

André Arroja Neves

Department of Pure Mathematics
Imperial College London
South Kensington Campus, London SW7 2AZ, UK
email: aneves@imperial.ac.uk

1. EDUCATION

- **Stanford University**, Stanford, USA
Ph. D. in Mathematics, 2000-2005.
Thesis advisor: Richard Schoen.
- **Instituto Superior Técnico**, Lisboa, Portugal.
Licenciatura in Mathematics, 1999.

2. APPOINTMENTS

- **Imperial College London**, UK
Professor, Fall 2013–Present
- **Imperial College London**, UK
Reader, Spring 2012–Fall 2013
- **Imperial College London**, UK
Lecturer, Fall 2009–Spring 2012
- **Princeton University**, Princeton, USA
Assistant Professor, Fall 2007–Fall 2009
- **Princeton University**, Princeton, USA
Instructor, Fall 2005– Fall 2007.

3. RESEARCH INTERESTS

- Differential Geometry and Analysis of PDE's.

4. GRANTS AND AWARDS

- **ICM Invited Section Speaker**, South Korea, 2014
- **LMS Whitehead Prize**, 2013
- **Philip Leverhulme Prize**, 70,000 GBP, 2012
- **EPSRC Programme Grant**(joint with Prof. Topping and Prof. Dafermos)(January 2013 to January 2019) 1,600,000 GBP
- **ERC Start Grant**(January 2012 to January 2017) 1,100,000 EUR
- **Marie Curie IRG** (January 2011 to January 2015) 100,000 EUR
- **NSF grant** (July 2006 to June 2009) 100,000 USD.
- **Excellence in teaching award**, given by the Engineering council at Princeton. (2006).

5. EDITORIAL BOARDS AND COMMITTEES

- Editor of Communications in Analysis and Geometry.
- Managing Editor of Calculus of Variations and Partial Differential Equations.
- Member of Research Committee of London Mathematical Society

6. INVITED LECTURES

- Nirenberg Lectures-CRM, Canada, 2015
- Rademacher Lectures - UPenn, USA, 2014
- Current Developments in Mathematics 2013 - Harvard, Boston, USA
- Barret Lectures - University of Tennessee, USA, 2013

7. ORGANIZED CONFERENCES AND SEMINARS

- International Conference in Differential Geometry (in honour of Rick Schoen's 65h birthday), Warwick, UK, 2015
- WIC Workshop in honour of Rick Schoen's 65h birthday, London, UK, 2015
- AMS-Porto Meeting Geometry session, Porto, Portugal, 2015
- Progress on Scalar Curvature Conference, Oberwolfach, Germany, 2014
- Recent Developments in Geometric Analysis, Lisbon, Portugal, 2014
- WIC (Warwick-Imperial-Cambridge) Geometry day, Cambridge, UK, March 2014
- WIC (Warwick-Imperial-Cambridge) Geometry day, London, UK, May 2013
- Willmore functional workshop, Oberwolfach, Germany, July, 2013
- Geometric Analysis Conference, Granada, Spain, June 2013
- WIC (Warwick-Imperial-Cambridge) Geometry day, Warwick, UK, June 2012
- Geometric Analysis conference, ICMS, Edinburgh, June 2011
- Geometric Analysis weekly seminar, London, October 2011-Present
- Geometric Analysis mini-workshop, Princeton, USA, March, 2008
- Geometric Analysis weekly seminar, Princeton, USA, October 2005-June 2009

8. SURVEYS

- A. Neves, Recent Progress on Singularities of Lagrangian Mean Curvature Flow. *Surveys in Geometric Analysis and Relativity*, ALM 20 (2011) 413-436

- A. Neves, New applications of Min-max Theory. *Proceedings of International Congress of Mathematics* (2014), 939–957
- F. C. Marques and A. Neves, The Willmore Problem. *to appear in Jahresbericht der DMV*
- F. C. Marques and A. Neves, Applications of Almgren–Pitts Min-max Theory. *to appear in Current Developments of Mathematics 2013 Harvard*

9. LIST OF PUBLICATIONS

- H. Bray and A. Neves, Classification of prime 3-Manifolds with Yamabe invariant greater than $\mathbb{R}P^3$. *Ann. of Math.* 159 (2004), 407–424.
- K. Akutagawa and A. Neves, Classification of all 3-manifolds with Yamabe invariant greater than $\mathbb{R}P^3$. *J. Differential Geom.* 75 (2007), 359–386.
- A. Neves, Singularities of Lagrangian Mean Curvature Flow: Zero-Maslov class case. *Invent. Math.* 168 (2007), 449–484.
- A. Neves and G. Tian, Existence and uniqueness of constant mean curvature foliation of asymptotically hyperbolic 3-manifolds. *Geom. Funct. Anal.* 19 (2009), 910–942.
- A. Neves, Singularities of Lagrangian mean curvature flow: Monotone case. *Math. Res. Lett.* 17 (2010) 109–126.
- A. Neves, Insufficient convergence of inverse mean curvature flow on asymptotic hyperbolic manifolds. *J. Differential Geom.* 84 (2010), 191–229.
- A. Neves and G. Tian, Existence and uniqueness of constant mean curvature foliation of asymptotically hyperbolic 3-manifolds II. *J. Reine Angew. Math.* 641 (2010) 69–93.
- H. Bray, S. Brendle, M. Eichmair, and A. Neves, Area-minimizing projective planes in three-manifold. *Comm. Pure Appl. Math.* 63 (2010), 1237–1247
- H. Bray, S. Brendle, and A. Neves, A rigidity result for area-minimizing two-spheres in three-manifolds. *Comm. Anal. Geom.* 18 (2010), 821–830
- S. Brendle, F. C. Marques, and A. Neves, Deformations of the hemisphere that increase scalar curvature. *Invent. Math.* 185, (2011), 175–197
- A. Neves, Recent Progress on Singularities of Lagrangian Mean Curvature Flow. *Surveys in Geometric Analysis and Relativity*, ALM 20 (2011) 413–436

