

Vishvas Pandey

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Current Position

Wilson Fellow Associate Scientist, Fermi National Accelerator Laboratory, Batavia, Illinois, USA
[2022 - present].

Selected Scientific Leadership Highlights

Co-spokesperson, Neutrino Scattering Theory Experiment Collaboration (NuSTEC) [2026 – present].
Co-coordinator, Fermilab Neutrino Physics Center (NPC) [2025 – present].
Scientific Secretary, DUNE Program Committee (DPC) [2025 – present].
Program Committee, APS Division of Particles and Fields [2026 – present].
Co-convener, SBND Neutrino Interaction Working Group [2022 – Spring 2026].
Co-chair, Fermilab Scientist Advisory Council [2023 – 2024].

Previous Positions

Postdoctoral Research Associate, Department of Physics, University of Florida, Gainesville, Florida, USA [2019 – 2022].
Based full-time at Fermi National Accelerator Laboratory, Batavia, Illinois, USA.
Postdoctoral Research Associate, Center for Neutrino Physics, Virginia Tech, Blacksburg, Virginia, USA [2016 – 2019].

Selected Research Visits

Fermilab: Aug 2019 - May 2022 (SBND), Apr - May 2017 (ICARUS), Nov - Dec 2016 (MicroBooNE)
Los Alamos National Lab: Dec 2019, May - Aug 2019 (Coherent CAPTAIN-Mills)
CERN: Sep - Oct 2018, May - Jul 2018 (protoDUNE)
Jefferson Lab: Jan - Feb 2018, Feb - Apr 2017 (Electron-Argon Scattering Experiment [E12-14-012])
Sapienza University of Rome, Italy: June 2017 (theory work on neutrino interactions)
Ghent University, Belgium: Jul 2017, Apr - Sep 2016 (theory work on neutrino interactions)

Education

Ph.D. in Theoretical Physics, Ghent University, Ghent, Belgium [2010 - 2016].

Ph.D. position funded by the European Commission's Erasmus Mundus Ph.D. scholarship, and the Belgian Science Policy Office.

Ph.D. Dissertation: Modeling electroweak quasielastic scattering off nuclei in kinematics relevant for accelerator-based neutrino-oscillation experiments.

Advisors: Prof. Dr. Natalie Jachowicz and Prof. Dr. Jan Ryckebusch.

M.Sc. Physics, Indian Institute of Technology Roorkee, Roorkee, India [2008 - 2010].

Admitted to the M.Sc. program through a competitive, nationwide IIT test entrance exam.

Master's Thesis: Neutrino masses in large volume compactifications in string theory framework.

Summer research project as a 'Young Scientist Research Fellow', Indian Department of Atomic Energy's Raja Ramanna Centre for Advanced Technology, Indore, India [Summer 2009].

Thesis: Study of stimulated Raman scattering in one dimensional Mott-Hubbard systems.

Selected Fellowships and Scholarships

Wilson Fellowship awarded at Fermi National Accelerator Laboratory, Batavia, Illinois, USA [2022].

Ph.D. scholarship awarded by the European Commission's initiative Erasmus Mundus External Cooperation Window [2010].

Doctoral Training Program scholarship awarded by the European Centre for Theoretical Studies in Nuclear Physics and Related Areas (ECT*, Trento, Italy) [Summer 2011].

Ph.D. Fellowship awarded by the Council for Scientific and Industrial Research (CSIR, India) after qualifying the Nationwide Joint CSIR-UGC National Eligibility Test (NET) with high national ranking [2010] (*Declined*).

'Young Scientist Research Fellowship' awarded by the Indian Department of Atomic Energy's Raja Ramanna Centre for Advanced Technology, Indore, India [Summer 2009].

