

# Poonam Mehta

## Curriculum Vitae

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## Personal Information

Name Poonam Mehta  
Date of Birth June 04, 1977  
Nationality Indian  
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## Education

1999 - 2004 **Ph.D. in Physics**, Department of Physics and Astrophysics, University of Delhi, Delhi,  
Thesis - Testing physics beyond the Standard Model in neutrino sector.  
1997 - 1999 **M.Sc. in Physics**, Department of Physics and Astrophysics, University of Delhi, Delhi.  
1994 - 1997 **B.Sc. (Honours) Physics**, Acharya Narendra Dev College, University of Delhi, New Delhi.

## Professional Employment

2022 - present **Assistant Professor (UGC)[Selection grade/Level 12]**, School of Physical Sciences, Jawaharlal Nehru University.  
2017 - 2022 **Assistant Professor (UGC)[Senior scale/Level 11]**, School of Physical Sciences, Jawaharlal Nehru University.  
2013 - 2017 **Assistant Professor (UGC)[Level 10]**, School of Physical Sciences, Jawaharlal Nehru University.  
2011 - 2013 **Dr. D. S. Kothari Post-doctoral Fellow**, Department of Physics and Astrophysics, University of Delhi.  
2008 - 2011 **Research Associate (PDF)**, Raman Research Institute, Bangalore.  
2005 - 2007 **Visiting Scientist**, Weizmann Institute of Science, Rehovot, Israel.  
2004 - 2005 **Post-doctoral Fellow**, Harish-Chandra Research Institute, Allahabad.

## Areas of Research

*Theoretical high energy physics, Neutrino physics, Foundational and geometric aspects of quantum mechanics .*

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## Scholarships, Grants and Awards

- 2023 **Fellowship from the European Organization for Nuclear Research, CERN** for participating in the Neutrino Platform Pheno Week 2023 at CERN, Geneva.
- 2019 **Fellowship from Brookhaven National Laboratory, USA** for visit to the Physics Department at BNL for a period of three weeks.
- 2018 **Fellowship from the European Organization for Nuclear Research, CERN** for visit to the Theoretical Physics Group at CERN, Geneva for a period of two weeks and participating in the Neutrino Platform Week 2018.
- 2017 **Bharat Vikas Award** from the Institute of Self Reliance, Bhubaneswar, India.
- 2017 **Fellowship from the European Organization for Nuclear Research, CERN** for visit to the Theoretical Physics Group at CERN, Geneva for a period of six weeks.
- 2017 **Fellowship from Brookhaven National Laboratory, USA** for visit to the Physics Department at BNL for a period of two weeks.
- 2014 **German Academic Exchange Service for the University Academics and Scientists (DAAD)** award for visit to DESY, Zeuthen, Germany for two months based on research project entitled "Quantum decoherence effects in high energy neutrinos".
- 2012 **DST Fast track project** entitled "High energy cosmic neutrinos and cosmogenic neutrinos" for three years from the Department of Science and Technology, India. Did not avail
- 2012 **CSIR Senior Research Associateship** under the Scientists' Pool Scheme for three years from the Council for Scientific and Industrial Research, India. Did not avail
- 2011 **UGC Dr. D. S. Kothari post-doctoral Fellowship** for three years from the University Grants Commission, India. Accepted
- 2010 **International Union of Pure and Applied Physics (IUPAP)** Women in Physics Travel Grant to attend Neutrino 2010, Athens, Greece.
- 2009 **Department of Science and Technology (DST)** Foreign Travel Grant and **CCSTDS (INSA)** partial support for attending "50 Years of Aharonov-Bohm effect" in Tel Aviv, Israel.
- 2009 **International Union of Pure and Applied Physics (IUPAP) and Deutsche Forschungsgemeinschaft (DFG)** support to attend Lepton Photon 09 in Hamburg, Germany.
- 2005 **International Union of Pure and Applied Physics (IUPAP)** Women in Physics Travel Grant to attend the Les Houches School on Particle Physics beyond the Standard Model in Les Houches, France.
- 2004 **Department of Science and Technology (DST)** Partial Travel Grant for attending Neutrino 2004 in Paris, France.
- 1998 Qualified the **National Eligibility Test (NET)** conducted by UGC - CSIR in **December 1998** bearing Roll No.66214 and was awarded **CSIR Fellowship** for pursuing **Ph D** in Physics at University of Delhi, India (1999 - 2004).
- 1996 & 1998 **Science Merit Awards** by University of Delhi, India.
- 1995, 1996 & 1997 **Merit Scholarships** for **first** position in college by Acharya Narendra Dev College, University of Delhi, India.

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## International Collaborations

- 2015 - present Institutional Board member of the **Deep Underground Neutrino Experiment** at Fermilab, USA [<https://dune.bnl.gov/people>]

- 2015 - present Collaboration Member of the **India-based Neutrino Observatory** at Bodi West Hills, India  
[<http://www.ino.tifr.res.in/ino//collaboration.php>]
- 2016 - present Friends of **Invisibles Plus** and **Elusives**  
[<http://invisiblesplus.eu>, [http://www.elusives.eu/about\\_us](http://www.elusives.eu/about_us)]

## Administrative Responsibilities

- 2016 - 2020 Proctor, JNU
- Oct 2013 - May 2023 Warden, Tapti Hostel, JNU
- Apr - Jul, 2020 Warden, Yamuna Hostel, JNU
- Sep 2023 - present Convener, Institution's Innovation Council 6.0 (2023-2024) and Coordinator of Atal Ranking of Institution Achievements (ARIA), JNU
- May 2023 - Aug 2023 Convener, Institution's Innovation Council 5.0 (2022-2023) and Coordinator of Atal Ranking of Institution Achievements (ARIA), JNU
- Apr 2023 - present University Science Instrumentation Centre (USIC) Advisory Committee, JNU
- Oct 2022 - present Communication and Information Services (CIS) Advisory Committee, JNU
- 2020 - 2022 Security Advisory Committee, JNU
- 2016 - 2020 Health Advisory Committee, JNU
- Dec 2020 Executive Council (EC) Election Committee, JNU

## Teaching

- Jan 2023 - *Relativistic Physics, PS424* [M.Sc. II Sem. course in SPS, JNU]
- Sep, 2023 - Dec 2023 *Mathematical Physics I, PS417* [M.Sc. I Sem. course in SPS, JNU]
- Mar - Jun 2023 *Relativistic Physics, PS424* [M.Sc. II Sem. course in SPS, JNU]
- Dec 2022 - Mar, 2023 *Physics I - Practicals, EN201* [II Sem. common course for Dual Degree Programme (B.Tech and M. Tech) in School of Engineering, JNU (jointly with Prof. Manish Kumar, Dr. Ashim K Pramanick and Dr. Shilpi Agarwal) ]
- Sep 2022 - Feb, 2023 *Subatomic physics, PS512* [M.Sc. III Sem. course in SPS, JNU (jointly with Dr. R. P. Prajapati)]
- May 2022 - Sep 2022 *Relativistic Physics, PS424* [M.Sc. II Sem. course in SPS, JNU]
- Dec, 2021 - May, 2022 *Mathematical Physics I, PS417* [M.Sc. I Sem. course in SPS, JNU]
- May - Sep 2021 *Relativistic Physics, PS424* [M.Sc. II Sem. course in SPS, JNU]
- Sep 2020 - Jan 2021 *Computational Physics, PS427 (common course with PM410 (Mathematics) and PS561C (Chemistry))* [M.Sc. III Sem. course in SPS, JNU (jointly with Dr. Manoj Verma and Dr. A. K. S. Jha)]
- Sep - Dec 2020 *Physics II - Practicals, EN353* [III Sem. common course for Dual Degree Programme (B.Tech and M. Tech) in School of Engineering, JNU (jointly with Prof. Kedar Singh and Dr. Tanuja Mohanty) ]
- Jan - June 2020 *Relativistic Physics, PS424* [M.Sc. II Sem. course in SPS, JNU]

- Jan - June 2020 *Physics I - Practicals, EN201* [II Sem. common course for Dual Degree Programme (B.Tech and M. Tech) in School of Engineering, JNU (jointly with Prof. Kedar Singh, Prof. Prasenjit Sen and Dr. Rabindra N Mahato) ]
- Jul - Dec, 2019 *Mathematical Physics I, PS417* [M.Sc. I Sem. course in SPS, JNU]
- Jul - Dec, 2019 *Physics II - Theory, EN353* [III Sem. common course for Dual Degree Programme (B.Tech and M. Tech) in School of Engineering, JNU (jointly with Dr. Rabindra N Mahato) ]
- Jan 2019 - May, 2019 *Relativistic Physics, PS424* [M.Sc. II Sem. course in SPS, JNU]
- Jul - Dec, 2018 *Mathematical Physics I, PS417* [M.Sc. I Sem. course in SPS, JNU]
- Jan 2018 - May, 2018 *Quantum Field Theory, PS529* [M.Sc. IV Sem. course in SPS, JNU]
- Jul - Dec, 2017 *Subatomic physics, PS512* [M.Sc. III Sem. course in SPS, JNU]
- Jan - May, 2017 *Quantum Field Theory, PS529* [M.Sc. IV Sem. course in SPS, JNU]
- Jul - Dec, 2016 *Subatomic physics, PS512* [M.Sc. III Sem. course in SPS, JNU]
- Jan - May, 2016 *Modern experiments : a survey, PS521* [M.Sc. IV Sem. course in SPS, JNU (jointly with Dr. Tanuja Mohanty)]
- Jul - Dec, 2015 *Subatomic physics, PS512* [M.Sc. III Sem. course in SPS, JNU (jointly with Prof. Deepak Kumar)]
- Jan - May, 2015 *Modern experiments : a survey, PS521* [M.Sc. IV Sem. course in SPS, JNU]
- Jul - Dec, 2014 *Subatomic physics, PS512* [M.Sc. III Sem. course in SPS, JNU]
- Jan - May, 2014 *Modern experiments : a survey, PS521* [M.Sc. IV Sem. course in SPS, JNU (jointly with Dr. Tanuja Mohanty)]
- Jul - Dec, 2013 *Subatomic Physics, PS512* [M.Sc. III Sem. course in SPS, JNU (jointly with Prof. Deepak Kumar)]
- Jan - May, 2012 *Statistics and Computer Applications - Phys 601* [Course work for first year Ph. D. students in the Department of Physics and Astrophysics, University of Delhi, Delhi]