- F. C. Marques and A. Neves, Rigidity of min-max minimal spheres in three-manifolds. *Duke Math. J.* 161 (2012), 2725–2752.
- A. Neves and G. Tian, Nonexistence of almost-calibrated translating solutions to Lagrangian mean curvature flow. *Trans. Amer. Math. Soc.* 365 (2013), 5655–5680.
- A. Neves, Finite time singularities for Lagrangian mean curvature flow. *Ann. of Math.* 177 (2013), 1029–1076.
- J. Lotay and A. Neves, Uniqueness of Lagrangian self-expanders. *Geom. Topol.* 17 (2013), 2689–2729
- F. C. Marques and A. Neves, Min-Max Theory and the Willmore Conjecture. *Ann. of Math.* 179 (2014), 683–782.
- D. Lee and A. Neves, The Penrose inequality for asymptotically locally hyperbolic spaces with nonpositive mass. To appear in *Communications in Math. Physics*.
- I. Agol, F. C. Marques and A. Neves, Min-max theory and the energy of links. To appear in *Journal of the AMS*.
- F. C. Marques and A. Neves, Existence of infinitely many minimal hypersurfaces in positive Ricci curvature. Submitted.

10. INVITED TALKS FOR THE LAST THREE YEARS.

Simons Colloquium, Simons Center, Stony Brook, USA 2015
 Holography and Entanglement Entropy, Orlean, France, 2015
 Flowers and Friends, Frankfurt, Germany, 2015
 International Conference on Minimal Surfaces and 3-manifolds, IMPA, Brazil, 2015
 Conference on Calculus of Variations: Geometry, Inequalities, and Design, Fields Institute, Canada 2014
 Colloquium, Yale University, USA, 2014
 DPMMS Presentations, Cambridge, UK, 2014
 FU Geometry Colloquium, Berlin, Germany 2014
 Riemann, Einstein, and Geometry, Strasbourg, France, 2014
 Sussex PDE conference, Brighton, UK, 2014
 Workshop on Special Geometric Structures, Hamburg, Germany, 2014
 ICM Lecture- Seoul, South Korea, 2014
 KIAS Summer school, South Korea, 2014
 Geometrie, Oberwolfach, Germany, 2014
 Geometry Fest - Stony Brook, USA, 2014
 Imperial Geometry and Topology Seminar, London, UK, 2014
 Queen Mary Geometry Seminar, London, UK, 2014
 Oxford PDE's conference, Oxford University, UK, 2014
 Oxford Geometry Seminar, Oxford University, UK, 2014
 Lisbon Geometry Seminar, IST, Lisbon, 2014

International Geometric Analysis conference, Maceio, Brazil, 2014
Differential Geometry and Analysis - IHP, Paris, France 2013
Current Developments in Mathematics - Harvard, Boston, USA, 2013
Geometry Seminar, Univ. Philadelphia, USA, 2013
Geometry Seminar, Stony Brook, USA, 2013
Mathematics Colloquium, Warwick, UK, 2013
International Geometric Analysis School, Como, Italy, 2013
Geometry Conference, Karlsruhe, Germany, 2013
Differentialgeometrie im Großen, Oberwolfach, Germany 2013
International Conference in Geometric Analysis, Granada, Spain, 2013
Geometry Seminar, Warwick, UK, 2013
Conference in surface theory, Leicester, UK, 2013
Barret Lectures - University of Tennessee, USA, 2013
Colloquium, Augsburg University, Germany 2013
Progress in Surface Theory, Oberwolfach, Germany 2013
Zurich Mathematics Colloquium, Switzerland, 2013
Geometric Analysis conference, Maceio, Brazil, 2013
ETH Winter School Ascona, Switzerland, 2013
Third Conference of Tsinghua Sanya International Mathematics Forum, China, 2013
The Willmore Conjecture, Gulbenkian Foundation, Lisbon, Portugal, 2012
Columbia Math Colloquium, NY USA, 2012
Brown-MIT Geometry day, Boston, USA, 2012
Cambridge Differential Geometry Seminar, Cambridge, UK, 2012
Recent Developments in Conformal Geometry, Nantes, France, 2012
Geometric Measure Theory conference, Paris 7th, France, 2012
International Conference on Geometric Analysis, Seillac, France, 2012
Brazilian School of Geometry, Manaus, Brazil, 2012
ICTP Geometric Analysis Conference, Trieste, Italy, 2012
London Geometry Seminar, Imperial College London, UK, 2012
Geometric Analysis Seminar, Munster, Germany, 2012
Oxford Geometry Seminar, Oxford University, UK, 2012
Conference on Willmore Conjecture, University of Granada, Spain, 2012
Rutgers-Princeton Geometric Analysis day, Princeton University, USA, 2012
Oxbridge Geometry seminar, Oxford University, UK, 2012
Bath Geometry seminar, Bath University, Portugal, 2012
Oxbridge PDE seminar, Cambridge University, UK, 2012
Lisbon Geometry seminar, IST-Lisbon, Portugal, 2012
Geometric Analysis conference, Frankfurt, Germany, 2012
Willmore Conjecture Conference, Paris, France, 2012
King's Colloquium, King's College London, 2012
Willmore conjecture conference, Paris, France, 2012
YDGD - Durham Geometry Day, Durham University, 2012
Geometry Seminar, Grenoble, France, 2012