-math-soc.eu/node/1679

Fully-funded PhD Studentship: Computational Fluid Dynamics

College of Engineering Swansea University

Closing date: September 30, 2011 http://www.jobs.ac.uk/job/ADF152/f

PhD Studentship: Energy-efficient building control systems: proof of concept of a novel control method

Department of Civil and Structural Engineering University of Sheffield

Closing date: October 1, 2011 http://www.jobs.ac.uk/job/ADE237/

SADCO call for applications to PhD

The newly started project Marie Curie Initial Training Network "Sensitivity Analysis for Deterministic Controller Design" – SADCO (see the WEB site http://itn-sadco.inria.fr/), funded by the European Union, offers several very well paid PhD and post-doc positions as well as funding for scientific activities. Good students are encouraged to submit their candidature on several topics related to control theory and games. There is a new call for applications for

candidates starting their activity on September-October 2011.

According with the EU rules, the hired person is supposed to spend, within the three years of the position, six months in the "secondment" institution, which is indicated in the call for applications:

The salary for a PhD student, for example, consists of two parts: one is fixed (33,000 Euros per year); whereas the other is automatically computed according to some parameters (country, age, status...). The total amount should be in average at least 40,000 Euros per year, before taxes.

Deadline for application depending on the position

Postdoctoral fellowships

Post doc position in neural robot control.

Jacobs University Bremen.

Deadline for applications: September 30, 2011. http://www.euro-math-soc.eu/node/1679

24-month Research Fellow.

Department of Mathematics, University of Warwick, UK. Deadline: October 14, 2011.

http://www.jobs.ac.uk/job/ADG021/research-fellow/

Postdoctoral fellowships by SADCO network (Sensitivity Analysis for Deterministic Controller Design).

Different locations in Europe: Paris, Louvain, Bayreuth, Padova, Rome, Porto, London.

Research topics: Control theory, stabilization and optimization of nonlinear systems, Hamilton-Jacobi theory, differential games, perturbed systems, numerical analysis.

Latest deadline: October 31, 2011. http://itn-sadco.inria.fr/available-positions

Weierstrass Postdoctoral Fellowships Program

The Weierstrass Institute for Applied Analysis and Stochastics (WIAS) offers postgraduate fellowships for 2011/2012. Their duration is 6 or 12 moths. These fellowships are designed to enable highly-qualified young scientists to participate in the research into the mathematical problems in fields such as "Optimization and control of technological processes", thus furthering their education and training.

Closing date: February 29, 2012.

More information:

http://www.wias-berlin.de/jobs/fellowship.jsp?lang=1

Postdoc Position at LAAS-CNRS, Univ. Toulouse, France.

We are seeking candidates for a one-year post-doctoral position at LAAS-CNRS, University of Toulouse, France, within an ongoing project focusing on semidefinite programming and algebraic geometry for polynomial optimal control. The project may focus on software implementation (under our existing Matlab Toolbox GloptiPoly for solving generalized problems of

moments), transfer of knowledge to the French aerospace industry (contracts with EADS Astrium and the French space agency CNES), or more fundamental research activities covering real algebraic geometry (polynomial equations and inequalities), functional analysis (theory of moments), mathematical programming (convex optimization over the cone of positive semidefinite matrices), and nonlinear dynamical systems control. A strong background in Applied mathematics is required. Some knowledge of systems control is welcome.

Interested candidates please send your detailed curriculum vitae to Didier Henrion, http://homepages.laas.fr/henrion
More information:

http://homepages.laas.fr/henrion/# blank

2 Postdoctoral Fellowships- Applied Mathematics and Computational Sciences.

King Abdullah University of Science and Technology Thuwal, Jeddah Saudi Arabia.

Deadline: Open until filled.

http://sciences.academickeys.com/seeker_job_display.php?dothis=display&job[IDX]=30638-SC110902b-6e&oid=798206

Pegasus Fellowships in Flanders

The Research Foundation - Flanders has launched a new research program under the name `Pegasus Marie Curie Fellowships' (see here). Its goal is to provide non-Belgian postdoctoral researchers the opportunity to spend either 1 or 3 postdoc years at a Flemish University (salary + research budget included). In the first round of applications (deadline of February 1, 2012) there are 30 long and 10 short positions available. One possible host is the Research Group on Differential Geometry and Mechanics within the Department of Mathematics at Ghent University. Interested candidates are kindly requested to contact either Frans Cantrijn (frans.cantrijn@ugent.be) or Tom Mestdag (tom.mestdag@ugent.be) with a short research proposal

