Reyco Henning – Curriculum Vitae

Professor
Department of Physics and Astronomy
University of North Carolina at Chapel Hill
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Personal

Citizenship: United States (naturalized), Republic of South Africa
Languages: English (fluent), Afrikaans (fluent), Dutch (reading comprehension)

Physics Interests

Experimental nuclear and particle physics; physics beyond the Standard Model; searches for neutrinoless double-beta decay; direct dark matter searches; underground and low-background experiments; searches for rare, exotic processes.

Education

2004, PhD, Massachusetts Institute of Technology, Experimental High-Energy Physics. Thesis Supervisor: Prof. Ulrich Becker. Thesis Title: "Search for Anti-Deuterium and Strangelets in Cosmic-rays with AMS-01".

1998, B.S. University of Denver, with Honors, Magna Cum Laude, Majors: Physics, Mathematics. Minor: Astronomy.

Employment

2018—present	University of North Carolina – Chapel Hill: Professor
2013—2017	University of North Carolina – Chapel Hill: Associate Professor
2007—2012	University of North Carolina – Chapel Hill: Assistant Professor
2003—2006	Lawrence Berkeley National Laboratory: Postdoctoral Fellow
1998—2003	Massachusetts Institute of Technology: Graduate Research Assistant
Summer, 1997	Geophysical Fluid Dynamics Laboratory: Research Assistant
Summer, 1996	High Altitude Observatory, NCAR: Research Assistant
1994—1998	University of Denver: Undergraduate Research Assistant

Professional Memberships and Honors

- Sigma Xi Distinguished Lecturer: 2022-2024
- Member of Team that Won National "Improving Undergraduate Education Award" from the American Physical Society: 2020
- J. Carlyle Sitterson Award for Teaching First-year Students: 2018
- Pogue Senior Faculty Research and Scholarly Leave: 2017
- Co-recipient of 2016 Breakthrough Prize as member of SNO Collaboration.
- Phi Beta Kappa, Sigma Pi Sigma.

Professional Service

External to UNC:

- The APS DNP Education Committee (2022-current)
- The APS DNP Program Committee (2014-2016)
- Organizing committee: 7th Symposium on Neutrinos and Dark Matter in Nuclear Physics (NDM22)
- Panel reviewer: DOE Office of High Energy Physics and DOE Office of Nuclear Physics.
- Panelist in the DOE Office of High Energy Physics (HEP) 2019 Basic Research Needs (BRN) Study on HEP Detector Research and Development
- Elected Chair, MAJORANA Experiment Executive Committee: 2007-2008, 2010-2011
- Journal Reviewer: *Physical Review Letters, Physical Review D, Nuclear Instruments and Methods, Astroparticle Physics, European Journal of Physics, Applied Radiation and Isotopes, IEEE Transactions on Nuclear Science*
- Grant Proposal Mail-in Reviewer: US Department of Energy, National Science Foundation

Internal to UNC:

Current:

- Committee **co-Chair** for 2023 UNC University Teaching Awards (campuswide)
- Elected Committee **co-Chair** for Departmental Salaries, 2022-2023
- TUNL Climate Committee **Chair**, 2020-present
- Faculty Awards Committee **Chair**, 2020-present
- Teaching Professor Search Committee member, 2022-present
- Personnel Evaluation Committee member, 2022-present

Past:

- Graduate student Pre-candidacy Advisor, 2019-2021
- Graduate student Pre-candidacy Advising Coordinator, 2020
- Graduate Studies and Affairs Committee member, 2019-2022
- Experimental condensed matter faculty search committee member, 2021
- Committee **co-Chair** for 2022 UNC University Teaching Awards (campuswide)
- Committee **Chair** for 2021 Tanner Award for Excellence in Undergraduate Teaching by Graduate Teaching Assistants
- Colloquium Committee **Chair**, 2019-2020
- Personnel Evaluation Committee, 2019-2021
- Staff Awards Committee, 2019
- UNC Tanner Teaching Awards Committee, 2019
- Experimental Nuclear Physics faculty search committee 2018-2019
- Graduate Admissions, Dept. of Physics and Astronomy, **Chair**: 2018
- UNC Goldwater Fellows selection committee: 2016, 2017
- Graduate Recruitment Committee: 2015-2016
- Intro Physics Oversight Committee: 2016-2018
- Nuclear Theory Search Committee: 2016
- Led effort to convert calculus-based introductory mechanics course at UNC into more interactive lecture-studio format: 2013
- Led effort to add modern physics to calculus-based introductory physics sequence at UNC: 2014-2015.
- Developed new BA track in Physics with a specialization in Quantitative Finance in Collaboration with Business School: 2013-2014
- Lecturer Search Committee: 2014
- Graduate Affairs & Studies Committee Member: 2009
- Academic Advisor for Physics Majors: 2007-2009, 2011-2013, 2017-2018
- Compiled new undergraduate advising plan: 2008
- Graduate Admissions Committee Member: 2011
- Undergraduate Affairs and Studies Committee Member: 2009-2010, 2013
- Undergraduate Recruiting Committee Member: 2011
- K-12 Outreach Committee Member: 2011
- Society of Physics Students Advisor: 2007-2009
- Provided questions and graded for graduate qualifying exams: almost every year.

Postdocs and Students Supervised

Postdocs (Co-supervised with John Wilkerson):

Tom Caldwell (now research scientist, UNC)
Wenqin Xu (now faculty, University of South Dakota)
Chris O'Shaughnessy (now Los Alamos National Laboratory)
Michael Ronquest (now industry)
Melissa Boswell (now Los Alamos National Laboratory)
Dave Phillips (now Industry)
Matthew Green (now faculty, North Carolina State University)
Florian Fraenkle (now at the Karlsruhe Institute of Technology)

Graduate:

Current:
Erin Engelhardt (with Julieta Gruszko), PhD expected 2024
Andrew Gavin, PhD expected 2024
Jackson Waters, PhD expected 2024
Jenny Solomon, PhD expected 2025

Previous:
Gulden Othman MS 2016, PhD 2021
PhD Title: "The CAGE Scanner: Investigating Surface Backgrounds in High-Purity Germanium Detectors"
MS Title: "Design of a Novel Electromagnet for an Experimental Search for CP Violation in Positronium Decays"

Jamin Rager PhD 2019
PhD Title: "A Search for Bosonic Dark Matter with the Majorana Demonstrator"

Chelsea Bartram, PhD 2019
PhD Title: "CALIOPE, A Search for *CPT*-Violation in Positronium"

Kris Vorren, PhD 2017
PhD Title: "A Direct Search for Dark Matter with the MAJORANA DEMONSTRATOR"

Jim Trimble PhD 2016
PhD Title: "Low-Background Germanium Radioassay For The Majorana Collaboration"

Kyle Snavely MS 2013
MS Title: "The Majorana Parts Tracking Database"

Sean MacMullin MS 2009, PhD 2013
MS Title: "Background Reduction and Detector Characterization at the Kimballton Underground Research Facility"

PhD Title: “Elastic and inelastic neutron scattering as backgrounds for dark matter and neutrinoless double-beta decay experiments”

Padraic Finnerty MS 2008, PhD 2013
MS Title: “Commissioning of a Low-Background Counting Facility at the Kimballton Mine”
PhD Title: “A Direct Dark Matter Search with the MAJORANA Low-Background Broad Energy Germanium Detector”

Undergraduate Researchers:

Andrew Mattson (current)
Kevin Tanner (current)
Kyra Pudol
Zelong Yi
Kate Richardson (now MIT)
Jie Wei Leow, NUS Exchange student
Corey Pahel-Short
Thomas Marshall (now UCLA)
Samantha Pagan (now Yale)
Chris Silver (now Industry)
Chiara Salemi (now MIT, Goldwater Scholar 2016)
Jake Murphy
Kadeem Nibbs (TUNL REU)
Robert Alfredson (now Industry)
Drew Smith (now Duke University)
Ryan Petersburg (now Yale University)
Max Hays (now Yale University)
Greg MacCabe (now Caltech)
Bill Ireland (now Caltech)
James Walker (now Michigan State)
Ben Rose (TUNL REU 2011)
Benjamin Laroque (now UC Santa Barbara)
Lenny Evans (now UC Berkeley, Goldwater Scholar 2013)
Michael Brown (TUNL REU 2010, now U. of Kentucky)
Kalissa Andre (now Penn State)
David Kaleko (now Columbia)
Rebecca Holmes (UIUC PhD program, now Los Alamos National Laboratory)
Alex Long (now Boston U.)
Kevin Macon (now LSU)
Austin Stevens
Emily Morgan (2007 SURF recipient)
Shauna Marquess (TUNL REU 2008, now Naval Surface Warfare Center)
Kimberly Venta (TUNL REU 2007, now industry)

Invited Seminars and Colloquia

1) "The DMRadio Program", R. Henning, The 16th PATRAS Workshop on Axions, WIMPs and WISPs,Virtual Conference hosted from Trieste, Italy (2021)

2) "Results and update from the ABRACADABRA search for sub-μeV axion dark matter", R. Henning, IBS Conference on Dark World, Daejeon, South Korea (2019)

3) "Results and update from the ABRACADABRA search for sub-μeV axion dark matter", R. Henning, The 15th PATRAS Workshop on Axions, WIMPs and WISPs, Freiburg, Germany, (2019)

4) "Dark Matter, Quantum Computers, and all that", R. Henning, UNC Physics Colloquium, (2018)

5) "A Tale of Two Axion Searches" R. Henning, Fermilab, FCPA Seminar, Batavia IL (2018)

6) "Quest for the Nature of the Neutrino," R. Henning, Highpoint University Colloquium (2018)

7) "Recent results for the MAJORANA DEMONSTRATOR," R. Henning, University of Maryland High Energy/Astrophysics Seminar, (2018)

