Poonam Mehta

Curriculum Vitae

School of Physical Sciences
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http://www.jnu.ac.in/SPS/Faculty.asp

Personal Information

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

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.
Advisor - Prof. Ashok K. Goyal

1997 - 1999 **M.Sc. in Physics**, *Department of Physics and Astrophysics, University of Delhi*, Delhi, Specialisation - Astrophysics and Computational Physics.

1994 - 1997 **B.Sc. (Honours) Physics**, *Acharya Narendra Dev College, University of Delhi*, New Delhi.

Professional Employment

2013 - present **Assistant Professor (UGC)**, *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, Geometric aspects of quantum mechanics .

Scholarships, Grants and Awards

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.

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).

1997 - 1999 **All India Post Graduate Scholarship (AIPGS)** for two years by University of Delhi, India.

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.

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]

Adminstration

2016 - 2020	Proctor, JNU
Oct 2013 - present	Warden, Tapti Hostel, JNU
Apr - Jul, 2020	Warden, Yamuna Hostel, JNU

Teaching

May 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. (2 awarded + 3 ongoing)

2013 - 2020 *Mr. 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)]

2017 - 2020 *Mr. 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) ; Supervised jointly with Prof. Raj Gandhi at Harish-Chandra Research Institute, Allahabad under the JNU-HBNI Memorandum of Understanding.]

2016 - present *Ms. Sheeba Shafaq, SPS, JNU*

2019 - present *Ms. Sabila Parveen, SPS, JNU*

2021 - present *Mr. Oddharak Tyagi, SPS, JNU*

M.Sc. (14 completed)

Jan - Jun 2021 *Shuvendu Roy, SPS, JNU* Project title : Unitarity matrices, symmetries and their violation.

Jan - Jun 2021 *Tanima Chanda, SPS, JNU* Project title : Neutrino oscillations in vacuum - perspective from unitarity triangles.

Jan - Jun 2021 *Tanmay Kushwaha, SPS, JNU* Project title : Rephasing invariants in quark and lepton sector.

Jan - Jun 2020 *Kumar Yash, SPS, JNU* ; Project title : Some aspects of neutrino oscillations. (Presently doing PhD at IISER, Pune.)

Jan - May, 2019 *Kalya Krishna, SPS, JNU* ; Project title : Some aspects of neutrino oscillations. (Presently doing PhD at IIST, Trivandrum)

Jan - May, 2019 *Pankaj Saini, SPS, JNU* ; Project title : Some aspects of neutrino oscillations. (Presently doing PhD at CMI, Chennai)

Jan - May, 2019 *Deepak Saini, SPS, JNU* ; Project title : Some aspects of neutrino oscillations.

Jan - May, 2018 *Ashu Kushwaha, SPS, JNU* ; Project title : Neutrino oscillations in flat and curved space time. (Presently doing PhD at IIT Bombay)

Jan - May, 2018 *Dharmendra Kumar, SPS, JNU* ; Project title : Geometric phases and neutrino oscillations. (Presently doing PhD at MNIT Jaipur)

Jan - May, 2017 *Devender Kumar, SPS, JNU* ; Project title : CP, T and CPT violation in neutrino oscillations. (Presently doing PhD at IIT Guwahati)

Jan - May, 2017 *Satyendra Rajput, SPS, JNU* ; Project title : Three flavour neutrino oscillations and CP/T violation.

Jan - May, 2017 *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 *Riya Nandi, SPS, JNU* ; Project title : Standard and non-standard neutrino matter interactions. (Presently doing PhD at Virginia Tech)

Jan - May, 2014 *Augniva Ray, SPS, JNU* ; Project title : Neutrino oscillations and quantum decoherence. (Presently doing PhD at Saha Institute for Nuclear Physics)

Summer Program and Project Students

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

Publications

1. 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
   URL - https://link.springer.com/article/10.1007/JHEP05(2021)171
2. Rout, J., Shafaq, S., Bishai, M. and Mehta, P. (2020) : *Physics prospects of second oscillation maximum at the Deep Underground Neutrino Experiment*
   Phys. Rev. D 103, 116003 (2021)
   Impact factor - 4.833 Citation - 01
   URL - https://journals.aps.org/prd/abstract/10.1103/PhysRevD.103.116003
3. 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 Citation - 01
   URL - https://iopscience.iop.org/article/10.1088/1361-6471/abff0d
4. 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 - 03
   URL - https://journals.aps.org/prd/abstract/10.1103/PhysRevD.102.116018
5. 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 - 03