## Research Guidance

### Ph.D. Theses (3 Awarded and 2 Ongoing)

- 2013 - 2020 *Dr. Jogesh Rout, SPS, JNU* [ Title of the thesis : Impact of new physics on neutrino mixing at long baseline neutrino experiments (Submitted on 15 July 2019; Defended on 21 Feb 2020). ] Permanent teaching faculty at an undergraduate college in Orissa.
- 2017 - 2020 *Dr. Samiran Roy* [ Title of the thesis : New Physics with Neutral and Charged Current Measurements at Long-Baseline Neutrino Experiments (Submitted on 27 Dec 2019; Defended on 10 Jul 2020; Degree Awarded on 19 Oct 2020) ; Supervised jointly with Prof. Raj Gandhi at Harish-Chandra Research Institute, Allahabad under the JNU-HBNI Memorandum of Understanding.] Recently awarded National Post-Doctoral Fellowship (NPDF) at University of Hyderabad.
- 2016 - 2022 *Dr. Sheeba Shafaq, SPS, JNU* [ Title of the thesis : Temporal correlations in neutrino oscillations (Submitted on 28 Dec 2021 ; Defended on 22 Mar 2022). ]
- 2019 - present *Ms. Sabila Parveen, SPS, JNU*
- 2023 - present *Ms. Kritika Rushiya, SPS, JNU*

### M.Sc. Research Project (19 completed, 3 ongoing)

- Jan 2024 - *Ms. Ishika, SPS, JNU* ; Project title : Neutrino magnetic moment and supernovae
- Jan 2024 - *Ms. Dikshita, SPS, JNU* ; Project title : Character of neutrinos : Dirac versus Majorana
- Jan 2024 - *Mr. Harkirat, SPS, JNU* ; Project title : CP violation in neutrino oscillations at long baselines
- Feb - Jun 2023 *Mr. Kunal Rawat, SPS, JNU* ; Project title : PT symmetric non Hermitian quantum mechanics. (Presently doing PhD at IIT Gandhinagar)
- Feb - Jun 2023 *Ms. Teesha Khandelwal, SPS, JNU* ; Project title : Do charged leptons oscillate ?
- Feb - Jul 2022 *Mr. Debkanta Ghosh, SPS, JNU* ; Project title : Quantum decoherence effects in neutrino oscillations. (Presently doing PhD at HRI, Prayagraj)
- Feb - Jul 2022 *Mr. Sudipta Mondal, SPS, JNU* ; Project title : CP violation in neutrino oscillations. (Presently doing PhD at HRI, Prayagraj)
- Feb - Jul 2022 *Mr. Abdullah Ahmad, SPS, JNU* ; Project title : T violation in neutrino oscillations. (Presently at BARC))
- Jan - Jun 2021 *Mr. Shuvendu Roy, SPS, JNU* ; Project title : Unitarity matrices, symmetries and their violation.
- Jan - Jun 2021 *Ms. Tanim Chanda, SPS, JNU* ; Project title : Neutrino oscillations in vacuum - perspective from unitarity triangles. (Presently doing PhD at IISc, Bengaluru)
- Jan - Jun 2021 *Mr. Tanmay Kushwaha, SPS, JNU* ; Project title : Rephasing invariants in quark and lepton sector. (Presently doing PhD at the Colorado State University, USA.)
- Jan - Jun 2020 *Mr. Kumar Yash, SPS, JNU* ; Project title : Some aspects of neutrino oscillations. (Presently doing PhD at IISER, Pune.)
- Jan - May, 2019 *Ms. Kalya Krishna, SPS, JNU* ; Project title : Some aspects of neutrino oscillations. (Presently doing PhD at IIST, Trivandrum)
- Jan - May, 2019 *Mr. Pankaj Saini, SPS, JNU* ; Project title : Some aspects of neutrino oscillations. (Presently doing PhD at CMI, Chennai)
- Jan - May, 2019 *Mr. Deepak Saini, SPS, JNU* ; Project title : Some aspects of neutrino oscillations.
- Jan - May, 2018 *Mr. Ashu Kushwaha, SPS, JNU* ; Project title : Neutrino oscillations in flat and curved space time. (Presently doing PhD at IIT Bombay)
- Jan - May, 2018 *Mr. Dharmendra Kumar, SPS, JNU* ; Project title : Geometric phases and neutrino oscillations. (Presently doing PhD at MNIT Jaipur)
- Jan - May, 2017 *Mr. Devender Kumar, SPS, JNU* ; Project title : CP, T and CPT violation in neutrino oscillations. (Presently doing PhD at IIT Guwahati)
- Jan - May, 2017 *Mr. Satyendra Rajput, SPS, JNU* ; Project title : Three flavour neutrino oscillations and CP/T violation. (Presently doing PhD at IIT Delhi)
- Jan - May, 2017 *Mr. Ayaz Ahmed, SPS, JNU* ; Project title : Some aspects of conformal transformations. (Joint supervision with Prof. Md. Sami) (Presently doing PhD at IIT Bombay)
- Jan - May, 2014 *Ms. Riya Nandi, SPS, JNU* ; Project title : Standard and non-standard neutrino matter interactions. (Presently post-doctoral fellow in Geneva)
- Jan - May, 2014 *Mr. Augniva Ray, SPS, JNU* ; Project title : Neutrino oscillations and quantum decoherence. (Presently Post-doctoral fellow in Korea)

### Summer Program and Project Students

- Dec 2022 - Jul 2023 *Ms. Bhavya Soni (IIT, Jodhpur)* ; Project title : Non-hermitian quantum mechanics and neutrino oscillations. (one semester project)

- Jun - Jul 2018 *Ms. Hema Mann (SPS Summer Program, 2018), DU* ; Project title : Some aspects of neutrino oscillations. (Presently at BARC, Mumbai)
- Jun - Jul 2018 *Mr. Shivam Choudhary (Science Academies' Summer Research Fellowship 2018, NIT, Jalandhar)* ; Project title : Some aspects of neutrino oscillations. (Presently doing PhD at IIT Guwahati)
- May - Jul 2017 *Mr. Krishna Jalan (Science Academies' Summer Research Fellowship 2015, NIT, Rourkela)* ; Project title : Some aspects of neutrino oscillations.
- Aug - Sep 2015 *Ms. Babita (IIT, Madras)* ; Project title : Neutrino oscillations.
- May - Jul, 2015 *Ms. Ritwika Chakraborty (Science Academies' Summer Research Fellowship 2015, IISER, Bhopal)* ; Project title : Neutrino oscillations in curved space time. (Presently doing PhD at University of Kentucky)
- May - Jul, 2015 *Mr. Prateek Kumar (Science Academies' Summer Research Fellowship 2015, IIT, Indore)* ; Project title : Series expansion of neutrino oscillation probabilities.
- May - Jul, 2014 *Mr. Purushottam Singh (Science Academies' Summer Research Fellowship 2014, M.Sc. student from BHU, Varanasi)* ; Project title : Medium effects in neutrino oscillations.
- Aug - Sep, 2010 *Mr. Aravinda Keta (VSP at RRI, M. Sc. Physics student at NITK Surathkal)* ; Project title : Neutrinos in astrophysics and cosmology.
- May - Jul, 2009 *Mr. Gaurav Rai (VSP at RRI, B. Tech - 2nd year B.Tech student at IIIT - Allahabad)* ; Project title : Some aspects of neutrinos.

## Invited Talks, Presentations & Chairing of sessions at Conferences

- 09 Jan 2024 *Talk and discussion leader in working group III on Neutrino Physics at WHEPP XVII, IIT Gandhinagar.*  
**Talk** : Foundational aspects of quantum mechanics and neutrino oscillations. (online)
- 30 Nov 2023 *Invited plenary talk at the Cosmology at Centre for Cosmology and Science Popularization (CCSP) - 2 conference held during 29 November-01 December, 2023, Shree Guru Gobind Singh Tricentenary (SGT) University, Gurugram, Delhi-NCR*  
**Talk** : Exploring foundational aspects of quantum mechanics with neutrinos
- 23 Aug 2023 *Invited talk at the Induction program for new students of 2023-2025 batch, Atal Bihari Vajpayee School of Management and Entrepreneurship, JNU*  
**Talk** : Institution's Innovation Council - Aspects and Prospects
- 26 May 2023 *Invited as Chair of a session (on 26 May 2023) at the Summer School on Quantum Information and Quantum Technology (QIQT - 2023) held during May - June 2023, IISER Kolkata.*
- 23 May 2023 *Invited talk at the Centre for Cosmology and Science Popularization, SGT University, Gurugram*  
**Talk** : Neutrino Frontier of Particle Physics.
- 08-10 May 2023 *Invited as Judge to evaluate oral presentations (on 09 May 2023) in the National workshop on material design and processing jointly organised by SPS, JNU and Indian Association of Physics Teachers (IAPT).*
- 21-22 Mar 2023 *Invited talk at the Workshop on Particle Physics, Astrophysics and Cosmology, Shiv Nadar Institution of Eminence Deemed to be University, NCR*  
**Talk** : Physics opportunities with near and far detectors at the long baseline neutrino experiments.

