

Mathew Muether

Curriculum Vitae

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Education

- 2003–2010 **Ph.D, Physics**, *University of Illinois, Urbana, Illinois*.
Dissertation Title: *Strange Quark Contributions to Parity-Violating Asymmetries in the Backward Angle G^0 Electron Scattering Experiment*
- 1999–2003 **BS, Mathematics and Physics**, *University of Missouri, Columbia, MO*.
Magna Cum Laude with Honors

Experience

Research

- 2014–current **Assistant Professor**, *Wichita State University*, Department of Mathematics, Statistics and Physics.
• NOvA Near Detector Physics Working Group Convener.
- 2010–2014 **Research Associate**, *Fermilab*, NOvA Experiment.
• NOvA data quality analysis convener.
• NOvA Data Acquisition (DAQ) Specialist.
• Avalanche Photo-Diode (APD) operations and installation expert
• NOvA run coordinator from April 2012 through January 2013.
- 2003–2010 **Doctoral Research Assistant**, *University of Illinois*.
• Studied background contributions to the G^0 asymmetries.
• Developed the main analysis code for G^0 backward angle measurement.
• Design and control systems support for Superconducting Magnet Spectrometer used in G^0 .

Committee Work

- 2015–Present **Chair of WSU Physics Masters program committee**.
- 2015–Present **Member of WSU Social Media Ambassadors**.
- 2014–Present **Member of WSU physics textbook Committee**.
- 2012–2014 **Elected member of NOvA Executive Committee**.
- 2012–Present **Chair of NOvA Social Media Committee**.

Teaching and Outreach

- Spring 2015 **Physics for Engineers I**, *WSU*.
- Fall 2014 **Physics for Engineers II**, *WSU*.
- 2014 **Summer Student Mentor**, *NOvA*.
• Jamie Garcia as part of the Fermilab summer intern program.
- 2013 **Summer Student Mentor**, *NOvA*.
• Caroline Kimmel as part of the Fermilab on-call summer intern program.
• Malcom Range as part of Fermilab TARGET program.
- 2011 **Summer Student Mentor**, *NOvA*.
Marco Colo as part of the Fermilab Italian summer intern program.

Professional Memberships

American Physical Society, NOvA

Selected Honors

- 2009 **Felix T. Adler Fellowship**, *University of Illinois*.
For recognition of the outstanding work by a Physics graduate student in nuclear physics.

Publications

Mathew Muether. *Nova*: Current status and future reach. *Nuclear Physics B-Proceedings Supplements*, 237:135–140, 2013.

Mathew Muether. *Nova* detector technology with initial performance from the surface prototype. *Journal of Physics: Conference Series*, 408(1):012076, 2013.

Androić D. et. al. Measurement of the parity-violating asymmetry in inclusive electroproduction of π^- near the δ^0 resonance. *Physical review letters*, 108(12):122002, 2012.

Androić D. et. al. First measurement of the neutral current excitation of the delta resonance on a proton target. *arXiv preprint arXiv:1212.1637*, 2012.

M Muether. Initial performance from the *nova* surface prototype detector. *Physics Procedia*, 37:1139–1146, 2012.

Androić D. et. al. The g_0 experiment: Apparatus for parity-violating electron scattering measurements at forward and backward angles. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 646(1):59–86, 2011.

Androić D. et. al. Transverse beam spin asymmetries at backward angles in elastic electron-proton and quasielastic electron-deuteron scattering. *Physical review letters*, 107(2):022501, 2011.

Androić D. et. al. Strange quark contributions to parity-violating asymmetries in the backward angle g_0 electron scattering experiment. *Physical review letters*, 104(1):012001, 2010.

Invited Conference Presentations

- 2013 **Workshop on Next Generation Nucleon Decay and Neutrino Detectors**, *NOvA Far Detector Status*.
- 2012 **Neutrino Oscillation WorkShop 2012**, *NOvA: Current Status and Future Reach*.
- 2011 **NUFACT 11**, *NOvA detector technology with initial performance from the surface prototype*.
- 2009 **Hardon 2009**, *Strange Quark Contributions to Parity-Violating Electron Scattering Asymmetries in the Backward Angle G^0 Experiment*.