

Sowjanya Gollapinni

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EDUCATION

- Wayne State University, Ph.D., Particle Physics, 2012
- Wayne State University, M.S., Physics, 2009
- University of Hyderabad, M.Sc., Physics, 2005
- Sri Venkateswara University, B.Sc., Physics, Mathematics and Computer Science, 2003

EMPLOYMENT

- Senior Scientist, Los Alamos National Laboratory, 2019 – present
- Adjunct Faculty, University of Tennessee, Knoxville, 2019 – present
- Assistant Professor, University of Tennessee, Knoxville, 2016 – 2019
- Postdoctoral Fellow, Kansas State University, 2012 – 2016
- Graduate Student Researcher, Wayne State University, 2009 – 2012

HONORS AND AWARDS

- Early Career Award (ECA), Office of Science Department of Energy (DOE), 2019
- Intensity Frontier Fellow, Fermilab, 2012
- Dissertation Fellowship, Wayne State University, 2012
- Universities Research Association (URA) Visiting Scholar Award, Fermilab, 2011

TEACHING

- PHYS231, Electricity and Magnetism (Engineers), Spring 2019 & 2018
- PHYS222, Elements of Physics II (Pre-Med), UTK, Fall 2017
- PHYS599, Particle Physics and Astro-Cosmology Seminars, UTK, Spring 2017
- PHYS222, Elements of Physics II (Pre-Med), UTK, Spring 2017

LEADERSHIP AND SERVICE

International Experimental Collaborations

- Chair, MicroBooNE Experiment Collaboration Board, 2021, 2-year term
- Technical Leader, DUNE Calibration and Cryogenic Instrumentation, 2020-present
- Chair, MicroBooNE Scientific Talks Committee, 2019 (2-year term)
- Working Group Leader, DUNE Laser Calibration System, 2019-present
- Member, DUNE Executive Board, 2018-2020
- Co-organizer, DUNE Calibration Workshop, Fermilab, 2018
- Co-Author/editor, DUNE Technical Design Reports (TDRs), 2017-19
- Consortium Leader, DUNE Slow Controls and Cryogenic Instrumentation, 2017-20
- Co-Leader, DUNE Calibration Task Force, 2017-20
- Member, DUNE Technical Board, 2017-present
- Convener, Short-Baseline Neutrino (SBN) program Joint Slow Controls Group, 2017-20

- Project Level-3 manager, SBND experiment Slow Controls System, 2015-20
- Co-Convener MicroBooNE Neutrino Cross Section Physics Group, 2015-17
- Leader, MicroBooNE Cosmogenics Studies Task Force, 2014-15
- Installation and Commissioning Leader, MicroBooNE Slow Controls System, 2014-15
- Co-Convener, MicroBooNE Software Tools Group, 2013-16

Review Committees

- Mail-In-Reviewer, NSF Major Research Instrumentation (MRI) program, 2022
- Mail-In-Reviewer, DOE HEP Scientific Discovery Through Advanced Computing (SciDAC) proposals, 2022
- Reviewer & Panelist, DOE HEP Intensity Frontier University Comparative Review, 2021
- Reviewer & Panelist, DOE High Energy Physics (HEP) University Detector R&D, 2021
- Reviewer & Panelist, DOE High Energy Physics (HEP) Argonne National Laboratory (ANL) institutional review, 2021
- NuTools Technical Panel, DOE/Defense Nuclear Non-proliferation R&D, 2021-present
- Reviewer, DOE/NNSA Neutrino Experiment One (NEO) Research Ideas call, 2020
- Reviewer, DOE Office of Science Graduate Student Research Program (SCGSR), 2019
- Panelist & Reviewer, DOE Intensity Frontier Laboratory Comparative Review, 2018

Scientific Conference Committees

- Program Planning Committee & Co-organizer, APS April meeting 2021
- Working Group Convener, *Noble Element Detectors*, CPAD Instrumentation Frontier Workshop 2018, Dec. 2018
- Local Organizing Committee and Scientific Program Committee, South Eastern Section of APS (SESAPS 2018), Nov. 2018
- Working group Convener, *Outreach, Education and Diversity in Physics*, APS DPF, 2017 (launched inaugural plenaries and parallel sessions on outreach and diversity)

Physics Community Service

- APS Ethics Committee, member (2021-24)
- APS Committee on Minorities (COM), member (2020-23), Chair-elect (2021), Chair (2022)
- Editor & Coordinator, APS Fall Gazette Newsletter on Minorities (2020-21)
<https://aps.org/programs/women/reports/gazette/>
- Chair, APS COM Indigenous Peoples in Physics Sub-committee, 2020-21
- Chair, APS COM Communications sub-committee, 2020-2021
- Member, APS National Mentoring Community (NMC) sub-committee, 2020
- Fermilab Users' Executive Committee (UEC), member (2016-18), chair (2017-18)