- 15 Mar 2023 Talk at the *Neutrino Platform Pheno Week 2023 during 13-17 Mar 2023*, Theoretical Physics group, CERN, Geneva  
**Talk** : Physics opportunities with near and far detectors at the long baseline neutrino experiments.
- 17 Feb 2023 Invited talk at the *International Meeting on High Energy Physics (IMHEP)*, IOP, Bhubaneswar.  
**Talk** : Testing Foundations of quantum mechanics via neutrino oscillations.
- 01 Feb 2023 Invited lecture in the Faculty Induction Programme - 12 during 9 Jan to 06 Feb 2023, Human Resource Development Centre, JNU, New Delhi.  
**Talk** : Big world of small neutrinos.
- 17 Jan 2023 Invited talk at the DAE-BRNS workshop on *Hadron Physics*, NIT Jalandhar.  
**Talk** : Neutrino frontier of Particle Physics.
- 12 Jan 2023 Invited as Chair of a technical session in the third ECS-JNU student chapter symposium 2023 on *Sensors for Society* held at Convention Centre, JNU.
- 13 Dec 2022 Invited mini-review talk at the *XXV DAE-BRNS HEP symposium*, IISER Mohali.  
**Talk** : Physics opportunities with near and far detectors at the long baseline neutrino experiments.
- 09 Dec 2022 Invited as Panelist at the *Indian Physics Association (IPA) - Young Physicist Meet 2022 (North Zone)*, Department of Physics, Panjab University, Chandigarh  
**Discussion on** : Women in Physics.
- 21-23 Nov 2022 Invited seminar at joint TIFR-ICTS Discussion meeting on *Particle Physics : Phenomena, Puzzles, Promises*, ICTS, Bengaluru.  
**Talk** : New physics in neutrino oscillations
- 13 Nov 2022 Invited as Chair of a session (on 13 Nov 2022) in the one week training program on *Techniques for advance materials characterization and spectroscopy* under DST-STUTI held at SPS, JNU during 10 - 16 Nov 2022.
- Jun 2022 Invited online lecture (on 26 June 2022) and Chair of two sessions (on 4 June 2022 and 24 June 2022) at the Summer School on *Quantum Information and Quantum Technology (QIQT - 2022)* held during 1 June - 4 July 2022, IISER Kolkata.  
**Talk** : Exploring foundational aspects of quantum mechanics at high energy physics experiments.
- 8 Feb 2022 Invited as Chair of a session at the *International Meeting on Effective Pathways to New Physics (IMEPNP)* held during 07 - 12 Feb, 2022, Institute of Physics, Bhubaneswar.
- 23 Nov 2021 Invited as Chair of a session at the *Current trends in Non-Equilibrium Physics* held during 22 - 26 Nov, 2021, SPS, JNU, New Delhi.
- 11 Nov 2021 Invited lecture in the fifth short term course during 8-13 Nov 2021, Human Resource Development Centre, JNU, New Delhi.  
**Talk** : Gender (Women) in Science.
- 25 Oct 2021 Two invited lectures in the fourth Online Refresher Course in E-Learning & E-Governance during 18 Oct -1 Nov 2021, Human Resource Development Centre, JNU, New Delhi.  
**Talks** : Going online : Aspects and Prospects - I and II.
- 03 Sep 2021 *Journal Club seminar*, SPS, JNU, New Delhi.  
**Talk** : The Neutrino Frontier in Particle Physics.
- 30 Aug 2021 Talk at the 17th International Conference on *Topics in Astroparticle and Underground Physics* held online during 26 Aug - 3 Sep 2021, University of Valencia, Spain.  
**Talk** : Non-standard Neutrino Oscillations - perspective from unitarity triangles.
- 17 Jul 2021 Invited online lecture and Chair of a session at the Summer School on *Quantum Information and Quantum Technology (QIQT - 2021)* held during 14 June - 18 July 2021, IISER Kolkata.  
**Talk** : Three faces of the geometric phase.
- 28 Feb, 2021 Invited Online Lecture on *National Science Day 2021* organised by the national committee of the International Association of Physics Students {iaps}.



- 26 Feb, 2021 **Talk** : India-based Neutrino Observatory : a promising indigenous mega science project.  
Invited Online Lecture in the series "*HEP Seminars (Theory and Phenomenology seminars)*" at Department of Physics, IIT Delhi.
- 14-15 Oct 2020 **Talk** : Some aspects and prospects of neutrino physics.  
Two invited lectures in the third Online Refresher Course in E-Learning & E-Governance during 5-17 Oct 2020, Human Resource Development Centre, JNU, New Delhi.
- 24 Sep 2020 **Talks** : Going online : Aspects and Prospects - I and II.  
Invited lecture in the short term course during 21-26 Sep 2020, Human Resource Development Centre, JNU, New Delhi.
- 4 Aug, 2020 **Talk** : Women in Science.  
"India-HyperKamiokande" mini-collaboration Online Meeting.
- 10 June, 2020 **Talk** : Expression of interest in joining India-HyperKamiokande collaboration.  
Invited Online Lecture during Week 7 of *INO Online Lecture Series, INO Collaboration*.
- 10 May, 2020 **Talk** : Neutrino oscillations and the matter - antimatter asymmetry  
Invited Online talk during second JNU Workshop on Empowering Teaching through Online Mode *WETOM II* for University/College teachers during 9-10 May, 2020, Jawaharlal Nehru University, India
- 29 Jan and 1 Feb, 2020 **Talk** : Developing e-content using MOODLE.  
Invited Public Outreach Lectures during INO week of *Vigyan Samagam* - a joint DAE and DST effort for popularization of Mega Science Projects in India, held at the National Science Centre, Delhi India
- 21-24 Jan 2020 **Talk** : Big world of small neutrinos - the Nobel Connection  
Invited seminar at joint RRI-ICTS Discussion meeting on *Geometric phases in optics and topological matter*), ICTS, Bengaluru.
- 21 Jan 2020 **Talk** : Three faces of the geometric phase.  
Invited lecture in the 116<sup>th</sup> *Orientation Programme* during 6-25 Jan 2020, Human Resource Development Centre, JNU, New Delhi.
- 20 Sep 2019 **Talk** : Introduction to neutrino physics.  
Invited seminar at *Pressing for Progress 2019 (1<sup>st</sup> IPA National Conference towards Gender equity in Physics)*, University of Hyderabad, India
- 30 Aug 2019 **Talk** : A geometric view of neutrino oscillations.  
High Energy Theory lunch seminar, Brookhaven National Laboratory, USA
- 31 May 2019 **Talk** : A geometric view of neutrino oscillations.  
Invited talk at the NTN workshop on *Neutrino non-standard interactions*, Washington University at St. Louis, USA (via Skype)
- 23 Jan 2019 **Talk** : New physics with DUNE alternative configurations.  
Invited talk at *Conference on particle physics and cosmology*, University of Hyderabad, India
- 13 Dec 2018 **Talk** : Impact of new physics at long baseline experiments.  
Invited talk at *The quest for new physics*, University of Valencia, Spain
- 1 Nov 2018 **Talk** : Impact of NSI at long baseline experiments.  
Invited talk at *Workshop on Indo-US Neutrino Collaboration during 1-2 Nov, 2018*, TIFR, Mumbai (via Skype)
- 18 Jul 2018 **Talk** : Imprints of nonstandard interactions at DUNE.  
Invited Plenary talk at *International Symposium on Neutrino Frontiers*, Vietnam. (via Skype)
- 22 May 2018 **Talk** : Impact of new physics at long baseline experiments.  
Lecture at *Central University of Himachal Pradesh*, Dharamshala.
- 9 Mar 2018 **Talk** : Neutrino oscillations, CP violation and long baseline experiments  
Talk at *Advances in Astroparticle Physics and Cosmology (AAPCOS)*, SINP, Kolkata.
- 21 Feb 2018 **Talk** : Hunt for CP violation at long baseline neutrino experiments.  
Invited talk at *Nu HoRizons VII*, HRI, Allahabad. (via Skype)



- Talk** : Role of higher energy beam tunes at DUNE.
- 18-23 Dec 2017 *Course Co-ordinator and a set of three lectures during the GIAN course on "Dark Matter: the Astroparticle Perspective" by Prof. Subir Sarkar (Oxford University and Niels Bohr Institute, Copenhagen) under the Global Initiative of Academic Networks (GIAN) of MHRD, Government of India held during 18-23 Dec 2017 at Jawaharlal Nehru University, New Delhi.*
- A set of lectures** : Neutrino Physics.
- 14 Dec 2017 *Working Group III Co-convenor and talk in working group III on Neutrino Physics at WHEPP XV, IISER Bhopal.*
- Talk** : Quantum decoherence in neutrino oscillations.
- 20 Nov 2017 TPSC Seminar at *Institute of Physics, Bhubaneswar.*
- Talk** : Long baseline neutrino experiments and leptonic CP violation.
- 26 Sep 2017 Invited talk at the *International Summer school on New Advances in Condensed Matter Physics: Quantum transport, topological effects and energy conversion in low-dimensional systems, Khiva, Uzbekistan*
- Talk** : Polarised intensity interferometry - from quantum optics to solid state electronics
- 13 Jul 2017 Invited theory seminar at *Niels Bohr Institute, Copenhagen, Denmark*
- Talk** : Impact of new physics on leptonic CP violation signal at long baselines
- 21 Jun 2017 Invited parallel session talk at *International Conference on Weak Interactions and Neutrinos, University of California at Irvine, USA* (presented by Dr. Mary Bishai on my behalf)
- Talk** : Role of beam tunes in extricating standard and new physics at DUNE
- 28 Apr 2017 Invited seminar at *Brookhaven National Laboratory, USA.*
- Talk** : CP violation in neutrino oscillations and impact of new physics
- 3 Mar 2017 TPSC Seminar at *Institute of Physics, Bhubaneswar.*
- Talk** : Hunt for leptonic CP violation and impact of new physics.
- 5-12 Dec 2016 Invited as a *resource person in the GIAN course by Prof. Sir Michael Berry on Superoscillations and weak measurements, IISER Kolkata.*
- A set of lectures** : Introduction to neutrinos, geometric phases and non-local multi-photon phase in intensity interferometry.
- 5 Nov 2016 Invited talk at *International workshop on frontiers in electroweak interactions of leptons and hadrons (EILH-16), held at Aligarh Muslim University, Aligarh during 2-6 Nov 2016.*
- Talk** : CP violation and non-standard interactions at long baselines.
- 9 Aug 2016 Invited theory seminar at *Argonne National Laboratory, USA.*
- Talk** : CP violation in neutrino oscillations and non-standard interactions.
- 8 Aug 2016 Invited parallel session talk at *ICHEP 2016, Chicago, USA.*
- Talk** : CP violation and non-standard interactions at long baselines.
- 14 Jun 2016 Invited talk at *Near detector workshop at CETUP 2016, South Dakota, USA*
- Talk** : CP violation and non-standard interactions at long baselines.
- 7 Apr 2016 Invited talk at *PHENO1@IISERM, IISER Mohali during 6-9 Apr 2016.*
- Talk** : Imprint of non-standard interactions on CP violation measurements at long baseline experiments.
- 17 Mar 2016 Invited talk at *Nu HoRizons VI, HRI, Allahabad.*
- Talk** : Non-standard neutrino interactions in atmospheric and long baseline neutrino oscillations.
- 8 Dec 2015 *Discussion leader and talk in working group III (Neutrino Physics) at WHEPP, IIT Kanpur during 4-13 Dec 2015.*
- Talk** : Neutrino nonstandard interactions.
- 30 Oct 2015 *Physics Colloquium at CTP, Jamia Milia Islamia, New Delhi.*
- Talk** : Neutrino oscillations : from massless to massive neutrinos [Noble prize in Physics 2015].