8) "Neutrino-less double beta decay experiments," R. Henning, ECT* workshop "Exploring the role of electro-weak currents in Atomic Nuclei", Trento, Italy (2018)

9) "Recent results and future plans for the MAJORANA DEMONSTRATOR", Perimeter Institute Seminar, Waterloo, ON, Canada (2017)

10) "ABRACADABRA, A Search for Low-Mass Axion Dark Matter," R. Henning, 13th PATRAS Workshop On Axions, WIMPS and WISPS, Thessaloniki, Greece (2017)

11) "Recent results and future plans for the MAJORANA DEMONSTRATOR", R. Henning, Boston University High-energy Seminar (2017)

12) "Recent results and future plans for the MAJORANA DEMONSTRATOR", R. Henning, MIT Laboratory for Nuclear Science Lunch-time Seminar (2017)

13) "Quest for the Nature of the Neutrino", R. Henning, Southeastern Section of the APS 2016, Charlottesville, VA (2016)

14) "Quest for the Nature of the Neutrino", R. Henning, Wake Forest University Colloquium, Winston-Salem, NC (2016)

15) "Update on The MAJORANA Neutrinoless Double-beta Decay Experiment", R. Henning, Invited Talk at the 2015 International Workshop on Baryon & Lepton Number Violation, Amherst, MA (2015)

16) “Quest for the Nature of the Neutrino”, R. Henning, High-energy Seminar at Virginia Polytechnic Institute and State University, Blacksburg, VA (2014)

17) “The MAJORANA Low-Background Experiment at KURF (MALBEK)”, R. Henning, Invited Talk at The 10th Patras Workshop on Axions, WIMPs and WISPs, Geneva, Switzerland (2014)

18) “The MAJORANA Low-Background Experiment at KURF (MALBEK)”, R. Henning, Invited Talk at Astroparticle Physics – A Joint TeVPA/IDM Conference, Amsterdam, Netherlands (2014)

19) “Quest for the nature of the neutrino”, R. Henning, Colloquium at East Carolina University, Greenville, NC (2013)

20) “Neutrinoless double-beta decay and other searches for physics beyond the Standard Model with the Majorana experiment”, R. Henning, Caltech HEP Seminar, Pasadena, CA (2013)

21) “A cautionary tale of false starts in neutrino physics”, R. Henning, KATRIN Simulation and Analysis Workshop, U. of North Carolina, Chapel Hill, NC (2013)

22) “Update on the Majorana Neutrinoless Double-beta Decay Experiment”, R. Henning, Shanghai Particle Physics and Cosmology Symposium 2012, Shanghai, China (2012)

23) “Non-accelerator Neutrino Physics”, R. Henning, SSNuDM Summer School Lecture, Jiao Tong University, Shanghai, China (2012)

24) “The Majorana Experiment,” R. Henning, Matrix Elements for the Double-beta-decay Experiments (MEDEX) 2011, Prague, Czech Republic (2011)

25) “Shining light through walls – searching new fundamental particles at HIGS,” R. Henning, Duke HEP Seminar, Duke University, Durham, NC (2011)

26) "Prospects for Understanding the Nature of Neutrinos," R. Henning, Colloquium at North Carolina State University, Raleigh, NC (2011)

27) “Shining light through walls – searching new fundamental particles at HIGS,” R. Henning, TUNL Seminar, Duke University, Durham, NC (2010)

28) "Double-beta decay at DUSEL," R. Henning, Annual DuRA Meeting and DUSEL PDR Rollout, Fermilab, Batavia, IL (2010)

29) “North American Underground Facilities,” R. Henning, Topical Workshop in Low Radioactivity Techniques, SNOLAB, Sudbury, Ontario (2010)

30) “Searching for the rarest events in the Universe,” R. Henning, Advances in Physics Seminar, Duke University, Durham, NC (2010)

31) “Direct Detection of Dark Matter”, R. Henning, Southeastern Section of the APS 2009, Atlanta, GA (2009)

32) “Overview of current and proposed searches for double-beta decay”, R. Henning, Neutrinos and Dark Matter 2009, Madison, WI (2009)

33) “Quest for the nature of the neutrino”, R. Henning, Colloquium at U. of Denver, Denver, CO (2009)

34) "Searching for the rarest events in the universe and other fun topics in particle astrophysics", R. Henning, Colloquium at UNC Chapel Hill, Chapel Hill, NC (2009)

35) "Searching for the rarest events in the universe and other fun topics in particle astrophysics", R. Henning, Colloquium at NCA&T, Greensboro, NC (2008)

36) "The Dark Matter Puzzle and Proposed Experimental Solutions", R. Henning, Advances in Physics Seminar, Duke University, Durham, NC (2008)

37) "Reach of Future Non-accelerator Neutrino Efforts", R. Henning, Flavor Physics and CP Violation 2008, Taipei, Taiwan (2008), arXiv:0807.1291v1 [hep-ex]

38) "Neutrinoless Double-Beta Decay", R. Henning, 76th Annual Meeting of the Southeastern Section of the APS, Nashville, TN (2007)

39) "Quest for the Nature of The Neutrino", R. Henning, Colloquium at UNC Wilmington, Wilmington, NC (2007)

40) "Overview and Status of the Majorana Experiment", International Workshop on "Double Beta Decay and Neutrino Mass", Osaka, Japan (2007)

41) "Quest for the Nature of The Neutrino", R. Henning, Nuclear and Particle Physics Colloquium, Massachusetts Institute of Technology, Cambridge, MA (2007)

42) "Quest for the Nature of The Neutrino", R. Henning, Seminar at University of Maryland, Greenbelt, MD (2007)

43) "Quest for the Nature of The Neutrino", R. Henning, Colloquium at Colorado State University, Fort Collins, CO (2006)

44) "Quest for the Nature of The Neutrino", R. Henning, Seminar at Virginia Polytechnic Institute and State University, Blacksburg, VA (2006)

45) "Quest for the Nature of The Neutrino", R. Henning, Colloquium at UNC Chapel Hill, Chapel Hill, NC (2006)

Refereed Publications

Submitted

1) "Charge Trapping and Energy Performance of the MAJORANA DEMONSTRATOR", (The MAJORANA Collaboration), arXiv:2208.03424, (2022), submitted to *Physical Review C.*

2) "Learning Physics from the Machine: An Interpretable Boosted Decision Tree Analysis for the MAJORANA DEMONSTRATOR" (The MAJORANA Collaboration), arXiv:2207.10710, (2022), submitted to *Physical Review C.*

3) "Final Result of the MAJORANA DEMONSTRATOR's Search for Neutrinoless Double-β Decay in 76Ge", (The MAJORANA Collaboration), arXiv:2207.07638, (2022), submitted to *Physical Review Letters.*

4) "Exotic dark matter search with the Majorana Demonstrator", arXiv:2206.10638, (2022), submitted to *Physical Review Letters.*

5) "The LEGEND-1000 Preconceptual Design Report", (The LEGEND Collaboration), arXiv:2107.11462, (2022), to be submitted.

Published or Accepted

6) "Introducing DMRadio-GUT, a search for GUT-scale QCD axions", L. Brouwer, S. Chaudhuri, H.-M. Cho, J. Corbin, C. S. Dawson, A. Droster, J. W. Foster, J. T. Fry, P. W. Graham, R. Henning, K. D. Irwin, F. Kadribasic, Y. Kahn, A. Keller, R. Kolevatov, S. Kuenstner, A. F. Leder, D. Li, J. L. Ouellet, K. M. W. Pappas, A. Phipps, N. M. Rapidis, B. R. Safdi, C. P. Salemi, M. Simanovskaia, J. Singh, E. C. van Assendelft, K. van Bibber, K. Wells, L. Winslow, W. J. Wisniewski, B. A. YoungarXiv:2203.11246, (2022), accepted to *Physical Review D.*

7) "DMRadio-m3: A Search for the QCD Axion Below 1μeV", L. Brouwer, S. Chaudhuri, H.-M. Cho, J. Corbin, W. Craddock, C. S. Dawson, A. Droster, J. W. Foster, J. T. Fry, P. W. Graham, **R. Henning,** K. D. Irwin, F. Kadribasic, Y. Kahn, A. Keller, R. Kolevatov, S. Kuenstner, A. F. Leder, D. Li, J. L. Ouellet, K. Pappas, A. Phipps, N. M. Rapidis, B. R. Safdi, C. P. Salemi, M. Simanovskaia, J. Singh, E. C. van Assendelft, K. van Bibber, K. Wells, L. Winslow, W. J. Wisniewski, B. A. Young, arXiv:2204.13781, (2022), accepted to *Physical Review D.*

8) "Search for Spontaneous Radiation from Wavefunction Collapse in the Majorana Demonstrator", I.J. Arnquist, F.T. Avignone III, A.S. Barabash, C.J. Barton, E. Blalock, B. Bos, M. Busch, M. Buuck, T.S. Caldwell, Y-D. Chan, C.D. Christofferson, P.-H. Chu, M.L. Clark, C. Cuesta, J.A. Detwiler, Yu. Efremenko, H. Ejiri, S.R. Elliott, G.K. Giovanetti, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, C.R. Haufe, **R. Henning**, D. Hervas Aguilar, E.W. Hoppe, A. Hostiuc, I. Kim, R.T. Kouzes, T.E. Lannen V, A.M. Lopez, J.M. López-Castaño, E.L. Martin, R.D. Martin, R. Massarczyk, S.J. Meijer, T.K. Oli, G. Othman, L.S. Paudel, W. Pettus, A.W.P. Poon, D.C.