Institutional Service

- Member, LANL Postdoctoral Program Committee, 2022
- Co-Chair, LANL LDRD Exploratory Research Quarks-to-Cosmos Panel, 2022
- Chair, LANL Director's Colloquium Committee, 2021-present
- Team leader, Neutrino Physics Team (P-2), 2021
- Reviewer & Panelist, LANL LDRD Exploratory Research Program, 2020-22
- Member, UTK Physics Department Diversity Task Force, 2018-19

- Member, UTK Physics Department Graduate Student Recruitment and Admissions Committee, 2017-18
- Served on 8 M.S. & Ph.D. Thesis Committee: H. Acharya (Ph.D. 2021, URK), J. Caylor (Ph.D. 2022, UTK), J. Barrows (Ph.D. 2021, UTK), A. Mogan (Ph.D. 2021, UTK), G. Yarbrough (Ph.D. 2021, UTK), B. Sharma (M.S. 2018, UTK), B. Heffron (M.S. 2016, UTK), S. Kasetti (University of Hyderabad, India, 2018)

Outreach, Education and Diversity

- Organizer & Moderator, Invited Panel Discussion on “*Deconstructing Racism in Physics: Beyond Aspirations, Real Actions*”, at APS April 2021 meeting.
- Program Planning Committee, APS National Mentoring Community Conference, 2021
- Co-author, APS Fall 2020 Gazette Newsletter
(Authored an article on “How to actively not be a barrier to diversity efforts in physics?”
<https://aps.org/programs/women/reports/gazette/upload/fall20-rev.pdf>)
- Founder & lead PI, *Inaugural MicroBooNE international neutrino masterclass*, 2016-21
- Co-organizer, *Inaugural Fermilab Equity, Diversity and Inclusivity “101” Seminar Series*, 2018 (<https://fspa.fnal.gov/diversity-and-inclusion/>)
- Member & Co-Convener, New Vision for Fermilab Education and Public Outreach (VEPO) Committee, 2017-18
- Member & Organizer, *Advocacy for High Energy Physics Funding*, UEC Washington D.C. Trips, March 2017 & 2018
- Chair, Fermilab Users Executive Committee Outreach Sub-committee, 2016-17
- Co-Director, Fermilab Saturday Morning Physics Lecture Series, 2016-18
- *Panelist*: Annual Careers Conference for High Schoolers (U. of Chicago; May 2015), Illinois STEM Career Expo for High Schoolers (Fermilab; March 2015, April 2016), Student and Postdoc Career Panel (Fermilab, June 2018), Careers in Physics (West High School Knoxville, Nov. 2016)
- Workshop Leader for Middle School Girls, Expand Your Horizons (EYH15), March 2015
- Workshop Mentor for High School Girls, Introduce a Girl to Engineering Day (IGED2015), Feb. 2015
- Meet a Scientist Q&A for High School and College Tour Groups at Fermilab, 2012-17
- UTK Facebook Live Chat Series for general public (Nov. 2016, April 2017, Aug. 2017)
- Outreach lectures at Local High Schools in Tennessee (West High, Dec. 2016; South Doyle Middle, Feb. 2017; West High, Sept. 2017)

SELECT INVITED TALKS AND LECTURES

Conference Talks

- NuFACT, Invited Plenary Talk, *Status of DUNE*, Snowbird, Utah, August 2022
- Los Alamos LANSCE Users Meeting, Featured Plenary Speaker, *Unlocking the Mysteries of the Universe with the Deep Underground Neutrino Experiment*, June, 2022
- ICHEP, Invited Plenary Review Talk, *Future Neutrino Experiments & Outlook*, Aug. 2020