- 21 Oct 2015 Invited lecture in the 1<sup>st</sup> *Refresher course in Physics*, Human Resource Development Centre, JNU, New Delhi.  
**Talk** : On neutrino oscillations [Noble prize in Physics 2015].
- 19 Oct 2015 *Journal Club talk*, SPS, JNU .  
**Talk** : On neutrino oscillations [Noble prize in Physics 2015].
- 27 Sept 2015 Invited talk in *International school and workshop on Particle Physics (IPP15): Neutrino physics, dark matter and B physics* sponsored by ICTP and Invisibles, IPM, Tehran, Iran.  
**Talk** : Nonstandard neutrino oscillations.
- 28 Mar 2015 *SPS In-house Colloquium*, SPS, JNU.  
**Talk** : Big world of small neutrinos - introduction to India-based Neutrino Observatory (INO).
- 19 Mar 2015 *Celebrating 100 years of General Relativity at the IAGRG meeting*, RRI, Bangalore.  
**Talk** : Probing neutrino properties using cosmology.
- 9 Dec 2014 *Talk and Parallel session chair (10 Dec) at XXI DAE-BRNS High Energy Physics Symposium*, IIT Guwahati.  
**Talk** : Testing non-standard neutrino matter interactions in atmospheric neutrino propagation.
- Sept 2014 Invited lecture in the 14<sup>th</sup> *Refresher course in Physics*, Academic Staff College, JNU, New Delhi.  
**Talk** : Neutrino Physics : An introduction.
- 27 May 2014 *Astroparticle physics theory seminar* of DESY, Zeuthen and University of Potsdam, Germany.  
**Talk** : New physics effects and astrophysical neutrino flavor ratios.
- Sept 2013 Invited lecture in the 13<sup>th</sup> *Refresher course in Physics*, Academic Staff College, JNU, New Delhi.  
**Talk** : Neutrino Physics : An introduction.
- Sept 2012 Invited lecture in the 12<sup>th</sup> *Refresher course in Physics*, Academic Staff College, JNU, New Delhi.  
**Talk** : Introduction to neutrino physics.
- 22 Jun 2012 International workshop on *Dark matter and neutrinos* and *What is  $\nu$  ? Invisibles ITN 1<sup>st</sup> General meeting and Alexei Smirnov fest*, Galileo Galilei Institute, Arcetri, Florence, Italy.  
**Talk** : New physics effects in neutrino fluxes from cosmic accelerators.
- 2 Feb 2012 *Nu horizons V*, HRI, Allahabad, India.  
**Talk** : New physics effects in neutrino fluxes from cosmic accelerators.
- 23 Sept 2011 *Workshop on "Neutrinos beyond the Standard Model"*, PRL, Ahmedabad, India. (21-23 Sep 2011)  
**Talk** : Probing new physics with high energy astrophysical neutrinos.
- 15 Sept 2011 *IISER, Mohali*, India.  
**Talk** : Probing physics beyond the Standard Model with high energy astrophysical neutrinos.
- Aug 2011 *The XXV International Symposium on Lepton Photon Interactions at High Energies (Lepton Photon 2011)*, TIFR, Mumbai, India.  
**Poster** : Probing new physics with high energy astrophysical neutrinos.
- 16 Aug 2011 *International mini-symposium on dark matter and neutrinos*, CHEP, IISc., Bangalore, India.  
**Talk** : Probing new physics by flavoring high energy astrophysical neutrinos.
- Jul 2011 *Institut für Theoretische Physik und Astrophysik*, Universität Würzburg, Germany.  
**Talk** : Probing physics beyond the Standard model with high energy astrophysical neutrinos.
- Feb 2011 *International Conference on Quantum Information Processing and Applications (QIPA 2011)*, HRI, Allahabad, India.  
**Poster** : Nonlocal Pancharatnam phase in two photon interferometry.
- April 2010 *CHEP*, Indian Institute of Science, Bangalore India.

- Talk** : Some interesting aspects of cosmic neutrinos from core collapse Supernovae endowed with mildly relativistic jets.
- Jun 2010 *XXIV International Conference on Neutrino Physics and Astrophysics (Neutrino 2010)*, Athens, Greece.
- Poster** : Topological phase in two flavor neutrino oscillations and imprint of the CPV phase.
- 4 Dec 2009 Invited seminar at *IACS*, Kolkata, India.
- Talk** : Topological phase in two flavor neutrino oscillations and imprint of the CP phase.
- 25 Nov 2009 Invited seminar at *SGTB Khalsa College*, Delhi University, India.
- Talk** : Topological phase in two flavor neutrino oscillations and imprint of the CP phase.
- Oct 2009 International conference celebrating *50 years of Aharonov-Bohm effect*, Tel Aviv University, Tel Aviv, Israel.
- Poster and short talk** : Topological phase in two flavor neutrino oscillations.
- Aug 2009 *XXIV International Symposium on Lepton Photon Interactions at High Energies (Lepton Photon 09)*, Hamburg, Germany.
- Poster 1** : Topological phase in two flavor neutrino oscillations.
- Poster 2** : Degenerate neutrinos and maximal mixing.
- 8-15 April 2009 International conference on *Aspects of neutrinos (NuGoa)*, ICTS Program, Goa, India.
- Talk** : Topological phase in two flavor neutrino oscillations : a new interpretation from geometry.
- 4-7 April 2009 International meeting on *Neutrinos in particle astrophysics and cosmology (NuPAC)*, Mahabalipuram, Chennai, India.
- Talk** : Topological phase in two flavor neutrino oscillations : a new interpretation from geometry.
- 29 March 2005 *INO Simulations Meeting*, IMSc, Chennai, India during 28-30 March 2005.
- Talk** : New physics issues for simulations @ INO.
- 14-19 June 2004 *XXIst International Conference on Neutrino Physics and Astrophysics (Neutrino 2004)*, Collège de France, Paris, France.
- Poster** : Atmospheric neutrinos as a probe of CPT violation.
- 30 March 2004 *International Conference on Perspectives in Particle Physics, Gravity and Cosmology*, PRL, Ahmedabad, India.
- Talk** :  $\nu_\mu$  survival probability : A probe of neutrino oscillation parameters.
- Jan 2004 *Workshop on High Energy Physics Phenomenology (WHEPP8)*, IIT Mumbai, India.
- Talk** : Atmospheric neutrinos as a probe of CPT and Lorentz violation.
- Sept 2002 *INO Meeting*, SINP, Calcutta, India.
- Talk** : Some simulation results using NUANCE and GEANT.
- Dec 2000 *XIV DAE Symposium on High Energy Physics*, University of Hyderabad, India.
- Talk** : Signals of R-parity Violating Supersymmetry at a Muon Storage Ring.

## Summary of publication data

### Google Scholar

h-index = 33

i10-index = 45

### INSPIREHEP

Average citations (citable papers) = 62.6

h-index (citable papers) = 40

1. Sovan Chakraborty, Poonam Mehta, Prantik Sarmah (2024) : *A relook at the GZK Neutrino-Photon Connection: Impact of Extra-galactic Radio Background & UHECR properties*  
**JCAP** 01, 058 (2024)  
 Impact factor - 7.28  
 URL - <https://iopscience.iop.org/article/10.1088/1475-7516/2024/01/058>
2. Soni, B., Shafaq, S., and Mehta, P. (2023) : *Distinguishing between Dirac and Majorana neutrinos using temporal correlations*  
 arXiv:2307.04496 [hep-ph], under review in PRD.  
 URL - <https://arxiv.org/abs/2307.04496>
3. Parveen, S., Sharma, K., Patra, S. and Mehta, P. (2023) : *CP and T violation effects in presence of an eV scale sterile neutrino at long baseline neutrino experiments.*  
 arXiv:2305.16824 [hep-ph], under review in PRD.  
 URL - <https://arxiv.org/abs/2305.16824>
4. Shafaq, S., Kushwaha, T. and Mehta, P. (2021) : *Investigating Leggett-Garg Inequality neutrino oscillations : role of decoherence and decay.*  
 arXiv:2112.12726 [hep-ph] Citations - 04  
 URL - <https://arxiv.org/abs/2112.12726>
5. Masud, M., Mehta, P., Ternes, C. A. and Tórtola, M. (2021) : *Non-standard neutrino oscillations : perspective from unitarity triangles.*  
**JHEP** 05, 171 (2021)  
 Impact factor - 5.875 Citations - 05  
 URL - [https://link.springer.com/article/10.1007/JHEP05\(2021\)171](https://link.springer.com/article/10.1007/JHEP05(2021)171)
6. Rout, J., Shafaq, S., Bishai, M. and Mehta, P. (2021) : *Physics prospects of second oscillation maximum at the Deep Underground Neutrino Experiment.*  
**Phys. Rev. D** 103, 116003 (2021)  
 Impact factor - 4.833 Citations - 04  
 URL - <https://journals.aps.org/prd/abstract/10.1103/PhysRevD.103.116003>
7. Shafaq, S. and Mehta, P. (2021) : *Enhanced violation of Leggett-Garg Inequality in three flavour neutrino oscillations with non-standard interactions.*  
**J Phys G : Nucl. Part. Phys.** 48, 085002 (2021)  
 Impact factor - 3.534 Citations - 06  
 URL - <https://iopscience.iop.org/article/10.1088/1361-6471/abff0d>
8. Rout, J., Roy, S., Masud, M., Bishai, M. and Mehta, P. (2020) : *Impact of high energy beam tunes on the sensitivities to the standard unknowns at DUNE.*  
**Phys. Rev. D** 102, 116018 (2020)  
 Impact factor - 4.833 Citations - 08  
 URL - <https://journals.aps.org/prd/abstract/10.1103/PhysRevD.102.116018>
9. Soumya, C., Ghosh, M., Raut, S. K., Sinha, N and Mehta, P. (2020) : *Probing muonic charged current non-standard interactions at Muon Decay at Rest facility in conjunction with T2HK.*  
**Phys. Rev. D** 101, 055009 (2020)  
 Impact factor - 4.833 Citations - 09  
 URL - <https://journals.aps.org/prd/abstract/10.1103/PhysRevD.101.055009>
10. Masud, M., Roy, S. and Mehta, P. (2019) : *Correlations and degeneracies among the NSI parameters with tunable beams at DUNE.*  
**Phys. Rev. D** 99, 115032 (2019)  
 Impact factor - 4.833 Citations - 31  
 URL - <https://journals.aps.org/prd/abstract/10.1103/PhysRevD.99.115032>
11. Masud, M., Bishai, M. and Mehta, P. (2019) : *Extricating New Physics Scenarios at DUNE with High Energy Beams.*  
**Scientific Reports** 9, 352 (2019)

