

Naoko Kurahashi Neilson

32 South 32nd Street, Philadelphia, PA 19104
naoko@drexel.edu
215-895-2725

1. Professional Appointments

2019– Drexel University, Department of Physics
Associate Professor
2014–2019 Drexel University, Department of Physics
Assistant Professor
2010–2014 University of Wisconsin, Madison, IceCube Neutrino Observatory
Postdoctoral Research Associate

2. Education

2003–2010 Stanford University, Ph.D., Advisor: Giorgio Gratta
Dissertation: “Acoustic Detection of Ultra-high Energy Neutrinos”
1999–2002 University of California, Berkeley, B.A. Physics

3. External Funding

- NSF PHYS-1847827 “CAREER: Towards the First Astronomical Catalog of Neutrino Sources,” Principal Investigator, 2019-2024, \$750k
- Supplement to CAREER, \$60k awarded April 2021
- NSF PHYS-1607132, “Searches for Astrophysical Neutrino Sources with IceCube”, Principal Investigator, 2016-2019, \$470k

4. Internal Funding

- Drexel Provost Award for Outstanding Scholarly Productivity – Mid-Career, 2021, \$15k
- Drexel Antelo Devereux Award for Young Faculty, 2018, \$7k
- Drexel Research Co-op Award, 2016, \$7k
- Drexel University Career Development Award, 2015, \$7k

5. Select Main Author Publications from Me/My Group

* I publish as N. Kurahashi

* IceCube publications list authors in alphabetical order

1. “Constraints on Neutrino Emission from Nearby Galaxies Using the 2MASS Redshift Survey and IceCube”, M.G. Aartsen et al. (IceCube Collaboration), *Journal of Cosmology and Astroparticle Physics* 7 (2020) 042

2. “Search for Sources of Astrophysical Neutrinos Using Seven Years of IceCube Cascade Events”, M.G. Aartsen et al. (IceCube Collaboration), *Astrophysical Journal* 886 (2019) 1

3. “Neutrino emission from the direction of the blazar TXS 0506+056 prior to the IceCube-170922A alert”, M.G. Aartsen et al. (IceCube Collaboration), *Science* 361 (2018) 6398
4. “Search for astrophysical sources of neutrinos using cascade events in IceCube”, M. G. Aartsen et al. (IceCube Collaboration), *Astrophysical Journal* 846 (2017) 2
5. “Lowering IceCube's Energy Threshold for Point Source Searches in the Southern Sky”, M. G. Aartsen et al. (IceCube Collaboration), *Astrophysical Journal Letters* 824 (2016) L28
6. “Evidence for High-Energy Extraterrestrial Neutrinos at the IceCube Detector”, M. G. Aartsen, et al. (IceCube Collaboration), *Science* 342 (2013) 1242856

6. Presentations

a. Conference Talks

APS MidAtlantic Meeting	<i>Invited</i>	Jan 2022, Rutgers, NJ
AAS General Meeting	<i>Invited Splinter Session</i>	Jan 2021, Virtual
APS “April” Meeting	<i>Invited, declined last minute due to COVID19 related childcare</i>	Apr 2020
Fermi Symposium	<i>Invited Plenary</i>	Nov 2018, Washington DC
APS “April” Meeting	<i>Invited Special Topics</i>	Jan 2017, Washington DC
DBD16		Nov 2016, Osaka, Japan
TeV Particle Astrophysics	<i>Invited Plenary</i>	Sep2016, CERN, Switzerland
AAS General Meeting		Jan 2016, Florida
AMON Realtime Workshop		Dec 2015, Penn State
Jefferson Lab Users’ Meeting	<i>Keynote speaker</i>	May 2015, JLab
Joint Space Institute/Univ of Maryland Workshop		Nov 2014, Annapolis, MD
Univ of Chicago/KICP High Energy Messengers		June 2014, Chicago, IL
APS April Meeting	<i>Invited Plenary</i>	April 2014, Savannah, GA
Cosmology and Particle Astrophysics		Nov 2013, Honolulu, HI
Phenomenology		May 2013, Pittsburg, PA
Neutrinos and Dark Matter in Nuclear Physics		June 2012, Nara, Japan
APS April Meeting		April 2012, Atlanta, GA
International Cosmic Ray Conference		July 2009, Lodz, Poland
Topics in Astroparticle and Underground Physics		July 2009, Rome, Italy
Acoustic/Radio EeV Neutrino detection Activities		June 2008, Rome, Italy
Acoustic /Radio EeV Neutrino detection Activities		May 2005, Berlin, Germany

b. Invited Colloquia and Seminars

NASA Goddard SFC	Astrophysics Colloquium	Feb 2021
SUNY Stony Brook	Physics Colloquium	Nov 2019
University of Maryland	Physics Colloquium	Nov 2018
Duke University	Physics Colloquium	Oct 2018
Temple University	Physics Colloquium	Feb 2018
Michigan State University	High Energy Physics Seminar	Mar 2017

