

JOANNA KIRYLUK

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EDUCATION

2000	PhD in Physics, University of Warsaw, Poland
1996	MSc in Physics, University of Warsaw, Poland

ACADEMIC & PROFESSIONAL APPOINTMENTS

2026-present	Professor of Physics, Stony Brook University
2017-2026	Associate Professor of Physics, Stony Brook University
2011-2017	Assistant Professor of Physics, Stony Brook University
2011	Visiting Professor, Physics Department, University of Warsaw, Poland
2006-2011	Physicist Project Scientist, Lawrence Berkeley National Laboratory
2004-2006	Senior Postdoctoral Research Associate, Massachusetts Institute of Technology
2000-2004	Postdoctoral Research Associate, University of California, Los Angeles

HONORS & AWARDS

2019	Presidential Early Career Award for Scientists and Engineers (PECASE), National Science Foundation
2016	Faculty Early Career Development (CAREER) Award, National Science Foundation
2014	National Academy's Education Fellow for Life Sciences (2014-2015)
2010	Laureate, Modern University Project scholarship for visiting professors, University of Warsaw

RESEARCH PROJECTS

2007-present	IceCube Neutrino Observatory, Antarctica — high-energy astrophysical neutrinos, cascade reconstruction, neutrino source searches, detector calibration and simulation
2000-2011	STAR Experiment, Brookhaven National Laboratory — spin physics, heavy-ion collisions
1996-2000	SMC Experiment, CERN — polarized deep inelastic scattering

SELECTED PUBLICATIONS

(of 240+ peer-reviewed publications in nuclear, high-energy and astro-particle physics; full list available upon request)

- IceCube: "Evidence for a Spectral Break or Curvature in the Spectrum of Astrophysical Neutrinos from 5 TeV-10 PeV," Phys. Rev. Lett. 136 (2026) 121002
- IceCube: "Observation of High-Energy Neutrinos from the Galactic Plane," Science 380 (2023) 6652
- IceCube: "Evidence for Neutrino Emission from the Nearby Active Galaxy NGC 1068," Science 378 (2022) 538
- IceCube: "Detection of a Particle Shower at the Glashow Resonance with IceCube," Nature 591 (2021) 220
- IceCube: "Characteristics of the Diffuse Astrophysical Electron and Tau Neutrino Flux with Six Years of IceCube High Energy Cascade Data," Phys. Rev. Lett. 125 (2020) 12110
- IceCube: "Neutrino Emission from the Direction of the Blazar TXS 0506+056 Prior to the IceCube-170922A Alert," Science 361 (2018) 147
- IceCube: "Measurement of the Multi-TeV Neutrino Cross Section with IceCube Using Earth Absorption," Nature 551 (2017) 596
- IceCube: "Evidence for High-Energy Extraterrestrial Neutrinos at the IceCube Detector," Science 342 (2013) 1242856
- IceCube: "First Observation of PeV-Energy Neutrinos with IceCube," Phys. Rev. Lett. 111 (2013) 021103
- IceCube: "First Search for Atmospheric and Extraterrestrial Neutrino-Induced Cascades with the IceCube Detector," Phys. Rev. D84 (2011) 072001
- STAR: "Observation of an Antimatter Hypernucleus," Science 328 (2010) 58
- STAR: "Longitudinal Double-Spin Asymmetry and Cross Section for Inclusive Jet Production in Polarized Proton Collisions at $\sqrt{s} = 200$ GeV," Phys. Rev. Lett. 97 (2006) 252001

GRADUATE & UNDERGRADUATE STUDENT SUPERVISION

Thesis advisor to 6 graduate students (PhD/MA) and 2 undergraduate honors/senior thesis students at Stony Brook University, 2012–present, including Z. Chen (current PhD), Z. Zhang (PhD 2025), A. Silge (MA 2023), Y. Xu (PhD 2019), and H. Niederhausen (PhD 2018, MA 2012).

TEACHING

2026-present	Modern Physics (PHY-251/252, undergraduate)
2017-present	Data Analysis for Physics and Astronomy with Python (PHY-153) — designed and taught new hands-on undergraduate course
2012-present	Graduate Seminar II (PHY-599), Introduction to Research (PHY-287/487, undergraduate)
2012-2017	Modern Physics (PHY-251/252, undergraduate); Nuclear Physics I (PHY-551, graduate); Introduction to Research (WSE-187, undergraduate)
2011	Visiting Professor, University of Warsaw — designed and taught two graduate courses

SELECTED SERVICE

- IceCube Collaboration: Collaboration Board (present); Speakers Committee, chair (past); Publication Committee (past); Coordination Committee (past); internal referee for physics analyses and publications (2008–present).
- National Science Foundation: Panelist, Particle Astrophysics and Nuclear Physics review panels; grant referee for National Science Center (Poland), ANR (France), and ERC (European Research Council)
- American Physical Society: Division of Nuclear Physics, Nominating Committee, chair and vice-chair.
- Stony Brook University: University Senate and A&S Senate representative, Dept. of Physics and Astronomy (2024–present); Graduate Admissions Committee (2016–present); thesis committee member for 13 graduate students (2012–present).

SELECTED INVITED TALKS

- “High Energy Neutrinos and Sources: Experimental Results,” plenary talk, WCD-2025, Cracow, Poland (2025)
- “Recent Results from IceCube,” plenary talk, NUCLEUS-2021, St. Petersburg, Russia (2021)
- “Astrophysical Sources of High-Energy Neutrinos,” plenary talk, Lepton Photon 2019, Toronto, Canada (2019)
- “IceCube and High Energy Neutrinos,” plenary talk, NOW2016, Otranto, Italy (2016)

PROFESSIONAL MEMBERSHIP

American Physical Society (2011–present)