- Impact factor - 4.609  
URL - <https://www.nature.com/articles/s41598-018-36790-6>
12. Wadhawan, D., Roychowdhury, K., Mehta, P. and Das, S. (2018) : *Multielectron geometric phase in intensity interferometry*.  
**Phys. Rev. B** 98, 155113 (2018)  
Impact factor - 3.813  
URL - <https://journals.aps.org/prb/abstract/10.1103/PhysRevB.98.155113>
13. Masud, M. and Mehta, P. (2017) : *Imprint of non-standard interactions on the CP violation measurements at long baseline experiments*.  
**Pramana** 89 (2017) no.4, 62.  
URL - <https://link.springer.com/article/10.1007%2Fs12043-017-1457-1>
14. Rout, J., Masud, M. and Mehta, P. (2017) : *Can we probe CP/T violation and non-unitarity at long baseline accelerator experiments?*  
**Phys. Rev. D** 95, 075035 (2017)  
Impact factor - 4.833  
URL - <https://journals.aps.org/prd/abstract/10.1103/PhysRevD.95.075035>
15. Masud, M. and Mehta, P. (2016) : *Nonstandard interactions and resolving the ordering of neutrino masses at DUNE and other long baseline experiments*.  
**Phys. Rev. D** 94, 053007 (2016).  
Impact factor - 4.833  
URL - <http://journals.aps.org/prd/abstract/10.1103/PhysRevD.94.053007>
16. Masud, M. and Mehta, P. (2016) : *Non-standard interactions spoiling the CP violation sensitivity at DUNE and other long baseline experiments*.  
**Phys. Rev. D** 94, 013014 (2016).  
Impact factor - 4.833  
URL - <http://journals.aps.org/prd/abstract/10.1103/PhysRevD.94.013014>
17. Masud, M., Chatterjee, A. and Mehta, P. (2016) : *Probing CP violation signal at DUNE in presence of non-standard neutrino interactions*.  
**J. Phys. G** 43, no.9, 095005 (2016).  
Impact factor - 3.534  
URL - <http://iopscience.iop.org/article/10.1088/0954-3899/43/9/095005/meta>
18. Roychowdhury, K., Wadhawan, D., Mehta, P., Karmakar, B. and Das, S. (2016) : *Quantum Hall realization of polarized intensity interferometry*.  
**Phys. Rev. B** 93, 220101 (Rapid communication) (2016).  
Impact factor - 3.813  
URL - <http://journals.aps.org/prb/abstract/10.1103/PhysRevB.93.220101>
19. Wadhawan, D., Mehta, P., and Das, S. (2016) : *Geometric phase in p-n junctions in helical edge states*.  
**Phys. Rev. B** 93, 085310 (2016)  
Impact factor - 3.813  
URL - <http://journals.aps.org/prb/abstract/10.1103/PhysRevB.93.085310>
20. Chatterjee, A., Mehta, P., Choudhury, D., and Gandhi, R. (2016) : *Testing non-standard neutrino matter interactions in atmospheric neutrino propagation*.  
**Phys. Rev. D** 93, 093017 (2016).  
Impact factor : 4.833  
URL - <http://journals.aps.org/prd/abstract/10.1103/PhysRevD.93.093017>
21. Sathpathy, N., Pandey, D., Mehta, P., Sinha, S., Samuel, J. and Ramachandran, H. (2011): *Classical light analogue of the nonlocal Aharonov-Bohm effect*.  
**Europhys. Lett.** 97, 50011 (2012).  
Impact factor : 1.957  
URL - <http://iopscience.iop.org/0295-5075/97/5/50011/>
22. Mehta, P. and Winter, W. (2011): *Interplay of energy dependent astrophysical neutrino flavor ratios and new physics effects*.  
**JCAP** 03, 041 (2011).

- Impact factor : 5.126 Citations - 48  
 URL - <http://iopscience.iop.org/1475-7516/2011/03/041/>
23. Mehta, P., Samuel, J. and Sinha, S. (2010): *The Nonlocal Pancharatnam Phase in Two-Photon Interferometry*. **Phys. Rev. A** 82, 034102 (2010).  
 Impact factor : 2.866 Citations - 06  
 URL - <http://link.aps.org/doi/10.1103/PhysRevA.82.034102>
24. Mehta, P. (2010): *Reply to the comment on "Topological phase in two flavor neutrino oscillations"*. arXiv:1008.4543 [hep-ph].  
 URL - <http://arxiv.org/abs/1008.4543>
25. Chakraborty, J., Joshipura, A. S., Mehta, P. and Vempati, S. K. (2009): *Maximal mixing as a sum of small mixings*. arXiv:0909.3116 [hep-ph].  
 URL - <http://arxiv.org/abs/0909.3116>
26. Mehta, P. (2009): *Geometric imprint of CP violation in two flavor neutrino oscillations*. arXiv:0907.0562 [hep-ph].  
 Citations - 06  
 URL - <http://arxiv.org/abs/0907.0562>
27. Mehta, P. (2009): *Topological phase in two flavor neutrino oscillations*. **Phys. Rev. D** 79, 096013 (2009).  
 Impact factor : 4.833 Citations - 37  
 URL - <http://link.aps.org/doi/10.1103/PhysRevD.79.096013>
28. Gandhi, R., Ghoshal, P., Goswami, S., Mehta, P., Uma Sankar, S. and Shalgar, S. (2007): *Mass Hierarchy Determination via future Atmospheric Neutrino Detectors*. **Phys. Rev. D** 76, 073012 (2007).  
 Impact factor : 4.833 Citations - 112  
 URL - <http://link.aps.org/doi/10.1103/PhysRevD.76.073012>
29. Gandhi, R., Ghoshal, P., Goswami, S., Mehta, P. and Uma Sankar, S. (2006): *Earth Matter Effects at Very Long Baselines and the Neutrino Mass Hierarchy*. **Phys. Rev. D** 73, 053001 (2006).  
 Impact factor : 4.833 Citations - 108  
 URL - <http://link.aps.org/doi/10.1103/PhysRevD.73.053001>
30. Gandhi, R., Ghoshal, P., Goswami, S., Mehta, P. and Uma Sankar, S. (2005): *Probing the  $\nu$  mass hierarchy via atmospheric  $\nu_\mu + \bar{\nu}_\mu$  survival rates in megaton water cerenkov detectors*. hep-ph/0506145.  
 Citations - 29  
 URL - <http://arxiv.org/abs/hep-ph/0506145>
31. Gandhi, R., Ghoshal, P., Goswami, S., Mehta, P. and Uma Sankar, S. (2005): *Large matter effects in  $\nu_\mu \rightarrow \nu_\tau$  oscillations*. **Phys. Rev. Lett.** 94, 051801 (2005).  
 Impact factor : 8.839 Citations - 59  
 URL - <http://link.aps.org/doi/10.1103/PhysRevLett.94.051801>
32. Datta, A., Gandhi, R., Mehta, P. and Uma Sankar, S. (2004): *Atmospheric neutrinos as a probe of CPT Violation*. **Phys. Lett. B** 597, 356-361 (2004).  
 Impact factor : 4.254 Citations - 59  
 URL - [10.1016/j.physletb.2004.07.035](http://10.1016/j.physletb.2004.07.035)
33. Goyal, A., Mehta, P. and Dutta, S. (2003): *Heavy quark production via leptoquarks at a neutrino factory*. **Phys. Rev. D** 67, 053006 (2003).  
 Impact factor : 4.833  
 URL - <http://link.aps.org/doi/10.1103/PhysRevD.67.053006>
34. Mehta, P., Dutta, S. and Goyal, A. (2002): *Leptoquark signals via neutrino interactions at neutrino factories*. **Phys. Lett. B** 535, 219-228 (2002).  
 Impact factor : 4.254 Citations - 04

URL - 10.1016/S0370-2693(02)01726-4

35. Datta, A., Gandhi, R., Mukhopadhyaya B. and Mehta, P. (2001): *Signals of R-parity violating supersymmetry in neutrino scattering at muon storage rings*

**Phys. Rev. D** 64, 015011 (2001).

Impact factor : 4.833

Citations - 29

URL - <http://link.aps.org/doi/10.1103/PhysRevD.64.015011>

## DUNE AND INO COLLABORATION DOCUMENTS

1. Abud, A. A. et al (2024) : *Doping Liquid Argon with Xenon in ProtoDUNE Single-Phase: Effects on Scintillation Light*

e-Print: 2402.01568 [physics.ins-det]

URL - <https://arxiv.org/abs/2402.01568>

2. Abud, A. A. et al (2023) : *The DUNE Far Detector Vertical Drift Technology, Technical Design Report*

e-Print: 2312.03130 [hep-ex]

URL - <https://arxiv.org/abs/2312.03130>

3. Abud, A. A. et al (2023) : *Impact of cross-section uncertainties on supernova neutrino spectral parameter fitting in the Deep Underground Neutrino Experiment*

