

ALEX PIZZUTO

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EDUCATION

University of Wisconsin - Madison

PhD Physics, in progress, 2017 - Present

MA Physics, 2019

Advisor: Justin Vandenbroucke

Research: Search for Astrophysical Transients with the IceCube Neutrino Observatory

Loyola University Chicago

Bachelors of Science, May 2017

Majors: Physics, Mathematics, Theoretical Physics and Applied Mathematics

summa cum laude (GPA: 3.95/4.00)

HONORS and AWARDS

NSF Graduate Research Fellowship Program Honorable Mention, 2019

Teaching Assistant Rookie of the Year, 2018

Barshall Incoming Graduate Fellowship, 2017

Horan Award for Excellent Graduating Senior in Physics, 2017

Full Tuition Presidential Scholarship, 2013-2017

Lee Teng Fellowship in Accelerator Physics, 2016

Mulcahy Research Fellow, 2015-2016, 2016-2017

Father Gerst Memorial Award for Excellence in Physics, 2014, 2016

Member of Interdisciplinary Honors Program, 2013-2017

RESEARCH EXPERIENCE

University of Wisconsin - Madison

Search for Astrophysical Transients with the IceCube Neutrino Observatory, 2017 - Present

- Performed followup of anomalous ANITA events
- Maintain Fast Response system to alert the astronomical community of neutrino correlation with recent astronomical discoveries from other observatories.
- Searching for GeV neutrinos from Galactic Novae.

Semiconductor Quantum Computing, 2017

Loyola University Chicago

Extremal Black Hole Scalar Fields in dCS Gravity, 2016 - 2017

Perturbational RF Cavity Measurements, 2016

TEACHING EXPERIENCE

Teaching Assistant, University of Wisconsin - Madison, 2017

Physics 202: Electricity & Magnetism for Engineers

Teaching Assistant, Loyola University Chicago, 2014 - 2017

Physics 111 (111L): Introductory Mechanics (Lab)

Physics 112 (112L): Introductory Electricity & Magnetism (Lab)

Physics 301: Mathematical Methods of Physics

Grader, Loyola University Chicago, 2016 - 2017

Physics 351: Electricity & Magnetism

MENTORING EXPERIENCE

Runze Li, UW Madison undergraduate student, 2018 - present

Effects of the geomagnetic field on cosmic-ray muons in ice

Blake Gallay, visiting Cornell undergraduate student, Summer 2019
Distributed Electronic Cosmic-ray Observatory updates and noise studies

**INVITED
TALKS**

Cosmic messengers from the extreme Universe, Nov. 14, 2019
Loyola University Chicago, Department Seminar

**SELECTED
CONFERENCES**

IceCube Fall Collaboration Meeting
Chiba, Japan, September 2019
Contribution: 1 plenary talk, 1 parallel talk

International Cosmic-ray Conference
Madison, WI, July 2019
Contribution: 1 parallel talk, 2 posters

IceCube Spring Collaboration Meeting
Madison, WI, May 2019
Contribution: 1 plenary talk, 2 parallel talks

IceCube Fall Collaboration Meeting
Stockholm, Sweden, September 2018
Contribution: 3 parallel talks

**SCIENTIFIC
PAPERS:
Significant
Contributions**

I. Safa, A. Pizzuto, C. Argüelles, F. Halzen, R. Hussain, A. Kheirandish et al., *Observing EeV neutrinos through the Earth: GZK and the anomalous ANITA events*, [1909.10487](#)

ICECUBE collaboration, *A Search for MeV to TeV Neutrinos from Fast Radio Bursts with IceCube*, [1908.09997](#)

**CONFERENCE
PROCEEDINGS**

A. Pizzuto, A. Barbano, T. Montaruli and J. Vandenbroucke, *A search for IceCube events in the direction of ANITA neutrino candidates*, in *36th International Cosmic Ray Conference (ICRC 2019) Madison, Wisconsin, USA, July 24-August 1, 2019*, 2019, [1908.08060](#)

A. Kheirandish, A. Pizzuto and J. Vandenbroucke, *Searches for neutrinos from fast radio bursts with IceCube*, in *36th International Cosmic Ray Conference (ICRC 2019) Madison, Wisconsin, USA, July 24-August 1, 2019*, 2019, [1909.00078](#)

A. Pizzuto, J. Vandenbroucke, B. Gallay, M. Meehan, J. Bourbeau, J. Peacock et al., *Particle Identification in Smartphone Camera Images Using the Distributed Electronic Cosmic-ray Observatory*, in *36th International Cosmic Ray Conference (ICRC 2019) Madison, Wisconsin, USA, July 24-August 1, 2019*, 2019

J. Vandenbroucke, A. Pizzuto and K. Meagher, *IceCube as a Multi-messenger Follow-up Observatory for Astrophysical Transients*, in *36th International Cosmic Ray Conference (ICRC 2019) Madison, Wisconsin, USA, July 24-August 1, 2019*, 2019, [1909.05834](#)

I. Safa, A. Pizzuto, C. A. Argüelles, F. Halzen, R. Hussain, A. Kheirandish et al., *Constraining anomalous EeV ANITA detections with PeV neutrinos*, in *36th International Cosmic Ray Conference (ICRC 2019) Madison, Wisconsin, USA, July 24-August 1, 2019*, 2019

**SCIENTIFIC
PAPERS**

Contributing author on over 20 IceCube Collaboration papers, for a complete list of publications, see Alex Pizzuto 

**Gamma-Ray
Coordinates
Network
Circulars**

Performed over 60 rapid neutrino followups of astrophysical transients, many results shared via GCN (<https://gcn.gsfc.nasa.gov>)

- A. Pizzuto, for the IceCube Collaboration, GCN circulars: [#25557](#), [#25413](#), [#25291](#), [#25241](#), [#25072](#), [#24988](#), [#24865](#), [#24435](#), [#24410](#), [#24409](#), [#24039](#), [#23926](#), [#23794](#), [#23613](#), [#23380](#), [#23340](#), [#23220](#)