Leadership and Membership in Scientific Collaborations

I. Currently Active

A. Neutrino Scattering Theory Experiment Collaboration (NuSTEC) [2020 - present]

Elected Co-spokesperson [2026 - present]

Board Member [2020 - present]

Co-convener, Cross Experiment Working Group (CEWG) [2023 - 2026]

Co-convener, Outreach Working Group [2021 - 2023]

B. DUNE Collaboration (Fermilab) [2023 - present]

Near Detector: SAND-US Project Management [2026 - present]

Authorship and Publication Board Member [2026 - present]

C. SBND Collaboration (Fermilab) [2019 - present]

Co-convenor, Neutrino Interaction Working Group [2022 - Spring 2026]

Project Manager (L3), Photon Detection System Integration and Installation [2019 - 2022]

Chair, SBND Speakers Committee [2022 - 2024]

Member, SBND Speakers Committee [2019 - 2022]

Member, SBN Speakers Committee [2023 - 2024]

Chair, SBND Code of Conduct Committee [2020 - 2022]

Organizer, SBND Collaboration Meeting at Fermilab [June 2024]

D. Fermilab Facility for Dark sector Discovery (F2D2) Task Force (Fermilab) [2024 - present]**E. Coherent CAPTAIN-Mills (CCM) Collaboration (Los Alamos Lab) [2019 - present]****II. Previous Activities****A. Electron-Argon Scattering Experiment [E12-14-012] (Jefferson Lab Hall A) [2016 - 2022]**

Analysis Coordinator [2017 - 2019]

Run Coordinator, Hall A [Spring 2018]

B. Neutrinos at the Forward Physics Facility (FPF) (CERN) [2021 - 2022]

Topical Co-convenor, Neutrino Physics Working Group [2021 - 2022]

C. PLAFOND/Neutrino Platform (CERN) [2017 - 2019]

Team Leader, Virginia Tech Team [2017 - 2019]

D. MicroBooNE Collaboration (Fermilab) [2016 - 2019]

Expert, Data and Monte-Carlo Production Group [2018]

Professional Service**A. Professional Leadership**

Fermilab Neutrino Physics Center (NPC), Co-coordinator [2025 – present].

DUNE Program Committee (DPC), Scientific Secretary [2025 – present].

APS Division of Particles and Fields, Program Committee [2026 – present].

NuFact Neutrino Interaction Working Group (WG2), Co-convenor [2025 – present].

Neutrino Scope Group (NSG), Scientific Secretary [2023 – 2025].

Fermilab Scientist Advisory Council, Co-chair [2023 – 2024].

Fermilab Scientist Advisory Council, Member [2022 – 2023].

DOE-sponsored Summer Undergraduate Laboratory Internship (SULI) Program at Fermilab, Co-lead [2022 – present].

Early-Career Representative (Co-Leader), Neutrino Frontier (NF), Snowmass 2021 [2020 – 2022].

Early-Career Liaison, Neutrino Interaction Cross Section Topical Group (NF06), Snowmass 2021 [2020 – 2022].

B. Conferences, Workshops and Schools Organized

Local Organizing Committee, NuSTEC School 2026, Fermilab, IL, USA [November 2026 (*upcoming*)].

Co-convenor, Neutrino Scattering Physics Working Group [WG2], NuFact 2026, 27th International Workshop on Neutrinos from Accelerators, Shanghai, China [September 2026 (*upcoming*)].

Co-organizer, INT Workshop "Probing the Axial Form Factor: An Emerging Frontier", Institute for Nuclear Theory, University of Washington, Seattle, WA, USA [August 2026 (*postponed*)].

Program and Executive Committee, APS DPF 2026, Meeting of the APS Division of Particles and Fields, Fermilab, IL, USA [July 2026].

Co-organizer, NPC Mini-Workshop on Short-Baseline Neutrino Anomalies, Fermilab, IL, USA [January 2026].

Co-convenor, Neutrino Scattering Physics Working Group [WG2], NuFact 2025, 26th International Workshop on Neutrinos from Accelerators, Liverpool, UK [September 2025].

Local Organizing Committee, APS Conference for Undergraduate Women and Gender Minorities in Physics, CU*iP 2025, Fermilab, IL, USA [January 2025].

International Advisory Committee, NuSTEC School 2024, CERN, Geneva, Switzerland [June 2024].

Co-organizer, 2nd Short-Baseline Neutrino Theory-Experiment Workshop, Santa Fe, NM, USA [April 2024].

Co-organizer, NuXTract Workshop, CERN, Geneva, Switzerland [October 2023].

Local Organizing Committee, 14th International Neutrino Summer School (INSS 2023), Fermilab, Batavia, IL, USA [August 2023].

