

Department of Mathematics  
 Fordham College at Lincoln Center  
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## Employment

Fordham University, Assistant Professor, started September 2014.  
 Institute for Advanced Study, Member, Fall 2014.  
 Cornell University, H.C. Wang Assistant Professor, August 2011 - July 2014.  
 Massachusetts Institute of Technology, Lecturer, August 2010 - July 2011.

## Education

MIT, Ph.D. in Mathematics, 2010, Advisor: Victor Guillemin, Co-Advisor: Ana Cannas da Silva.  
 IST (Instituto Superior Técnico), Degree in Mathematics, 2005, Advisor: Waldyr Oliva.

## Research Interests

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

## Publications (as author)

“Infinite staircases in symplectic embeddings of ellipsoids into toric manifolds”, with D. Cristofaro-Gardiner, T. Holm and A. Mandini, in preparation.  
 “The fundamental group and Betti numbers of toric origami manifolds”, with T. Holm; *Algebraic & Geometric Topology* 15-4 (2015), pp.2393–2425.  
 “Convexity for torus actions on  $b$ -symplectic manifolds”, with V. Guillemin, E. Miranda and G. Scott; (to appear in *Mathematics Research Letters*).  
 “Toric actions on  $b$ -symplectic manifolds”, with V. Guillemin, E. Miranda and G. Scott; *International Mathematics Research Notices* (14): 5818–5848 (2015).  
 “Topology of toric origami manifolds”, with T. Holm; *Mathematics Research Letters* **20** 5 (2013), pp.885–906.  
 “Moduli spaces of toric manifolds”, with Á. Pelayo, T.S. Ratiu and S. Sabatini; *Geometriae Dedicata* **169** (2014), pp.323–341.  
 “Symplectic and Poisson geometry of  $b$ -manifolds”, with V. Guillemin and E. Miranda; *Advances in Mathematics* **264** (2014), pp.864–896.  
 “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).  
 “Symplectic Origami”, with A. Cannas da Silva and V. Guillemin; *International Mathematics Research Notices*, **18** (2011), pp.4252–4293.

## 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)

*Infinite staircases in symplectic embedding problems*  
 – Geometry Seminar, Yale University, October 2016.  
 – Geometria em Lisboa Seminar, IST Lisbon, July 2016.

- Gauge Theory, Topology, and Symplectic Geometry Seminar, Harvard University, April 2016.
- Symplectic Seminar, Princeton University / IAS, April 2016.
- **Cornell Penn State Joint Symplectic Seminar**, Cornell University, April 2016.
- **Special Session on Symplectic and Contact Geometry, AMS Sectional Meeting**, University of Georgia, March 2016.

*The topology of toric origami manifolds*

- **Topology Festival**, Cornell University, May 2015.
- Differential Geometry Seminar, CUNY, April 2015.
- **Special Session on Symplectic Topology and Geometry, AWM Research Symposium**, University of Maryland, April 2015.
- **Geometry and Topology (in honor of Martin Bendersky and Sam Gitler)**, Princeton University, March 2015.
- IAS Postdoctoral Talks, IAS, September 2014.
- 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.

*From Archimedes to Symplectic Geometry*

- Math Department Colloquium, Drexel University, May 2015.
- Math Department Talks, Fordham University, February 2014.

*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*

- **Cornell Penn State 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 (see also Outreach Teaching)

*The very best way to stack spheres*

- (for a general audience) Pint of Science, DSK bar, Brooklyn, May 2015.

*Hospitality at the Hilbert Hotel: How Big is Infinity?*

- (for IAS members) After Hours Conversations, IAS, November 2014.

*Geometry of paper folding: how origami beat Euclid*

- (for math majors) Reed College, April 2015.
- (for math majors) Swarthmore College, February 2014.
- (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 Workshops 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 (includes Outreach Teaching)

Fordham University:

- Linear Algebra (Math 2006), Fall 2016.
- Calculus II (Math 1207), Spring 2016.
- Calculus I (Math 1206), Fall 2015, Fall 2016.
- Finite Mathematics (Math 1100), Spring 2015, Fall 2015, Spring 2016.
- Differential Equations (Math 3002), Spring 2015.

Cornell University:

- Seminar in Geometry: Symplectic Geometry (Math 7620), Spring 2014.
- Honors Introduction to Analysis I (Math 4130), Spring 2013.
- Math and Politics (Math 1340), Spring 2012.
- 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.

## Outreach teaching and other:

- Teaching Assistant, Program for Women and Mathematics, IAS, May 2016.
- Creator and lecturer of 6 hour mini-course *Rubber Sheet Geometry* for high school math teachers, Math for America, NYC, April and May 2016.
- Instructor with Prison Teaching Initiative (NJ Scholarship and Transformative Education in Prisons Consortium), Fall 2014.
- 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. <http://ocw.mit.edu/courses/mathematics/18-06sc-linear-algebra-fall-2011>
- Teacher at Math Circle (math program for 4-12 year olds), 2010-2011.

**Grants**

Collaboration Grants for Mathematicians, Simons Foundation, 2015-2020 ..... \$35,000  
 First Year Faculty Research Grant, Fordham University, 2014 ..... \$6,500  
 AMS Simons Travel Grant, AMS and Simons Foundation, 2011-2013 ..... \$4,000

**Awards and Fellowships**

Junior Faculty Teaching Award, Cornell University Mathematics Department, 2012.  
 PhD Fellowship, Portuguese Foundation for Science and Technology, 2006-2010.  
 Akamai Presidential Fellowship, Akamai Technologies Inc., 2005-2006.  
 IST Merit Diploma, IST, 2002-2003.  
 New Talents in Mathematics Fellowship, Calouste Gulbenkian Foundation, 2000-2002.

**Service in the department**

Diversity committee, Fordham University, 2016-2017.  
 Hiring committee, Fordham University, 2015-2016.  
 Diversity committee, Cornell University, 2012-2014.  
 Faculty member of the Undergraduate Math Club committee, Cornell University, 2011-2012.