Radford, A.L. Reine, K. Rielage, N.W. Ruof, D. Tedeschi, R.L. Varner, S. Vasilyev, J.F. Wilkerson, C. Wiseman, W. Xu, C.-H. Yu, B.X. Zhu, *Phys. Rev. Lett*. **129** (2022), 080401

9) "Search for Solar Axions via Axion-Photon Coupling with the Majorana Demonstrator", I.J. Arnquist, F.T. Avignone III, A.S. Barabash, C.J. Barton, K.H. Bhimani, E. Blalock, B. Bos, M. Busch, M. Buuck, T.S. Caldwell, Y-D. Chan, C.D. Christofferson, P.-H. Chu, M.L. Clark, C. Cuesta, J.A. Detwiler, Yu. Efremenko, H. Ejiri, S.R. Elliott, G.K. Giovanetti, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, C.R. Haufe, **R. Henning,** D. Hervas Aguilar, E.W. Hoppe, A. Hostiuc, M.F. Kidd, I. Kim, R.T. Kouzes, T.E. Lannen V, A. Li, A.M. Lopez, J.M. López-Castaño, E.L. Martin, R.D. Martin, R. Massarczyk, S.J. Meijer, T.K. Oli, G. Othman, L.S. Paudel, W. Pettus, A.W.P. Poon, D.C. Radford, A.L. Reine, K. Rielage, N.W. Ruof, D.C. Schaper, D. Tedeschi, R.L. Varner, S. Vasilyev, J.F. Wilkerson, C. Wiseman, W. Xu, C.-H. Yu, B.X. Zhu, *Phys. Rev. Lett*. **129** (2022), 081803

10) "Experimental study of $^{13}C(\alpha,n)^{16}O$ reactions in the Majorana Demonstrator calibration data", I.J. Arnquist, F.T. Avignone III, A.S. Barabash, C.J. Barton, K.H. Bhimani, E. Blalock, B. Bos, M. Busch, M. Buuck, T.S. Caldwell, Y-D. Chan, C.D. Christofferson, P.-H. Chu, M.L. Clark, C. Cuesta, J.A. Detwiler, Yu. Efremenko, H. Ejiri, S.R. Elliott, G.K. Giovanetti, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, C.R. Haufe, **R. Henning**, D. Hervas Aguilar, E.W. Hoppe, A. Hostiuc, M.F. Kidd, I. Kim, R.T. Kouzes, T.E. Lannen V, A. Li, A.M. Lopez, J. M. Lopez-Castano, E.L. Martin, R.D. Martin, R. Massarczyk, S.J. Meijer, T.K. Oli, G. Othman, L.S. Paudel, W. Pettus, A.W.P. Poon, D.C. Radford, A.L. Reine, K. Rielage, N.W. Ruof, D. Tedeschi, R.L. Varner, S. Vasilyev, J.F. Wilkerson, C. Wiseman, W. Xu, C.-H. Yu, B.X. Zhu, *Phys. Rev. C* **105** (2022) 06410

11) "The MAJORANA DEMONSTRATOR Readout Electronics System", N. Abgrall, M. Amman, I.J. Arnquist, F.T. Avignone III, A.S. Barabash, C.J. Barton, P.J. Barton, F.E. Bertrand, K.H. Bhimani, B. Bos, A.W. Bradley, T.H. Burritt, M. Busch, M. Buuck, T.S. Caldwell, Y-D. Chan, C.D. Christofferson, P.-H. Chu, M.L. Clark, R.J. Cooper, C. Cuesta, J.A. Detwiler, A. Drobizhev, D.W. Edwins, Yu. Efremenko, H. Ejiri, S.R. Elliott, T. Gilliss, G.K. Giovanetti, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, C.R. Haufe, R.J. Hegedus, **R. Henning**, D. Hervas Aguilar, E.W. Hoppe, A. Hostiuc, M.F. Kidd, I. Kim, R.T. Kouzes, A. Li, J.C. Loach, A.M. Lopez, J.M. López-Castaño, P.N. Luke, E.L. Martin, R.D. Martin, R. Massarczyk, S.J. Meijer, S. Mertens, J. Myslik, T.K. Oli, G. Othman, D. Peterson, W. Pettus, A.W.P. Poon, D.C. Radford, J. Rager, A.L. Reine, K. Rielage, R.G.H. Robertson, N.W. Ruof, B. Sayki, M.J. Stortini, D. Tedeschi, M. Turqueti, T.D. Van Wechel, R.L. Varner, S. Vasilyev, K. Vetter, J.F. Wilkerson, C. Wiseman, W. Xu, H. Yaver, C.-H. Yu, B.X. Zhu, S. Zimmermann, (The MAJORANA Collaboration), *JINST*, **17** (2022) T05003

12) "α-event Characterization and Rejection in Point-Contact HPGe Detectors", I.J. Arnquist, F.T. Avignone III, A.S. Barabash, C.J. Barton, F.E. Bertrand, E. Blalock, T. Bode, B. Bos, M. Busch, M. Buuck, T.S. Caldwell, Y-D. Chan, C.D. Christofferson, P.-H. Chu, M.L. Clark, C. Cuesta, J.A. Detwiler, A. Drobizhev, T.R. Edwards, D.W. Edwins, Yu. Efremenko, H. Ejiri, S.R. Elliott, T. Gilliss, G.K. Giovanetti, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, C.R. Haufe, R.J. Hegedus, **R. Henning**, D. Hervas Aguilar, E.W. Hoppe, A. Hostiuc, M.F. Kidd, I. Kim, R.T. Kouzes, A.M. Lopez, J.M. Lopez-Castano, E.L. Martin, R.D. Martin, R. Massarczyk, S.J. Meijer,

S. Mertens, J. Myslik, T.K. Oli, G. Othman, W. Pettus, A.W.P. Poon, D.C. Radford, J. Rager, A.L. Reine, K. Rielage, N.W. Ruof, B. Sayki, S. Schonert, M.J. Stortini, D. Tedeschi, R.L. Varner, S. Vasilyev, J.F. Wilkerson, M. Willers, C. Wiseman, W. Xu, C.-H. Yu, and B.X. Zhu, (The MAJORANA Collaboration), *EPJC* **82** (2022) 226

13) "Signatures of muonic activation in the Majorana Demonstrator", I.J. Arnquist, F.T. Avignone III, A.S. Barabash, C.J. Barton, F.E. Bertrand, E. Blalock, B. Bos, M. Busch, M. Buuck, T.S. Caldwell, Y-D. Chan, C.D. Christofferson, P.-H. Chu, M.L. Clark, C. Cuesta, J.A. Detwiler, T.R. Edwards, Yu. Efremenko, H. Ejiri, S.R. Elliott, G.K. Giovanetti, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, C.R. Haufe, **R. Henning**, D. Hervas Aguilar, E.W. Hoppe, A. Hostiuc, M.F. Kidd, I. Kim, R.T. Kouzes, T.E. Lannen V, A.M. Lopez, J.M. López-Castaño, E.L. Martin, R.D. Martin, R. Massarczyk, S.J. Meijer, S. Mertens, T.K. Oli, G. Othman, L.S. Paudel, W. Pettus, A.W.P. Poon, D.C. Radford, A.L. Reine, K. Rielage, N.W. Ruof, D. Tedeschi, R.L. Varner, S. Vasilyev, J.F. Wilkerson, C. Wiseman, W. Xu, C.-H. Yu, B.X. Zhu, (The MAJORANA Collaboration), *Phys. Rev. C* **105** (2021) 014617

14) "Search for Low-Mass Axion Dark Matter with ABRACADABRA-10 cm", Chiara P. Salemi, Joshua W. Foster, Jonathan L. Ouellet, Andrew Gavin, Kaliroe M. W. Pappas, Sabrina Cheng, Kate A. Richardson, **Reyco Henning**, Yonatan Kahn, Rachel Nguyen, Nicholas L. Rodd, Benjamin R. Safdi, Lindley Winslow, *Phys. Rev. Lett.* **127** (2021) 081801

15) "Search for double-β decay of ^{76}Ge to excited states of ^{76}Se with the MAJORANA DEMONSTRATOR", I.J. Arnquist, F.T. Avignone III, A.S. Barabash, C.J. Barton, F.E. Bertrand, E. Blalock, B. Bos, M. Busch, M. Buuck, T.S. Caldwell, Y-D. Chan, C.D. Christofferson, P.-H. Chu, M.L. Clark, C. Cuesta, J.A. Detwiler, A. Drobizhev, T.R. Edwards, D.W. Edwins, Yu. Efremenko, H. Ejiri, S.R. Elliott, T. Gilliss, G.K. Giovanetti, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, C.R. Haufe, **R. Henning**, D. Hervas Aguilar, E.W. Hoppe, A. Hostiuc, M.F. Kidd, I. Kim, R.T. Kouzes, A.M. Lopez, J.M. López-Castaño, E.L. Martin, R.D. Martin, R. Massarczyk, S.J. Meijer, S. Mertens, J. Myslik, T.K. Oli, G. Othman, L.S. Paudel, W. Pettus, A.W.P. Poon, D.C. Radford, A.L. Reine, K. Rielage, N.W. Ruof, B. Saykı, M.J. Stortini, D. Tedeschi, R.L. Varner, S. Vasilyev, J.F. Wilkerson, C. Wiseman, W. Xu, C.-H. Yu, B.X. Zhu, (The MAJORANA Collaboration), *Phys. Rev. C* **103** (2021) 015501