Co-organizer, INT Workshop "Interplay of Nuclear, Neutrino and BSM Physics at Low-Energies", Institute for Nuclear Theory, University of Washington, Seattle, WA, USA [April 2023].

Co-organizer, Snowmass NF06 Low Energy Neutrinos and Electron Scattering Workshop [Virtual] [November 2021].

Program Committee, NuSTEC New Directions in Neutrino-Nucleus Scattering Workshop" [Virtual] [March 2021].

Co-organizer, Snowmass NF06 Electron Scattering Workshop [Virtual] [December 2020].

Program Committee, Snowmass Community Planning Meeting [Virtual] [October 2020].

Co-organizer, Snowmass Mini-Workshop on Neutrino Theory [Virtual] [September 2020].

Co-organizer, NuSTEC School 2017, Fermilab, Batavia, IL, USA (November 2017).

Selected Session Chairing at:

- APS DPF 2026, Fermilab, IL, USA [July 2026]
- APS GPS 2026, Denver, CO, USA [March 2026]
- NEAT 2025, CSU, CO, USA [May 2025]
- NuFact 2024, ANL, IL, USA [September 2024]
- NuInt 2024, Sao Paulo, Brazil [April 2024]
- MITP June 2023 Workshop, Mainz, Germany [June 2023]
- CIPANP 2022, Orlando, FL, USA [September 2022]

- Snowmass Community Summer Study, Seattle, WA, USA [July 2022]
- 3rd Forward Physics Facility Meeting [Virtual] [October 2021]
- NuFact 2021, Cagliari, Italy [September 2021]
- SESAPS 2019, Wrightsville Beach, NC, USA [November 2019]
- NuFACT 2018, Virginia Tech, VA, USA [August 2018]

C. Journal Referee

Physical Review Letters, Physical Review C, Physical Review D, and Reviews of Modern Physics [25+ manuscripts reviewed].

Physics Letters B [5+ manuscripts reviewed].

D. Selected Leadership in Public Engagement

Ambassador, APS Science Trust Project [2025]

Organizer and Moderator, “Fostering Trust with the Public” Panel, APS Division of Particles and Fields (DPF) Meeting, Fermilab, IL, USA [July 2026].

Organizer and Moderator, “Fostering Trust with the Public” Panel, APS Global Physics Summit (GPS), Denver, CO, USA [March 2026].

Co-organizer and Facilitator, Science Trust Workshop, APS Division of Nuclear Physics (DNP) Meeting, Chicago, IL, USA [October 2025].

Co-organizer and Co-facilitator, Science Trust Workshop, APS Division of Atomic, Molecular and Optical Physics (DAMOP) Meeting, Portland, OR, USA [June 2025].

Panelist, “Neutrino Day” Public Science Panel, Sanford Underground Research Facility (SURF), Lead, SD, USA [July 2026].

Panelist, “Neutrino Day” Public Science Panel, Sanford Underground Research Facility (SURF), Lead, SD, USA [July 2025].

Co-organizer, TEDxGhent and TEDxGhent Women in STEM, Ghent, Belgium [2012–2015].

Conference Talks, Seminars, and Colloquia

[** indicates invited talks, seminars, colloquia, or lectures.]

80. ** October 2026: (*Upcoming Invited Talk*) “Recent Advances in Low-Energy Neutrino-Nucleus Theory and Experiment”, APS DNP 2026 Fall Meeting, Philadelphia, Pennsylvania, USA.
79. ** July 2026: (*Invited Talk*) “Exploring the MeV Frontier in Neutrino Experiments”, CETUP* 2026, Center for Underground Theoretical Physics and Related Areas, Lead, South Dakota, USA.
78. April 2026: (*Lecture*) “Introduction to Neutrino–Nucleus Cross Sections and the Role of the Near Detector”, IIT Hyderabad, Hyderabad, India.
77. ** January 2026: (*Invited Colloquium*) “Neutrino–Nucleus Interactions and the Path to Precision and Discovery in Neutrino Physics”, Washington University in St. Louis, St. Louis, Missouri, USA.