- CPAD, Invited Plenary Review Talk, *Neutrino Physics Overview*, Providence, RI, Dec. 2018.
- APS SESAPS, Invited Talk, *MicroBooNE: Status & Results*, Knoxville, TN, Nov. 2018
- NuFACT, Invited Plenary Talk, *Status of DUNE*, Blacksburg, VA, Aug. 2018.
- Aspen Winter Conference, Invited Plenary Talk, *MicroBooNE: Status & Results*, Aspen, CO, March 29, 2018.
- NuEclipse, Invited Talk, *LArTPC Reconstruction Challenges*, Knoxville, TN, Aug. 2017
- AAPT Summer Meeting, Invited Talk, *Probing the Secrets of the Universe with Neutrinos*, Cincinnati, OH, July 2017.
- DUNE/SBN Joint Workshop, Invited Talk, *Detector Physics in MicroBooNE – Lessons Learned*, Fermilab, May 2017.
- Nuclear Structures Conference, Invited Talk, *Neutrino-Nucleus Interactions with LArTPCs*, Oak Ridge National Lab, Knoxville, TN, July 2016.
- NuHorizons, Invited Plenary Review Talk, *Neutrino Cross Sections: Current Status and Impact on Oscillation Measurements*, Ahmedabad, India, March 2016.
- NuPhys, Invited Plenary Review Talk, *Neutrino Cross Section Future*, London, U.K., Dec 2015.
- CIPANP, Invited Talk, *Accelerator-based Short-Baseline Neutrino Oscillation Experiments*, Vail, CO, May 2015.
- NuInt, Invited Talk, *Prospects of making low-energy neutrino cross-section measurements at MicroBooNE*, London, U.K., May 2014.
- PHENO2012, Parallel Talk, *Results of Contact Interactions Search in Di-muon Final states at CMS using 2011 data*, Pittsburgh, PA, May 2012.
- APS April Meeting, Parallel Talk, *Search for Contact Interactions in the Di-muon channel in p-p collisions at CMS*, Atlanta, Georgia, March 2012.

Seminars/Colloquia at Universities and Laboratories

- *Unlocking the Mysteries of the Universe with the Deep Underground Neutrino Experiment*, Physics/Theory Colloquium, LANL, March 4, 2021
- *Unlocking the Mysteries of the Universe with the Deep Underground Neutrino Experiment*, Physics Colloquium, Columbia University, New York, NY, March 25, 2019
- *Neutrino Oscillation Physics with Liquid Argon Detectors*, HEP Seminar, Rutgers University, NJ, February 14, 2019
- *Neutrinos: Small Particles, Big Science!*, Physics Colloquium, University of Oregon, Eugene, OR, February 7, 2019
- *From MicroBooNE to DUNE*, Experimental Seminar Series, SLAC, CA, Nov. 2, 2018
- *From MicroBooNE to DUNE: Towards the biggest, most intense neutrino experiment ever!*, Physics Division Seminar, Los Alamos National Lab, Los Alamos, NM, May 21, 2018
- *The DUNE Experiment*, HEP Seminar, Argonne National Laboratory, IL, May 7, 2018
- *From MicroBooNE to DUNE: Towards the biggest, most intense neutrino experiments ever!*, Physics Colloquium, Drexel University, PA, November 30, 2017
- *Neutrino Physics with Liquid Argon Detectors*, UTK Department of Physics Graduate Student Seminar, November 22, 2017
- *MicroBooNE and the path to DUNE*, HEP Seminar, Rutgers University, NJ, Nov. 6, 2017

- *MicroBooNE: Status and First Results*, HEP Seminar, UTK, TN, Oct. 12, 2016
- *Neutrinos*, UTK Department of Physics Graduate Student Seminar, August 24, 2016
- *MicroBooNE: Marking a Nu Era in Precision Neutrino Physics*, HEP Seminar, Brookhaven National Laboratories, July 15, 2016
- *Chasing the Secrets of the Ghostly Neutrino*, Brookhaven Women in Science (BWIS) Colloquium talk, BNL, NY, July 14, 2016
- *Hunting for Nu Physics with Liquid Argon Detectors*, Physics Colloquium, University of Mississippi, Oxford, March 7, 2016
- *Neutrino Physics with Liquid Argon Detectors*, Physics Colloquium, University of Tennessee, Knoxville, March 3, 2016
- *Hunting for Nu Physics with Liquid Argon Detectors*, HEP Seminar, University of Pittsburgh, December 9, 2015.
- *Neutrino Physics with Liquid Argon Detectors*, Colloquium and guest speaker for 6th Annual Graduate Research Day, Wayne State University, April 17, 2015.
- *The MicroBooNE LArTPC: Status and Physics Goals*, Physics Colloq., NIU, Mar. 28, 2014
- *The MicroBooNE Experiment at Fermilab*, HEP Seminar, U. of Kansas, March 13, 2014
- *The Status of the MicroBooNE Experiment*, HEP Seminar, Kansas State U., Mar. 12, 2014

