



University Faculty Details Page on DU Web-site

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Title	Prof.	First Name	BRAJESH CHANDRA	Last Name	CHOUDHARY	Photograph
Designation	PROFESSOR					
Department	Department of Physics & Astrophysics					
Address (Campus)	Room No: 159/189/180, Multistoried Block Department of Physics & Astrophysics University of Delhi, Delhi – 110 007					
	(Residence)	A1/2, Maurice Nagar, Delhi – 110 007				
Phone No (Campus)	+91 - 11 – 2766 7725 (Ext. – 1431) (Office)					
	(Residence)	Not to be displayed. Please send email.				
Mobile	Not to be displayed. Please send email.					
Fax	No need for FAX. Please scan and email.					
Email	brajesh@fnal.gov , brajesh.choudhary@cern.ch					
Web-Page						
Education						
Subject	Institution	Year	Details			
Ph.D.	University of Delhi, Delhi	1992	Thesis topic: A Study of High Transverse Momentum Direct Photon Production in Interactions of 500 GeV/c piminus and proton beams on a Beryllium Target			
M.Sc. (Physics)	Patna University, Patna	1984	Subjects: Physics (Special Paper – Advanced Quantum Mechanics)			
B.Sc. (Physics – Hons.)	Patna University, Patna	1981	Subjects: Physics (Honors), Mathematics & Statistics			
Career Profile						
Organization / Institution	Designation	Duration	Role			
University of Delhi, Delhi	Professor	27.01.2004 – Present	Teaching, Research, Administration, mentoring and guiding PhD students			
Durham University, Durham, UK	Visiting Professor	1.1.2014 – 1.1.2016	Collaborative Research, Lectures			
Fermi National Accelerator Laboratory, Batavia, IL, USA	Scientist	2002 – 2006	Research, Accelerator Development and Operation, Detector Development			
California Institute of Technology, Pasadena, CA, USA	Research Faculty	1997-2002	Research, Detector Development, Mentoring PhD Students			
Institute of Physics, Bhubaneswar, India	Senior Lecturer	1996 - 1997	Teaching, Research, Guiding PhD students			
University of California,	Post-Doctoral Fellow	1992-1996	Research, Mentoring PhD students			

Riverside, USA			
University of Delhi, Delhi, India	PhD Student	1987-1992	Research
O.N.G.C	Geo Physicist	1985	Oil and Natural Gas Exploration

Research Interests / Specialization

Experimental High Energy Particle Physics and Astrophysics. Detector and Accelerator Development.

Current Interest (On Going Projects):

1. Proton-Proton Collider (CMS Experiment at CERN, Switzerland since 2004). DST Funded. **Indian Spokesperson from 8/2017 to 8/2021.**
2. "The Elusives Enetrprises – Symmetries of the Invisible Universe - ELUSIVES". European ITN project (H2020-MSCA-ITN-2015/674896-Elusives, Marie Sklodowska-Curie Actions). Horizon 2020 of EU. April 2016 – March 2020. **PI of the DU group.**
3. "Neutrino, Dark Matter and Dark Energy Physics and their Connections – Invisibles Plus" – Horizon 2020 of EU. (690575 – InvisiblesPlus – H2020-MSCA-RISE-2015). February 2016 - January 2020. **PI of the DU group.**
4. "Indian Institutions-Fermilab Collaboration in Neutrino Physics". DST Funded. 2019 – 2024. **Indian Spokesperson.**

In Past (1987-2018)

5. Fixed Target Hadron-Hadron Collider (E706 at Fermilab, USA, 1987-1991)
6. Proton Anti-Proton Collider (D0 Experiment at Fermilab, USA, 1992-1997, October 2003 - 2012)
7. Monopole, Astrophysics and Cosmic Ray Observatory (MACRO, LNGS, Italy, 1997-2002) - Search for Monopoles and Atmospheric Neutrino Oscillations
8. Long Baseline Neutrino Oscillation and Atmospheric Neutrino Oscillation (MINOS, Fermilab & Soudan, USA, (1997-2006)
9. NOvA - Long Baseline $\nu(\mu)$ to $\nu(e)$ Oscillation Experiment (2002-2006)
10. Detector Development for High Energy Physics Experiments (E706, MINOS, NOvA) and Accelerator Beam lines SY120, Recycler Ring and Main Injector at Fermilab, USA.
11. Accelerator Development and Operation of Main Injector, Recycler and Switch Yard 120 at Fermilab, USA, 2002 to 2006.
12. Neutrino, Dark Matter and Dark Energy Physics and their Connections - Invisibles – European ITN Project (FP7-PEOPLE-2011-ITN, PITN-GA-2011-289442-INVISIBLES) April 2012 - March2016. EU supported.
13. Neutrino Experiments/Projects at Fermilab (LBNF-DUNE since 2010, NOvA since 2012). DST funded.
14. Atmospheric Neutrino Oscillation Experiment (INO in Theni (near Madurai) in Tamil Nadu, India since 2004). DST funded. **PI of the DU group. Project stalled for last several years. Finally withdrew from the project in 2018.**

