

---

# Ivan Agullo

Department of Physics and Astronomy  
Louisiana State University

agullo@lsu.edu  
(Updated Jan 2016)

---

## EMPLOYMENT

- **Louisiana State University** Since Aug. 2013  
Assistant Professor of Physics.
- **Cambridge University, DAMTP** Aug. 2012 to Aug. 2013  
Marie Curie Postdoctoral Fellow. Supervisor Prof. Paul Shellard.
- **Penn State University** Oct. 2010 to Aug. 2012  
Postdoctoral Fellow. Supervisor Prof. Abhay Ashtekar.
- **University of Wisconsin-Milwaukee** Apr. 2009 to Oct. 2010  
Postdoctoral Fellow. Supervisor Prof. Leonard Parker.

## EDUCATION

- **PhD in Physics**, University of Valencia, Spain July 2009  
PhD advisor: Prof. Jose Navarro-Salas.  
PhD thesis title: Quantum black holes, inflationary cosmology, and the Planck scale.
- **Advanced Studies Diploma in Theoretical Physics** July 2006  
University of Valencia, Spain  
Master thesis title: Black holes, short distances and TeV gravity.
- **Degree in Physics**, University of Valencia, Spain July 2004

## HONORS AND AWARDS

- **First award in the Gravity Research Foundation essay competition 2017**  
For a paper entitled “Gravity and Handedness of Photons”, written in collaboration with J. Navarro-Salas and A. del Rio.
- **Ousting Undergraduate Teaching Award 2017**  
Department of Physics and Astronomy, Louisiana State University.

- **Young Scientist Award 2016, International Union of Pure and Applied Physics (IUPAP)-International Society of General Relativity and Gravitation**  
“For his outstanding contributions to the physics of the early universe and possible observational consequences of quantum gravity.”
- **CAREER Award, National Science Foundation, 2016**
- **Marie Curie European Postdoctoral Fellowship 2012**  
Project: Non-Gaussianity in the observable universe and the origin of cosmic inhomogeneities.
- **Einstein-Galilei Award 2012**  
International award offered annually by the Institute for Theoretical and Advanced Mathematics Einstein-Galilei, Italy.
- **First Award in the Gravity Research Foundation essay competition 2011**  
Awarded essay: I. Agullo and L. Parker, “Stimulated creation of quanta during inflation and the observable universe.”
- **Young Researcher in Theoretical Physics Award 2011**  
Award offered annually by the Royal Spanish Physical Society for researchers under 35 years old.
- **Extraordinary PhD Prize 2010**  
Award offered annually by the University of Valencia for outstanding PhD thesis.
- **Fourth Award in the Gravity Research Foundation essay competition 2009**
- **FPU Fellowship 2005**  
Offered by the Spanish Ministry of Science to completely fund a 4-years PhD in theoretical physics.
- **Summer Student Fellowship at CERN 2004**
- **Introduction to Research Fellowship, CSIC (Spain) 2003**
- **Undergraduate collaborating-fellow in the Department of Theoretical Physics 2003**

## FUNDING SUPPORT

Principal investigator of the National Science Foundation (NSF) grant with title *CAREER: The early universe as a window to quantum gravity*, for the period Sept 2016-Sept 2021.

Principal investigator of the NSF grant PHY-1403943 with title *The early universe as a window to quantum gravity*. Expired Sep 2016.

Principal investigator of the NSF grant PHY-1503417 with title *Travel support for US researchers attending the 14th Marcel Grossmann Meeting*.

## TEACHING

- Quantum field theory in curved spacetimes PHYS-7895 (3 credits): Spring 2016.
- Electricity and Magnetism PHYS-2231(3 credits): Fall 2015, and fall 2016.
- Electrodynamics and electromagnetic waves PHYS-4132 (3 credits): Spring 2016 and spring 2017.
- Introduction to Cosmology for graduates PHYS-7895 (3 credits): Spring 2015.
- Classical mechanics for graduates PHYS-7221 (3 credits): Fall 2013, Fall 2014.
- Linear Algebra (3 credits): 2006, 2007, 2008.