16) "ADC Nonlinearity Correction for the MAJORANA DEMONSTRATOR" N. Abgrall, J.M. Allmond, I.J. Arnquist, F.T. Avignone III, A.S. Barabash, C.J. Barton, F.E. Bertrand, B. Bos, M. Busch, M. Buuck, T.S. Caldwell, C.M. Campbell, Y-D. Chan, C.D. Christofferson, P.-H. Chu, M.L. Clark, H.L. Crawford, C. Cuesta, J.A. Detwiler, A. Drobizhev, D.W. Edwins, Yu. Efremenko, H. Ejiri, S.R. Elliott, T. Gilliss, G.K. Giovanetti, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, C.R. Haufe, R.J. Hegedus, **R. Henning**, D. Hervas Aguilar, E.W. Hoppe, A. Hostiuc, M.F. Kidd, I. Kim, R.T. Kouzes, A.M. Lopez, J.M. Lopez-Castano, E.L. Martin, R.D. Martin, R. Massarczyk, S.J. Meijer, S. Mertens, J. Myslik, T.K. Oli, G. Othman, W. Pettus, A.W.P. Poon, D.C. Radford, J. Rager, A.L. Reine, K. Rielage, N.W. Ruof, M.J. Stortini, D. Tedeschi, R.L. Varner, S. Vasilyev, B.R. White, J.F. Wilkerson, C. Wiseman, W. Xu, C.-H. Yu, B.X. Zhu (The MAJORANA Collaboration), *IEEE-TNS* **68** (2021) 359

17) "Demonstration of o-Ps Detection with a Cylindrical Array of NaI Detectors" Chelsea Bartram, Reyco Henning, Daniel Primosch *Nucl. Instr. and Methods A* **966** (2020) 163856

18) "Multi-site event discrimination for the MAJORANA DEMONSTRATOR" S.I. Alvis, I.J. Arnquist, F.T. Avignone III, A.S. Barabash, C.J. Barton, F.E. Bertrand, B. Bos, M. Buuck, T.S. Caldwell, Y-D. Chan, C.D. Christofferson, P.-H. Chu, C. Cuesta, J.A. Detwiler, H. Ejiri, S.R. Elliott, T. Gilliss, G.K. Giovanetti, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, C.R. Haufe, R.J. Hegedus, L. Hehn, **R. Henning,** D. Hervas Aguilar, E.W. Hoppe, M.A. Howe, K.J. Keeter, M.F. Kidd, S.I. Konovalov, R.T. Kouzes, A.M. Lopez, R.D. Martin, R. Massarczyk, S.J. Meijer, S. Mertens, J. Myslik, G. Othman, W. Pettus, A. Piliounis, A.W.P. Poon, D.C. Radford, J. Rager, A.L. Reine, K. Rielage, N.W. Ruof, B. Shanks, M. Shirchenko, D. Tedeschi, R.L. Varner, S. Vasilyev, Vasundhara, B.R. White, J.F. Wilkerson, C. Wiseman, W. Xu, E. Yakushev, C.-H. Yu, V. Yumatov, I. Zhitnikov, B.X. Zhu (The MAJORANA Collaboration), *Phys. Rev. C* **99** (2019) 065501-1— 065501-8

19) "A Search for Neutrinoless Double-Beta Decay in 76Ge with 26 kg-yr of Exposure from the MAJORANA DEMONSTRATOR" S.I. Alvis, I.J. Arnquist, F.T. Avignone III, A.S. Barabash, C.J. Barton, V. Basu, F.E. Bertrand, B. Bos, M. Busch, M. Buuck, T.S. Caldwell, Y-D. Chan, C.D. Christofferson, P.-H. Chu, C. Cuesta, J.A. Detwiler, Yu. Efremenko, H. Ejiri, S.R. Elliott, T. Gilliss, G.K. Giovanetti, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, C.R. Haufe, R.J. Hegedus, L. Hehn, **R. Henning**, D. Hervas Aguilar, E.W. Hoppe, M.A. Howe, M.F. Kidd, S.I. Konovalov, R.T. Kouzes, A.M. Lopez, R.D. Martin, R. Massarczyk, S.J. Meijer, S. Mertens, J. Myslik, G. Othman, W. Pettus, A. Piliounis, A.W.P. Poon, D.C. Radford, J. Rager, A.L. Reine, K. Rielage, N.W. Ruof, B. Shanks, M. Shirchenko, D. Tedeschi, R.L. Varner, S. Vasilyev, B.R. White, J.F. Wilkerson, C. Wiseman, W. Xu, E. Yakushev, C.-H. Yu, V. Yumatov, I. Zhitnikov, B.X. Zhu (The MAJORANA Collaboration), *Phys. Rev. C* **100** (2019) 02550-1—02550-11

20) "Design and Implementation of the ABRACADABRA-10 cm Axion Dark Matter Search" Jonathan L. Ouellet, Chiara P. Salemi, Joshua W. Foster, **Reyco Henning**, Zachary Bogorad, Janet M. Conrad, Joseph A. Formaggio, Yonatan Kahn, Joe Minervini, Alexey Radovinsky, Nicholas L. Rodd, Benjamin R. Safdi, Jesse Thaler, Daniel Winklehner, Lindley Winslow, *Phys. Rev. D* **99** (2019) 052012-1— 052012-13

21) "First Results from ABRACADABRA-10 cm: A Search for Sub-μeV Axion Dark Matter" Jonathan L. Ouellet, Chiara P. Salemi, Joshua W. Foster, **Reyco Henning**, Zachary Bogorad, Janet M. Conrad, Joseph A. Formaggio, Yonatan Kahn, Joe Minervini, Alexey Radovinsky, Nicholas L. Rodd, Benjamin R. Safdi, Jesse Thaler, Daniel Winklehner, Lindley Winslow, *Phys. Rev. Lett.* **122** (2018) 121802-1 — 121802-7

22) "Search for trinucleon decay in the MAJORANA DEMONSTRATOR" S. I. Alvis, I. J. Arnquist, F. T. Avignone III, A. S. Barabash, C. J. Barton, V. Basu, F. E. Bertrand, B. Bos, V. Brudanin, M. Busch, M. Buuck, T. S. Caldwell, Y-D. Chan, C. D. Christofferson, P.-H. Chu, C. Cuesta, J. A. Detwiler, Yu. Efremenko, H. Ejiri, S. R. Elliott, T. Gilliss, G. K. Giovanetti, M. P. Green, J. Gruszko, I. S. Guinn, V. E. Guiseppe, C. R. Haufe, R. J. Hegedus, L. Hehn, **R. Henning**, D. Hervas Aguilar, E. W. Hoppe, M. A. Howe, K. J. Keeter, M. F. Kidd, S. I. Konovalov, R. T. Kouzes, A. M. Lopez, R. D. Martin, R. Massarczyk, S. J. Meijer, S. Mertens, J. Myslik, G. Othman, W. Pettus, A. Piliounis, A. W. P. Poon, D. C. Radford, J. Rager, A. L. Reine, K. Rielage, N. W. Ruof, B. Shanks, M. Shirchenko, D. Tedeschi, R. L. Varner, S. Vasilyev, B. R. White, J. F. Wilkerson, C. Wiseman, W. Xu, E. Yakushev, C.-H. Yu, V. Yumatov, I. Zhitnikov,

and B. X. Zhu (The MAJORANA Collaboration), arXiv:1902.02299 *Phys. Rev. D* **99** (2019) 072004-1— 072004-8

23) "First Limit on the Direct Detection of Lightly Ionizing Particles for Electric Charge as Low as e/1000 with the MAJORANA DEMONSTRATOR" S. I. Alvis, I. J. Arnquist, F. T. Avignone III, A. S. Barabash, C. J. Barton, F. E. Bertrand, V. Brudanin, M. Busch, M. Buuck, T. S. Caldwell, Y-D. Chan, C. D. Christofferson, P.-H. Chu, C. Cuesta, J. A. Detwiler, C. Dunagan, Yu. Efremenko, H. Ejiri, S. R. Elliott, T. Gilliss, G. K. Giovanetti, M. P. Green, J. Gruszko, I. S. Guinn, V. E. Guiseppe, C. R. Haufe, L. Hehn, **R. Henning**, E. W. Hoppe, M. A. Howe, S. I. Konovalov, R. T. Kouzes, A. M. Lopez, R. D. Martin, R. Massarczyk, S. J. Meijer, S. Mertens, J. Myslik, C. O'Shaughnessy, G. Othman, W. Pettus, A. W. P. Poon, D. C. Radford, J. Rager, A. L. Reine, K. Rielage, R. G. H. Robertson, N. W. Ruof, B. Shanks, M. Shirchenko, A. M. Suriano, D. Tedeschi, R. L. Varner, S. Vasilyev, K. Vorren, B. R. White, J. F. Wilkerson, C. Wiseman, W. Xu, E. Yakushev, C.-H. Yu, V. Yumatov, I. Zhitnikov, B. X. Zhu (The MAJORANA Collaboration), arXiv:1801.10145, *Phys. Rev. Lett.* **120** (2018) 211804-1—211804-7

24) "Search for Neutrinoless Double-β Decay in ^{76}Ge with the MAJORANA DEMONSTRATOR," C.E. Aalseth, N. Abgrall, E. Aguayo, S.I. Alvis, M. Amman, I.J. Arnquist, F.T. Avignone III, H.O. Back, A.S. Barabash, P.S. Barbeau, C.J. Barton, P.J. Barton, F.E. Bertrand, T. Bode, B. Bos, M. Boswell, R.L. Brodzinski, A.W. Bradley, V. Brudanin, M. Busch, M. Buuck, A.S. Caldwell, T.S. Caldwell, Y-D. Chan, C.D. Christofferson, P.-H. Chu, J.I. Collar, D.C. Combs, R.J. Cooper, C. Cuesta, J.A. Detwiler, P.J. Doe, J.A. Dunmore, Yu. Efremenko, H. Ejiri, S.R. Elliott, J.E. Fast, P. Finnerty, F.M. Fraenkle, Z. Fu, B.K. Fujikawa, E. Fuller, A. Galindo-Uribarri, V.M. Gehman, T. Gilliss, G.K. Giovanetti, J. Goett, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, A.L. Hallin, C.R. Haufe, L. Hehn**, R. Henning**, E.W. Hoppe, T.W. Hossbach, M.A. Howe, B.R. Jasinski, R.A. Johnson, K.J. Keeter, J.D. Kephart, M.F. Kidd, A. Knecht, S.I. Konovalov, R.T. Kouzes, K.T. Lesko, B.D. LaFerriere, J. Leon, L.E. Leviner, J.C. Loach, A.M. Lopez, P.N. Luke, J. MacMullin, S. MacMullin, M.G. Marino, R.D. Martin, R. Massarczyk, A.B. McDonald, D.-M. Mei, S.J. Meijer, J.H. Merriman, S. Mertens, H.S. Miley, M.L. Miller, J. Myslik, J.L. Orrell, C. O'Shaughnessy, G. Othman, N.R. Overman, W. Pettus, D.G. Phillips II, A.W.P. Poon, G. Perumpilly, K. Pushkin, D.C. Radford, J. Rager, J.H. Reeves, A.L. Reine, K. Rielage, R.G.H. Robertson, M.C. Ronquest, N.W. Ruof, A.G. Schubert, B. Shanks, M. Shirchenko, K.J. Snavely, N. Snyder, D. Steele, A.M. Suriano, D. Tedeschi, W. Tornow, J.E. Trimble, R.L. Varner, S. Vasilyev, K. Vetter, K. Vorren, B.R. White, J.F. Wilkerson, C. Wiseman, W. Xu, E. Yakushev, H. Yaver, A.R. Young, C.-H. Yu, V. Yumatov, I. Zhitnikov, B.X. Zhu, S. Zimmermann (The MAJORANA Collaboration), arXiv:1710.11608, *Phys. Rev. Lett.* **120** (2018) 13502-1—13502-7 **(Editor's Suggestion)**