Teaching Experience (Subjects/Courses Taught)/ Research Guidance:

1. On Sabbatical 1st September 2014 to 31st August 2015.
2. Statistical Mechanics (Core Course in 2nd Semester) – 2013, 2016, 2017, 2018, 2019
3. Nuclear Physics & Particle Physics (Core Course in 1st semester) 2011, 2012, 2016, 2017, 2018
4. Nuclear Physics & Particle Physics (Core Course in 3rd Semester) 2004, 2006, 2007, 2008, 2009,
5. Atomic & Molecular Physics (Core course in 2nd semester) - 2010
6. Radiation Theory (Core Course in 4th Semester) 2004
7. Electronics Lab (Final year) 2004
8. Nuclear Physics (Previous) Laboratory (Both Semesters) 2004-5, 2006-7, 2007-8, 2008-9, 2009-10, 2010-11, 2011-12, 2012-13, 2013-14, 2015-16
9. Nuclear Physics (M.Sc Final) laboratory – 2019 (July-Nov)
10. Masters Project with final year students – only two in last 5 years.

At the University of Delhi we only teach MSc students. At present about 330 students are admitted every year in the first year of two years Masters course. The teaching is done in two sections and at times the classes are as

large as 165 students. I have always taught core or main papers rather than elective ones and the average class size over last 15 years has varied from a minimum of 75 to a maximum of 165 students.

RESEARCH GUIDANCE:

I have provided either partial or complete guidance to the following students on various experiments:

As a postdoctoral fellow from UC, Riverside (1992-1996), I was actively involved in supervising research work of several students from different collaborating universities working on electroweak physics at the D0 experiment of the Tevatron collider Run I. I was closely involved in the thesis analyses of these four students.

1. Greg Landsberg of SUNY, Stonybrook, on Z γ search from D0 Run 1A. Advisor – Paul Grannis, SUNY, Stonybrook, USA. Currently Professor of Physics – Brown University and ex-Physics Coordinator – CMS experiment.
2. Tom Fahland of Brown University, on W γ in the muon channel from D0 Run 1B. Advisor – Dave Cutts, Brown University, USA. Currently in Industry in California. Senior Research Scientist at Genomatica Sustainable Chemicals, San Diego.
3. Steve Glenn of University of California, Davis, on Z γ in the electron channel from D0 Run 1B. Advisor – Mani Tripathi, UC, Davis, USA.
4. Paul Bloom of University of California, Davis, on WW to two leptons mode from D0 Run 1B. Advisor – Mani Tripathi, UC, Davis, USA. Teaching in Naperville Central College, an undergraduate institution near Fermilab, IL.

At Caltech, several undergraduate students worked closely with me on scintillator and fiber R&D for the MINOS detector. I also provided ideas to my colleagues at the collaborating institution on MINOS R&D. Being one of the main people leading the R&D efforts for the MINOS detector I guided and provided ideas to them.

Since I joined University Delhi as a Professor in 2004, several students and post-doctoral fellows have worked very closely with me. Seven PhD students have graduated and several others are presently working with me.

Post-Doctoral Fellows:

5. Kirti Ranjan on "Top cross-section in lepton+track channel with b-quark tagging at the D0 experiment". 2004 -2006. Currently Professor of Physics at University of Delhi.
6. Manoj Jha on "W+jets at the CMS". Staff in the Computers supports department of Purdue University, USA. Now at Alcatel-Lucent.

