

# Micha A. Kilburn, Ph.D. Curriculum Vitae

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## Employment History

- Joint Institute for Nuclear Astrophysics - Center for the Evolution of Elements  
**Director of Outreach and Education** 2014-Present  
**Outreach Coordinator** 2011-2014
- ▶ Design and implement new educational experiences for all ages
  - ▶ Execute existing JINA outreach programs
  - ▶ Assess and evaluate JINA K-12 programs and projects
  - ▶ Collaborate with science educators and community leaders
  - ▶ Manage large projects and associated budgets
- Department of Physics  
University of Notre Dame, Notre Dame, IN  
**Assistant Professional Specialist** 2016-Present  
**Post Doctoral Scholar** 2011-2016
- Northern Indiana Regional Science and Engineering Fair  
**Executive Director** 2016-Present
- Holy Cross College, Notre Dame, IN  
**Adjunct Science Faculty** 2015
- ▶ Taught science literacy course to non-science majors
- National Superconducting Cyclotron Laboratory  
Michigan State University, East Lansing, MI  
**Research Assistant:** HiRA Collaboration (experimental) 2006-2011
- ▶ Investigated pp correlation functions to probe reaction dynamics
- Tour Guide** 2006-2011
- ▶ Led over 1000 people on tours of the laboratory
- Research Assistant:** Theoretical Nuclear Physics 2004-06
- ▶ Conducted independent research with a focus on transport simulations
- Department of Physics & Astronomy  
Michigan State University East Lansing, MI  
**Teaching Assistant:** Introductory Physics Lab I 2006
- ▶ Taught laboratory sections for introductory physics course
  - ▶ Assisted with revising course manuals
- ## Education
- Michigan State University, East Lansing, MI  
Ph.D Experimental Nuclear Physics 2011  
M.S. Theoretical Nuclear Physics 2006

Northern Michigan University, Marquette, MI	
B.S. Physics Summa Cum Laude	2004
Minors: Chemistry, Mathematics	
Moberly Area Community College, Moberly, MO	
A.S. Physics	2002

## Teaching Experience

Department of Physics	
University of Notre Dame, Notre Dame, IN	
<b>Professor:</b>	
General Physics III Laboratory	2015-present
<b>Guest Lecturer:</b>	
Radioactivity and Society	2016
General Physics III	2015-16
Physics of Climate	2015
Physics in Art and Archaeology	2014
Science Literacy	2013
Energy and Society	2012
Various K-12 classrooms	2011-Present
<b>Presenter &amp; Pilot:</b>	
Digital Visualization Theater	2011-Present
<b>Statement of Accomplishment:</b>	
An Introduction to Evidence-Based Undergraduate STEM Teaching	2014
Holy Cross College, Notre Dame, IN	
<b>Professor:</b>	
Great Ideas in Science	2015
Illinois Mathematics and Science Academy Aurora, IL	
Developed and led nuclear astrophysics course during annual Intersession	2012-2015

## Service

American Physical Society	
<b>Member of Committee on Informing the Public</b>	2014-Present
Division of Nuclear Physics	
<b>Member of Education Committee</b>	2014-Present
Department of Physics	
University of Notre Dame, Notre Dame, IN	
<b>Physics Outreach Committee</b>	2011-Present
Michiana Science and Technology Center, inc. (MSTCi)	
South Bend, IN	
<b>Chair of Board of Directors</b>	2013-16

National Superconducting Cyclotron Laboratory  
Michigan State University, East Lansing, MI

- Diversity Committee** 2008-2009
- ▶ Collaborated with a team to interpret a survey on work climate at NSCL
- Outreach Committee** 2007-2008
- ▶ Assisted with planning of an Open House and summer programs

Department of Physics & Astronomy  
Michigan State University East Lansing, MI

- President of Physics Graduate Organization** 2008-2009
- ▶ Served as liaison between graduate students and the department chair
- Recruiting Committee** 2006-2008
- ▶ Contributed to the selection of candidates for graduate school

## Informal Education Experience

Consultant:

- ▶ External Advisory Board, Kavli Institute for Cosmological Physics 2016  
University of Chicago, IL
- ▶ Foundations of Science, Massive Open Online Course – Michigan State 2013  
University East Lansing, MI
- ▶ CoRDIS Project – Virtual Education and Outreach, Sanford Underground 2011  
Research Facility

Joint Institute for Nuclear Astrophysics:

- ▶ Expanded the content of Art 2 Science programming 2011-Present
- ▶ Expanded Physics of Atomic Nuclei program 2011-Present
- ▶ Created, maintain, and create material for JINA social media presence 2011-Present
- ▶ Writer, editor, and designer for JINA newsletter 2012-Present

National Superconducting Cyclotron Laboratory:

- ▶ Facilitated marble nuclei activities at many locations 2008-11
- ▶ Pulse of the Planet: Science Diaries 2008
- ▶ Interview with NSF radio 2008
- ▶ Created and implemented theory activity at the NSCL Open House 2006

## Professional Memberships

American Physical Society  
American Association of Physics Teachers  
National Association of Science Teachers  
National Society of Black Physicists

