

Peter B. Denton, Ph.D.

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Research Experience

Assistant Physicist at Brookhaven National Laboratory, October 2018–Present.

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

SM and BSM neutrino theory.

Astroparticle physics.

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 of \$300 to attend Pheno '16, awarded April 2016.

Vanderbilt Dissertation Enhancement Grant of \$2,000 to attend the Theoretical Advanced Study Institute: Amplitudes For Colliders in June 2014, 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 of \$120 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 \$5,000 a year for five years, awarded March 2010.

Collaborations

Giant Radio Array for Neutrino Detection (GRAND), 2017–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^AT_EX, beamer, GLoBES, pythia, ROOT, MATHEMATICA, MATLAB, FORTRAN, gnuplot, java, html, javascript, ...

Service

International Organizing Committee for Neutrino 2020.

Convener for Brookhaven Forum 2019 and DPF 2019.

Reviewer for JHEP, PRD, Physics Letters B, European Physical Journal C, and Nuclear Physics B.

BNL HET Lunch Discussion chair, 2019–Present.

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

Outreach

Interacted with high school students via APS's *Adopt-A-Physicist* program, 2018 Fall semester.

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. Currently PhD student at University of Copenhagen.

Mia-Louise Nielsen, University of Copenhagen, bachelor's thesis: *Star-forming galaxies as sources of high energy neutrinos*, 2017. Currently masters student at University of Copenhagen.

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.