URL - https://journals.aps.org/prd/abstract/10.1103/PhysRevD.101.055009

6. Dev, B. et al (including Mehta, P.) (2019) : *Neutrino non-standard interactions - a status report.*
   SciPost Phys.Proc. 2 (2019) 001 Citations - 72
   URL -10.21468/SciPostPhysProc.2.001, https://arxiv.org/abs/1907.00991
7. 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 - 17
   URL - https://journals.aps.org/prd/abstract/10.1103/PhysRevD.99.115032
8. 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 Citations - 19
   URL - https://www.nature.com/articles/s41598-018-36790-6
9. 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
10. 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
11. 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 Citations - 20
    URL - https://journals.aps.org/prd/abstract/10.1103/PhysRevD.95.075035
12. 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 Citations - 56
    URL - http://journals.aps.org/prd/abstract/10.1103/PhysRevD.94.053007
13. 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 Citations - 68
    URL - http://journals.aps.org/prd/abstract/10.1103/PhysRevD.94.013014
14. 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 Citations - 77
    URL - http://iopscience.iop.org/article/10.1088/0954-3899/43/9/095005/meta
15. Roychowdhury, K., Wadhawan, D., Mehta, P., Karmakar, B. and Das, S. (2016) : *Quantum Hall realization of polarized intensity interferometry.*
    Phys. Rev. B93, 220101 (Rapid communication) (2016).
    Impact factor - 3.813
    URL - http://journals.aps.org/prb/abstract/10.1103/PhysRevB.93.220101
16. 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
17. 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 Citations - 31
URL - http://journals.aps.org/prd/abstract/10.1103/PhysRevD.93.093017

18. 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 Citations - 3
URL - http://iopscience.iop.org/0295-5075/97/5/50011/
19. 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 - 36
URL - http://iopscience.iop.org/1475-7516/2011/03/041/
20. 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 - 6
URL - http://link.aps.org/doi/10.1103/PhysRevA.82.034102
21. 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
22. Chakrabortty, 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
23. Mehta, P. (2009): *Geometric imprint of CP violation in two flavor neutrino oscillations.*
arXiv:0907.0562 [hep-ph].
Citations - 6
URL - http://arxiv.org/abs/0907.0562
24. Mehta, P. (2009): *Topological phase in two flavor neutrino oscillations.*
Phys. Rev. D 79, 096013 (2009).
Impact factor : 4.833 Citations - 28
URL - http://link.aps.org/doi/10.1103/PhysRevD.79.096013
25. 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 - 102
URL - http://link.aps.org/doi/10.1103/PhysRevD.76.073012
26. 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 - 98
URL - http://link.aps.org/doi/10.1103/PhysRevD.73.053001
27. Gandhi, R., Ghoshal, P., Goswami, S., Mehta, P. and Uma Sankar, S. (2005): *Probing the ν mass hierarchy via atmospheric $\nu_\mu + \bar{\nu}_\mu$ survival rates in megaton water cerenkov detectors.*
hep-ph/0506145.
Citations - 28
URL - http://arxiv.org/abs/hep-ph/0506145
28. Gandhi, R., Ghoshal, P., Goswami, S., Mehta, P. and Uma Sankar, S. (2005): *Large matter effects in $\nu_\mu \to \nu_\tau$ oscillations.*
Phys. Rev. Lett. 94, 051801 (2005).
Impact factor : 8.839 Citations - 57
URL - http://link.aps.org/doi/10.1103/PhysRevLett.94.051801

29. 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 - 54
URL - 10.1016/j.physletb.2004.07.035
30. 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
31. 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
32. 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 - 28
URL - http://link.aps.org/doi/10.1103/PhysRevD.64.015011

DUNE AND INO COLLABORATION DOCUMENTS

1. Abud, A. A. et al (2020) : *Experiment Simulation Configurations Approximating DUNE TDR*
e-Print: arXiv:2103.04797 [hep-ex]
Citations - 04
URL - http://arxiv.org/abs/2103.04797
2. Abud, A. A. et al (2020) : *Deep Underground Neutrino Experiment (DUNE) Near Detector Conceptual Design Report*
e-Print: arXiv:2103.13910 [physics.ins-det]
Citations - 05
URL - http://arxiv.org/abs/2103.13910
3. Abi, B. et al (2021) : *Prospects for beyond the Standard Model physics searches at the Deep Underground Neutrino Experiment*
EPJC 81 (2021) 04, 322 ; e-Print: arXiv:2008.12769 [hep-ex]
Impact factor - 4.843 Citations - 21
URL - http://arxiv.org/abs/2008.12769
4. Abi, B. et al (2020) : *Long-baseline neutrino oscillation physics potential of the DUNE experiment*
e-Print: arXiv:2006.16043 [hep-ex]
Citations - 03
URL - http://arxiv.org/abs/2006.16043
5. 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
6. 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 - 46
URL - http://arxiv.org/abs/2002.03010