**Phys. Rev. D** 107 (2023) 11, 112012 ; e-Print: 2303.17007 [hep-ex]

Impact factor - 4.833

Citations - 04

URL - <https://arxiv.org/abs/2303.17007>

4. Abud, A. A. et al (2022) : *Highly-parallelized simulation of a pixelated LArTPC on a GPU*

**JINST** 18 (2023) 04, P04034 ; e-Print: 2212.09807 [physics.comp-ph]

Impact factor - 1.366

URL - <http://arxiv.org/abs/2212.09807>

5. Abud, A. A. et al (2022) : *Identification and reconstruction of low-energy electrons in the ProtoDUNE-SP detector*

**Phys. Rev. D** 107 (2023) 9, 092012 ; e-Print: 2211.01166 [hep-ex]

Impact factor - 4.833

Citations - 02

URL - <http://arxiv.org/abs/2211.01166>

6. Abud, A. A. et al (2022) : *DUNE Offline Computing Conceptual Design Report*

e-Print: 2210.15665 [physics.data-an]

Citations - 01

URL - <http://arxiv.org/abs/2210.15665>

7. Abud, A. A. et al (2023) : *Reconstruction of interactions in the ProtoDUNE-SP detector with Pandora*

**Eur.Phys.J.C** 83 (2023) 7, 618 ; e-Print:2106.14521 [hep-ex]

Impact factor - 4.590

Citations - 04

URL - <http://arxiv.org/abs/2106.14521>

8. Abud, A. A. et al (2022) : *Separation of track- and shower-like energy deposits in ProtoDUNE-SP using a*



convolutional neural network

**Eur.Phys.J.C** 82 (2022) 10, 903 ; e-Print: arXiv:2203.17053 [physics.ins-det]

Impact factor - 4.590

Citations - 07

URL - <http://arxiv.org/abs/2203.17053>

9. Abud, A. A. et al (2022) : *Scintillation light detection in the 6-m drift-length ProtoDUNE Dual Phase liquid argon TPC*

**Eur.Phys.J.C** 82 (2022) 7, 618 ; e-Print: arXiv:2203.16134 [physics.ins-det]

Impact factor - 4.590

Citations - 10

URL - <http://arxiv.org/abs/2203.16134>

10. Abud, A. A. et al (2022) : *Snowmass Neutrino Frontier: DUNE Physics Summary*  
e-Print: arXiv:2203.06100 [hep-ex]

Citation - 35

URL - <http://arxiv.org/abs/2203.06100>

11. Abud, A. A. et al (2022) : *A Gaseous Argon-Based Near Detector to Enhance the Physics Capabilities of DUNE*

e-Print: arXiv:2203.06281 [hep-ex]

Citation - 11

URL - <http://arxiv.org/abs/2203.06281>

12. Abud, A. A. et al (2022) : *Low exposure long-baseline neutrino oscillation sensitivity of the DUNE experiment*  
**Phys. Rev. D** (2022) 7, 072006 ; e-Print: arXiv:2109.01304 [hep-ex]

Impact factor - 4.833

Citations - 21

URL - <http://arxiv.org/abs/2109.01304>

13. Abud, A. A. et al (2022) : *Design, construction and operation of the ProtoDUNE-SP Liquid Argon TPC*  
**JINST** 17 (2022) 01, P01005 ; e-Print: arXiv:2108.01902 [physics.ins-det]

Impact factor - 1.366

Citations - 51

URL - <http://arxiv.org/abs/2108.01902>

14. Abud, A. A. et al (2021) : *Searching for solar KDAR with DUNE*  
**JCAP** 10 (2021) 065 ; e-Print: 2107.09109 [hep-ex]

Impact factor - 5.839

Citations - 04

Citations - 06

URL - <http://arxiv.org/abs/2107.09109>

15. Abi, B. et al (2021) : *Experiment Simulation Configurations Approximating DUNE TDR*  
e-Print: arXiv:2103.04797 [hep-ex]

Citations - 56

URL - <http://arxiv.org/abs/2103.04797>

16. Abud, A. A. et al (2021) : *Deep Underground Neutrino Experiment (DUNE) Near Detector Conceptual Design Report*

**Instruments** 5 (2021) 4, 31 ; e-Print: arXiv:2103.13910 [physics.ins-det]

Impact factor - 1.523

Citations - 125

URL - <http://arxiv.org/abs/2103.13910>

17. Abi, B. et al (2021) : *Prospects for beyond the Standard Model physics searches at the Deep Underground Neutrino Experiment*

**Eur.Phys.J.C** 81 (2021) 04, 322 ; e-Print: arXiv:2008.12769 [hep-ex]

Impact factor - 4.590

Citations - 122

URL - <http://arxiv.org/abs/2008.12769>

18. Abi, B. et al (2021) : *Supernova neutrino burst detection with the Deep Underground Neutrino Experiment*  
**EPJC** 81 (2021) 05, 423 ; e-Print: arXiv:2008.06647 [hep-ex]  
Impact factor - 4.590 Citations - 96  
URL - <http://arxiv.org/abs/2008.06647>
19. Abi, B. et al (2020) : *First results on ProtoDUNE-SP liquid argon time projection chamber performance from a beam test at the CERN Neutrino Platform*  
**JINST** 15 (2020) 12, P12004 ; e-Print: arXiv:2007.06722 [hep-ex]  
Citations - 138  
URL - <http://arxiv.org/abs/2007.06722>
20. Abi, B. et al (2020) : *Long-baseline neutrino oscillation physics potential of the DUNE experiment*  
e-Print: arXiv:2006.16043 [hep-ex]  
Citations - 188  
URL - <http://arxiv.org/abs/2006.16043>
21. Abi, B. et al (2020) : *Neutrino interaction classification with a convolutional neural network in the DUNE far detector*  
e-Print: arXiv:2006.15052 [physics.ins-det]  
Citations - 01  
URL - <http://arxiv.org/abs/2006.15052>
22. Abi, B. et al (2020) : *Deep Underground Neutrino Experiment (DUNE), Far Detector Technical Design Report, Volume IV Far Detector Single-phase Technology*  
**JINST** 15 (2020) 08, T08010 ; e-Print: arXiv:2002.03010 [physics.ins-det]  
Impact factor - 1.366 Citations - 180  
URL - <http://arxiv.org/abs/2002.03010>
23. Abi, B. et al (2020) : *Deep Underground Neutrino Experiment (DUNE), Far Detector Technical Design Report, Volume III DUNE Far Detector Technical Coordination*  
**JINST** 15 (2020) 08, T08009 ; e-Print: arXiv:2002.03008 [physics.ins-det]  
Impact factor - 1.366 Citations - 64  
URL - <http://arxiv.org/abs/2002.03008>
24. Abi, B. et al (2020) : *Deep Underground Neutrino Experiment (DUNE), Far Detector Technical Design Report, Volume II DUNE Physics*  
e-Print: arXiv:2002.03005 [hep-ex]  
Citations - 494  
URL - <http://arxiv.org/abs/2002.03005>
25. Abi, B. et al (2020) : *Deep Underground Neutrino Experiment (DUNE), Far Detector Technical Design Report, Volume 1 Introduction to DUNE*  
**JINST** 15 (2020) 08, T08008 ; e-Print: arXiv:2002.02967 [physics.ins-det]  
Impact factor - 1.366 Citations - 385  
URL - <http://arxiv.org/abs/2002.02967>
26. Abi, B. et al (2018) : *The DUNE far detector Interim design report Volume 3: Dual-phase module*  
arxiv:1807.10340 [physics.ins-det]  
Citations - 73  
URL - <http://arxiv.org/abs/1807.10340>
27. Abi, B. et al (2018) : *The DUNE far detector Interim design report Volume 2: Single phase module*  
arxiv:1807.10327 [physics.ins-det]  
Citations - 79  
URL - <http://arxiv.org/abs/1807.10327>
28. Abi, B. et al (2018) : *The DUNE far detector Interim design report Volume 1: Physics, technology and strategies*  
arxiv:1807.10334 [physics.ins-det]  
Citations - 252

- URL - <http://arxiv.org/abs/1807.10334>
29. Abi, B. et al (2017) : *The Single-Phase ProtoDUNE Technical Design Report*  
arxiv:1706.07081 [physics.ins-det]
- Citations - 161
- URL - <http://arxiv.org/abs/1706.07081>
30. Kumar, A. et al [ICAL Collaboration] (2017) : *Invited review: Physics potential of the ICAL detector at the India-based Neutrino Observatory (INO)*.  
**Pramana - J. Phys.** (2017) 88:79, arXiv:1505.07380 [physics.ins-det].  
Impact factor - 0.520
- Citations - 276
- URL - [10.1007/s12043-017-1373-4](https://doi.org/10.1007/s12043-017-1373-4)
31. Acciarri, R. et al (2016) : *Long-Baseline Neutrino Facility (LBNF) and Deep Underground Neutrino Experiment (DUNE) Conceptual Design Report Volume 1: The LBNF and DUNE Projects*  
arxiv:1601.05471 [physics.ins-det]
- Citations - 504
- URL - <http://arxiv.org/abs/1601.05471>
32. Acciarri, R. et al (2016) : *Long-Baseline Neutrino Facility (LBNF) and Deep Underground Neutrino Experiment (DUNE) Conceptual Design Report, Volume 4 The DUNE Detectors at LBNF*  
arxiv:1601.02984 [physics.ins-det]
- Citations - 303
- URL - <http://arxiv.org/abs/1601.02984>
33. Acciarri, R. et al (2015) : *Long-Baseline Neutrino Facility (LBNF) and Deep Underground Neutrino Experiment (DUNE) Conceptual Design Report Volume 2: The Physics Program for DUNE at LBN*  
arxiv:1512.06148 [physics.ins-det]
- Citations - 990
- URL - <http://arxiv.org/abs/1512.06148>
34. Sajjad Athar, M. et. al [INO Collaboration] (2006): *India-based Neutrino Observatory : Project Report Volume 1*, INO-2006-01, 1–221.
- Citations - 47
- URL - <http://ino.tifr.res.in/ino/inoReports.php> ; <http://www.imsc.res.in/~ino/OpenReports/INORReport.pdf>
35. Gandhi, R., Mehta, P. and Uma Sankar, S. (2005): *Neutrino detectors of the future : A comparison table*.  
In: INO Project Report Volume 1 (Appendix F) 193–198.  
INO/HRI/2005/03.  
URL - <http://www.imsc.res.in/ino/Talks/tabmod0203.pdf>
36. Gandhi, R., Mehta, P. and Uma Sankar, S. (2005): *Matter effects in Atmospheric  $\mu^-/\mu^+$  in Magnetized Iron Calorimeters*. A note prepared for Solar and Atmospheric Working Group of American Physical Society.  
In: INO Project Report Volume 1 (Chapter 3: Neutrino physics with magnetized iron calorimeter) 24–27.  
HRI-P-04-10-001.  
URL - <http://www.imsc.res.in/~ino/OpenReports/INORReport.pdf>

