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EDUCATION and EMPLOYMENT

Fermilab	Application Physicist I	October 2018 - Present
Fermilab	Research Associate	September 2015 - October 2018
Indiana University	Ph.D. , Physics	June 2010 - August 2015
Indiana University	M.S. , Physics	June 2010 - August 2011
University of Alabama	B.S. , Physics and Math	August 2006 - May 2010

RESEARCH and EXPERIENCES

Test Beam Facility (2018 - Present)

- Deputy coordinator for facility
- Testing and integration of facility instruments with otsDAQ system

NOvA Experiment (2010 - Present)

- 2017 Lab Directed R&D grant from Fermilab to develop deep neural networks and computing resources for early cosmic ray rejection in NOvA.
- Co-Convener of the reconstruction and deep learning working group 2016 - 2018
- Electron neutrino appearance analysis, specializing in shower reconstruction. Co-writer of 2017 PRL analysis publication.
- Run coordinator 2015 to 2017
- Timing system and DAQ expert 2013 to 2017
- Dissertation: "Observation of Electron Neutrino Appearance in the NuMI Beam with the NOvA Experiment"

DUNE Experiment (2016 - 2018)

- Photon detector system working groups
- R&D, construction, QA, and installation of components of the photon detector system in protoDUNE

TEACHING and MENTORSHIP

- Summer 2019, Supervised 2 SIST, 1 CCI, and 1 TARGET summer intern in projects at Test Beam Facility
- EDIT 2018 station leader for light collection in liquid argon
- Summer 2016 - TRAC summer intern mentor on NOvA
- 2016 - Supervised the masters thesis project of a student from ETH Zurich at Fermilab on characterizing the time structure of scintillation light in liquid argon.

LEADERSHIP, SERVICE, and OUTREACH

- NOvA executive committee young member (elected), 2018 - 2019

- JINST Reviewer, 2018 - Present
- Paper review committee member for 2018 NOvA results PRD
- Organizer for the Neutrino Seminar Series at Fermilab, 2016 - 2018
- Tour guide for Fermilab Saturday Morning Physics program 2015 - 2017
- President, Young NOvA student and postdoc group (elected), 2014 - 2015
- Fermilab neutrino campus tour guide, March 2014 - Present.
- Department of Physics Graduate President, Indiana University, 2011 - 2012

PRESENTATIONS (Selected)

- *Fermilab Test Beam Facility*, 52nd Annual Fermilab Users Meeting, Batavia , Illinois, June 12st, 2019.
 - *Latest Results from the NOvA Experiment*, 51st Annual Fermilab Users Meeting, Batavia , Illinois, June 21st, 2018.
 - *Neutrino Oscillation Results from the NOvA Experiment*, International Workshop on Next Generation Nucleon Decay and Neutrino Detectors, University of Warwick , England, October 27th, 2017.
 - *Neutrino Oscillation Results from the NOvA Experiment*, XXXI Les Rencontres de Physique de la Valle d'Aoste, La Thuile , Italy, March 6th, 2017.
 - *Deep Learning Applications in Neutrino Physics with the NOvA Experiment*, GPU Technology Conference, Washington, D.C, October 27th, 2016.
- Latest Results from NOvA*, In Lake Louise Winter Institute 2016, Lake Louise, Canada, February 11th, 2016.

PUBLICATIONS

Selected publications:

- [1] F. Psihas, E. Niner, M. Groh, R. Murphy, A. Aurisano, A. Himmel, K. Lang, M.D. Messier, A. Radovic, and A. Sousa. “Context-Enriched Identification of Particles with a Convolutional Network for Neutrino Events” arXiv:1906.00713
- [2] P. Adamson *et al.* [NOvA Collaboration], “Constraints on Oscillation Parameters from ν_e Appearance and ν_μ Disappearance in NOvA” Phys.Rev.Lett. 118 (2017) no.23, 231801. PRL Editor’s Suggestion
- [3] A. Aurisano, A. Radovic, D. Rocco, A. Himmel, M.D. Messier, E. Niner, G. Pawloski, F. Psihas, A. Sousa, and P. Vahle. “A Convolutional Neural Network Neutrino Event Classifier”, JINST 11 (2016) no.09, P09001.
- [4] P. Adamson *et al.* [NOvA Collaboration], “First Measurement of Electron Neutrino Appearance in NOvA” Phys.Rev.Lett. 116 (2016) no.15, 151806. PRL Editor’s Suggestion and Viewpoint
- [5] A. Norman, E. Niner, A. Habig. “Timing in the NOvA detectors with atomic clock based time transfers between Fermilab, the Soudan mine and the NOvA Far detector”, J. Phys. Conf. Ser., 664 (2015) 082040.
- [6] M. Baird, J. Bian, M. Messier, E. Niner, D. Rocco, K. Sachdev. “Event Reconstruction Techniques in NOvA”, J. Phys. Conf. Ser., 664 (2015) 072035.
- [7] E. Niner, P. Adamson, G. Deuerling, R. Kwarciany, H. Meyer, A. Norman, R. Rechenmacher, P. Shanahan and N. Wilcer. “Synchronization of the 14 kTon NOvA neutrino detector with the Fermilab NuMI beam”, J. Phys. Conf. Ser., 513 (2014) 012028.