7. 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 - 18
URL - http://arxiv.org/abs/2002.03008
8. 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 - 141
URL - http://arxiv.org/abs/2002.03005
9. 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 - 102
URL - http://arxiv.org/abs/2002.02967
10. Abi, B. et al (2018) : *The DUNE far detector Interim design report Volume 3: Dual-phase module*
arxiv:1807.10340 [physics.ins-det]
Citations - 51
URL - http://arxiv.org/abs/1807.10340
11. Abi, B. et al (2018) : *The DUNE far detector Interim design report Volume 2: Single phase module*
arxiv:1807.10327 [physics.ins-det]
Citations - 59
URL - http://arxiv.org/abs/1807.10327
12. 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 - 177
URL - http://arxiv.org/abs/1807.10334
13. Abi, B. et al (2017) : *The Single-Phase ProtoDUNE Technical Design Report*
arxiv:1706.07081 [physics.ins-det]
Citations - 112
URL - http://arxiv.org/abs/1706.07081
14. 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 - 193
URL - 10.1007/s12043-017-1373-4
15. 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 - 389
URL - http://arxiv.org/abs/1601.05471
16. 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 - 258
URL - http://arxiv.org/abs/1601.02984
17. 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 - 744

URL - http://arxiv.org/abs/1512.06148

18. Sajjad Athar, M. et. al [INO Collaboration] (2006): *India-based Neutrino Observatory : Project Report Volume 1*, INO-2006-01, 1–221.

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URL - http://ino.tifr.res.in/ino/inoReports.php ; http://www.imsc.res.in/∼ino/OpenReports/INOReport.pdf

19. 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
20. Gandhi, R., Mehta, P. and Uma Sankar, S. (2005): *Matter effects in Atmospheric μ^-/μ^+ 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/INOReport.pdf

Summary of publication data

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Conference Proceedings

1. Shafaq, S. and Mehta, P. (2020): *Enhanced violation of Leggett-Garg Inequality in three flavour neutrino oscillations via non-standard interactions*, Proceedings, XXIV DAE-BRNS High Energy Physics Symposium : Bhubaneswar, India, December 14-18, 2020.
2. 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*, Proceedings, XXIV DAE-BRNS High Energy Physics Symposium : Bhubaneswar, India, December 14-18, 2020.
3. 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.
4. 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.
5. 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
6. 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
7. Chakrabortty, 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
8. 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/

9. 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
10. Mehta, P. (2005): *Atmospheric neutrinos as a probe of CPT violation*, Proceedings of the XXIst 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
11. 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
12. 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
13. 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

Conferences/Seminars organisation

2021 **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) 2021** at JNU.

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^{st} 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.