Public Lecture Series

- *Physics & Society*, Fermilab Saturday Morning Physics, Fermilab, Batavia, IL, Apr. 13, 2019
- *Neutrinos: Why Do They Matter?*, The QuarkNet Masterclass workshop, UTK, Apr. 2018
- *Catching the Invisible*, PechaKucha Night Vol. 10 Public Talk Series, Fermilab, Feb. 15, 2018
- *The Things You Don't See Matter the Most – A Dive into the World of Sub-Atomic Particles*, Physics for Everyone Public Lecture Series, UTK, Knoxville, TN, Oct. 28, 2017
- *Neutrinos: Weird and Wonderful (part I & II)*, Oak Ridge Institute for Continued Learning (ORICL), Oak Ridge, TN, July 7 and August 11, 2017
- *The Ghostly Neutrinos*, UTK Saturday Morning Physics Lecture, Feb. 18, 2017
- *Neutrinos: Weird and Wonderful*, Fermilab Saturday Morning Physics, Fermilab, Batavia, IL, Feb. 6, April 16, and Oct. 22, 2016

SELECTED PUBLICATIONS

- *Search for an Excess of Electron Neutrino Interactions in MicroBooNE Using Multiple Final State Topologies*, MicroBooNE Collaboration, arXiv:2110.14054, Phys. Rev. Lett. 128, 241801 (2022)
- *Search for Neutrino-Induced Neutral Current Delta Radiative Decay in MicroBooNE and a First Test of the MiniBooNE Low Energy Excess Under a Single Photon Hypothesis*, MicroBooNE Collaboration, arXiv:2110.00409, Phys. Rev. Lett. 128, 111801 (2022)
- *Measurement of the Longitudinal Diffusion of Ionization Electrons in the MicroBooNE Detector*, P. Abratenko et al. [MicroBooNE Collaboration], [arXiv:2104.06551 phys.ins-det] JINST **16**, P09025 (2021).

- *First results on ProtoDUNE-SP liquid argon time projection chamber performance from a beam test at the CERN Neutrino Platform*, B. Abi et al. [DUNE Collaboration], [arXiv:2007.06722 physics.ins-det] JINST **15**, P12004 (2020).
- *Long-baseline neutrino oscillation physics potential of the DUNE experiment*, B. Abi et al. [DUNE Collaboration], [arXiv:2006.16043 hep-ex] Eur. Phys. J. C **80**, 978 (2020).
- *Deep Underground Neutrino Experiment (DUNE), Far Detector Technical Design Report, Volume IV: Far Detector Single-phase Technology*, B. Abi et al. [DUNE Collaboration], [arXiv:2002.03010 physics.ins-det] JINST **15**, T08010 (2020).
- *Deep Underground Neutrino Experiment (DUNE), Far Detector Technical Design Report, Volume III: DUNE Far Detector Technical Coordination*, B. Abi et al. [DUNE Collaboration], [arXiv:2002.03008 physics.ins-det] JINST **15**, T08009 (2020).
- *Deep Underground Neutrino Experiment (DUNE), Far Detector Technical Design Report, Volume I Introduction to DUNE*, B. Abi et al. [DUNE Collaboration], [arXiv:2002.02967 physics.ins-det] JINST **15**, T08008 (2020).
- *First Measurement of Inclusive Muon Neutrino Charged Current Differential Cross Sections on Argon at $E_\nu \sim 0.8$ GeV with the MicroBooNE Detector*, C. Adams et al. [MicroBooNE Collaboration], [arXiv:1905.09694 hep-ex] Phys. Rev. Lett. **123**, 131801 (2019).
- *Comparison of ν_μ -Ar multiplicity distributions observed by MicroBooNE to GENIE model predictions*, C. Adams et al. [MicroBooNE Collaboration], [arXiv:1805.06887 hep-ex] Eur. Phys. J. C **79**, 248 (2019).
- *Design and Construction of the MicroBooNE Detector*, R. Acciarri et al. [MicroBooNE Collaboration], [arXiv:1612.05824 physics.ins-det] JINST **12**, P02017 (2017).
- *Construction and Assembly of the Wire planes for the MicroBooNE Time Projection Chamber*, R. Acciarri et al., [arXiv:1609.06169 physics.ins-det] JINST **12** T03003 (2017).
- *Breakdown Voltage of Metal-oxide Resistors in Liquid Argon*, L. F. Bagby et al., [arXiv:1408.4013 physics.ins-det] JINST **9**, T11004 (2014).
- *Testing of High Voltage Surge Protection Devices for use in Liquid Argon TPC Detectors*, J. Asaadi et al., [arXiv: 1406.5216 physics.ins-det] JINST **9**, P09002 (2014).
- *Search for Contact Interactions in $\mu^+\mu^-$ Events in pp Collisions at $\sqrt{s}=7$ TeV*, S. Chatrchyan et al [CMS Collaboration], [arXiv: 1212.4563 hep-ex] Phys. Rev. D **87**, 032001 (2013).