Yale University	Nuclear Particle Seminar	Jan 2017
UCLA	Particle Physics Seminar	Jan 2016
MIT	Seminar	Dec 2015
University of Maryland	Seminar	Nov 2015
University of Tennessee, Knoxville	Physics Colloquium	Oct 2015
NASA Goddard Space Flight Center	Astrophysics Colloquium	Sep 2015
Northeastern University	Physics Colloquium	Sep 2015
University of Rochester	Physics Colloquium	Apr 2015
UMass Amherst	Particle/Nuclear Seminar	Apr 2015
Harvard University	LPPC Seminar	Mar 2015
Princeton/Institute for Advanced Study	joint Astronomy Colloquium	Mar 2015
Virginia Tech	Physics Colloquium	Oct 2014
University of Pennsylvania	HEP Seminar	Oct 2014
Argonne National Laboratory	HEP Division Seminar	Oct 2014
Drexel University	Physics Colloquium	Mar 2014
SUNY Albany	Physics Colloquium	Mar 2014
Georgia Tech	Physics Colloquium	Feb 2014
MIT	Lunchtime Seminar	Feb 2014
University of California, San Diego	Astrophysics Seminar	Feb 2014
Stanford University	SITP Seminar	Dec 2013
University of Michigan	HEP Seminar	Dec 2013
Columbia University	Physics Seminar	Mar 2013
University of Chicago	Enrico Fermi Institute Seminar	Dec 2012
Marquette University	Physics Dept. Colloquium	Apr 2012
Arizona State University	Cosmology Seminar	Apr 2011
Indiana University, Bloomington	HEP/Astronomy Seminar	Nov 2010
University of Hawaii, Manoa	Physics Colloquium	Jan 2010
University of Maryland	Nuclear Physics Seminar	Dec 2009
University of Wisconsin, Madison	NPAC Seminar	Dec 2009
Excellence Cluster/Technical Univ. Munich	High Energy Seminar	Jul 2009
San Jose State University	Physics & Astro Dept. Seminar	Apr 2008
CalTech	LIGO Science Seminar	May 2007

7. Professional Activities

- Ad hoc proposal reviewer for NSF Particle Astrophysics, 2021, 2017
- Ad hoc proposal reviewer for NSF SBIR/STTR, 2021
- Linda Hall Library International Advisory Committee Member, 2021-, Linda Hall Library is the largest privately endowed STEM library in the US
- PhD Dissertation Committee Member for Sreetama Goswami, University of Alabama, Physics, 2021-
- Swarthmore College Honors Examiner, 2020
- Lecturer at VERITAS and CTA at Barnard and Columbia Universities Summer Colloquium Series 2020
- Session Convener, APS “April” Meeting, 2017, 2022
- AWIS Philadelphia Chapter Mentoring Circle mentor, 2014-2016

- Guest Lecturer, NASA Fermi Summer School, April 2015,
- Started a free IceCube Immersion Program for local high school students in Philadelphia, 2015, 2016, 2017
- Started a free IceCube high school program for local students in Madison, WI, started 2012, still continues to this day
- Inaugural ombudsperson for the IceCube collaboration
- Started the “Women in IceCube” lunch during collaboration meeting
- Founding member of the diversity committee on IceCube, now the DEI working group

8. Public Talks

- Perimeter Institute for Theoretical Physics, Public Lecture Series – Oct 2021
Live lecture online to over 5,000 worldwide audiences, video recording on youtube has over 12,000 views. <https://youtu.be/DkkSzIQ26JI>
- Wagner Free Institute of Science of Philadelphia – Nov 2018, Annual Westbrook Free Lectureship. Established in the mid-19th century for free science education to Philadelphia, the institute’s open lecture series continue since 1912.
- Intrepid Sea, Air & Space Museum, New York – May 2016, Family Astronomy Night
- Sacred Heart Academy Science Symposium for Girls, Honolulu – Feb 2016, keynote speaker, ~350 middle school students and parents attended from the Hawaiian Islands
- Linda Hall Library, Kansas City – Oct 2015, evening public lecture at this largest privately endowed library of science, engineering, and technology in the US to over 400 people <https://vimeo.com/143762428>
- Academy of Notre Dame de Namur STEM Day, Villanova, PA – March 2015, keynote speaker talk to ~500 middle and high school girls

9. Media Interviews

- Symmetry Magazine, “Get to know 10 early-career experimentalists”, Nov 26, 2019
- BBC World Service, “New Neutrino Source Found”, July 12, 2018
- NPR, All Things Considered, July 12, 2018
- CNN, “‘Ghost particle’ found in Antarctica provides astronomy breakthrough”, July 12, 2018
- Wall Street Journal, “Scientists Track Neutrinos Through Ice to Their Source in the Cosmos”, July 12, 2018
- Newsweek, “High Energy Neutrino Source Discovered, Research Heralds ‘New Era’ for Particle Physics”, July 12, 2018
- Philadelphia Inquirer, “For the first time, scientists harness ‘ghost particles’ to study the universe and its black holes”, July 12, 2018
- Christian Science Monitor, “Neutrino demonstration heralds a new way of observing the cosmos”, July 12, 2018
- Vox.com, “How a single neutrino just helped crack a 100-year-old cosmic ray mystery”, July 12, 2018
- Science News, “A high-energy neutrino has been traced to its galactic birthplace”, July 12, 2018

- Symmetry Magazine, “Scientists trace high-energy cosmic neutrino to its birthplace” July 12, 2018
- The Guardian, “Faultlines, black holes and glaciers: mapping uncharted territories”, Feb 2017
- Symmetry Magazine “Casting a net for neutrinos”, Feb 18, 2016
- Scientific America “Exotic space particles slam into buried South Pole Detector”, Apr 9, 2014
- Christian Science Monitor “Subatomic particles found in mile deep ice are of interstellar origins”, Nov 21, 2013
- Popular Mechanics “Found: Neutrinos From Beyond the Solar System”, Nov 21, 2013
- Fox News Science “Extraterrestrials on Earth: Scientists find outer space stuff at South Pole”, Nov 21, 2013
- NBC.com “Alien neutrinos reveal new frontier in astronomy at Antarctica’s IceCube”, Nov 21, 2013
- Wisconsin Public Radio, Larry Meiller Show, Dec 12, 2011