Two Lectureships in Mathematics

Maxwell Institute for Mathematical Sciences Herriot-Watt University

Closing date: September 30, 2011 http://www.jobs.ac.uk/job/ADE302/

OCCAM Junior Research Fellowship Mathematical Institute

University of Oxford

Closing date: October 7, 2011 (12:00 noon UK time)

http://www.jobs.ac.uk/job/ADE791/

Lecturer / Senior Lecturer / Reader Pure Mathematics, Applied Mathematics, and Statistics

School of Mathematics & Statistics

University of Glasgow

Closing date: October 14, 2011 http://www.jobs.ac.uk/job/ADE804/

Assistant Professor

Department of Mathematics and Statistics University of Massachusetts Amherst.

Closing date: October 17, 2011

http://www.mathjobs.org/jobs/jobs/3001

Lectureship in Pure Mathematics School of Mathematics

University of East Anglia

Closing Date: October 28, 2011 (12.00 noon)

http://www.jobs.ac.uk/job/ADE341/

Assistant Professor in Applied and Computational Mathematics

Department of Mathematics Colorado State University

Closing date: October 30, 2011

http://www.mathjobs.org/jobs/jobs/2943

Assistant Professor in Geometry & Topology Mathematics

Department of Mathematics Colorado State University

Closing date: October 30, 2011

http://www.mathjobs.org/jobs/jobs/2944

Assistant Professor of Mathematics

Mathematics & Statistics Kennesaw State University

Closing date: October 31, 2011

http://www.mathjobs.org/jobs/jobs/3010

2-Ternure track positions in Applied Mathematics

North Dakota State University Closing date: November 1, 2011

http://www.mathjobs.org/jobs/jobs/3030

Ternure- track Professor of Mathematics

Mathematics Department

University of California, San Diego Closing date: November 1, 2011

http://www.mathjobs.org/jobs/jobs/2991

Tenure Track position in Mathematics

Queen's University, ON, Canada Closing date: November 5, 2011

http://www.mathjobs.org/jobs/jobs/3005

Assistant Professor in Mathematics

University of Toronto

Closing date: November 10, 2011 http://www.mathjobs.org/jobs/jobs/3050

Full Professor in Applied Mathematics

Institute of Mathematics

University of Neuchâtel, Switzerland

Deadline for application: November 15, 2011 http://www.euro-math-soc.eu/node/1693

CRM: Luis Santaló Visiting Position

In memory of Luis Santaló, the CRM has created a visiting position bearing his name, specifically addressed to senior mathematical researchers affiliated to Latin American institutions, with the following characteristics:

- The position is offered for a stay of one to three months within the periods April to July 2012 or September to December 2012.
- The position includes free lodging, medical coverage and a monthly allowance of 1.500 Euros.

Deadline for applications: November 18, 2011 http://www.crm.es/calls/Santalo guidelines.htm

Tenure Track Assistant Professor Control, Manufacturing and Networked Systems

Faculty of Mathematics and Natural Sciences

University of Groningen

Closing date: November 25th, 2011. http://jobs.ac.uk/job/ADG019/

Professor of Mathematics

Department of Mathematics, ETH Zurich

Closing date: November 30, 2011

http://www.facultyaffairs.ethz.ch/facultypositions/prof_mathematics

Ternure-track Position in Applied Mathematics

American University (Washington, DC) Closing date: January 31, 2012

http://www.mathjobs.org/jobs/AU/3078

2 Full-time Tenure-track Positions in Applied Mathematics.

University of Maryland Eastern Shore Princess Anne, MD, USA. Position Start Date: August 2011

Closing date: Open until filled.

http://sciences.academickeys.com/seeker_job_display.php?dothis=display&job[IDX]=28101-SC110131w-8e&oid=790411

Visiting Research at IMI. Call 2011.

Instituto de Matemática Interdisciplinar

Universidad Complutense de Madrid, Spain.

This call aims to enhance cooperation between IMI researchers and high level researchers and promising young students carrying out their activity in other scientific institutions, in Spain or abroad. During their stays, visitors will collaborate with host IMI Program activities. The following modalities will be considered:

- a) Senior Visiting Researchers
- b) Postdoctoral stays
- c) Predoc Internships
- d) Exploratory meetings

The call will be open permanently. Evaluation and awarding is expected to be made on a monthly basis. More information:

http://www.mat.ucm.es/IMI/ProgramaVisitantesIMI201 1/Call_IMIVisitingResearchers_2011.pdf

Call for Visiting Professors at CIRM. Fondazione Bruno Kessler.