## EXTENDED PERIODS IN OTHER INSTITUTIONS

- **University of Chicago**, Chicago, IL, U.S.A.  
Year: 2008. Duration: 2 months (July-September).  
Supervisor: Prof. Robert M. Wald.
- **University of Maryland**, College Park, MD, U.S.A.  
Year: 2007. Duration: 3 months (September-November).  
Supervisor: Prof. Ted Jacobson.
- **University of Chicago**, Chicago, IL, U.S.A.  
Year: 2006. Duration: 3 months (July-September).  
Supervisor: Prof. Robert M. Wald.
- **CERN**, Geneve, Switzerland.  
Year: 2004. Duration: 3 months.

## SELECTED RECENT INVITED TALKS

- Invited contribution to the American Physical Society Meeting, April 2017, Washington, USA.  
Title: *Loop Quantum Cosmology and the Cosmic Microwave Background* .
- Invited contribution to the school “Quantum Gravity, schemes, models and phenomenology”, December 2016, Mexico.  
Title: *An introduction to Loop Quantum Cosmology and the Cosmic Microwave Background*.
- Invited contribution to the conference “70&70 Gravitational Fest”, September 2016, Colombia.  
Title: *Loop Quantum Cosmology and the Cosmic Microwave Background* .
- Colloquium at Wake Forest University, September 2015, Wiston-Salem, US,  
Title: *The observable universe, gravity and the quantum*.

- Invited talk at Quantum Vacuum and Gravitation, July 2015, Mainz Institute for Theoretical Physics, Mainz, Germany,  
Title: *Loop quantum cosmology and the CMB.*
- Invited talk at General Relativity & Gravitation: a Centennial Perspective, June 2015, Penn State, Pennsylvania, US,  
Title: *Phenomenological consequences of loop quantum cosmology.*
- Invited talk at Erlangen Workshop on Cosmology and Quantum Gravity, January 2015, Erlangen, Germany,  
Title: *Phenomenological consequences of loop quantum cosmology.*
- Invited seminar Simon Fraser University, January 2014, Vancouver, Canada,  
Title: *Primordial magnetic fields and the conformal anomaly.*
- Colloquium University of Wisconsin-Milwaukee, January 2014, Milwaukee, USA.  
Title: *Quantum Gravity and the observable universe.*
- Colloquium Florida Atlantic University, February 2014, Boca Raton, USA.  
Title: *Quantum Gravity and the observable universe.*
- Invited plenary talk, Loops'13 conference, Perimeter Institute, July 2013, Canada.  
Title: *A quantum gravity extension of the inflationary scenario.*
- Invited talk, Quantum Gravity and Fundamental Cosmology Workshop, March 2013, Postdam, Germany.  
Title: *Observational effects from pre-inflationary physics and loop quantum cosmology.*
- Invited seminar, Imperial College of London, January 2013, London, UK.  
Title: *A quantum gravity extension of the inflationary scenario.*
- Invited contribution to the 13th Marcel Grossmann meeting, July 2012, Stockholm, Sweden.  
Title: *A quantum gravity extension of the inflationary scenario.*
- Invited contribution to the American Physical Society Meeting, April 2012, Atlanta, USA.  
Title: *Beyond the standard inflationary paradigm.*
- Colloquium University of Wisconsin-Milwaukee, March 2011, Milwaukee, USA.  
Title: *Gravity, the quantum, and the observable universe.*

## PROFESSIONAL ACTIVITIES

- Member of the Editorial board of *General Relativity and Gravitation*, published by Springer: The official journal of the International Society for General Relativity and Gravitation (2012-2017).
- Referee for: *Phys. Rev. Lett.*, *Phys. Rev. D*, *Class. Quant. Grav.*, *Gen. Rel. Grav.*, *JCAP*, *JHEP*, *Int. Jour. Mod. Phys.*, *Papers in Physics*, *European Physical Journal Plus*, *NSF* (American National Science Foundation), *Chilean Conicyt* (Chilean national Commission of research and technology).