76. ** September 2025: (*Invited Talk*) "Neutrino Physics Opportunities with Pion and Kaon Decay-at-Rest Neutrino Source", Secondary Beams at Jefferson Lab (BDX and Beyond Workshop), Jefferson Lab, Newport News, Virginia, USA.
75. August 2025: "Neutrino-Nucleus Interactions in the Precision Era", Lepton Photon 2025, 32nd International Symposium on Lepton Photon Interactions at High Energies, Madison, Wisconsin, USA.
74. ** August 2025: (*Invited Lectures*) "Neutrino Interaction Theory", INSS 2025, 16th International Neutrino Summer School, Fermilab, Batavia, Illinois, USA.
73. ** July 2025: (*Invited Talk*) "Interplay of Nuclear and New Physics with Low-Energy Neutrino Sources", CETUP* 2025, Center for Underground Theoretical Physics and Related Areas, Lead, South Dakota, USA.
72. ** May 2025: (*Invited Talk*) "Neutrino-Nucleus Interactions in the Precision Era", NEAT 2025, Neutrino Experiment and Theory Workshop, Colorado State University, Colorado, USA.
71. February 2025: "The Short-Baseline Near Detector: Contribution to the European Strategy for Particle Physics 2026", DPF/DPB Forum on US contributions to the European Strategy for Particle Physics [Virtual].
70. ** February 2025: (*Invited Seminar*) "Neutrino-Nucleus Interactions and the Quest for New and Precision Physics Searches in Neutrino Experiments", Texas A&M University, Texas, USA.
69. ** February 2025: (*Invited Seminar*) "Neutrino-Nucleus Interactions and the Quest for New and Precision Physics Searches in Neutrino Experiments", Northwestern University, Illinois, USA.
68. ** September 2024: (*Invited Talk*) "Recent Progress in Low-energy Neutrino-nucleus Interactions Physics", NuFact 2024, 25th International Workshop on Neutrinos from Accelerators, Argonne National Laboratory, Illinois, USA.
67. ** July 2024: (*Invited Talk*) "Neutrino-nucleus Interactions and the Quest for New and Precision Physics Searches in Neutrino Experiments", CETUP* 2024, Center for Underground Theoretical Physics and Related Areas, Lead, South Dakota, USA.
66. ** April 2024: (*Invited Talk*) "Impact of Interaction Uncertainties on Neutrino-Nucleus Cross Section Measurements", NuInt 2024, 14th International Workshop on Neutrino-Nucleus Interactions, Instituto Principia, Sao Paulo, Brazil.
65. ** October 2023: (*Invited Talk*) "Uncertainties in Low-energy Neutrino-nucleus Scattering", Workshop on Theoretical Physics Uncertainties to Empower Neutrino Experiments, Institute for Nuclear Theory, University of Washington, Seattle, Washington, USA.
64. ** August 2023: (*Invited Talk*) "An Overview of Neutrino-nucleus Interactions: Status and Path Forward", NuFact 2023, 24th International Workshop on Neutrinos from Accelerators, Seoul, South Korea.
63. ** July 2023: (*Invited Talk*) "Overview of Neutrino-nucleus Interactions and Its Impact on Accelerator-based Neutrino Experiments", CETUP*, Center for Underground Theoretical Physics and Related Areas, Lead, South Dakota, USA.
62. ** July 2023: (*Invited Seminar*) "The Short-Baseline Neutrino Program at Fermilab", Ghent University, Ghent, Belgium.

