

IMRE BARTOS

Assistant Professor of Physics | University of Florida | people.clas.ufl.edu/imrebartos

RESEARCH INTEREST

Multi-messenger astrophysics, gravitational wave astrophysics, high-energy astroparticle physics, black hole and neutron star evolution and interactions, cosmology.

EDUCATION AND TRAINING

Eotvos University, Hungary	Physics	Diploma	2006
Columbia University	Physics (Szabolcs Marka)	PhD	2012

PROFESSIONAL APPOINTMENTS

Lecturer in Discipline	Columbia University	2012—2016
Associate Research Scientist	Columbia University	2016—2017
Assistant Professor	University of Florida	2017—present

HONORS AND AWARDS

Alfred P. Sloan Foundation Research Fellowship	2020—2022
Excellence Award for Assistant Professors, University of Florida	2020
Columbia Science Fellow, Columbia University	2012—2016
Allan M. Sachs Teaching Award	2011
Columbia Presidential Teaching Award, Finalist	2012
National Science Foundation Highlights	2014
AAS Nova Highlight	2016
5 Favorite Features of the year, Physics World	2018
Brookhaven National Lab Distinguished Lecture	2016
Rising Stars of Science: The Forbes 30 Under 30 (Forbes Magazine)	2012
Summer Undergraduate Research Fellowship, Caltech	2004

As a member of the LIGO Scientific Collaboration:

Special Breakthrough Prize in Fundamental Physics	2016
Gruber Cosmology Prize	2016
Princess of Asturias Award for Technical and Scientific Research	2017
Einstein Medal from the Einstein Society in Bern, Switzerland	2017
Bruno Rossi Prize	2017
Science's Breakthrough of the Year	2016 & 2017
IOP Physics World Breakthrough of the Year	2016 & 2017
UK RAS Group Achievement Award in Astronomy	2017

SCIENTIFIC LEADERSHIP

Chair	LIGO/Virgo Grav.-wave and high-energy neutrino Working Group	2012—
Chair	LIGO/Virgo Intermediate Mass Black Hole Working Group,	2019—
Lead	Particle Counterparts area, LISA Consortium	2019—
Associate Member	Commission on Astroparticle Physics (C4), IUPAP	2019—
Moderator	arXiv Popular Physics	2014—
Board of Trustees	Hope Funds for Cancer Research	2016—2018
President	New York Hungarian Scientific Society	2017—2018
Vice President	New York Hungarian Scientific Society	2015—2016
Member	Hungarian Science Abroad Presidential Committee	2017—2019
Faculty Advisor	Society of Physics Students at the University of Florida	2019—

Member	Faculty Senate, University of Florida	2018—
Sci. Research Mentor	American Museum of Natural History	2016—2017
Executive Committee	Frontiers of Science, Columbia University	2013—2016
Consultant	Columbia Core Science Committee	2014—2015
Co-Organizer	IceCube collaboration meeting, Columbia—Stony Brook	2016
Co-Organizer	LSST detection of optical counterparts of gravitational waves, Columbia	2017
Organizer	AAS Winter Meeting Special Session, MMA with LIGO	2018

RESEARCH SUPPORT

PI	Alfred P. Sloan Foundation Research Fellowship, \$75,000, 2020–2022
PI	NSF Research Grant, 18-564: WOU-MMA: Shedding New Light on Buried Cosmic Accelerators with Gravitational Waves and High-Energy Neutrinos, \$150,000, 2019—2022
Co-PI	NSF RAISE Grant, 1740391: RAISE: Deep Gravitational Wave Exploration, Instrumental Insights and Noise Removal Through Machine Learning, \$1,000,000, 2017—2020.
Co-PI	NSF Research Grant, 1404462: Maximizing the Early-Detection Science of Advanced LIGO, \$480,000, 2014—2017.
PI	Karl Jansky Very Large Array Observing Award, VLA/20A-239: Radio remnants of nearby off-axis Gamma-Ray Bursts, 18 hours of telescope time, 2020.
PI	Karl Jansky Very Large Array Observing Award, VLA/19A-184: Radio remnants of nearby off-axis Gamma-Ray Bursts, 16 hours of telescope time, 2019.
Co-PI	Swift Observing Award, Cycle 15: Searching for X-ray and UV/O counterparts of gravitational-wave and high-energy neutrino coincident signals with Swift, \$39,600, 2019.

PROFESSIONAL SERVICE

Referee: Nature, Rev. Mod. Phys., PRL, PRX, PRD, ApJ Lett, ApJ, MNRAS, CQG, GRG, Exp. Astron., JCAP, Eur. J. Phys., New J. Phys.
Reviewed for: NSF, NASA, US-Israel BSF, NSERC (Canada), NWO (Netherlands), MTA (Hungary)

INVITED TALKS AND LECTURES

Keynote presentations: Neutrino 2016, London, UK, 2016; 23rd Symposium of Astroparticle Physics in the Netherlands, March 2018; Keynote, ASTERICS Conference, Groningen, March 2019; 36th International Cosmic Ray Conference (ICRC), July 2019.

