Ana Rita Pires   Curriculum Vitae

Department of Mathematics
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Employment

Cornell University, H.C. Wang Assistant Professor, started August 2011.
MIT, Lecturer, August 2010 - July 2011.

Education

MIT, Ph.D. in Mathematics, 2010, Advisor: Victor Guillemin.
IST (Instituto Superior Técnico), B.Sc. in Mathematics, 2005, Advisor: Waldyr Oliva.

Research Interests

Symplectic geometry, group actions on symplectic manifolds, toric geometry and topology.

Publications (as author)

"Toric actions on b-symplectic manifolds", with V. Guillemin, E. Miranda and G. Scott; submitted, `arXiv:1309.1897`.

"Topology of toric origami manifolds", with T. Holm; *Mathematics Research Letters* **20** (2013) no.5, pp. 885–906. `arXiv:1211.6435`.

"Moduli spaces of toric manifolds", with Á. Pelayo, T.S. Ratiu and S. Sabatini; to appear in *Geometriae Dedicata*, `arXiv:1207.0092`.

"Symplectic and Poisson geometry of b-manifolds", with V. Guillemin and E. Miranda; submitted, `arXiv:1206.2020`.

"A note on codimension one symplectic foliations and regular Poisson structures", with V. Guillemin and E. Miranda; *Bulletin of the Brazilian Mathematical Society*, New Series 42(4), 2011, `arXiv:1009.1175`.

"Symplectic Origami", with A. Cannas da Silva and V. Guillemin; *International Mathematics Research Notices*, no. 18, pp 4252-4293, 2011, `arXiv:0909.4065`.

Publications (as editor)

Números, Cirurgias e Nós de Gravata: 10 anos de Seminário Diagonal no IST, editor, with J.P. Boavida, R.P. Carpentier, L. Cruz-Filipe, P.S. Gonçalves, E. Grifo and D. Henriques; IST Press, Lisbon, 2012.

Seminário Diagonal – Proceedings IST, II, editor, with A. Cannas da Silva, L. Cruz-Filipe, R. Gonçalves, J. Pimentel Nunes, T. Reis, P.M. Resende and J. Silva; Lisbon, 2005.

Research Talks (at seminars and conferences)

The topology of (quasi)toric origami manifolds
  – Algebraic Topology Seminar, Princeton University, April 2014.
  – Symplectic Geometry, Gauge Theory, and Categorification Seminar, Columbia University, December 2013.
  – Geometry and Topology Seminar, University of Pennsylvania, December 2013.
  – Geometry and Topology Seminar, Rutgers University, December 2013.
  – **Special Session on Toric Geometry and Topology, Mathematical Congress of the Americas**, Guanajuato, Mexico, August 2013.
  – Geometria em Lisboa Seminar, IST Lisbon, July 2013.
  – "(After) D-days talks", ETH, Zurich, June 2013.
  – Geometry and Topology Seminar, MIT, June 2013.

The topology of acyclic toric origami manifolds
  - Lie Groups Seminar, Cornell University, March 2013.

Toric b-symplectic and origami manifolds
  - **11th Annual Graduate Student Topology & Geometry Conference**, University of Notre-Dame, April 2013.
  - Symplectic Geometry Seminar, Princeton University / IAS, February 2013.

Poisson and symplectic geometry on b-manifolds
  - Joint Symplectic Seminar, Cornell University, October 2011.
  - **Special Session on Symplectic Geometry and Topology, AMS Sectional Meeting**, Cornell University, September 2011.
  - Symplectic Seminar, University of Toronto, March 2011.

Not quite symplectic: origami manifolds and Poisson b-manifolds
  - **Workshop on Symplectic and Poisson Geometry**, University of Colima, Mexico, January 2011.

Geometry of b-manifolds
  - **Colloque Paulette Libermann, Institut Henri Poincaré**, Paris, France, December 2009.

Variations on symplectic geometry
  - Seminar at Universidade da Beira Interior, Covilhã , Portugal, March 2009.