25) "The Processing of Enriched Germanium for the MAJORANA DEMONSTRATOR and R&D for a Possible Future Ton-Scale Ge-76 Double-Beta Decay Experiment," N. Abgrall, I.J. Arnquist, F.T. Avignone III, A.S. Barabash, F.E. Bertrand, A.W. Bradley, V. Brudanin, M. Busch, M. Buuck, J. Caja, M. Caja, T.S. Caldwell, C.D. Christofferson, P.-H. Chu, C. Cuesta, J.A. Detwiler, C. Dunagan, D.T. Dunstan, Yu. Efremenko, H. Ejiri, S.R. Elliott, T. Gilliss, G.K. Giovanetti, J. Goett, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, C.R.S. Haufe, R. Henning, E.W. Hoppe, B.R. Jasinski, M.F. Kidd, S.I. Konovalov, R.T. Kouzes, A.M. Lopez, J. MacMullin, R.D. Martin, R. Massarczyk, S.J. Meijer, S. Mertens, J.H. Meyer, J. Myslik, C. O'Shaughnessy, A.W.P. Poon, D.C. Radford, J. Rager, A.L. Reine, J.A. Reising, K. Rielage, R.G.H. Robertson, B.

Shanks, M. Shirchenko, A.M. Suriano, D. Tedeschi, L.M. Toth, J.E. Trimble, R.L. Varner, S. Vasilyev, K. Vetter, K. Vorren, B.R. White, J.F. Wilkerson, C. Wiseman, W. Xu, E. Yakushev, C.-H. Yu, V. Yumatov, I. Zhitnikov, B.X. Zhu (The MAJORANA Collaboration), arXiv:1707.06255, *Nucl. Instr. and Methods A,* **877** (2018) 314 —322

26) "Muon Flux Measurements at the Davis Campus of the Sanford Underground Research Facility with the Majorana Demonstrator Veto System", N. Abgrall, E. Aguayo, F.T. Avignone III, A.S. Barabash, F.E. Bertrand, A.W. Bradley, V. Brudanin, M. Busch, M. Buuck, D. Byram, A.S. Caldwell, Y-D. Chan, C.D. Christofferson, P.-H. Chu, C. Cuesta, J.A. Detwiler, C. Dunagan, Yu. Efremenko, H. Ejiri, S.R. Elliott, A. Galindo-Uribarri, T. Gilliss, G.K. Giovanetti, J. Goett, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, **R. Henning**, E.W. Hoppe, S. Howard, M.A. Howe, B.R. Jasinski, K.J. Keeter, M.F. Kidd, S.I. Konovalov, R.T. Kouzes, B.D. LaFerriere, J. Leon, A.M. Lopez, J. MacMullin, R.D. Martin, R. Massarczyk, S.J. Meijer, S. Mertens, J.L. Orrell, C. O'Shaughnessy, N.R. Overman, A.W.P. Poon, D.C. Radford, J. Rager, K. Rielage, R.G.H. Robertson, E. Romero-Romero, M.C. Ronquest, C. Schmitt, B. Shanks, M. Shirchenko, N. Snyder, A.M. Suriano, D. Tedeschi, J.E. Trimble, R.L. Varner, S. Vasilyev, K. Vetter, K. Vorren, B.R. White, J.F. Wilkerson, C. Wiseman, W. Xu, E. Yakushev, C.-H. Yu, V. Yumatov, I. Zhitnikov. (The MAJORANA Collaboration), arXiv:1602.07742, *Astroparticle Physics* **93** (2017) 70—75

27) "The MAJORANA DEMONSTRATOR calibration system," N. Abgrall, I.J. Arnquist, F.T. Avignone III, A.S. Barabash, F.E. Bertrand, M. Boswell, A.W. Bradley, V. Brudanin, M. Busch, M. Buuck, T.S. Caldwell, C.D. Christofferson, P.-H. Chu, C. Cuesta, J.A. Detwiler, C. Dunagan, Yu. Efremenko, H. Ejiri, S.R. Elliott, Z. Fu, V.M. Gehman, T. Gilliss, G.K. Giovanetti, J. Goett, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, C.R. Haufe, R. Henning, E.W. Hoppe, M.A. Howe, B.R. Jasinski, K.J. Keeter, M.F. Kidd, S.I. Konovalov, R.T. Kouzes, A.M. Lopez, J. MacMullin, R.D. Martin, R. Massarczyk S.J. Meijer, S. Mertens, J.L. Orrell, C. O'Shaughnessy, A.W.P. Poon, D.C. Radford, J. Rager, A.L. Reine, K. Rielage, R.G.H. Robertson, B. Shanks, M. Shirchenko, A.M. Suriano, D. Tedeschi, J.E. Trimble, R.L. Varner, S. Vasilyev, K. Vetter, K. Vorren, B.R. White, J.F. Wilkerson, C. Wiseman, W. Xu, C.-H. Yu, V. Yumatov, I. Zhitnikov, B.X. Zhu (The MAJORANA Collaboration) *Nucl. Instr. and Methods A* **872** (2017) 16—22

28) "New limits on bosonic dark matter, solar axions, Pauli Exclusion Principle, and 2 electron decay from the low-energy spectrum of the MAJORANA DEMONSTRATOR", N. Abgrall, I.J. Arnquist, F.T. Avignone III, A.S. Barabash, F.E. Bertrand, A.W. Bradley, V. Brudanin, M. Busch, M. Buuck, T.S. Caldwell, Y-D. Chan, C.D. Christofferson, P.-H. Chu, C. Cuesta, J.A. Detwiler, C. Dunagan, Yu. Efremenko, H. Ejiri, S.R. Elliott, T. Gilliss, G.K. Giovanetti, J. Goett, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, C.R.S. Haufe, **R. Henning**, E.W. Hoppe, S. Howard, M.A. Howe, B.R. Jasinski, K.J. Keeter, M.F. Kidd, S.I. Konovalov, R.T. Kouzes, A.M. Lopez, J. MacMullin, R.D. Martin, R. Massarczyk, S.J. Meijer, S. Mertens, C.O'Shaughnessy, A.W.P. Poon, D.C. Radford, J. Rager, A.L. Reine, K. Rielage, R.G.H. Robertson, B. Shanks, M. Shirchenko, A.M. Suriano, D. Tedeschi, J.E. Trimble, R.L. Varner, S. Vasilyev, K. Vetter, K. Vorren, B.R. White, J.F. Wilkerson, C. Wiseman, W. Xu, E.Yakushev, C.-H. Yu, V. Yumatov, I. Zhitnikov, B.X. Zhu (The MAJORANA Collaboration), arXiv:1612.00886, *Physical Review Letters* **118** (2017) 161801

29) "Search for Pauli exclusion principle violating atomic transitions and electron decay with a p-type point contact germanium detector", N. Abgrall, I.J. Arnquist, F.T. Avignone III, A.S. Barabash, F.E. Bertrand, A.W. Bradley, V. Brudanin, M. Busch, M. Buuck, A.S. Caldwell, Y-D. Chan, C.D. Christofferson, P.-H. Chu, C. Cuesta, J.A. Detwiler, C. Dunagan, Yu. Efremenko, H. Ejiri, S.R. Elliott, P.S Finnerty, A. Galindo-Uribarri, T. Gilliss, G.K. Giovanetti, J. Goett, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, **R. Henning**, E.W. Hoppe, S. Howard, M.A. Howe, B.R. Jasinski, K.J. Keeter, M.F. Kidd, S.I. Konovalov, R.T. Kouzes, B.D. LaFerriere, J. Leon, J. MacMullin, R.D. Martin, R. Massarczyk, S.J. Meijer, S. Mertens, J.L. Orrell, C. O'Shaughnessy, A.W.P. Poon, D.C. Radford, J. Rager, K. Rielage, R.G.H. Robertson, E. Romero-Romero, B. Shanks, M. Shirchenko, A.M. Suriano, D. Tedeschi, J.E. Trimble, R.L. Varner, S. Vasilyev, K. Vetter, K. Vorren, B.R. White, J.F. Wilkerson, C. Wiseman, W. Xu, E. Yakushev, C.-H. Yu, V. Yumatov, I. Zhitnikov. (The MAJORANA Collaboration) *Eur. Phys. J. C* **76** (2016) 619—624