61. ** June 2023: (*Invited Talk*) "Neutrino Interaction Measurement Capabilities of the Short-Baseline Near Detector", Neutrino Scattering at Low and Intermediate Energies, Mainz Institute for Theoretical Physics, Johannes Gutenberg University, Mainz, Germany.
60. ** April 2023: (*Invited Talk*) "The Impact of Neutrino-nucleus Interactions on Accelerator-based Neutrino Oscillation Experiments", APS GHP 2023, 10th Workshop of the APS Topical Group on Hadronic Physics, Minneapolis, Minnesota, USA.
59. ** September 2022: (*Invited Plenary Talk*) "Overview of neutrino-nucleus interactions and its impact on accelerator-based neutrino experiments", NuDM 2022, International Conference on Neutrinos and Dark Matter [Virtual].
58. ** September 2022: (*Invited Talk*) "Theory Overview of Coherent Elastic and Inelastic Neutrino-Nucleus Scattering", CIPANP 2022, 14th Conference on the Intersections of Particle and Nuclear Physics, Orlando, Florida, USA.
57. ** August 2022: (*Invited Plenary Talk*) "Potential Constraints to Neutrino - Nucleus Interactions Based on Electron Scattering Data", NuFact 2022, 23rd International Workshop on Neutrinos from Accelerators, Salt Lake City, Utah, USA.
56. ** May 2022: (*Invited Talk*) "Low Energy Neutrino-Nucleus Interactions", Mitchell Conference on Collider, Dark Matter, and Neutrino Physics 2022, Texas A&M University, College Station, Texas, USA.
55. ** March 2022: (*Invited Talk*) "Low Energy Neutrino Interactions", NuSTEC Workshop on Electron Scattering [Virtual].
54. ** February 2022: (*Conference Summary Talk*) "FPF White Paper: Neutrino Event Generators", 4th Forward Physics Facility (FPF) Meeting [Virtual].
53. ** January 2022: (*Invited Talk*) "Neutrinos at the Forward Physics Facility at CERN", Workshop on Neutrino-Nucleus Interactions in the Standard Model and Beyond, CERN, Geneva, Switzerland.
52. ** September 2021: (*Invited Talk*) "The influence of cross section uncertainties on oscillation analyses", NuFact 2021, 22nd International Workshop on Neutrinos from Accelerators, Cagliari, Italy.
51. June 2021: (*Seminar*) "SBND-PRISM: Sampling Multiple Off-Axis Fluxes with the Same Detector", NuSTEC Cross Experimental Working Group Meeting [Virtual].
50. ** May 2021: (*Invited Talk*) "Neutrino Cross-Section Opportunities at FPF at CERN", 2nd Forward Physics Facility (FPF) Meeting [Virtual].
49. ** March 2021: (*Invited Talk*) "Low-energy neutrino-nucleus interactions: theory and generators", New Directions in Neutrino-Nucleus Scattering NuSTEC Workshop [Virtual].
48. ** March 2021: (*Invited Panelist*) Invited panelist in the "Neutrino Interaction Discussion Session", NuSTEC New Directions in Neutrino-Nucleus Scattering Workshop [Virtual].
47. February 2021: (*Seminar*) "Neutrino interactions and the quest for new and precision physics searches in neutrino experiments", Particle Physics Seminar, Brookhaven National Laboratory, New York, USA [Virtual].
46. ** February 2021: (*Invited Talk*) "Synergy between nuclear physics in CEvNS experiments and long-baseline oscillation experiments", First Workshop of The BSM-Nu Project (P2IO labex, Saclay) [Virtual].