Presentations at Conferences and Talks

28 Feb, 2021	Invited Online Lecture on *National Science Day 2021* organised by the national committee of the International Association of Physics Students {iaps}.
	Talk : India-based Neutrino Observatory : a promising indigenous mega science project.
26 Feb, 2021	Invited Online Lecture in the series *"HEP Seminars (Theory and Phenomenology seminars)"* at Department of Physics, IIT Delhi.
	Talk : Some aspects and prospects of neutrino physics.
14-15 Oct 2020	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.
	Talks : Going online : Aspects and Prospects - I and II.
24 Sep 2020	Invited lecture in the short term course during 21-26 Sep 2020, Human Resource Development Centre, JNU, New Delhi.
	Talk : Women in Science.
4 Aug, 2020	"India-HyperKamiokande" mini-collaboration Online Meeting.
	Talk : Expression of interest in joining India-HyperKamiokande collaboration.
10 June, 2020	Invited Online Lecture during Week 7 of *INO Online Lecture Series, INO Collaboration.*
	Talk : Neutrino oscillations and the matter - antimatter asymmetry
10 May, 2020	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
	Talk : Developing e-content using MOODLE.
29 Jan and 1 Feb, 2020	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
	Talk : Big world of small neutrinos - the Nobel Connection
21-24 Jan 2020	Invited seminar at joint RRI-ICTS Discussion meeting on *Geometric phases in optics and topological matter)*, ICTS, Bengaluru.
	Talk : Three faces of the geometric phase.
21 Jan 2020	Invited lecture in the 116^{th} *Orientation Programme* during 6-25 Jan 2020, Human Resource Development Centre, JNU, New Delhi.
	Talk : Introduction to neutrino physics.
20 Sep 2019	Invited seminar at *Pressing for Progress 2019 (1^{st} IPA National Conference towards Gender equity in Physics)*, University of Hyderabad, India
	Talk : A geometric view of neutrino oscillations.
30 Aug 2019	High Energy Theory lunch seminar, Brookhaven National Laboratory, USA
	Talk : A geometric view of neutrino oscillations.
31 May 2019	Invited talk at the NTN workshop on *Neutrino non-standard interactions*, Washington University at St. Louis, USA (via Skype)
	Talk : New physics with DUNE alternative configurations.
23 Jan 2019	Invited talk at *Conference on particle physics and cosmology*, University of Hyderabad, India
	Talk : Impact of new physics at long baseline experiments.
13 Dec 2018	Invited talk at *The quest for new physics*, University of Valencia, Spain
	Talk : Impact of NSI at long baseline experiments.
1 Nov 2018	Invited talk at *Workshop on Indo-US Neutrino Collaboration during 1-2 Nov, 2018*, TIFR, Mumbai (via Skype)
	Talk : Imprints of nonstandard interactions at DUNE.
18 Jul 2018	Invited Plenary talk at *International Symposium on Neutrino Frontiers*, Vietnam. (via Skype)
	Talk : Impact of new physics at long baseline experiments.
22 May 2018	Lecture at *Central University of Himachal Pradesh*, Dharamshala.
	Talk : Neutrino oscillations, CP violation and long baseline experiments

9 Mar 2018 Talk at *Advances in Astroparticle Physics and Cosmology (AAPCOS)*, SINP, Kolkata.

Talk : Hunt for CP violation at long baseline neutrino experiments.

21 Feb 2018 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-convener 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^{st} *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^{th} *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^{th} *Refresher course in Physics*, Academic Staff College, JNU, New Delhi.

Talk : Neutrino Physics : An introduction.

Sept 2012 Invited lecture in the 12^{th} *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 ν ? Invisibles ITN* 1^{st} *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)*, Collége 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 : ν_μ 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.

Other Conferences and Schools

Jun 19, 2020 Workshop on "Integrating Online & Offline Classroom Management & Evaluation Using Teachomatrix", JNU

June 7-12, 2021 Online international workshop on "Weak interactions and neutrinos (WIN2021)", USA.

May 31- June 04, 2021 Online international workshop "Invisibles21", Spain.

Feb 18-26, 2021 Online international conference "Neutrino Telescopes", 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 - Jul, 2020	Online international conference "Neutrino 2020", Chicago, USA.
May 16-17, 2020	Online international conference on “Moving Online: Pedagogical Practices with Safety & 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.
Aug - Sep 2018	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 (HRDC), 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	GGI, 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

Skills Summary

- Extensively programmed and developed algorithms for several years using F77; familiar with C.

- Comprehensively used the Numerical Recipes Fortran-77 libraries for numerical exercises to solve differential equations, performed integrations, interpolation, Monte Carlo techniques, and a host of other numerical problems.
- Operating systems: UNIX/Linux, Windows, Mac.
- Packages: Latex, Prosper, Beamer, Gnuplot, Jaxodraw, Xfig, Xmgrace, Mathematica, familiar with Origin, MSWord, familiar with MSExcel, Powerpoint, GEANT, NUANCE.

Other Activities

- External expert, Student Research Committee (SRC) of a Ph D student (Mr. Pankaj Borah) of Dr. Pradipta Ghosh, Department of Physics, IIT Delhi.
- Member, Security Advisory Committee, JNU (Oct 2020 - present).
- Member, Executive Council (EC) Election Committee, JNU (Dec 2020).
- Member, Health Advisory Committee, JNU
- Served as theoretical physics expert to evaluate presentations by the participants of the 18th Refresher Course in Physical Sciences and Nanosciences held at HRDC, JNU (Nov. 27, 2020) and for Physics Refresher Course held at HRDC, JNU (Oct. 28, 2015) and for the Physics Refresher Course held at Academic Staff College, JNU (Oct. 16, 2014).
- 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), at IISER Mohali (Jan. 24-26, 2015) and at 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 for the Physics laboratory course of the 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. **Mr. 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)