30) "The MAJORANA DEMONSTRATOR Radioassay Program", N. Abgrall, I.J. Arnquist, F.T. Avignone III, H.O. Back, A.S. Barabash, F.E. Bertrand, M. Boswell, A.W. Bradley, V. Brudanin, M. Busch, M. Buuck, D. Byram, A.S. Caldwell, Y-D. Chan, C.D. Christofferson, P.-H. Chu, C. Cuesta, J.A. Detwiler, J.A. Dunmore, Yu. Efremenko, H. Ejiri, S.R. Elliott, P. Finnerty, A. Galindo-Uribarri, V.M. Gehman, T. Gilliss, G.K. Giovanetti, J. Goett, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, **R. Henning**, E.W. Hoppe, S. Howard, M.A. Howe, B.R. Jasinski, R.A. Johnson, K.J. Keeter, M.F. Kidd, O. Kochetoi, S.I. Konovalov, R.T. Kouzes, B.D. LaFerriere, J. Leon, J.C. Loach, J. MacMullin, S. MacMullin, R.D. Martin, R. Massarczyk, S. Meijer, S. Mertens, M.L. Miller, J.L. Orrell, C. OShaughnessy, N.R. Overman, A.W.P. Poon, K. Pushkin, D.C. Radford, J. Rager, K. Rielage, R.G.H. Robertson, E. Romero-Romero, M.C. Ronquest, A.G. Schubert, B. Shanks, M. Shirchenko, K.J.Snavely, N. Snyder, D. Steele, A.M. Suriano, D. Tedeschi, J.E. Trimble, R.L. Varner, S. Vasilyev, K. Vetter, K. Vorren, B.R. White, J.F. Wilkerson, C. Wiseman, W. Xu, E. Yakushev, C.-H. Yu, V. Yumatov, I. Zhitnikov. (The MAJORANA Collaboration), *Nucl. Instr. and Methods A,* **828** (2016) 22—36

31) "Current status of neutrinoless double-beta decay searches", **R. Henning**, *Reviews in Physics*, **1** (2016) 29—35

32) "High voltage testing for the MAJORANA DEMONSTRATOR", N. Abgrall, I.J. Arnquist, F.T. Avignone III, A.S. Barabash, F.E. Bertrand, A.W. Bradley, V. Brudanin, M. Busch, M. Buuck, D. Byram, A.S. Caldwell, Y-D. Chan, C.D. Christofferson, P.-H. Chu, C. Cuesta, J.A. Detwiler, P.J. Doe, C. Dunagan, Yu. Efremenko, H. Ejiri, S.R. Elliott, Z. Fu, A. Galindo-Uribarri, G.K. Giovanetti, J. Goett, M.P. Green, J. Gruszko, I.S. Guinn, V.E. Guiseppe, **R. Henning**, E.W. Hoppe, S. Howard, M.A. Howe, B.R. Jasinski, K.J. Keeter, M.F. Kidd, S.I. Konovalov, R.T. Kouzes, B.D. LaFerriere, J. Leon, A. Li, J. MacMullin, R.D. Martin, R. Massarczyk, S.J. Meijer, S. Mertens, J.L. Orrell, C. O'Shaughnessy, A.W.P. Poon, D.C. Radford, J. Rager, K. Rielage, R.G.H. Robertson, E. Romero-Romero, B. Shanks, M. Shirchenko, N. Snyder, A.M. Suriano, D. Tedeschi, A. Thompson, K.T. Ton, J.E. Trimble, R.L. Varner, S. Vasilyev, K. Vetter, K. Vorren, B.R. White, J.F. Wilkerson, C. Wiseman, W. Xu, E. Yakushev, C.-H. Yu, V. Yumatov. (The MAJORANA Collaboration), *Nucl. Instr. and Methods A* **823** (2016) 83—90

33) "The Majorana Parts Tracking Database", N. Abgrall, E. Aguayo, F. T. Avignone III, A. S. Barabash, F. E. Bertrand, V. Brudanin, M. Busch, D. Byram, A. S. Caldwell, Y-D. Chan, C. D.

Christofferson, D. C. Combs, C. Cuesta, J. A. Detwiler, P. J. Doe, Yu. Efremenko, V. Egorov, H. Ejiri, S. R. Elliott, J. Esterline, J. E. Fast, P. Finnerty, F. M. Fraenkle, A. Galindo-Uribarri, G. K. Giovanetti, J. Goett, M. P. Green, J. Gruszko, V. E. Guiseppe, K. Gusev, A. L. Hallin, R. Hazama, A. Hegai, **R. Henning**, E. W. Hoppe, S. Howard, M. A. Howe, K. J. Keeter, M. F. Kidd, O. Kochetov, S. I. Konovalov, R. T. Kouzes, B. D. LaFerriere, J. Diaz Leon, L. E. Leviner, J. C. Loach, J. MacMullin, R. D. Martin, S. J. Meijer, S. Mertens, M. L. Miller, L. Mizouni, M. Nomachi, J. L. Orrell , C. O'Shaughnessy, N. R. Overman, R. Petersburg, D. G. Phillips III, A. W. P. Poon, K. Pushkin, D. C. Radford, J. Rager, K. Rielage, R. G. H. Robertson, E. Romero-Romero, M. C. Ronquest, B. Shanks, T. Shima, M. Shirchenko, K. J. Snavely, N. Snyder, A. Soin, A. M. Suriano, D. Tedeschi, J. Thompson, V. Timkin, W. Tornow, J. E. Trimble, R. L. Varner, S. Vasilyev, K. Vetter, K. Vorren, B. R. White, J. F. Wilkerson, C. Wiseman, W. Xu, E. Yakushev, A. R. Young, C.-H. Yu, V. Yumatov, I. Zhitnikov. (The MAJORANA Collaboration), *Nucl. Instr. and Methods A* **779** (2015) 52—62

34) "Improving Photoelectron Counting and Particle Identification in Scintillation Detectors with Bayesian Techniques", M. Akashi-Ronquest, P.-A. Amaudruz, M. Batygov, B. Beltran, M. Bodmer, M.G. Boulay, B. Broerman, B. Buck, A. Butcher, B. Cai, T. Caldwell, M. Chen, Y. Chen, B. Cleveland, K. Coakley, K. Dering, F.A. Duncan, J.A. Formaggio, R. Gagnon, D. Gastler, F. Giuliani, M. Gold, V.V. Golovko, P. Gorel, K. Graham, E. Grace, N. Guerrero, V. Guiseppe, A.L. Hallin, P. Harvey, C. Hearns, **R. Henning,** A. Hime, J. Hofgartner, S. Jaditz, C.J. Jillings, C. Kachulis, E. Kearns, J. Kelsey, J.R. Klein, M. Kuzniak, A. LaTorre, I. Lawson, O. Li, J.J. Lidgard, P. Liimatainen, S. Linden, K. McFarlane, D.N. McKinsey, S. MacMullin, A. Mastbaum, R. Mathew, A.B. McDonald, D.-M. Mei, J. Monroe, A. Muir, C. Nantais, K. Nicolics, J.A. Nikkel, T. Noble, E. O'Dwyer, K. Olsen, G.D. Orebi Gann, C. Ouellet, K. Palladino, P. Pasuthip, G. Perumpilly, T. Pollmann, P. Rau, F. Retiere, K. Rielage, R. Schnee, S. Seibert, P. Skensved, T. Sonley, E. Vazquez-Jauregui, L. Veloce, J. Walding, B. Wang, J. Wang, M. Ward, C. Zhang. *Astroparticle Physics* **65** (2015) 40—54

35) "A Dark Matter Search with MALBEK", G.K. Giovanetti et al, *Physics* Procedia, **61**, (2015) 77

36) "High Statistics Measurement of the Positron Fraction in Primary Cosmic Rays of 0.5–500 GeV with the Alpha Magnetic Spectrometer on the International Space Station", The AMS Collaboration[1], *Phys. Rev. Lett.* **113** (2014) 121101-1—121101-9

37) "The Majorana Demonstrator Neutrinoless Double-Beta Decay Experiment", N. Abgrall, E. Aguayo, F.T. Avignone III, A.S. Barabash, F.E. Bertrand, M. Boswell, V. Brudanin, M. Busch, A.S. Caldwell, Y-D. Chan, C.D. Christofferson, D.C. Combs, J.A. Detwiler, P.J. Doe, Yu. Efremenko, V. Egorov, H. Ejiri, S.R. Elliott, J. Esterline, J.E. Fast, P. Finnerty, F.M. Fraenkle, A. Galindo-Uribarri, G.K. Giovanetti, J. Goett, M.P. Green, J. Gruszko, V.E. Guiseppe, K. Gusey, A.L. Hallin, R. Hazama, A. Hegai**, R. Henning**, E.W. Hoppe, S. Howard, M.A. Howe, K.J. Keeter, M.F. Kidd, A. Knecht, O. Kochetov, S.I. Konovalov, R.T. Kouzes, B.D. LaFerriere, J. Leon, L.E. Leviner, J.C. Loach, S. MacMullin, R.D. Martin, S. Mertens, L. Mizouni, M. Nomachi, J.L. Orrell, C. O'Shaughnessy, N.R. Overman, D.G. Phillips II, A.W.P. Poon, K. Pushkin, D.C. Radford, K. Rielage, R.G.H. Robertson, M.C. Ronquest, A.G. Schubert, B. Shanks, T. Shima, M. Shirchenko, K.J. Snavely, N. Snyder, D. Steele, J. Strain, A.M. Suriano, J.

