Goncalo Oliveira

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Date of Birth: November 25, 1987
Citizenship: Portuguese

Education

- Ph.D. Mathematics, Imperial College London, 2014.
  Thesis Title: *Monopoles in Higher Dimensions*
  Supervisor: Sir FRS Professor Simon Donaldson (FRS)
- M.Sc. Mathematics, Instituto Superior Tecnico, 2010.
  Thesis Title: *Geometry and Quantization*
  Supervisor: Professor João Pimentel Nunes
- B.Sc. Physics Engineering, Instituto Superior Tecnico, 2008.

Research Interests

Geometric Analysis, Differential Geometry, Mathematical Physics, in particular:
Gauge Theory, Speacial Holonomy, Calibrated Geometry.

Appointments

- Assistant Research Professor, Duke University, 2014-Present.
- Visiting Scientist, Max Planck Institute (Bonn), June–August 2015.

Publications

- G. Ball and G. Oliveira, *Gauge Theory on Aloff-Wallach spaces*, eprint arXiv:1610.04557 (2016)
- J. Lotay and G. Oliveira $SU(2)^2$*-invariant* G_2*-instantons*, eprint arXiv:1608.07789 (2016)
- G. Oliveira, *Gerbes on* G_2 *Manifolds*, eprint arXiv:1608.08949, (2016)
- G. Oliveira, G_2*-Monopoles with Singularities (Examples)*, Letters in Mathematical Physics, vol. 106, no. 11, pages 1479–1497, (2016)
- G. Oliveira, *Monopoles on AC 3-manifolds*, Journal of the London Mathematical Socitey, (2) 93, no. 3, pages 785–810, (2016)
- G. Oliveira, *Calabi-Yau Monopoles on* $T^*\mathbb{S}^3$, Communications in Mathematical Physics, vol. 341 (2), pages 699-728, (2015)

- G. Oliveira, *G_2 Monopoles on the Bryant Salamon Manifolds*, Journal of Geometry and Physics, vol. 86, pages 599-632, (2014)
- G. Oliveira, *Monopoles in Higher Dimensions*, Imperial College London, PhD Thesis (2014)

Academic Experience

Teaching at Duke University, Department of Mathematics

- Differential Equations, Fall 2016.
- Graduate Differential Geometry, Spring 2016.
- Differential Equations, Fall 2015.
- Multivariable Calculus, Section 5, Spring 2015.
- Multivariable Calculus, Sections 5 and 6, Fall 2014.

Teaching at Imperial College London, Department of Mathematics

- Demonstrator, Mathematics I (Biomedics), Spring term 2012.
- Demonstrator, Algebra II (Mathematics), Winter term 2011.
- Demonstrator, Geometry and Linear Algebra (Mathematics), Winter term 2011.

Supervision of Undergraduate Students

- Supervising Derrick Nowak's independent research course (Yang Mills flow)
- (Co-)supervising (with Mark Stern) Derrick Nowak's undergraduate research project (Yang Mills flow).

Other Activities

- Co-organizer of the conference Geometry Festival, to be held at Duke University in the Fall of 2017 (Upcoming).
- Co-Organizer of the Geometry and Topology Seminar at Duke University, 2015-2016.
- Organizer of the Geometry and Topology Seminar at Duke University, 2014-2015.
- Organizer of the Junior Geometry Seminar at Imperial College, 2011-2012.
- Refereeing research articles.

Research Grant Support

- 2015-2016 American Mathematical Society - Simons Travel Grant

Invited Seminar Lectures

- 2016 IST, Portugal
- 2016 University of Waterloo, Waterloo, Canada
- 2016 Instituto Superior Tecnico, Lisboa, Portugal
- 2016 University of Maryland, Washington DC, USA
- 2016 North Carolina State University, North Carolina, USA
- 2015 University of Arizona, Tucson AZ, USA
- 2015 Leibniz Universität, Hannover, Germany
- 2015 Max Plank Institute, Bonn, Germany
- 2015 Bielefeld University, Bielefeld, Germany
- 2015 IST, Lisboa, Portugal
- 2014 Duke University, Durham NC, USA
- 2014 Imperial College, London, UK
- 2014 Oxford University, Oxford, UK
- 2014 Bielefeld University, Bielefeld, Germany
- 2013 Göttingen University, Götingen, Germany
- 2013 IST, Lisboa, Portugal
- 2013 SUNY, Stony Brook NY, USA
- 2013 Duke University, Durham NC, USA
- 2013 Harvard University, Cambridge MA, USA
- 2013 CUNY, New York, USA
- 2012 FCUP, Porto, Portugal
- 2012 Universidade do Minho, Braga, Portugal

Some Invited Conference and Workshop Lectures

- 2016 String Geometries and Dualities, IMPA, Rio de Janeiro, Brazil (upcoming in December)
- 2016 Workshop: Gauge theory in complex and G2 geometry, MIT, Massachusetts , USA
- 2015 AMS Sectional Meeting - Geometric Analysis, Rutgers, USA
- 2015 Sigularities in G2-Geometry , Oberwolfach Mini-Workshop, Germany
- 2014 Workshop on G2 Manifolds, Simons Center for Geometry and Physics, Stony Brook, USA
- 2014 G2 Days, University College London, UK

References and Collaborators

- **PhD advisor**: Simon Donaldson: s.donaldson@imperial.ac.uk (Imperial College London and Simons Center for Geometry and Physics at Stony Brook).
- **References**: Robert Bryant: bryant@math.duke.edu (Duke University), Simon Donaldson: s.donaldson@imperial.ac.uk (Imperial College London and Simons Center for Geometry and Physics at Stony Brook), Mark Stern: stern@math.duke.edu (Duke University), Joao Pimentel Nunes: jpnunes@math.ist.utl.pt (IST).
- **Teaching Reference**: Hubert Bray: bray@math.duke.edu (Duke University)
- **Collaborators**: Andriy Haydys (Bielefeld University), Casey Kelleher (University of California Irvine), Gavin Ball (Duke University), Jason Lotay (University College London), Lorenzo Foscolo (Stony Brook University), Mark Stern (Duke University), Omer Bobrowski (Technion), Sergey Cherkis (University of Arizona).