

**IMRE BARTOS**

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**POSITIONS HELD**

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2017– Assistant Professor, University of Florida  
2016–2017 Associate Research Scientist, Columbia University  
2015 Postdoctoral Research Scientist, Columbia University  
2012–2016 Lecturer in Discipline, Columbia University

**ACADEMIC QUALIFICATIONS**

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2012 Ph.D. astrophysics, Columbia University  
Dissertation: “Gravitation and Multimessenger Astrophysics” (Advisor: Szabolcs Marka)  
2006 M.S. physics, Eotvos University, Hungary

**MEMBERSHIPS & ACTIVITIES**

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LIGO Scientific Collaboration, Member, 2008–  
IceCube Collaboration, Associate Member, 2014–  
LISA Consortium, Member, 2018–  
IUPAP, Commission on Astroparticle Physics, Associate Member, 2019–  
Faculty Senate, Member, University of Florida, 2018–  
President, New York Hungarian Scientific Society, 2017–2018  
Vice President, New York Hungarian Scientific Society, 2015–2016  
Board of Trustees, Hope Funds for Cancer Research, 2016–2018  
Chair, Gravitational-wave and high-energy neutrino (GWHEN) Working Group, LIGO-Virgo 2012–  
Hungarian Science Abroad Presidential Committee, Member, 2017–  
Science Research Mentor, American Museum of Natural History, 2016–2017  
Executive Committee, Frontiers of Science, Columbia University, 2013–2016  
Consultant to the Columbia Core Science Committee, 2014–2015

**HONORS & AWARDS**

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One of 5 favorite features of the year, Physics World, 2018  
Special Breakthrough Prize in Fundamental Physics (as member of the LIGO team), 2016  
BSA Distinguished Lecture, Brookhaven National Lab, June 2016  
AAS Nova Highlight, 2016  
National Science Foundation Highlight, 2014  
Columbia Science Fellow, Columbia University, 2012–2016  
Columbia Presidential Teaching Award, Finalist, 2012  
Rising Stars of Science: The Forbes 30 Under 30 (Forbes Magazine), 2012  
Allan M. Sachs Teaching Award, 2011  
Grand Challenges Explorations Team, Phase 1 (2008) and Phase 2 (2010), B. & M. Gates Foundation

## PROFESSIONAL SERVICE

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Referee: Nature, PRL, PRX, PRD, ApJ Lett, ApJ, MNRAS, CQG, GRG, Exp. Astron., JCAP, Eur. J. Phys.  
Reviewed for: NSF, NASA, NWO (Netherlands)  
Moderator, arXiv Popular Physics, 2014–  
Co-Organizer, IceCube collaboration meeting, Columbia–Stony Brook, Apr 2016  
Co-Organizer, LSST detection of optical counterparts of gravitational waves, Columbia, May 2017  
Organizer, AAS Winter Meeting Special Session, Multimessenger Astrophysics with LIGO, Jan 2018  
Session Chair: AAS 228<sup>th</sup> Meeting, “Relat. Astrophys., Grav. Lenses & Waves, and CMB,” Jun 2016  
Session Chair: GR21 Conference, “Gravitational waves: Searches, data analysis...,” Jul 2016

## CURRENT AND PAST FUNDING

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07/01/17–06/30/20, NSF 1740391 Co-PI, “*RAISE: Deep Gravitational Wave Exploration, Instrumental Insights and Noise Removal Through Machine Learning*”  
06/15/14–, NSF 1404462 Co-PI, “*Maximizing the Early-Detection Science of Advanced LIGO*”  
01/01/16–12/31/17, Columbia/University of Glasgow Research Exchange Fellowship Award  
07/14/16, LSST Grant Award 2016, workshop: “*LSST Detection of Optical Counterparts of GWs*”  
07/01/12–06/30/15 Columbia Science Fellowship Research Funding

## APPROVED OBSERVING PROPOSALS

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PI – VLA/19A-184, “Radio remnants of nearby off-axis Gamma-Ray Bursts” (2019).

## GRADUATE STUDENTS

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Maria Charisi (2012–2017, now at Caltech), Kyung-hwan Lee (2018–), Yang Yang (2018–).