[1] This paper has 300 authors. The full list is available at: http://inspirehep.net/record/1317847#

Thompson, V. Timkin, W. Tornow, R.L. Varner, S. Vasilyev, K. Vetter, K. Vorren, B.R. White, J.F. Wilkerson, W. Xu, E. Yakushev, A.R. Young, C-H. Yu, V. Yumatov. The MAJORANA Collaboration, *Adv. High Energy Phys.* **2014** (2014) 365432-1—365432-18

38) "Measurement of the elastic scattering cross section of neutrons from argon and neon", S. MacMullin, M. Kidd, **R. Henning,** W. Tornow, C.R. Howell, M. Brown, *Phys. Rev. C* **87**(2013) 054613-1 — 054613-11

39) "Measurement of the ν_e and Total ^{8}B Solar Neutrino Fluxes with the Sudbury Neutrino Observatory Phase-III Data Set", B. Aharmim, S.N. Ahmed, J.F. Amsbaugh, J.M. Anaya, A.E. Anthony, J. Banar, N. Barros, E.W. Beier, A. Bellerive, B. Beltran, M. Bergevin, S.D. Biller, K. Boudjemline, M.G. Boulay, T.J. Bowles, M.C. Browne, T.V. Bullard, T.H. Burritt, B. Cai, Y.D. Chan, D. Chauhan, M. Chen, B.T. Cleveland, G.A. Cox, C.A. Currat, X. Dai, H. Deng, J.A. Detwiler, M. DiMarco, P.J. Doe, G. Doucas, M.R. Dragowsky, P.-L. Drouin, C.A. Duba, F.A. Duncan, M. Dunford, E.D. Earle, S.R. Elliott, H.C. Evans, G.T. Ewan, J. Farine, H. Fergani, F. Fleurot, R.J. Ford, J.A. Formaggio, M.M. Fowler, N. Gagnon, J.V. Germani, A. Goldschmidt, J.TM. Goon, K. Graham, E. Guillian, S. Habib, R.L. Hahn, A.L. Hallin, E.D. Hallman, A.A. Hamian, G.C. Harper, P.J. Harvey, R. Hazama, K.M. Heeger, W.J. Heintzelman, J. Heise, R.L. Helmer, **R. Henning**, A. Hime, C. Howard, M.A. Howe, M. Huang, P. Jagam, B. Jamieson, N.A. Jelley, K.J. Keeter, J.R. Klein, L.L. Kormos, M. Kos, A. Krueger, C. Kraus, C.B. Krauss, T. Kutter, C.C.M. Kyba, R. Lange, J. Law, I.T. Lawson, K.T. Lesko, J.R. Leslie, J.C. Loach, R. MacLellan, S. Majerus, H.B. Mak, J. Maneira, R. Martin, N. McCauley, A.B. McDonald, S.R. McGee, C. Mifflin, G.G. Miller, M.L. Miller, B. Monreal, J. Monroe, B. Morissette, A.W. Myers, B.G. Nickel, A.J. Noble, H.M. O'Keeffe, N.S. Oblath, R.W. Ollerhead, G.D. Orebi Gann, S.M. Oser, R.A. Ott, S.J.M. Peeters, A.W.P. Poon, G. Prior, S.D. Reitzner, K. Rielage, B.C. Robertson, R.G.H. Robertson, E. Rollin, M.H. Schwendener, J.A. Secrest, S.R. Seibert, O. Simard, J.J. Simpson, P. Skensved, M.W.E. Smith, T.J. Sonley, T.D. Steiger, L.C. Stonehill, G. Tesic, P.M. Thornewell, N. Tolich, T. Tsui, C.D. Tunnell, T. Van Wechel, R. Van Berg, B.A. VanDevender, C.J. Virtue, B.L. Wall, D. Waller, H. Wan Chan Tseung, J. Wendland, N. West, J.B. Wilhelmy, J.F. Wilkerson, J.R. Wilson, J.M. Wouters, A. Wright, M. Yeh, F. Zhang, K. Zuber (The SNO Collaboration) *Phys. Rev. C* **87** (2013) 015502-1—015502-43

40) "Characteristics of signals originating near the lithium-diffused N+ contact of high purity germanium p-type point contact detectors", E. Aguayo, M. Amman, F. T. Avignone III, A. S. Barabash, P. J. Barton, J. R. Beene, F. E. Bertrand, M. Boswell, V. Brudanin, M. Busch, Y-D. Chan, C. D. Christofferson, J. I. Collar, D. C. Combs, R. J. Cooper, J. A. Detwiler, P. J. Doe, Yu. Efremenko, V. Egorov, H. Ejiri, S. R. Elliott, J. Esterline, J. E. Fast, N. Fields, P. Finnerty, F. M. Fraenkle, A. Galindo-Uribarri, V. M. Gehman, G. K. Giovanetti, M. P. Green, V. E. Guiseppe, K. Gusey, A. L. Hallin, R. Hazama, **R. Henning,** E. W. Hoppe, M. Horton, S. Howard, M. A. Howe, R. A. Johnson, K. J. Keeter, M. F. Kidd, A. Knecht, O. Kochetov, S. I. Konovalov, R. T. Kouzes, B. D. LaFerriere, J. Leon, L. E. Leviner, J. C. Loach, Q. Looker, P. N. Luke, S. MacMullin, M. G. Marino, R. D. Martin, J. H. Merriman, M. L. Miller, L. Mizouni, M. Nomachi, J. L. Orrell, N. R. Overman, G. Perumpilly, D. G. Phillips II, A. W. P. Poon, D. C. Radford, K. Rielage, R. G. H. Robertson, M. C. Ronquest, A. G. Schubert, T. Shima, M. Shirchenko, K. J. Snavely, D. Steele, J. Strain, V. Timkin, W. Tornow, R. L. Varner, K. Vetter, K. Vorren, J. F. Wilkerson, E. Yakushev, H. Yaver, A. R. Young, C.-H. Yu, V. Yumatov (The MAJORANA Collaboration), *Nucl. Instr. and Methods A* **701** (2013) 176—185

41) G. K. Giovanetti on behalf of the MAJORANA collaboration, "Dark matter sensitivities of the Majorana Demonstrator," *J. Phys. Conf. Ser*. **375** (2012) 012014-1—012014-4

42) J. F. Wilkerson on behalf of the MAJORANA collaboration, "The Majorana Demonstrator: A Search for Neutrinoless Double-beta Decay of Germanium-76," *J. Phys. Conf. Ser.* **375** (2012) 042010-1—042010-5

43) "Neutron-induced γ-ray production cross sections for the first excited-state transitions in 20Ne and 22Ne", S. MacMullin, M. Boswell, M. Devlin, S. R. Elliott, N. Fotiades, V. E. Guiseppe, **R. Henning,** T. Kawano, B. H. LaRoque, R. O. Nelson, J. M. O'Donnell. *Phys. Rev. C* **86** (2012) 067601-1— 067601-5

44) "Partial gamma-ray cross sections for (n, *x*nγ) reactions in natural argon from 1 – 30 MeV", S. MacMullin, M. Boswell, M. Devlin, S. R. Elliott, N. Fotiades, V. E. Guiseppe, **R. Henning,** B. LaRoque, R. O. Nelson, J. M. O'Donnell, *Phys. Rev. C* **85** (2012) 064614-1—064614-9

45) "Measurement of airborne fission products in Chapel Hill, NC, USA from the Fukushima I reactor accident" S. MacMullin, G. K. Giovanetti, M. P. Green, **R. Henning,** R. Holmes, K. Vorren, J. F. Wilkerson, *Journal of Environmental Radioactivity* **112** (2012) 165—170

46) "The MAJORANA Experiment" **R. Henning** on behalf of the MAJORANA Collaboration presented at MEDEX 2011 Conference. *AIP Conf. Proc.* **1417** (2011) 95 —99

47) "Astroparticle physics with a customized low-background broad energy Germanium detector," C.E. Aalseth, M. Amman, F.T. Avignone III, H.O. Back, A.S. Barabash, P.S. Barbeau, M. Bergevin, F.E. Bertrand, M. Boswell, V. Brudanin, W. Bugg, T.H. Burritt, M. Busch, G. Capps, Y-D. Chan, J.I. Collar, R.J. Cooper, R. Creswick, J.A. Detwiler, J. Diaz, P.J. Doe, Yu. Efremenko, V. Egorov, H. Ejiri, S.R. Elliott, J. Ely, J. Esterline, H. Farach, J.E. Fast, N. Fields, P. Finnerty, B. Fujikawa, E. Fuller, V.M. Gehman, G.K. Giovanetti, V.E. Guiseppe, K. Gusey, A.L. Hallin, G.C Harper, R. Hazama, **R. Henning**, A. Hime, E.W. Hoppe, T.W. Hossbach, M.A. Howe, R.A. Johnson, K.J. Keeter, M. Keillor, C. Keller, J.D. Kephart, M.F. Kidd, A. Knecht, O. Kochetov, S.I. Konovalov, R.T. Kouzes, L. Leviner, J.C. Loach, P.N. Luke, S. MacMullin, M.G. Marino, R.D. Martin, D.-M. Mei, H.S. Miley, M.L. Miller, L. Mizouni, A.W. Meyers, M. Nomachi, J.L. Orrell, D. Peterson, D.G. Phillips II, A.W.P. Poon, G. Prior, J. Qian, D.C. Radford, K. Rielage, R.G.H. Robertson, L. Rodriguez, K.P. Rykaczewski, H. Salazar, A.G. Schubert, T. Shima, M. Shirchenko, D. Steele, J. Strain, G. Swift, K. Thomas, V. Timkin, W. Tornow, T.D. Van Wechel, I. Vanyushin, R.L. Varner, K. Vetter, J.F. Wilkerson, B.A. Wolfe, W. Xiang, E. Yakushev, H. Yaver, A.R. Young, C.-H. Yu, V. Yumatov, C. Zhang, S. Zimmerman (The MAJORANA Collaboration), *Nucl. Instr. and Methods A* **652** (2011) 692—695

48) "MAGE - a GEANT 4-based Monte Carlo Application Framework for Low-background Germanium Experiments", Melissa Boswell, Yuen-Dat Chan, Jason A. Detwiler, Padraic Finnerty, **Reyco Henning,** Victor M. Gehman, Rob A. Johnson, David V. Jordan, Kareem Kazkaz, Markus Knapp, Kevin Kröninger, Daniel Lenz, Lance Leviner, Jing Liu, Xiang Liu, Sean MacMullin, Michael G. Marino, Akbar Mokhtarani, Luciano Pandola, Alexis G. Schubert,