CIRM Visiting Scholars will perform mathematical research in cooperation with scientists and researchers of Trento University or, more generally, of the Trento area, holding some research seminars; CIRM Visiting Professors will hold short Ph.D. courses, or 'Summer Courses', or series of seminars. It is foreseen that the selection process for Visiting Professors-Scholars take place through either

• individual application, or

Invitation by a professor of Trento University or by a member of the Advisory Board.

http://cirm.fbk.eu/en/Visiting+Professors

Research in Pairs Program: Centro Internazionale per la Ricerca Matematica Fondazione Bruno Kessler.

This type of program is similar to the one of the Mathematisches Forschungsinstitut Oberwolfach, and foresees the presence of two or three partners from Universities located in different towns, who intend to work on a definite research project and for a well specified period of time (ranging from one to six weeks). Applicant partners must submit a scientific project in the field of mathematics, with a detailed research program, resulting in one or more scientific publications on journals of excellent mathematical level; the support of the CIRM will then be resulting acknowledged in the publications. Participants in the RIP Program will also give occasional research seminar talks at the CIRM or at the University of Trento, but will enjoy freedom in the pursuit of their scientific goals. Applications where one or more of the partners are Italians will of course be welcome.

http://cirm.fbk.eu/en/node/122

Awards

Ramanujan Prize for Young Mathematicians from Developing Countries.

Deadline: October 30, 2011.

http://prizes.ictp.it/prizes/Ramanujan/

Call for Nominations of Candidates for Ten EMS prizes.

Prize: 5000 Euros

Deadline: November 1, 2011.

http://www.euro-math-soc.eu/ems_prizes.html

The Ferran Sunyer i Balaguer Prize 2012

Prize: 15.000 Euros

Monographs submissions should be sent before

December 2, 2011. http://ffsb.iec.cat/EN/

Felix Klein Award 2012

Prize: 5000 Euros

Deadline: December 31, 2011.

http://www.euro-math-soc.eu/felix_klein_prize.html

Otto Neugebauer Prize

Prize: 5000 Euros

Deadline: December 31, 2011.

http://euro-math-soc.eu/otto_neugebauer_prize.html

Award José Luis Rubio de Francia 2011

Prize: 3000 Euros

Closing date: December 31, 2011.

 $\underline{\text{http://www.rsme.es/content/view/816/73/}}$

"Ciencia en Acción" Competition http://www.cienciaenaccion.org/

Financial support for research projects and conferences

2013 ICPAM-CIMPA research schools call for projects.

Deadlines complete proposal: October 1, 2011.

More information:

19639

http://www.cimpa-icpam.org/spip.php?article124

Financial support for organization of conferences by Spanish Ministry of Science and Innovation.

Application time: July 1- October 25, 2011. http://www.boe.es/diario_boe/txt.php?id=BOE-A-2010-

Complementary actions for non-guided fundamental research projects.

National Program for Fundamental Research Project Application time: July 1- October 25, 2011.

More information:

http://www.micinn.es/portal/site/MICINN/menuitem.dbc 68b34d11ccbd5d52ffeb801432ea0/?vgnextoid=f02093 ee6b80d210VgnVCM1000001d04140aRCRD&vgnextc hannel=3acb282978ea0210VgnVCM1000001034e20a RCRD

Call for CRM Research programmes.

The CRM in Barcelona invites proposals for Research Programmes during the academic year 2013-2014 in any branch of mathematics and its applications. http://www.crm.cat/CALLS/CALLS_RESEARCH_PROGRAMS/Call_Research_Program_1314.htm
Deadline: November 18, 2011.

Planet earth (MPE2013)

http://www.mpe2013.org http://www.crm.cat/eng/activityapplications.htm Deadline: November 18, 2011.

National R & D Internationalisation Program.

This program includes several sub programmes: EUROINVESTIGACIÓN (EUROCORES and YIP projects), international projects, promoting international scientific cooperation, specialisation in International

Organisations, actions relating to international scientific infrastructures.