45. ** December 2020: (*Invited Talk*) "Coherent elastic and inelastic neutrino-nucleus scattering at stopped-pion sources", NuSTEC board annual meeting, December, 2020 [Virtual].
44. ** December 2020: (*Invited Panelist*) Invited panelist in the "Low Energy Neutrino Interaction Discussion Session", Low Energy Physics in Liquid Argon (LEPLAr) Workshop (organized by the DUNE collaboration) [Virtual].
43. December 2020: (*Collaboration Meeting*) "Theoretical Motivation: CEvNS, NSI and inelastic neutrino-nucleus scattering physics prospects in CCM", CCM collaboration meeting, December, 2020 [Virtual].
42. ** November 2020: (*Invited Talk*) "Coherent Elastic and Inelastic Neutrino-Nucleus Scattering Within a Many-Body Nuclear Theory Approach", Magnificent CEvNS 2020, November, 2020 [Virtual].
41. ** October 2020: (*Invited Seminar*) "Nuclear Physics Aspects of Coherent Elastic Neutrino-Nucleus Scattering", Nuclear Physics Seminar, University of Kentucky, Lexington, Kentucky, USA [Virtual].
40. ** September 2020: (*Invited Seminar*) "Nuclear Physics Aspects of Coherent Elastic Neutrino-Nucleus Scattering", SBN-Theory meetings, Fermilab, Batavia, Illinois, USA [Virtual].
39. ** August 2020: (*Invited Talk*) "The influence of cross section uncertainties on oscillation analyses", NUFAC 2020, 22nd International Workshop on Neutrinos from Accelerators, Cagliari, Italy [Conference postponed due to Covid-19].
38. July 2020: (*Conference*) "Constraining Nuclear Structure Physics in Coherent Elastic Neutrino-Nucleus Scattering", New Perspectives 2020, Fermilab, Batavia, Illinois, USA [Virtual].
37. March 2020: (*Seminar*) "Lepton-nucleus scattering within Hartree-Fock and continuum Random Phase Approximation approach", Neutrino Joint Theory-Experiment WG Meeting, Fermilab, Batavia, Illinois, USA.
36. March 2020: (*Seminar*) "Low-energy neutrino-nucleus cross section calculations and prospects of measuring them in SBND", SBND meeting, Fermilab, Batavia, Illinois, USA.
35. ** November 2019: (*Invited Talk*) "Short-Baseline Neutrino Program at Fermi National Accelerator Laboratory", 86th annual meeting of the Southeastern Section of the American Physical Society (SESAPS) 2019, Wrightsville Beach, North Carolina, USA.
34. September 2019: (*Seminar*) "Low-energy lepton-nucleus scattering: nue, numu cross section", MicroBooNE oscillations meeting, Fermilab, Batavia, Illinois, USA.
33. July 2019: (*Seminar*) "Lepton-nucleus scattering and the search for new and precision physics in neutrino experiments", P-25 Seminar, Los Alamos National Laboratory, Los Alamos, New Mexico, USA.
32. July 2019: (*Collaboration Meeting*) "Neutrino-argon cross sections and non-standard neutrino interactions in CCM", CCM collaboration meeting, Los Alamos National Laboratory, Los Alamos, New Mexico, USA.
31. June 2019: (*Collaboration Meeting*) "Low-energy neutrino-nucleus interactions: nue, numu cross section", SBND collaboration meeting, University of Michigan, Ann Arbor, Michigan, USA.

30. May 2019: (*Seminar*) "Neutrino-Nucleus Interactions and Recent Ar(e, e') Measurements at Jefferson Lab", Center for Neutrino Physics Research Day at Virginia Tech, Blacksburg, Virginia, USA.
29. January 2019: (*Seminar*) "Neutrino-oscillation and neutrino-interaction physics at Virginia Tech", research seminar presented to first year graduate students at Virginia Tech, Virginia, USA.
28. January 2019: (*Seminar*) "Lepton-nucleus scattering and its impact on the precision and new physics searches at the intensity frontier experiments", Theory Seminar, Physics Division, Argonne National Laboratory, Lemont, Illinois, USA.
27. ** December 2018: (*Invited Talk*) "Hartree-Fock & continuum RPA calculations of lepton-nucleus interactions, and recent Ar(e, e') measurements at Jlab", Physics Opportunities in the Near DUNE Detector Hall: PONDD, Fermilab, Batavia, Illinois, USA.
26. ** October 2018: (*Conference Summary Talk*) "Theory: Summary and Outlook", NuInt 18, 12th International Workshop on Neutrino-Nucleus Interactions in the Few-GeV Region, Gran Sasso Science Institute, L'Aquila, Italy.
25. ** October 2018: (*Invited Talk*) "Lepton-nucleus cross sections within Hartree-Fock and continuum random phase approximation approach", NuInt 18, 12th International Workshop on Neutrino-Nucleus Interactions in the Few-GeV Region, Gran Sasso Science Institute, L'Aquila, Italy.
24. ** August 2018: (*Conference Summary Talk*) "Summary and Outlook of Working Group 2 (Neutrino Scattering Physics)", NUFAC2018, 20th International Workshop on Neutrino Factories and Future Neutrino Facilities, Virginia Tech, Blacksburg, Virginia, USA.
23. ** August 2018: (*Invited Plenary Talk*) "Cross sections, electron scattering, and new results from electron-argon experiment at Jefferson Lab", NUFAC2018, 20th International Workshop on Neutrino Factories and Future Neutrino Facilities, Virginia Tech, Blacksburg, Virginia, USA.
22. ** June 2018: (*Invited Talk*) "An overview of neutrino cross sections and challenges", Workshop on near detector physics at neutrino experiments, CERN, Geneva, Switzerland.
21. April 2018: (*Seminar*) "Nuclear physics of neutrino-oscillation endeavour", Center for Neutrino Physics seminar at Virginia Tech, Blacksburg, Virginia, USA.
20. March 2018: (*Conference*) "First cross section results from e-Ar experiment at Jefferson Lab", INT Program INT-18-1a, Nuclear ab initio Theories and Neutrino Physics, Institute for Nuclear Theory, Seattle, Washington, USA.
19. ** January 2018: (*Invited Talk*) "Status of electron scattering studies on argon and titanium nucleus at Jefferson Lab", Hall A Collaboration Meeting, Jefferson Lab, Newport News, Virginia, USA.
18. December 2017: (*Seminar*) "Neutrino-oscillation and neutrino-interaction physics", research seminar presented to first year graduate students at Virginia Tech, Virginia, USA.
17. July 2017: (*Seminar*) "Impact of nuclear effects on accelerator-based neutrino-oscillation physics", seminar at CEA, Saclay, France.
16. July 2017: (*Seminar*) "Impact of nuclear effects on accelerator-based neutrino-oscillation physics", seminar at Ghent University, Ghent, Belgium.
15. ** July 2017: (*Invited Talk*) "Study of argon and titanium nucleus at JLab and its impact on liquid argon based neutrino experiments", International Workshop on ($e, e'p$) Processes, Bled, Slovenia.