Jens Schubert, Claudia Tomei, and Oleksandr Volynets, *IEEE Trans. Nucl. Sci*. **58** (2011) 1212—1220

49) "Low-background gamma counting at the Kimballton Underground Research Facility", P. Finnerty, S. MacMullin, H.O. Back, **R. Henning,** A. Long, K.T. Macon, J. Strain, R.M. Lindstrom, R.B. Vogelaar, *Nucl. Instr. and Methods A* **642** (2011) 65—69

50) "A Pulse Shape Analysis Technique for the MAJORANA Experiment", R.J. Cooper, D. C. Radford, K. Lagergren, James F. Colaresi, Larry Darken, **R. Henning,** M.G. Marino, K. Michael Yocum, *Nucl. Instr. and Methods A* **629** (2011) 303—310

51) "Reconstruction of a Radiation Point Source's Radial Location Using Goodness-of-Fit Test on Spectra Obtained from an HPGe Detector", L.T. Evans, K. Andre, R. De, **R. Henning,** E.D. Morgan, *Nucl. Instr. and Methods B* **267** (2009) 3688—3693

52) "Measurement of the Cosmic Ray and Neutrino-Induced Muon Flux at the Sudbury Neutrino Observatory." The SNO collaboration, *Phys. Rev. D* **80** (2009) 012001-1—012001-15

53) "An Independent Measurement of the Total Active 8B Solar Neutrino Flux at the Sudbury Neutrino Observatory Using an Array of He Proportional Counters" The SNO collaboration, *Phys. Rev. Lett.* **101** (2008) 111301-1—111301-15

54) *"*A Generic Surface Sampler for Monte Carlo Simulations*"* J. A. Detwiler, **R. Henning,** R. A. Johnson, M. G. Marino. *IEEE Trans. Nucl .Sci*. **55** (2008) 2329—2333

55) "Evaluation of radioactive background rejection in 76Ge neutrino-less double-beta decay experiments using a highly segmented HPGe detector" D.B. Campbell, K. Vetter, **R. Henning,** K. Lesko, Y.D. Chan, A.W.P. Poon, M. Perry, D. Hurley, A.R. Smith, *Nuclear Instr. and Methods A* **587** (2008) 60—67

56) "Validation of spallation neutron production and propagation within Geant4", M.G. Marino, J.A. Detwiler, **R. Henning,** R.A. Johnson, A.G. Schubert, J.F. Wilkerson, *Nuclear Inst. and Methods A* **582** (2007) 611—620

57) "Measurement of the ν_e and Total ^{8}B Solar Neutrino Fluxes with the Sudbury Neutrino Observatory Phase I Data Set" The SNO collaboration, *Phys. Rev. C* **75** (2007) 045502-1—045502-69

58) "A Search for Neutrinos from the Solar hep Reaction and the Diffuse Supernova Neutrino Background with the Sudbury Neutrino Observatory", The SNO collaboration, *Astrophys. J.* **653** (2006) 1545—1551

59) "The AMS-02 Transition Radiation Detector," Ph.v. Doetinchem, S. Fopp, W. Karpinski, Th. Kirn, K. Lubelsmeyer, J. Orboeck, S. Schael, A. Schultz von Dratzig, G. Schwering, Th. Siedenburg, R. Siedling, W. Wallraff, U. Becker, J. Burger, **R. Henning,** A. Kounine, V. Koutsenko, J. Wyatt, *Nuclear Instr. and Methods A*, **558** (2006) 526—535

60) "A Study of Cosmic Ray Secondaries Induced by the Mir Space Station Using AMS-01," The AMS-01 Collaboration, *Nuclear Instr. and Methods B*, **234** (2005) 321—332

61) "The AMS-02 TRD for the International Space Station", Florian Hauler, A. Bartoloni, U. Becker, P. Berges, B. Borgia, C. Bosi, J. Burger, M. Capell, C. H. Chung,W. de Boer, F. Dömmecke, P. Fisher, S. Fopp, C. Gargiulo, S. Gentile, **R. Henning**, L. Jungermann, W. Karpinski, G. N. Kim, Th. Kirn, A. Kounine, V. Koutsenko, A. Lebedev, K. Lübelsmeyer, B. Monreal, W. H. Park, P. Rapagnani, S. Schael, M. Schmanau, K. Scholberg, G. Schwering, T. Siedenburg, W. Wallraff, D. Son, and M. Wlochal, *IEEE Trans. Nucl. Sci*. **51** (2004) 1365—1372

62) "Helioseismic constraints on the structure of the solar tachocline", Charbonneau, P., Christensen-Dalsgaard, J., **Henning, R.**, Larsen, R.M., Schou, J., Thompson, M.J., and Tomczyk, S, *Astrophys. J.* **527** (1999) 445—460

Teaching

Spring 2007: PHYS 128 “Modern Physics”, 33 students
Fall 2007: PHYS 128 “Modern Physics”, 27 students
Spring 2008: PHYS 321 “Introduction to Quantum Mechanics”, 11 students
Fall 2008: PHYS 128 “Modern Physics”, 32 students
Spring 2009: PHYS 321 “Introduction to Quantum Mechanics”, 18 students
Fall 2009: PHYS 721 “Quantum Mechanics” (graduate), 10 students
Fall 2010: PHYS 521 "Applications of Quantum Mechanics", 18 students
Fall 2011: PHYS 521 "Applications of Quantum Mechanics", 24 students
Spring 2012: PHYS 321 “Introduction to Quantum Mechanics”, 21 students
Spring 2012: PHYS 862 “Nuclear Physics II” (graduate), 5 students
Summer 2012: Shanghai International Summer School of Neutrino and Dark Matter Summer School, Jiao Tong University, Shanghai, China (2012)
Fall 2012: PHYS 116 “Mechanics” SCALE-UP w/ L. McNeil, 45 students
Spring 2013: PHYS 116 “Mechanics” SCALE-UP, 45 students
Fall 2013: PHYS 116 “Mechanics” Lecture-studio format, 233 students
Fall 2014: PHYS 118 “Mechanics and Relativity” Lecture Studio format, 230 students
Spring 2015: PHYS 119 “Electromagnetism and Quanta” Lecture Studio format, 130 students
Fall 2015: PHYS 119 “Electromagnetism and Quanta” Lecture Studio format, 85 students
Spring 2016: PHYS 119 “Electromagnetism and Quanta” Lecture Studio format, 148 students
Fall 2016: PHYS 118 “Mechanics and Relativity” Lecture Studio format, 250 students
Spring 2017: Pogue Leave
Fall 2017: Teaching Release.
Spring 2018: PHYS 861 “Nuclear Physics” (Graduate), 11 students.
Fall 2019: RSA Leave
Spring 2019: PHYS 119 “Electromagnetism and Quanta” Lecture Studio format, 115 students
Fall 2019: PHYS 545 “Introductory Elementary Particle Physics,” 5 students.
Spring 2020: PHYS 712 “Electromagnetic Theory”, 27 students
Fall 2020: PHYS 521 "Applications of Quantum Mechanics", 18 students
Summer 2020: “Concepts of Detector Electronics”, PIRE-GEMADARC Exploration Series.
Spring 2021: PHYS 545 “Introductory Elementary Particle Physics,” 5 students.
PHYS 861 “Nuclear Physics”, 13 students (graduate, taught in parallel with 545)
Fall 2021: PHYS 521 "Applications of Quantum Mechanics", 24 students
Spring 2022: PHYS 712 “Electromagnetic Theory”, 14 students
Fall 2022: PHYS 521 "Applications of Quantum Mechanics", 20 students

Public Lectures, and Education and Outreach Activities

- “Taming the Dark Matter Zoo Without Telescopes” Zoom presentation to U. of Michigan OLLI Chapter, May 2022
- “Taming the Dark Matter Zoo Without Telescopes” Public presentation at Astronomy on Tap in the Triangle, Apr 2019
- “Why become a Major in Physics & Astronomy at Carolina?” recruitment presentation to students at North Carolina School of Science and Mathematics, Dec. 2017
- “The Nature of Matter and UNC’s Nobel Connection.” invited presentation to NC high school teachers at SHAPE 2016: “Symposium on Horizons in Astronomy and Physics Education”
- Video conference from underground at SURF to North Carolina Science Museum in Raleigh as part of Annual Neutrino Day in 2015
- Video conference from underground at SURF to surface facility as part of Neutrino Day 2013 in Lead, SD
- "The nature of matter and dark matter," presentation to TC Roberson high school Students, Asheville, NC, Feb 24, 2012.
- "The nature of matter and dark matter," presentation to Durham Scientifica high school Students, Apr. 9, 2011
- "The nature of matter and dark matter," presentation to high school students at Durham School of the Arts, Mar. 2, 2011
- “Understanding the Nature of Matter and Searches for Dark Matter”, invited presentation to NC high school teachers at SHAPE 2010: “Symposium on Horizons in Astronomy and Physics Education”, Dec. 29. 2010.
- “Understanding the Nature of Matter and Searches for Dark Matter”, UNC Science Expo Scientific Talk as part of North Carolina Science Festival, Sept. 25, 2010
- “Why Antimatter Matters”, Brown Bag Lunch Public Talk as part of North Carolina Science Festival, Sept. 15, 2010
- Expert Reviewer for Science 360 Show on Antimatter at Morehead Planetarium and Science Center, 2010.
- “Restarting the Big Bang Machine”, presentation at Morehead Planetarium Current Science Forum, Nov. 5, 2009
- “How Small is Small”, presented at Morehead Planetarium and Science Center “Meet as Scientist” Event, Sept. 9, 2007