## PUBLICATIONS

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53 short-author-list publications, including 1 Nature, 2 Nature Communications, 4 Phys. Rev. Lett. (2 Editor’s Suggestion), 2 ApJ Lett., and 1 MNRAS Lett. Over 120 LIGO collaboration papers (lead author on 5). Multimessenger Astronomy ebook downloaded over 6000 times.

## PATENTS

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1. *Optical Barrier to Pests*  
S. Marka, Z. Marka, I. Bartos, US20120032096 A1, 2012.
2. *Systems and methods for fraud prevention, supply chain tracking, secure material tracing and...*  
S. Marka, Z. Marka, I. Bartos, US8864038 B2, 2014.
3. *System for Cleansing Organisms from Water*  
S. Marka, I. Bartos, Z. Marka, US20140202961 A1, 2014.

## RECENT MEDIA

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Out of 50+ interviews and writings.

- *Physicists Spot Four Black Hole Collisions, Including the Largest One Ever Recorded*  
Gizmodo, Dec 2018
- *What happens when two black holes collide?*  
Gizmodo, Dec 2018
- *Cosmic Particle Accelerators (in Hungarian)*

- Termesztet Vilaga, Nov 2018
- *The Universe has Two New Windows (in German)*  
Zeit Wissen, Nov/Dec 2018
- *The New Era of Multimessenger Astronomy*  
Scientific American, May 2018
- *The Hungarian Academy of Sciences - Hungarian American branch has formed (in Hungarian)*  
mta.hu, Apr 2018
- *Astronomers Find Evidence of Thousands of Black Holes at the Center of Our Galaxy*  
Gizmodo, Apr 2018
- *A new cosmic messenger*  
Feature in PhysicsWorld, Jan 2018
- *Spectacular collision of two neutron stars observed for first time*  
Physics World, Oct 2017
- *Colliding Neutron Star Discovery Could Solve This Mystery About Our Expanding Universe*  
Gizmodo, Oct 2017
- *Virgo bags its first gravitational waves*  
Physics World, Sep 2017
- *A New Gravitational Wave Detector Makes Its First Discovery*  
Gizmodo, Sep 2017
- *Gravitational Waves Reveal the Unexpectedly Weird Behavior of Distant Black Holes*  
Gizmodo, Aug 2017
- *Infused Antarctic ice could boost neutrino detection*  
Physics World, Jul 2017
- *Teen Scientists Do Real Science at American Museum of Natural History*  
Black Enterprise, Jul 2017
- *Urban High School Students Present Original Science Research*  
Diverse: Issues in Higher Education, Jul 2017
- *Physicists Just Spotted Gravitational Waves Again --- So What's Next?*  
Gizmodo, Jul 2017

## RECENT INVITED TALKS

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Out of 70+.

- *Multimessenger Astrophysics with Gravitational waves*  
Invited Talk, Miami 2018, December 2018
- *Unsolved Problems for LIGO/Virgo from a Multi-messenger Perspective*  
Invited Talk, Unsolved Problems in Astrophysics, July 2018
- *LIGO-Virgo's Discovery of a Binary Neutron Star Merger from a Multi-messenger Perspective*  
Invited Talk, CRIS Sicily, June 2018
- *LIGO-Virgo's Discovery of a Binary Neutron Star Merger from a Multi-messenger Perspective*  
Invited Talk, Neutrino 2018, June 2018
- *The Road Ahead for Multi-messenger Astrophysics in light of LIGO's Discoveries*  
Keynote Speech, 23<sup>rd</sup> Symposium of Astroparticle Physics in the Netherlands, March 2018
- *Multimessenger Astrophysics in Light of LIGO's Discoveries*  
Invited Colloquium, University of Virginia, March 2018
- *Electromagnetic and Neutrino Prompt Emission From Gravitational Wave Sources*  
Panel organizer and convener, PAX meeting, Penn State, February 2018
- *Multimessenger Astronomy in light of LIGO-Virgo Discoveries*  
Organizer and convener, Special Session, AAS Winter Meeting, January 2018