Symplectic origami
  - Geometry and Topology Seminar, Binghamton University, September 2011.
  - Geometry and Topology Seminar, McMaster University, March 2011.
  - **Special Session on Symplectic and Poisson Geometry, AMS Sectional Meeting**, Georgia Southern University, March 2011.
  - Math Department Seminar Series, UMass Boston, November 2010.
  - **Encontro Nacional da Sociedade Portuguesa de Matemática**, Leiria, Portugal, July 2010.
  - Topology and Geometric Group Theory Seminar, Cornell University, October 2009.
  - **XVIII Oporto Meeting on Geometry, Topology and Physics**, University of Porto, Porto, Portugal, July 2009.
  - Geometry in Lisbon Seminar, IST, Lisbon, Portugal, March 2009.
  - **Moment Maps Conference**, EPFL, Lausanne, Switzerland, August 2008.
  - (joint talk with Victor Guillemin), **Conference on Moment Maps**, CRM, Barcelona, Spain, June 2008.

Outreach Talks

Geometry of paper folding: how origami beat Euclid
  - (for a general audience) Champalimaud Foundation, Lisbon, October 2013.
  - (for a general audience) 1st Viva a Matemática meeting, Lisbon, October 2013.
  - (for undergrads) Totally Awesome Mathematics, Cornell University, April 2012 and April 2013.
  - (for secondary school teachers) Saturdays Worskhops for Teachers, Cornell University, March 2013.
  - (for a general audience) Museu da Ciência, Coimbra, April 2012.
  - (for a general audience) Calouste Gulbenkian Foundation, Lisbon, April 2012.

Flat-foldability: There's some math in my origami
  - (for undergrads) Tea Time Tiny Talks, Cornell University, September 2012.

A little linear algebra, a little symplectic geometry
  - (for math majors) Undergraduate Math Club, Cornell University, November 2011.
  - (for math majors) O Gosto pela Matemática - Uma Década de Talentos, Lisbon, Portugal, July 2010.

Teaching Experience

Cornell University:
- Lecturer, Seminar in Geometry: Symplectic Geometry (Math 7620), Spring 2014.
- Lecturer, Honors Introduction to Analysis I (Math 4130), Spring 2013.
- Lecturer, Math and Politics (Math 1340), Spring 2012.
- Lecturer, Linear Algebra (Math 2210), Fall 2011, Fall 2012 and Fall 2013.

MIT:
- Course Administrator and Recitation Instructor, Advanced Multivariable Calculus (18.022), Fall 2010.
- Recitation Instructor, Multivariable Calculus (18.02A), January 2010.
- Grader, Analysis II (18.101), Fall 2008.
- Recitation Instructor, Linear Algebra (18.06), Spring 2007, Spring 2008 and Spring 2011.

IST:
- Undergraduate Recitation Instructor, Mathematical Analysis IV, Fall 2004 and Spring 2005.
- Undergraduate Recitation Instructor, Mathematical Analysis I, Spring 2004.
- Undergraduate Recitation Instructor, Linear Algebra, Fall 2003.

Other:
- Problem Session Leader at Number Theory Summer School, Gulbenkian Foundation, July 2011.
- Teaching Assistant in recitation videos for MIT's OpenCourseWare Linear Algebra Course, Spring 2011.
- Teacher at Math Circle (math program for 4-12 year olds), 2010-2011.

Awards and Fellowships

Junior Faculty Teaching Award, Cornell University Mathematics Department, 2012.
AMS Simons Travel Grant, AMS and Simons Foundation, 2011-2013.
PhD Fellowship, Portuguese Foundation for Science and Technology, 2006-2010.
Akamai Presidential Fellowship, Akamai Technologies Inc., 2005-2006.
Awarded to a number of first year graduate students in the MIT Math Department.
IST Merit Diploma, IST, 2002-2003. Awarded to top 20 students in the university.
New Talents in Mathematics Fellowship, Calouste Gulbenkian Foundation, 2000-2002.
Awarded to top 20 students of Mathematics in Portugal.

Service in the department

Member of the Diversity committee, Cornell University, 2012-2014.
Faculty member of the Undergraduate Math Club committee, Cornell University, 2011-2012.