## Invited Talks

- Division of Nuclear Physics Fall Meeting**, Vancouver, CA  
‘Barriers in the Physics Pipeline from K-12 to Tenure’ 2016
- Conference on Application of Accelerators in Research and Industry**,  
Fort Worth, TX  
”Growing the Nuclear Workforce Through Outreach” 2016
- Western Michigan University**, Kalamazoo, MI  
Physics Department Colloquium “The Diversity Pipeline from K-12 to Tenure” 2014
- Hope College** Holland, MI  
Physics/Psychology Joint Seminar “The Gender Pipeline from K to 12” 2014
- Western Michigan University**, Kalamazoo, MI  
World Wide Education Board “Why Outreach” 2012
- Michigan State University**, East Lansing, MI  
Ethics in Healthcare “Nuclear Medicine and Nuclear Energy“ 2012  
Graduate Women in Science “Demystifying Graduate School Workshop for Under-  
graduates” 2011

## Presentations

- Growing the Nuclear Workforce Through Outreach* 2015  
DNP Conference, Santa Fe, NM [talk]
- The Diversity Pipeline from K-12 to Tenure* 2015  
NSBP Conference, Baltimore, MD [talk]
- Art as a Vehicle for Nuclear Astrophysics* 2013  
APS April Meeting, Denver, CO [talk]
- Hands-On with Nuclear Science* 2013  
HASTI Conference, Indianapolis, IN [workshop]
- PP Correlation Functions as a Probe to the Density Dependence of the Symmetry  
Energy* 2010  
International Symposium on Nuclear Symmetry Energy, RIKEN [poster]
- P-P Correlation Functions as a Probe to the Nuclear Equation of State* 2008  
Gordon Research Conference, Colby-Sawyer College [poster]
- LBAS - A Non-Contact High Precision Detector Alignment Tool* 2008  
APS April Meeting, St. Louis, MO [talk]
- P-P Correlation Functions as a Probe to the Nuclear Equation of State* 2007  
Sixth Summer School on Exotic Beams, NSCL [talk]
- P-P Correlation Functions as a Probe to the Nuclear Equation of State* 2006  
Fifth Summer School on Exotic Beams, ORNL [poster]
- Hydrodynamic Formulation of Quantum Mechanics* 2005  
Midwest Nuclear Theory Get-Together, ANL [talk]
- Dynamics in the Hydrodynamic Formulation of Quantum Mechanics* 2005  
Progress in Nonequilibrium Green’s Functions, Kiel, Germany [poster]

## Publications

- Coupland, D. D. S., et al. Probing effective nucleon masses with heavy-ion collisions. *Phys. Rev. C* **94**, 011601 2016
- R. J. Charity, et al. Spin alignment of excited projectiles due to target spin-flip interactions. *Phys. Rev. C* **91**, 024610 2015
- K. Wimmer, et al. Elastic breakup cross sections of well-bound nucleons. *Phys. Rev. C* **90**, 064615 2014
- Lu, F., et al. Neutron-hole states in  $^{45}\text{Ar}$  from  $^1\text{H}(^{46}\text{Ar}, d)^{45}\text{Ar}$  reactions. *Phys. Rev. C* **88**, 017604 2013
- R. J. Charity, et al. Double isobaric analog of  $^{11}\text{Li}$  in  $^{11}\text{B}$ . *Phys. Rev. C* **86**, 041307(R) 2012
- R. Shane, et al. Proton and neutron knockout from  $^{36}\text{Ca}$ . *Phys. Rev. C* **85**, 064612 2012
- A.M. Rogers, et al. A non-contact laser-based alignment system (LBAS) for nuclear-physics experiments. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, ISSN 0168-9002, 10.1016/j.nima.2012.12.091. 2012
- K. Wimmer, et al. Correlations in Intermediate Energy Two-Proton Removal Reactions. *Phys. Rev. Lett.* **109**, 202505 2012
- I. A. Egorova, et al. Democratic Decay of  $^6\text{Be}$  Exposed by Correlations. *Phys. Rev. Lett.* **109**, 202502 2012
- K. Wimmer, et al. Probing elastic and inelastic breakup contributions to intermediate-energy two-proton removal reactions. *Phys. Rev. C* **85**, 051603(R) 2012
- V. Henzl, M. A. Kilburn, et al. Angular Dependence in Proton-Proton Correlation Functions in Central  $^{40,48}\text{Ca}+^{40,48}\text{Ca}$  Reactions. *Phys. Rev. C* **85**, 014606 2012
- M.B. Tsang, et al. Constraints on the density dependence of the symmetry energy from heavy ion collisions. *Progress in Particle and Nuclear Physics*, **66**, 400 2011
- R. J. Charity, et al. Isobaric multiplet mass equation for  $A=7$  and  $8$ . *Phys. Rev. C* **84**, 051308 2011
- R. J. Charity, et al. Investigations of three-, four-, and five-particle decay channels of levels in light nuclei created using a  $^9\text{C}$  beam. *Phys. Rev. C* **84**, 014320 2011

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- Jenny Lee, et al. Neutron spectroscopic factors of  $^{34}\text{Ar}$  and  $^{46}\text{Ar}$  from (p,d) transfer reactions. Phys. Rev. C **83**, 014606 2011
- R. J. Charity, et al. 2p-2p decay of  $^8\text{C}$  and isospin-allowed 2p decay of the isobaric-analog state in  $^8\text{B}$ . Phys. Rev. C **82**, 041304 2010
- Jenny Lee, et al. Neutron-Proton Asymmetry Dependence of Spectroscopic Factors in Ar Isotopes. Phys. Rev. Lett., **104**,112701 2010