14. June 2017: (*Seminar*) "Impact of nuclear effects on accelerator-based neutrino-oscillation physics", Doctoral Training Program on Microscopic Theories of Nuclear Structure, Dynamics and Electroweak Currents, ECT*, Trento, Italy.
13. April 2017: (*Collaboration Meeting*) "What can we learn from electron scattering for neutrino scattering", MicroBooNE collaboration meeting, Fermilab, Batavia, Illinois, USA.
12. Dec 2016: (*Seminar*) "Neutrino interactions around quasielastic peak: What would theorists do?", MicroBooNE cross sections working group meeting, Fermilab, Batavia, Illinois, USA.
11. July 2016: (*Seminar*) "Modeling electron- and neutrino-nucleus scattering in kinematics relevant for accelerator-based neutrino-oscillation experiments", Particle Physics Seminar, Brookhaven National Laboratory, Upton, New York, USA.
10. ** July 2016: (*Invited Review Talk*) "A review on recent theoretical developments in neutrino interaction modeling at the quasielastic peak", NuTune2016, Workshop on Global Fits to Neutrino Scattering Data and Generator Tuning, University of Liverpool, England.
9. ** April 2016: (*Invited Talk*) "Low energy excitations to quasielastic scattering", Two-body current contributions in neutrino-nucleus scattering, ESNT, CEA Saclay, France.
8. May 2015: (*Conference*) "Quasielastic neutrino-nucleus scatterings at intermediate energies", BriX workshop, University of Liège, Liège, Belgium.
7. May 2015: (*Conference*) "Modeling quasielastic neutrino-nucleus scatterings in few-GeV region", Annual scientific meeting of the Belgian Physical Society, University of Liège, Liège, Belgium.
6. ** August 2014: (*Invited Talk*) "Quasielastic neutrino-nucleus scattering within a continuum random phase approximation approach", NUFAC2014, XVIth International Workshop on Neutrino Factories and Future Neutrino Facilities, Glasgow, Scotland.
5. October 2013: (*Seminar*) "Charged-current quasielastic neutrino-nucleus scattering for accelerator-based neutrino oscillation experiments", Fens inside-out (journal club), Ghent University, Ghent, Belgium.
4. March 2013: (*Conference*) "Modeling quasielastic neutrino-nucleus scattering at intermediate energies", Annual Brix-IAP workshop, Oostende, Belgium.
3. April 2010: (*Seminar*) "Neutrino masses in type IIB compactification on a Swiss-Cheese Calabi-Yau framework", seminar at Indian Institute of Technology (IIT) Roorkee, India.
2. March 2010: (*Seminar*) "Structures of proton rich nuclei", seminar at Indian Institute of Technology (IIT) Roorkee, India.
1. July 2009: (*Seminar*) "Stimulated Raman scattering studies in one dimensional Mott-Hubbard systems", seminar at Raja Ramanna Centre for Advanced Technology, Indore, India.

Selected Publications

[A selected list of theory and experimental publications, including journal articles, review articles, white papers and conference proceedings. A complete publication list is available on [INSPIRE-HEP](#).]