## Conference Proceedings

- Masud, M., Mehta, P., Ternes, C. A. and Tortola, M (2022): *A geometrical look at neutrino oscillation probabilities with non-standard interactions*, Proceedings of the 17<sup>th</sup> International Conference on Topics in Astroparticle and Underground Physics (TAUP 2021) held during 26 August-3 September 2021, J. Phys. : Conference Series 2156, 2022, <https://iopscience.iop.org/issue/1742-6596/2156/1>
- Shafaq, S. and Mehta, P. (2020): *Impact of Non-standard Interactions on Violation of Leggett-Garg Inequality in Three-Flavour Neutrino Oscillations*, Proceedings, XXIV DAE-BRNS High Energy Physics Symposium : Bhubaneswar, India, December 14-18, 2020, published in Springer Proc.Phys. 277 (2022) 617-620
- Rout, J., Roy, S., Masud, M., Bishai, M. and Mehta, P. (2020): *Enhancing the Sensitivities to Standard Unknowns in Neutrino Oscillation Framework Using High-Energy Beams at DUNE*, Proceedings, XXIV DAE-

- BRNS High Energy Physics Symposium : Bhubaneswar, India, December 14-18, 2020, published in Springer Proc.Phys. 277 (2022) 559-563.
4. Dev, B. et al (including Mehta, P.) (2019) : *Neutrino non-standard interactions - a status report*. **SciPost Phys.Proc.** 2 (2019) 001 Citations - 155  
URL -10.21468/SciPostPhysProc.2.001, <https://arxiv.org/abs/1907.00991>
  5. Rout, J., Masud, M. and Mehta, P. (2018): *Impact of new physics on CP asymmetries at long baselines*, Springer Proc.Phys. 203 (2018) 795-797, Proceedings, XXII DAE High Energy Physics Symposium : Delhi, India, December 12 -16, 2016.
  6. Mehta, P. and Winter, W. (2011): *Probing new physics with high energy astrophysical neutrinos*, to appear in Proceedings of the XXV International Symposium on Lepton Photon Interactions at High Energies (Lepton Photon 11), August 2011.
  7. Mehta, P. (2010): *Topological phase in two flavor neutrino oscillations and imprint of the CPV phase*, Proceedings of the XXIV International Conference on Neutrino Physics and Astrophysics (Neutrino 2010) Athens, June 2010. Nucl. Phys. B. (Proc. Suppl.) 229, 467 (2012).  
URL - <http://www.sciencedirect.com/science/article/pii/S0920563212003210>
  8. Mehta, P. (2009): *The Pancharatnam phase in two flavor neutrino oscillations*, in Proceedings of the XXIV International Symposium on Lepton Photon Interactions at High Energies (Lepton Photon 09) Hamburg, August 2009.  
URL - <http://www-library.desy.de/preparch/desy/proc/proc10-04/P5.pdf>
  9. Chakraborty, J., Joshipura, A. S., Mehta, P. and Vempati, S. K. (2009): *Quasi-degenerate neutrinos and maximal mixing in hybrid seesaws*, in Proceedings of the XXIV International Symposium on Lepton Photon Interactions at High Energies (Lepton Photon 09), Hamburg, August 2009.  
URL - <http://www-library.desy.de/preparch/desy/proc/proc10-04/P28.pdf>
  10. Gandhi, R., Ghoshal, P., Goswami, S., Mehta, P., Uma Sankar, S. and Shalgar, S. (2008): *Neutrino mass hierarchy determination via atmospheric neutrinos with future detectors*. Proceedings of Neutrino 2008, Christchurch, New Zealand. J. Phys. Conf. Ser. 136:042015, 2008.  
URL - <http://iopscience.iop.org/1742-6596/136/4/042015/>
  11. Gandhi, R., Ghoshal, P., Goswami, S., Mehta, P. and Uma Sankar, S. (2008): *Neutrino mass hierarchy determination via atmospheric neutrinos in future detectors*. Proceedings of PANIC, Eilat 2008, Particles and nuclei (PANIC08), Israel, 827 (2008).  
URL - <http://dx.doi.org/10.1016/j.nuclphysa.2009.05.006>
  12. Mehta, P. (2005): *Atmospheric neutrinos as a probe of CPT violation*, Proceedings of the XX1st International Conference on Neutrino Physics and Astrophysics (Neutrino - 2004), Paris, June 2004, Nucl. Phys. B. (Proc. Suppl.) 143, 503 (2004).  
URL - 10.1016/j.nuclphysbps.2005.01.168
  13. Goswami, S. et al. (2004): *Working group report: Neutrino and Astroparticle Physics*, Proceedings of 8th Workshop on High-Energy Physics Phenomenology (WHEPP-8), IIT Mumbai, January 2004. Pramana 63, 1391 (2004).  
URL - <http://www.ias.ac.in/pramana/v63/p1391/fulltext.pdf>
  14. Dighe, A. et al. (2004): *Working group report: Low energy and flavor Physics*, Proceedings of 8th Workshop on High-Energy Physics Phenomenology (WHEPP-8), IIT Mumbai, January 2004. Pramana 63, 1359 (2004).  
URL - <http://www.ias.ac.in/pramana/v63/p1359/fulltext.pdf>
  15. Datta, A., Gandhi, R., Mukhopadhyaya B. and Mehta, P. (2001): *Signals of R-parity violating supersymmetry at a muon storage ring*. Proceedings of the XIV DAE Symposium on High Energy Physics, Hyderabad, December 2000, hep-ph/0105137.  
URL - <http://arxiv.org/abs/hep-ph/0105137>

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## Conferences/Seminars organisation

02 Feb 2024 **Member of the organizing team** for the seventh Convocation of JNU.

- 27-29 Oct 2023 **Member of the organizing team** for the **Materials for Energy and Sustainable Development (MESD)** at JNU.
- 10 Mar 2023 **Member of the organizing team** for the sixth Convocation of JNU.
- 09-11 Feb 2023 **Member of the International Advisory Board** for the International Conference on Quantum Computing and Communications, **QCC - 2023** at Baba Farid Group of Institutions, Bathinda.
- 02-05 Feb 2023 **Member of the organizing team** for the 16th RSC joint symposium in chemistry and 30th CRSI National Conference in Chemistry, **CRSI-RSC-16 and CRSI-NSM-30** at JNU.
- 24-26 Nov 2022 **Member of the organizing team** for the National Conference and Expo on role of Women in Science and Technology for Sustainable Development, **Science Technology Research and Entrepreneurship Enhancement (STREE) 2022** at JNU. Postponed due to the COVID19 Pandemic.
- 28 - 29 Mar 2022 **Co-organiser** (with Dr. Amit Rai) of the SPS March Meeting on "Recent developments in Quantum Optics and Quantum Information" held in the hybrid mode (inaugural session was held offline ; all the invited talks were held online) at the School of Physical Sciences, JNU.
- 30 Sep 2021 **Member of the organizing team** for the fifth Convocation of JNU (held online).
- 18 Nov 2020 **Member of the organizing team** for the fourth Convocation of JNU (held online).
- 8 Mar 2019 **Member of the organizing team** (with Prof. Vibha Tandon and others) for the Women's Conclave 2019 at JNU.
- 26 Mar - 20 Apr 2018 **Course Coordinator** (with Dr. Sheetal Sharma of School of International Studies, JNU) for the 1<sup>st</sup> Refresher course on "Liberal Arts (interdisciplinary)" at HRDC, JNU held during 26 Mar - 20 Apr 2018 at Jawaharlal Nehru University, New Delhi.
- 18-23 Dec 2017 **Course Coordinator** for the GIAN course on "Dark Matter: the Astroparticle Perspective" by Prof. Subir Sarkar (Oxford University and Niels Bohr Institute, Copenhagen) under the Global Initiative of Academic Networks (GIAN) of MHRD, Government of India held during 18-23 Dec 2017 at Jawaharlal Nehru University, New Delhi.
- 14-23 Dec 2017 **Co-convener** (with Dr. Manimala Mitra) of the Working Group (WG III) on Neutrino Physics for the Workshop in High Energy Particle Physics XV, IISER Bhopal held during 14-23 Dec 2017.
- 17-18 Mar 2017 **Co-organiser** (with Dr. Tanuja Mohanty and Dr. Rabindra Nath Mahato) of the SPS March Meeting on "Perspectives on Graphene and Graphene like 2D materials" at School of Physical Sciences, JNU.

## Other Activities

- Guest Editor, Special Issue of Physics News "Showcasing cutting edge research of young women physicists in India", Indian Physics Association, 2023
- Member, DUNE Authorship and Publications Board (APB), 2022 - present.
- External expert, Doctoral Committee of a Ph D student (Mr. Vishal M C ) of Dr. Suprabh Prakash, Vellore Institute of Technology - Chennai Campus.
- External expert, Doctoral Committee of a Ph D student (Mr. Srinivasan T) of Dr. Suprabh Prakash, Vellore Institute of Technology - Chennai Campus.
- External expert, Doctoral Committee of a Ph D student (Ms. Dipthi S) of Dr. Suprabh Prakash, Vellore Institute of Technology - Chennai Campus.
- External expert, Student Research Committee (SRC) of a Ph D student (Ms. Vaidehi S Nattoja) of Dr. Tobias Toll, Department of Physics, IIT Delhi.