- *Multimessenger Observations of Binary Neutron Star Merger GW170817*  
Invited Talk, Miami 2017, December 2017
- *Multimessenger Astrophysics in Light of LIGO's Discoveries*  
Invited Seminar, Harvard, November 2017
- *Search for common sources of gravitational waves and high-energy neutrinos*  
Invited Plenary Talk, MANTS, Marseilles, October 2017
- *Multimessenger Astrophysics with Advanced LIGO*  
Invited Colloquium, New York University, April 2017
- *Multimessenger Astrophysics with Gravitational Waves*  
Invited talk, Tsinghua University, Beijing, April 2017
- *Multimessenger Astrophysics with Gravitational Waves: The road ahead*  
Invited seminar, University of Florida, March 2017
- *How much will sky localization matter for the Einstein Telescope's multimessenger science goals?*  
Invited plenary talk, 8<sup>th</sup> Einstein Symposium, U. Birmingham, March 2017
- *LIGO and multi-messenger Astrophysics: The Road Ahead*  
Invited Lecture, Lake Louise Winter Institute, February 2017
- *Multi-messenger Astrophysics: The Road (and Roadblocks) Ahead*  
Invited Seminar, Harvard University, February 2017
- *Questions from the Road Ahead for Gravitational wave and Multimessenger Astrophysics*  
Invited Talk, AMON Workshop, Penn State, December 2016
- *The Discovery of Gravitational Waves from Colliding Black Holes*  
Invited Speech, Chemistry and Physics Teachers Clubs, November 2016
- *The Discovery of Gravitational Waves from Colliding Black Holes*  
Invited Seminar, Bronx High School of Science, November 2016
- *LIGO's observation of GWs: Discovery, Near-future Plans and Multimessenger Prospects*  
Invited Colloquium, University of Delaware, October 2016
- *The Discovery of Gravitational Waves from Colliding Black Holes*  
Science Summer Review Master Class, Columbia, July 2016
- *Observation of Gravitational Waves: Discovery, Near-future Plans and Multimessenger Prospects*  
Invited talk, Neutrino2016, London, UK, July 2016
- *LIGO + Neutrinos: First Results and Prospects for Multimessenger Astronomy*  
Invited talk, RICAP 2016, Frascati, Italy, June 2016
- *Challenges in Time Domain Astroparticle Physics*  
Invited talk, MACROS meeting, Pen State, June 2016
- *The Discovery of Gravitational Waves from Colliding Black Holes*  
Distinguished Lecture, Brookhaven National Lab, June 2016
- *We can hear the Universe!*  
Invited speech, Chelsea Music Festival ("Gravity 350"), June 2016
- *LIGO and The Discovery of Gravitational Waves from Colliding Black Holes*  
Invited Colloquium, Uppsala University, June 2016
- *The First Detection and Prospects for Multimessenger Astronomy*  
Invited Oscar Klein Colloquium, Stockholm University, June 2016
- *Big data and gravitational wave data analysis*  
Invited panel discussion, Hope Funds Scientific Convening, Apr 2016
- *Astronomy Grew Its Ears*  
Invited Master Class for Columbia incoming freshmen, Apr 2016
- *LIGO discovery*  
Invited Seminar, CUNY-LaGuardia College, Mar 2016
- *LIGO discovery*

- Invited Seminar, Baruch College, Mar 2016
- *LIGO discovery*  
Invited Colloquium, Stevens Institute of Technology, Mar 2016
- *LIGO discovery*  
Invited Colloquium, Brookhaven National Laboratory, Mar 2016
- *Multimessenger gravitational wave follow-up*  
Invited Seminar, LIGO Workshop, Columbia University, Feb 2016
- *Advanced LIGO Detectors and New Results*  
Invited Seminar, LIGO Workshop, Columbia University, Feb 2016
- *LIGO discovery*  
Invited Colloquium, Vanderbilt University, Feb 2016
- *Multimessenger prospects of LIGO discovery*  
Invited Colloquium, Astronomy, Columbia University, Feb 2016
- *LIGO discovery*  
Invited Colloquium, Physics, Columbia University, Feb 2016
- *LIGO discovery*  
Invited Colloquium, New York University, Feb 2016
- *IceCube: the High-energy Universe and Multimessenger Astrophysics with Neutrinos*  
Invited Colloquium, Eotvos University, Jan 2016

#### **RECENT TEACHING**

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2018 FALL	Modern Astrophysics (undergraduate course; developed from scratch)
2018 SPRING	Modern Astrophysics (graduate course; developed from scratch)
2017 SPRING	Science Research Mentor, AMNH
2016 FALL	M.A. Science Seminars, Columbia Journalism School Science Research Mentor, AMNH
2016 SPRING	Frontiers of Science (undergraduate course)