

**André Arroja Neves**  
Department of Mathematics  
University of Chicago  
5734 S University Ave Chicago, IL 60637  
email: aneves@math.uchicago.edu

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

- 2016 – Present, Professor **University of Chicago**
- 2016 – Present, Visiting Professor **Imperial College London**
- 2012 – 2016, Professor **Imperial College London**
- 2009 – 2012, Lecturer and Reader, **Imperial College London**
- 2007 – 2009, Assistant Professor, **Princeton University**
- 2005 – 2007, Instructor, **Princeton University**

3. RESEARCH INTERESTS

- Differential Geometry and Analysis of PDE's.

4. AWARDS

- **Oswald Veblen AMS Prize**, 2016
- **New Horizons in Mathematics Prize**, 2016
- **Royal Society Wolfson Merit Award**, 2015
- **ICM Invited Section Speaker**, South Korea, 2014
- **LMS Whitehead Prize**, 2013
- **Philip Leverhulme Prize**, 2012
- **Excellence in teaching award**, Princeton, 2006.

5. GRANTS

- **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)
- **NSF grant** (July 2006 to June 2009)

## 6. EDITORIAL BOARDS AND COMMITTEES

- Editor of Communications in Analysis and Geometry.
- Managing Editor of Calculus of Variations and Partial Differential Equations.
- Editor of Annales scientifiques de l'E.N.S.
- Member of Research Committee of London Mathematical Society 2013–2016.

## 7. 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

## 8. ORGANIZED CONFERENCES AND SEMINARS

- EPSRC Symposium: Geometric PDEs, Warwick, 2016
- Geometrie Workshop, Oberwolfach, Germany 2016
- End of Year London Geometry Conference, London, UK, 2015
- Min-max Theory and Applications, Oberwolfach, Germany 2015
- 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-SPM-EMS 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 mini-workshop, Princeton, USA, March, 2008

## 9. POSTDOCS AND STUDENTS

9.1. **Former Postdocs:** Reto Muller, Sérgio Almaraz, Heudson Mirandola, Ezequiel Barbosa, Ben Sharp, Lu Wang, Alessandro Carlotto, Dan Ketover, Yvgeni Liokumovich, Cicero Cruz,IVALDO NUNES

9.2. **Current Postdocs:** Lucas Ambrósio, Rafael Montezuma, Marco Guaraco

9.3. **Current Phd students:** Celso Viana, Yuchin Sun

9.4. **Former Phd students:** Charles Nurser, Nicolau Aiex

## 10. 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 conjecture. *Jahresber. Dtsch. Math.-Ver.* 116 (2014), 201–222.
- F. C. Marques and A. Neves, Applications of Almgren-Pitts min-max theory. *Current developments in mathematics 2013*, 1–71, Int. Press, Somerville, MA, 2014.
- F. C. Marques and A. Neves, Min-max theory of minimal surfaces and applications. *Mathematical Congress of the Americas*, 13–25, Contemp. Math., 656, Amer. Math. Soc., Providence, RI, 2016.

## 11. LIST OF PUBLICATIONS

- H. Bray and A. Neves, Classification of prime 3-Manifolds with Yamabe invariant greater than  $\mathbb{RP}^3$ . *Ann. of Math.* 159 (2004), 407–424.
- K. Akutagawa and A. Neves, Classification of all 3-manifolds with Yamabe invariant greater than  $\mathbb{RP}^3$ . *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
- 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. *Comm. Math. Phys.* 339 (2015), 327–352.
- I. Agol, F. C. Marques and A. Neves, Min-max theory and the energy of links. *J. Amer. Math. Soc.* 29 (2016), 561–578.
- F. C. Marques and A. Neves, Existence of infinitely many minimal hypersurfaces in positive Ricci curvature. To appear in *Inventiones*.
- F. C. Marques and A. Neves, Morse index and multiplicity of min-max minimal hypersurfaces. To appear in *Cambridge Journal of Mathematics*.
- D. Ketover, F. C. Marques and A. Neves, The catenoid estimate and its geometric applications. preprint.

- Y. Liokumovich, F. C. Marques and A. Neves, Weyl law for the Volume Spectrum. Submitted

## 12. INVITED TALKS FOR THE LAST THREE YEARS.

AMS National Meeting, Plenary Speaker, Canberra, Australia, 2016  
 Colloquium, Northwestern, USA, 2016  
 Wolfgang Meyer 80th Birthday Conference, Florence, Italy, 2016  
 CMSA Geometric Analysis Seminar, Harvard University, US, 2016  
 Portuguese association of Mathematical Students, Lisbon, Portugal, 2016  
 Geometric Flows & Related Topics, Queen Mary University of London 2016.  
 Colloquium, UCLA, USA , 2015  
 Colloquium, University Leicester, UK, 2015  
 10th Pacific Rim Complex Geometry Conference, Tokyo, Japan, 2015  
 International Conference in Differential Geometry, Warwick, UK, 2015  
 AMS-SPM International Meeting, Plenary Speaker, Porto, Portugal, 2015  
 Struwe's 60th Birthday Conference, ETH Zurich , Switzerland, 2015  
 Colloquium, Università di Roma "Tor Vergata" , Italy, 2015  
 Colloquium, University of Chicago USA, 2015  
 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, 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