Invited Colloquia: Brookhaven National Lab (2015); Eotvos University, Hungary (2016); New York University (2016), Columbia University Physics (2016); Columbia University Astronomy (2016); Vanderbilt University (2016); Brookhaven National Lab (2016); Stevens Institute of Technology (2016); Stockholm University, Sweden (2016); Uppsala University, Sweden (2016); University of Delaware (2016); New York University (2017); University of Virginia (2018); Northern Illinois University (2020); Max Planck Institute for Physics (2020), Penn State (2020).

Selected other invited talks (out of 80+ total): KIAA Beijing (2013); JSI Symposium Goddard (2013 and 2014); Penn State (2014); Princeton (2015); Baruch College (2016); CUNY-LaGuardia (2016); RICAP Italy (2016); Harvard (2016); Einstein Symposium Birmingham UK (2017); Tsinghua University (2017); MANTS Marseille France (2017); Harvard (2017); Miami 2017 (2017); Neutrino 2018 (2018); CRIS Sicily (2018); Miami 2018 (2018); APC Paris France (2019); Rencontres de Blois, France (2019); SESAPS (2019), AAS (2021).

MEDIA

Over 100 news articles on individual research, including the BBC (British), PBS, Scientific American, Daily Mail, ABC (Australian), National Post (Canadian), Zeit Wissen (German), ATV television (Hungarian), TEDx, Physics World (featured among 5 best in 2018), Nature Research Highlight, Quanta and others.

OUTREACH

Selected invited outreach lectures and speeches: Westport Astronomical Society (2015); Hope Funds (2016); Chelsea Music Festival (2016); Bronx High School of Science (2016); Chemistry and Physics Teachers Clubs (2016); Lake Louise Winter Institute winter school (2017); Engineer's Week U. Florida (2018); Pontecorvo Neutrino School, Romania (2019); Astroparticle School Erlangen, Germany (2019).

Invited lecture series at the Columbia School of Journalism, Fall 2015 and Fall 2016.

Research mentor for students from underserved high schools at AMNH for one year. One of students won a Future Leaders Scholarship at Stanford, another got accepted to Columbia summer school.

Columbia Core interdisciplinary science class: taught for 4 years and was elected to its Executive Committee and invited as a Consultant to advise the University on improving the course.

PATENTS

1. S. Marka, Z. Marka, I. Bartos. Optical Barrier to Pests, 2012. – method to repel mosquitoes using an infrared light wall.
2. S. Marka, Z. Marka, I. Bartos. Systems and Methods for Fraud Prevention, Supply Chain Tracking, Secure Material Tracing and Information Encoding Using Isotopes and Other Markers, 2014. – a system to encode information in materials using isotopic abundances.
3. S. Marka, I. Bartos, Z. Marka. System for Cleansing Organisms from Water, 2014. – a device to eradicate mosquito larvae from water using ultrasound.

PEER-REVIEWED PUBLICATIONS

Total citations: >54,000.

h-index: 91 (Google Scholar).

Selected short-author publications (* indicates corresponding author):

1. K.H. Lee, I. Bartos*, G.C. Privon, J.C. Rose, P. Torrey. FIRST J1419+3940 as the First Observed Radio Flare from a Neutron Star Merger. **Astrophys. J. Lett.** 902 L23 (2020).
2. I. Bartos*, S. Marka. A nearby neutron-star merger explains the actinide abundances in the early Solar System. **Nature** 569, 85–88 (2019).
3. K. Murase*, I. Bartos*. High-Energy Multi-Messenger Transient Astrophysics. **Annu. Rev. Nucl. Part. S.** 69:477-506 (2019).
4. ANTARES, IceCube, Pierre Auger, LIGO Scientific and Virgo Collaborations. Search for High-energy Neutrinos from Binary Neutron Star Merger GW170817 with ANTARES, IceCube, and the Pierre Auger Observatory. **Astrophys. J. Lett.** 850:L35 (2017).
5. I. Bartos, B. Kocsis, Z. Haiman, S. Marka. Rapid and Bright Stellar-mass Binary Black Hole Mergers in Active Galactic Nuclei. **Astrophys. J.** 835:165 (2017).
6. I. Bartos* et al. Cherenkov Telescope Array is Well Suited to Follow Up Gravitational Wave Transients. **MNRAS** 443, 738-749 (2014).
7. I. Bartos* et al. Radio Forensics Could Unmask Nearby Off-axis Gamma-ray Bursts. **MNRAS** 485, 4150–4159 (2019).
8. Y. Yang, I. Bartos* et al. Hierarchical Black Hole Mergers in Active Galactic Nuclei. **Phys. Rev. Lett.** 123, 181101 (2019). (Editors' Suggestion)
9. I. Bartos* et al. Gravitational-Wave Localization Alone Probes AGN Origin of Stellar-Mass Black Hole Mergers. **Nature Communications** 8, 831 (2017).
10. I. Bartos* et al. Infused Ice can Multiply IceCube's Sensitivity. **Nature Communications** 9:1236 (2018).