

# Peter B. Denton, Ph.D.

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## *Research Experience*

Associate Physicist at Brookhaven National Laboratory, October 2020–Present.

Assistant Physicist at Brookhaven National Laboratory, October 2018–September 2020.

Postdoctoral Fellow with Irene Tamborra at Niels Bohr International Academy, September 2016–August 2018.

Graduate Student Research Program in Theoretical Physics with Stephen Parke at Fermilab, August 2015–August 2016.

DOE funded research assistant with Thomas J. Weiler at Vanderbilt University, Spring 2011–Fall 2015.

Research assistant with Sokrates Pantelides at Vanderbilt University, Summer–Fall 2010.

Lee Teng Internship with Tanaji Sen at Fermilab, Summer 2009.

Bonner Labs with Bill Llope at Rice University, Summer 2008.

## *Research Interests*

Standard and beyond the standard model neutrino theory.

Astroparticle physics.

Black hole and dark matter phenomenology.

## *Education*

Ph.D. Physics, Vanderbilt University, August 2016.

B.S. Physics, Rice University, May 2010.

B.A. Mathematics, Rice University, May 2010.

## *Honors and Awards*

Neutrino Physics Center (NPC) award of \$10,000 to work with Stephen Parke at Fermilab, awarded December 2018.

Neutrino Theory Network (NTN) award of \$14,000 to work with Irina Mocioiu at PSU, awarded June 2018.

The Giorgio Salvini diploma from the Erice International School of Subnuclear Physics, awarded June 2016.

PITT PACC travel award to attend Pheno '16, awarded April 2016.

Vanderbilt Dissertation Enhancement Grant of \$2,000 to attend the Theoretical Advanced Study Institute, awarded April 2014.

Subsidy of \$1,600 to attend the Theoretical Advanced Study Institute: Amplitudes For Colliders in June 2014, awarded April 2014.

Division of Particles & Fields travel grant to the APS April 2013 meeting, awarded March 2013.

The Robert T. Lagemann Award of \$1,000 for highest academic achievement by a first-year graduate student, awarded April 2011.

McMinn Fellowship of \$25,000 over five years, awarded March 2010.

### *Collaborations*

Giant Radio Array for Neutrino Detection (GRAND), 2017–Present.

Forward Search Experiment at the LHC (FASER), 2018–Present.

Deep Underground Neutrino Experiment (DUNE), 2021–Present.

### *Physics Schools*

Erice International School of Subnuclear Physics in Sicily (ISSP), June 2016.

Theoretical Advanced Study Institute in Elementary Particle Physics (TASI), Boulder CO, June 2014.

Introduction to accelerator physics, United States Particle Accelerator School, June 2009.

### *Software*

c++, mpi, openmp, python, matplotlib, L<sup>A</sup>T<sub>E</sub>X, beamer, GLoBES, pythia, ROOT, MATHEMATICA, MATLAB, FORTRAN, gnuplot, java, html, javascript, ...

### *Service*

NuTau2021 workshop co-chair.

Brookhaven Forum co-chair 2021.

Snowmass neutrino oscillations subtopic convener and neutrino theory liason 2020–2022 organizing many workshops.

Convener for Brookhaven Forum 2019, DPF 2019, and WIN 2021.

International Organizing Committee for Neutrino 2020.

Judge for the 12th International Neutrino Summer School at Fermilab 2019.

Chair for Pheno 2019, 2020.

Reviewer for Physical Review Letters, Journal of High Energy Physics, Physical Review D, Physics Letters B, European Physical Journal C, Reviews of Modern Physics, Journal of Mathematical Physics, Nuclear Physics B, Journal of Physics G, Monthly Notices of the Royal Astronomical Society, Modern Physics Letters A, Chinese Physics C, and Universe.

Brookhaven Neutrino Theory Virtual Seminar creator/organizer, 2020–Present.

BNL HET seminar organizer, 2019–2020.

BNL HET lunch discussion organizer, 2019–2021.

NBIA Astroparticle journal club co-chair, 2017–2018.

### *Outreach*

Brookhaven Women In Science (BWIS) member, 2020–Present.

Interact with grade-school students via APS's *Adopt-A-Physicist*, *Skype-A-Scientist*, ... programs, 2018–Present.

### *Students Advised/Mentored*

Klaes Møller, University of Copenhagen, master's thesis: *Constraining Astrophysical Parameters with Neutrinos*, 2017–2018.

Anna Suliga, University of Copenhagen, master's thesis: *Diffuse supernova neutrino background*, 2017–2018. Defended her physics PhD 2021, currently postdoc at Berkeley and Wisconsin.

Mia-Louise Nielsen, University of Copenhagen, bachelor's thesis: *Star-forming galaxies as sources of high energy neutrinos*, 2017. Defended her physics MSc 2019.

### *Teaching*

Teaching assistant at Vanderbilt University, Fall 2010–Spring 2015.

Teaching assistant for the Physics Department at Rice University, Fall 2009.

Writing consultant at Rice University, 2007–2010.

Tutoring English, math, and physics at middle school, high school, undergraduate, and graduate school levels, 2005–2015.

### *Professional Societies*

Member, American Physical Society.