Deadline depending on the subprogramme.

http://www.micinn.es/portal/site/MICINN/menuitem.d20 caeda35a0c5dc7c68b11001432ea0/?vgnextoid=71f25 6bc1aea0210VgnVCM1000001034e20aRCRD&lang_c hoosen=en

Initial Training Networks (ITN)

Deadline: January 12, 2012.

http://ec.europa.eu/research/participants/portal/appmanager/participants/portal

International Research Staff Exchange Scheme (IRSES)

Deadline: January 18, 2012.

http://ec.europa.eu/research/participants/portal/appma nager/participants/portal

INTERESTING NEWS AND PUBLICATIONS

International Mathematical Union Newsletter.

http://www.mathunion.org/imu-net

The IRSES Network `GEOMECH'.

GEOMECH is an IRSES network sponsored within the 7th EU Framework Program and is coordinated by Ghent University. It includes partners from Argentina, Belgium, Czech Republic, Japan, Spain and the USA and it aims to facilitate research exchange visits between these partners. More information on the network can be found on the website http://www.geomechnetwork.ugent.be/ the website will also serve as the forum where the network's activities and outcomes will be disseminated.

Mathematics in Europe

http://www.mathematics-in-europe.eu/

Matemáticas y sus fronteras

http://weblogs.madrimasd.org/matematicas/
Those interested in publishing something, contact with Manuel de León mdeleon.dos@gmail.com

Journal of Geometric Mechanics (JGM)

Volume: 3, Number: 2 June 2011

 $\frac{http://aimsciences.org/journals/contentsListne}{w.jsp?pubID=453}$

Free access to Ph.D. dissertations all around the world.

http://www.ndltd.org/find

Professional network for scientists.

http://www.researchgate.net/

Network's members preprints and papers

Luis C. García-Naranjo, Joris Vankerschaver: Nonholonomic LL systems on central extensions and the hydrodynamic Chaplygin sleigh with circulation arXiv:1109.3210v1 [math-ph]

Yu Ru, Jan Kleissl, Sonia Martínez: Storage Size Determination for Grid-Connected Photovoltaic Systems.

arXiv:1109.4102v1 [math.OC]

María Barbero-Liñán: Characterization of accessibility for affine connection control systems at some points with nonzero velocity.

arXiv:1109.4544v1 [math.OC]

Leonardo Colombo, Fernando Jiménez, David Martín de Diego: Discrete second-order Euler-Poincaré equations. Applications to optimal control. arXiv:1109.4716v1 [math-ph]

Network's collaborators preprints and papers

Victor Guillemin, Hamid Hezari: A Fulling-Kuchment theorem for the 1D harmonic oscillator. arXiv:1109.0967v1 [math.SP]

M. Crampin, D. J. Saunders: Homogeneity and projective equivalence of differential equation fields arXiv:1109.3640v1 [math.DG]

W. Sarlet, G. Waeyaert: Driven cofactor systems and Hamilton-Jacobi separability. arXiv:1109.4274v1 [math.DG]

Alberto S. Cattaneo, Benoit Dherin, Alan Weinstein: Symplectic Microgeometry III: Monoids. arXiv:1109.4789v1 [math.SG] Fabio Pasqualetti, Antonio Franchi, Francesco Bullo: On cooperative patrolling: optimal trajectories, complexity analysis, and approximation algorithms arXiv:1101.3973v3 [math.CO] Madeleine Jotz, Mathieu Stiénon, Ping Xu: Glanon groupoids.

arXiv:1109.5011v1 [math.DG]

OTHER CONFERENCES

Thematic Program on Discrete Geometry and Applications.

July-December 2011. Fields Institute, Toronto, ON, Canada.

http://www.fields.utoronto.ca/programs/scientific/11-12/discretegeom/index.html

Lecture series on Physical applications of Noncommutative Geometry by Prof. Fedele LIZZI (INFN, Naples)

Part 1: September 20-22, 2011. UPC, Barcelona Spain.

Part 2: September 27-29, ICMAT, Madrid, Spain. https://docs.google.com/viewer?a=v&pid=sites&srcid=ZGVm YXVsdGRvbWFpbnxzZW1pbmFyaXRlZW5kZWdlb21ldHJpY XxneDo1NzVmYjMzMjMwYWE5ZGVk&pli=1

Joint Mathematical Conference of the Austrian Mathematical Society at the Donau-Universität Krems, together with the Catalan, Czech, Slovak and Slovenian Mathematical Societies.

September 25-28, 2011. Krems, Austria. http://www.dmg.tuwien.ac.at/OMG/OMG-Tagung/

Primer Encuentro de Jóvenes Investigadores en Matemáticas (PEJIM). September 28-30, 2011. La Laguna, Spain.

RSME-EMS Mathematical Weekend.