Graduate Students whom I supervised:

7. Ashish Kumar on "Top cross-section measurement in di-electron channel at the D0 experiment". Advisor – R. K. Shivpuri. Degree awarded in 2006. After being Senior Research Scientist at SUNY, Buffalo moved to Alcatel-Lucent.
8. Manoj Jha on "Lead Shape study for the preshower detector for the EM calorimeter for the CMS experiment at CERN". Advisor – R. K. Shivpuri. Degree awarded in 2007. Currently staff in the Computers supports department of Purdue University, USA.
9. Md. Naimuddin, on "Bs mixing at the D0 experiment". Advisor – D. S. Kulshreshtha. Degree awarded in 2007. Post-doctoral fellow - Fermilab. Currently Assistant professor at University of Delhi.

Graduate Students awarded PhD degree under my supervision:

10. Pooja Gupta on "Study of Direct Photon at the CMS experiment at CERN". Degree awarded in January 2009. Joined as post-doctoral fellow at UC, Davis on LBNE with Robert Svoboda, the then Spokesperson of

LBNE project. Left Research and moved to hi-tech industry in USA.

11. Sushil S. Chauhan on "Search for Quark Compositeness at $\sqrt{s} = 14$ TeV at the Large Hadron Collider". Degree awarded in April 2010. Post-doctoral fellow at UC, Davis on CMS with Mani Tripathi, 2010-2016. Currently Assistant Professor at Panjab University, Chandigarh.
12. Abhinav K. Dubey on "Search for Standard Model Higgs Boson in the Decay $ZH \rightarrow \nu\bar{\nu} + b\bar{b}$ at D0". Degree awarded May 2012. Post-doctoral fellow at Tohoku University, Sendai, Japan with Hitoshi Yamamoto, 2012-2015. Currently Assistant Professor, Amity University.
13. Sudha Ahuja on "Study of Direct Photon Physics with CMS detector at the LHC" – Degree awarded in February 2014. Post-doctoral fellow at SPARCE, Brazil on CMS with Sergio Novaes. Currently postdoctoral fellow at LLR, Ecole Polytechnique, France.
14. Richa Sharma (Co-guide with Dr. Vipin Bhatnagar of Panjab University) on "Study of Neutrino Interactions in MINOS Experiment" – Degree awarded in January 2015.
15. Sonam Mahajan (Co-guide with Dr. Vipin Bhatnagar of Panjab University) on "A study of Particle Production in Proton Induced Collisions using the MIPP Detector at Fermilab" – Degree awarded 2015. Currently Assistant Professor at Roorkee University.
16. Varun Sharma (co-guide Prof. Debajyoti Choudhury) - "Search for Excited Quarks at $\sqrt{s} = 8$ TeV with the CMS Experiment at the Large Hadron Collider". Degree awarded March 2017. Post-doctoral fellow at Florida State University, USA (2017-2018). Currently postdoctoral fellow at University of Wisconsin, Madison since 4/2018.
17. Rocky Bala Garg – "Search for Quark Compositeness in γ +jet final states in proton-proton collisions at $\sqrt{s} = 13$ TeV with the CMS Detector at the Large Hadron Collider". Degree awarded November 2018. Post-doctoral fellowship offer from Stanford.

Graduate Students registered for PhD degree under my supervision:

18. Prabhjot Singh - since Fall 2013 – Extraction of Neutrino Oscillation Parameters using simultaneous fit of $\nu(\mu)$ disappearance and $\nu(e)$ appearance data with the NOvA experiment.
19. Arjun-Chhetri – since fall 2015 – Search for VLQ at CMS.

Honors & Awards

1. European Physical Society's 2019 High Energy Physics prize for the "Discovery of the Top Quark and Measurement of its Properties" to the CDF and D0 Collaboration.
2. Monbusho Faculty Fellowship in 1997 to visit BELLE experiment in Japan.
3. University Gold Medal for 1st rank in M.Sc. (Physics)
4. University Gold Medal for 1st rank in B.Sc. (Physics Honours.)

Publications

In Indexed/ Peer Reviewed Journals (January 2014 to 9 August 2019) ***(LAST FIVE YEARS only)***

675 citable (619 published) papers with a total of 39,684 (38,508) citations. h_{HEP} index = 98 (97).

Average citation per citable (published) paper 58.8 (62.2).