52. (*Journal Article*) S. Gardiner, P. Barham Alzás, A. Nikolakopoulos, L. H. A. El-Haj, N. Jachowicz and **V. Pandey**, “Continuum contribution to charged-current absorption of low-energy ν_e on ^{40}Ar ,” [[arXiv:2604.26801 \[hep-ph\]](#)].
51. (*Journal Article*) B. Dutta, D. Goswami, A. Karthikeyan, **V. Pandey**, Z. Tabrizi, A. Thompson and R. G. Van de Water, “Prying Open the Dark Sector Window with SBND Off-Target Mode,” [[arXiv:2603.25818 \[hep-ph\]](#)].
50. (*Journal Article*) B. Dutta, D. Goswami, B. Hu, W. C. Huang and **V. Pandey**, “Dark Matter-Induced Nuclear De-Excitation at SBND with Ab Initio Nuclear Theory,” [[arXiv:2602.02817 \[hep-ph\]](#)].
49. (*Invited Encyclopedia Chapter*) **V. Pandey**, “Neutrino-Nucleus Scattering Cross Sections at Medium Energies,” *Encyclopedia of Particle Physics*, Elsevier, Vol 3, 230–252 (2026) [[arXiv:2511.05413 \[hep-ph\]](#)].
48. (*Journal Article*) S. Carey and **V. Pandey**, “Prospects for Exploring Non-Standard Neutrino Properties with Argon-Based CEvNS Experiments,” *JHEP* **07**, 113 (2026) [[arXiv:2510.14015 \[hep-ph\]](#)].
47. (*Journal Article*) P. Achenbach *et al.* “A Beamdump Facility at Jefferson Lab,” *Eur. Phys. J. A* **61**, 285 (2025) [[arXiv:2510.09652 \[physics.acc-ph\]](#)].
46. (*ESPPU White Paper*) R. Acciarri *et al.* “The Short-Baseline Near Detector at Fermilab: Input to the European Strategy for Particle Physics 2026 Update,” [[arXiv:2504.00245 \[hep-ex\]](#)].
45. (*ESPPU White Paper*) B. Dutta, D. Goswami, A. Karthikeyan, **V. Pandey**, Z. Tabrizi, R. G. Van de Water, “Enhancing New Physics Searches with a Future Beam Dump Configuration at SBND,” [[INSPIRE-HEP Link](#)].
44. (*ESPPU White Paper*) L. Alvarez-Ruso *et al.* “Neutrino Scattering: Connections Across Theory and Experiment,” [[arXiv:2503.23556 \[hep-ex\]](#)].
43. (*Journal Article*) M. Jung Jung, **V. Pandey**, G. Putnam and D. W. Schmitz, “Neutrino Induced Charged Current Coherent Pion Production for Constraining the Muon Neutrino Flux at DUNE,” *Phys. Rev. D* **113**, 112013 (2026) [[arXiv:2502.02576 \[hep-ph\]](#)].
42. (*Conference Proceedings*) S. Carey and **V. Pandey**, “Low-Energy Neutrino-Nucleus Scattering and New Physics,” [[arXiv:2412.18055 \[hep-ph\]](#)].
41. (*Journal Article*) A. A. Aguilar-Arevalo *et al.*, “Physics Opportunities at a Beam Dump Facility at PIP-II at Fermilab and Beyond,” [[arXiv:2311.09915 \[hep-ex\]](#)].
40. (*Invited Review Article*) **V. Pandey**, “Recent Progress in Low Energy Neutrino Scattering Physics and Its Implications for the Standard and Beyond the Standard Model Physics,” *Prog. Part. Nucl. Phys.* **134**, 104078 (2024) [[arXiv:2309.07840 \[hep-ph\]](#)].
39. (*Conference Proceedings*) **V. Pandey**, “Potential Constraints to Neutrino-Nucleus Interactions Based on Electron Scattering Data,” *Phys. Sci. Forum* **8**, 1 (2023) [[arXiv:2306.03896 \[hep-ex\]](#)].
38. (*Snowmass Frontier Report*) P. Huber *et al.* “Snowmass Neutrino Frontier Report,” [[arXiv:2211.08641 \[hep-ex\]](#)].
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