October 7-9, 2011. Bilbao, Spain.

It includes four special sessions: Groups and Representations, Symplectic Geometry, PDEs in Mechanics and Physics, and Functional Analysis Methods in Quantum Information.

http://www.ehu.es/emsweekend

Special Year on Symplectic Dynamics.

October 10, 2011-March 2012, Institute for Advanced Study, Princeton, USA.

http://www.math.ias.edu/sp/symplectic-dynamics

International Conference Kolmogorov Readings: General control problems and their applications (GCP - 2011)

October 10-14, 2011. Tambov, Russia. http://www.tambovopu2011.narod.ru/

Workshop on Algebra Geometry Mathematical Physics.

October 24-26, 2011. Mulhouse, France. Registration deadline: September 30, 2011. http://www.agmp.eu/mul11/

SIAM Conference on Geometric and Physical Modelling (GD/SPM11).

October 24-27, 2011. Orlando, Florida, USA. Registration deadline: September 26, 2011. http://www.siam.org/meetings/gdspm11/

1st "Gone Fishing" meeting on Poisson geometry.

October 29-30, 2011. Mathematics Department of Washington University in St. Louis, MO, USA. If you wish to attend or give a talk, send an e-mail to xtang@math.wustl.edu by August 31, 2011. http://www.math.wustl.edu/~xtang/gone-fishing

Chern Centennial Conference.

October 30-November 5, 2011. Berkeley, CA, USA. http://www.nim.nankai.edu.cn/activites/conferences/Ch ern-Centennial-20111024/index.htm

The hyperbolic and Riemannian geometry of surfaces and other manifolds. A conference in honor of Peter Buser.

October 31-November 4, 2011. Ascona, Switzerland. http://homeweb.unifr.ch/parlierh/pub/Buser/welcome.ht ml

VI International Conference on Non Associative Algebra and its Applications.

November 1-5, 2011. Zaragoza, Spain. http://iuma.unizar.es/~elduque/vinaaa/

3rd International Conference on Operator Algebras and Applications.

November 1-5, 2011. Settat, Morocco. http://www.math.ist.utl.pt/~elharti/3rd/settat2011.htm

International Workshop on Theoretical Aspects of the Discrete Time Quantum Walk.

November 7-10, 2011. Valencia, Spain. http://ific.uv.es/~perez/DTQW_Valencia.html

EUYAM 2011: Geometric Analysis and Partial Differential Equations.

November 28-30, 2011. Granada, Spain. http://www.ugr.es/~surfaces/workshop2011/

50th IEEE Conference on Decision and Control and European Control Conference.

December 12-15, 2011. Orlando, Florida. http://control.disp.uniroma2.it/cdcecc2011

II Encuentro Conjunto RSME-SMM

January 17-20, 2012. Málaga, Spain. http://www.rsme.es/content/view/519/91/

2nd International Conference on Advances in Control and Optimization of Dynamical Systems.

February 16-18, 2012. Bangalore, India. http://www.acods.org/

Focus Program on Geometry, Mechanics and Dynamics, the Legacy of Jerry Marsden.

July 2012. Fields Institute, Toronto, Canada. http://www.fields.utoronto.ca/programs/scientific/12-

13/Marsden/index.html

The 9th AIMS Conference on Dynamical Systems, Differential Equations and Applications.

July 1-5, 2012, Orlando, Florida, USA. http://aimsciences.org/conferences/2012/index.html

As in the previous edition there will be a special session on Geometric Mechanics, organized by Frans Cantrijn, Manuel de Leon and Tom Mestdag. This session has a double goal: to promote the AIMS Journal of Geometric Mechanics by bringing together excellent researchers in the field and to provide a scientific platform for the international partners within the `Geometric Mechanics' network (a network within Marie Curie's International Research Staff Exchange Scheme (IRSES) in the 7th European Framework Program). Anyone interested in participating in the

session is cordially invited to register and to submit an abstract to session ss24 at the <u>webpage</u> of the conference, before March 15, 2012.

Workshop on geometric structures on manifolds and their applications.

July 1-7, 2012. Near Marburg, Germany. http://www.mathematik.uni-marburg.de/~agricola/rauisch2012/

6th European Congress of Mathematics. July, 2-7, 2012. Krakow. Poland http://www.6ecm.pl/en/home

EECI Graduate School on Control http://www.eeci-institute.eu/GSC2012

NOTE: if you want to include information in this info-sheet, please send it to gmcnet@ull.es