Details can be found at:

<http://inspirehep.net/search?ln=en&ln=en&p=find+a+choudhary%2C+b.+and+date+%3E+2013&of=hcs&action=search&sf=earliestdate&so=d&rm=&rg=250&sc=0>

In Indexed/ Peer Reviewed Journals (1987 to 9August2019) (**COMPLETE LIST OF PUBLICATIONS**)
1509 citable (1414 published) papers with a total of 144,060 (138,729) citations. h_{HEP} index = 170 (164).
Average citation per citable (published) paper 95.5 (98.1).

Details can be found at:

http://inspirehep.net/search?ln=en&ln=en&p=find+a+choudhary%2C+b.&of=hcs&action_search=Search&sf=earliestdate&so=d&rm=&rg=25&sc=0

Among Top 10 Researcher overall in India - based on publications and citations count, citations per paper (CPP), & H-index for 2009 – 2014. Rank based on 2002 – 2014 publication count. <http://nstmis-dst.org/PDF/Elsevier.pdf>

Source: SCOPUS Database.

Public Service / University Service / Consulting Activity

1. On the expert committee of Department of Science and Technology (DST), Govt. of India for reviewing research projects for award of scientific grants.
2. External M.Phil and Ph.D examiner for Panjab University, Chandigarh; A.M.U, Aligarh; H.N.B. Garhwal University, Shrinagar, Uttranchal; BHU, Varanasi; Jamia Milia Islamia, New Delhi; HBNI, Mumbai; CUSAT, Kochi etc.
3. Invited as member selection committee for appointment of University Professor at Aligarh Muslim University.
4. Member selection committees for appointment/promotion of college teachers (Assistant and Associate Professors)
5. Member, Governing Body - "Sri Venkateswra College, University of Delhi" as University representative – 1/2011 – 1/2013 (2 years).
6. Member, Governing Body – "Shaheed Sukhdev College of Business Studies" as University representative – 2014 - 2016 (2 years).
7. Member, Governing Body – "Deen Dayal Upadhyay College" as University Representative – 7/2014 – 7/2016 (2 years), 4/2018 – Present.
8. Chairman, Governing Body – "Deen Dayal Upadhyay College" as University Representative – 7/2016 till March 2018.
9. Chairman Governing Body – "Janki Devi Memorial Colege" as University Representative – since 12/2018.
10. Departmental Committee – As a senior Professor I am member of almost all important committees related to framing of courses, research, teaching, laboratories and other important issues of the department.
11. Member – Board of Research Studies – Faculty of Science – University of Delhi. Since 2016 - 2018.
12. Nominated Member-Expert in Physics by the Ministry of Human Resource Development, Government of India for selection of candidates for the award of 2017 Commonwealth Scholarship offered by the Government of UK.

Professional Societies Memberships

1. Member American Physical Society (APS) since 1988.

Projects (Major Grants / Collaborations)

Projects Completed as Co-PI and PI:

1. 2004 - 2008 - Co-PI on the proposal "Search for New Particle in Large Hadron Collider at CERN, Geneva", funded by the Department of Science and Technology (DST), GoI - INR 27.15M (~\$600K).
2. 2005 – 2008 - Co-PI on the proposal "Grid Computing-Setting up of Computing Centers (Tier2/3centres) in the country for CMS and Alice Projects at CERN, Geneva", funded by the DST, GoI - INR 8.4M (~\$ 200K).
3. 2004 – 2007 - Co-PI on the proposal "Fabrication of Pixel Scintillation Counter for the DZERO Detector (Phase-II)", funded by the DST, GoI, - INR 2.9M (~USD 70K)
4. 2007 – 2010 - PI of the proposal "Characteristics of Top Quark and Search for New Particles, Phenomena at the D0 Experiment at Fermilab", funded by the DST, - INR 3.13M.
5. 2010 – 2012 - PI of Delhi Group on Indian-based Neutrino Observatory (INO), funded by the DST, GoI – INR – 1.3M (~\$ 28K).
6. 2012 – 2016 - PI of the DU group (Associate Member) of the EU sponsored project "Invisibles – Neutrino, Dark matter and Dark Energy Physics" funded by European ITN Project (FP7-PEOPLE-2011-ITN, PITN-289442—INVISIBLES. Euro 4.4M. Money given to EU Institutions & Associate Members to be supported by EU institutions.
7. 2012 – 2017 – Spokesperson and PI of India-Fermilab Neutrino Collaboration – a consortium of 8 Indian Institutions – INR 110M (\$2.2M) – Share of DU group INR 20M – (~\$400K), Supported by the DST GoI.
8. 2013 – 2018 - PI of Delhi Group on Indian-based Neutrino Observatory (INO), funded by the DST, GoI – INR – 17M (~\$ 260K).