- External expert, Student Research Committee (SRC) of a Ph D student (Mr. Pankaj Borah) of Dr. Pradipta Ghosh, Department of Physics, IIT Delhi.
- Served as theoretical physics expert to evaluate presentations by the participants of the
  - ◇ 20<sup>th</sup> Refresher Course in Physical Sciences and Nanosciences held at HRDC, JNU (Jul. 23, 2022),
  - ◇ 19<sup>th</sup> Refresher Course in Physical Sciences and Nanosciences held at HRDC, JNU (Jan. 20, 2022),
  - ◇ 18<sup>th</sup> Refresher Course in Physical Sciences and Nanosciences held at HRDC, JNU (Nov. 27, 2020),
  - ◇ 1<sup>st</sup> Physics Refresher Course held at HRDC, JNU (Oct. 29, 2015) and,
  - ◇ 14<sup>th</sup> Physics Refresher Course held at Academic Staff College (ASC), JNU (Oct. 16, 2014).
- Served as physics expert to evaluate/review proposals submitted under PMRF.
- Served as physics expert to evaluate proposals submitted under GIAN, MHRD.
- Served as physics expert in the KVPY interviews held at
  - ◇ Delhi University (Jan. 25, 2020),
  - ◇ Delhi University (Feb. 17-18, 2018),
  - ◇ IISER Mohali (Jan. 24-26, 2015) and
  - ◇ ISI Delhi (Feb 2013).
- Served as external examiner for Physics laboratory course of the
  - ◇ B.Sc. (Pass/Inst) sem-V course at JMI, New Delhi (Dec. 01, 2015) and ,
  - ◇ B.Sc. (Pass/Inst) sem-V course at JMI, New Delhi (Nov. 28, 2014).
- Participated in the counselling for admissions conducted by Joint Seat Allocation Authority (JOSAA) 2018 at JNU (Jun - Jul, 2018).
- Refereeing for journals (APS, JHEP, Pramana)
- I initiated (in 2015) and got a Memorandum of Understanding (MoU) signed between the Homi Bhabha National Institute (HBNI) and JNU in 2017. This MoU facilitates co-supervision of students working in any of the DAE institutions under HBNI by JNU faculty in any of the science streams. **Dr. Samiran Roy** at HRI had registered for PhD with myself and Prof. Raj Gandhi at HRI under this MoU.
- Participated as a subject expert in three day Workshop on Identification of Subject Wise Resources for Teachers, organized by the National Resource Centre for Education (NRCE), on 6-8 June, 2018 at the National Institute of Educational Planning and Administration (NIEPA), New Delhi. (Jun, 2018)

## Other Conferences and Schools

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|----------------------|---|
| 4-10 Dec, 2023       | <i>International Conference on Quantum Information Processing and Applications (QIPA 2023)</i> , HRI, Prayagraj, India. |
| May 30 - Jun 4, 2022 | The XXX International conference on Neutrino Physics and Astrophysics (Neutrino 2022), held online, Seoul, Korea.       |
| 20 Sep - 4 Oct 2021  | 5th Refresher Course in Environmental Studies (Interdisciplinary) in the online mode , HRDC, JNU, India.                |
| Jun 19, 2021         | Workshop on "Integrating Online & Offline Classroom Management & Evaluation Using Teachomatrix", JNU                    |
| June 7-12, 2021      | 28th International Workshop on Weak interactions and Neutrinos (WIN2021), held online, University of Minnesota, USA.    |

- May 31- June 04, 2021 International workshop "Invisibles21", held online, Spain.
- Feb 18-26, 2021 XIX International Workshop on Neutrino Telescopes, held online, Padova, Italy.
- Feb 19-20, 2021 International Workshop on "Outlook for INO, IICHEP and beyond", INO Collaboration.
- Jul 11-12, 2020 Fourth JNU workshop on "Going Online: Classroom, Field Work & Research (JNU-WETOM IV)", JNU
- Jun 22 - Jul 2, 2020 The XXIX International Conference on Neutrino Physics and Astrophysics (Neutrino 2020) held online, Chicago, USA.
- May 16-17, 2020 Online international conference on "Moving Online: Pedagogical Practices with Safety and Security", 16-17 May, 2020, JNU.
- May 6, 2020 Deusto & India - second Webinar on "Teaching, learning and assessment methodologies on distance learning", JNU.
- Apr 30 - May 1, 2020 Online workshop on "Design, Develop and Deliver Online Courses with MOODLE Learning Management System" organised by UGC-HRDC, JNU from April 30 to May 1, 2020.
- Apr 18-19, 2020 First JNU workshop on "Empowering teaching through Online Mode (JNU-WETOM)", JNU from April 18-19, 2020.
- 9 - 21, Dec 2019 6th Refresher Course in Contemporary Studies (Natural and Social Sciences) (IDC) , HRDC, JNU, India.
- Apr 4 - 5, 2019 Two days workshop on "Fundamentals of MOOC for E-content development" organised by IQAC and SCEL, JNU from April 4-5, 2019.
- Aug - Sep 2018 16th Refresher course in Physical Sciences/Nano Science, HRDC, JNU, India.
- Jan 2018 Neutrino Platform Week jointly organised by CERN Theory Neutrino Platform and Fermilab Theory group, CERN, Geneva.
- Jun 2015 International conference on Particles, Strings and Cosmology (PASCOS 2015), ICTP, Trieste, Italy.
- April - May 2015 95th Orientation Programme, Academic Staff College (ASC), JNU, India.
- April 2015 INO Collaboration Meeting, IIT Madras, Chennai, India.
- Oct 2014 International conference on Matters of Gravity and the Universe, CTP, Jamia Milia Islamia, New Delhi, India.
- Dec 2011 International workshop on dark energy, CTP, Jamia Milia Islamia, New Delhi, India.
- Nov 2011 Mini-workshop on cosmology and galaxies, IIA, Bangalore, India.
- Jun 2011 International workshop on cosmic rays and cosmic neutrinos (Nusky 2011), ICTP, Trieste, Italy.
- 23-25 Feb 2011 NuHoRizons IV, HRI, Allahabad, India.
- Aug 2010 Conference on Radicals in Science: Nature or Nurture, RRI, Bangalore, India.
- 8-10 Feb 2010 NuHoRizons III, HRI, Allahabad, India.
- Jul 2009 Workshop towards neutrino technologies, ICTP, Trieste, Italy.
- Mar 2008 National conference on Showcasing cutting edge science and technology by women, Vigyan Bhawan, New Delhi, India.
- Dec 2006 School on Physics at the LHC-II, Technion and Weizmann Institute of Science, Israel.
- Dec 2006 Topical Meeting on Physics at the LHC, HRI, Allahabad, India.
- Nov 2006 School on Physics at the LHC-I, Technion and Weizmann Institute of Science, Israel.
- Jun 2006 Research Workshop of the Israel Science Foundation on Nuclear Structure and Astrophysics with Radioactive beams, Weizmann Institute of Science, Rehovot, Israel.
- Apr 2006 John Bahcall Physics Day, Tel Aviv University, Tel Aviv, Israel.



Oct 2005 INO Simulations Meeting, HRI, Allahabad, India.  
 Aug 2005 The Les Houches School on Particle Physics beyond the Standard Model, Les Houches, France.  
 Mar 2005 INO Simulations Meeting, IMSc, Chennai, India.  
 Jun 2004 School on Astroparticle Physics and Cosmology, ICTP, Trieste, Italy.  
 Mar 2003 Interaction Meeting on INO, SINP & VECC, Calcutta, India.  
 Jan 2003 INO Meeting, TIFR, Mumbai, India.  
 Jan 2003 IX International Symposium on Particles, Strings and Cosmology (PASCOS'03), TIFR, Mumbai, India.  
 Sep 2002 School on Neutrino Physics and Astrophysics (NEUPAST), ICTP, Trieste, Italy.  
 Feb 2001 XVI SERC School on Theoretical High Energy Physics, HRI, Allahabad, India.  
 Oct 1998 Introductory School in Astronomy & Astrophysics (ISAA'98), Sri Venketeswara College, University of Delhi, Delhi, India.  
 May 1998 Introductory Summer School in Astronomy & Astrophysics, IUCAA, Pune, India.

## Visits to Other Institutes

Aug - Sep 2019 Brookhaven National Laboratory, USA  
 Jan - Feb 2018 CERN, Geneva, Switzerland  
 Dec 2017 - Jan 2018 HRI, Allahabad  
 Jun - Jul 2017 CERN, Geneva, Switzerland  
 Apr - May 2017 Brookhaven National Laboratory, USA  
 Dec 2016 - Jan 2017 HRI, Allahabad  
 May 2016 HRI, Allahabad  
 May - Jul, 2014 Astroparticle Physics Theory Group, DESY, Zeuthen, Germany  
 Jul 01 - 16, 2012 High Energy Section, ICTP, Trieste, Italy  
 Jun - Jul, 2012 Galileo Galilei Institute, Florence, Italy  
 Jun 11 - 17, 2012 Institut für Theoretische Physik und Astrophysik, Universität Würzburg, Germany  
 Nov - Dec, 2011 RRI, Bangalore, India  
 Sep 14 - 16, 2011 IISER, Mohali, India  
 Jul 16 - 23, 2011 Institut für Theoretische Physik und Astrophysik, Universität Würzburg, Germany  
 Jul 06 - 09, 2010 Institut für Theoretische Physik und Astrophysik, Universität Würzburg, Germany  
 Sep 12 - 19, 2009 Centro de Fisica Teorica das Particulas, Departamento de Fisica, Instituto Superior Tecnico, Lisboa, Portugal  
 Sep 2009 Institut für Theoretische Physik E, RWTH Aachen University, Germany  
 Jul 19 - 25, 2009 Institut für Theoretische Physik und Astrophysik, Universität Würzburg, Germany  
 Nov, Dec 2006 Harish-Chandra Research Institute, Allahabad, India  
 Jun, Sep 2005 Department of Particle Physics, Weizmann Institute of Science, Rehovot, Israel  
 Mar - Apr, 2005 IMSc, Chennai, India  
 Jun - Jul, 2004 High Energy Section, ICTP, Trieste, Italy