Projects In Progress as PI:

9. 2014 – 2020 – Project Coordinator of the DU group on CMS Experiment – funded by DST– INR 25M (~\$ 420K). **Indian Spokesperson 8/2017 – 8/2021 (Consortium of 16 Institutions).**
10. 2016 – 2020 – PI of the DU group (Associate Member) of the EU sponsored project – "InvisiblesPlus" – "Neutrino, Dark Matter and Dark Energy Physics and their Connections – Horizon 2020 of EU. (690575 – InvisiblesPlus – H2020-MSCA-RISE-2015).
11. 2016 – 2020 – PI of the DU group (associate Member) of the EU sponsored project – "The Elusives Enetrprises – Symmetries of the Invisible Universe - ELUSivES". European ITN project (H2020-MSCA-ITN-2015/674896-Elusives, Marie Skłodowska-Curie Actions). Horizon 2020 of EU.
12. 2019 - 2024 - "Indian Institutions-Fermilab Collaboration in Neutrino Physics". DST Funded. 2019 – 2024. **Indian Spokesperson (Consortium of 10 Institutions).**

Other Details:

Important contribution to the field of EHEP:

1. On "Interim International Executive Board (iiEB)" of the LBNF project at Fermilab to decide on its physics, detectors, site and beam configuration. The process lead to the birth of LBNF-DUNE at Fermilab (2014).
2. Part of the team, which discovered a new Boson at a mass of 125 GeV with the CMS detector at CERN, July 2012. ---- *Worked on direct photons and published the first paper on direct photon production in CMS even before the data was available. With CMS data published three papers to understand the direct photon and direct di-photon physics that are crucial for understanding the background for Higgs decay to $\gamma\gamma$ channel.*
3. Leadership role in R&D and construction of MINOS Far Detector. *Personally lead the Scintillator and fiber R&D, and the Caltech group built half of the far detector (using almost 200 Tons of solid scintillator). 1997-2002.*
4. Part of the team, which substantiated "Atmospheric Neutrino Oscillation" (i.e. neutrinos have mass) in 1998 at LNGS, Italy (MACRO Collaboration). *Important contribution.*
5. Discovered "top quark" – 1995, Fermilab – D0 Collaboration. *Seminal contribution to the discovery. I was the trigger in-charge for the D0 experiment for two years before and during top discovery. I played an important role in understanding the triggers for the various physics processes, optimizing them and distributing them in such a fashion that discovery physics was reachable along with other physics albeit with limited trigger bandwidth. Also played lead role in understanding the QCD backgrounds, muon*

efficiencies etc.

6. *Discovered di-bosons at Fermilab, measured the cross-sections and the coupling for the first time at Tevatron in $W\gamma$ and $Z\gamma$ channels on the D0 experiment.*
7. Best poster award (Experimental) to "Search for Excited Quark through $q\bar{q} \rightarrow \gamma\gamma$ Final State at the LHC" (authors Satyaki Bhattacharya, Sushil Singh Chauhan, Brajesh Choudhary and Debajyoti Choudhury) at XXIII International Symposium on Lepton and Photon Interactions at High Energy (LP07) – Daegu, Korea – 13th to 18th August, 2007. Work of Ph.D. student Sushil S. Chauhan.
8. Prize Awarded to Ph.D. student – Ms. Pooja Gupta for oral presentation and poster on "Direct Photon + Jet study at CMS" – at the XXVII Physics in Collision (PIC2007) held at LAPP, Annecy, France – 26th June to 29th June 2007.

Important leadership position in various Experiments:

1. Senior Trigger in-charge for the D0 collaboration – 1994-1995 (2 years). The "top quark" was discovered during this time.
2. Member Scintillator R&D steering committee for the MINOS collaboration. The MINOS detector has used the largest amount of extruded solid scintillator and WLS/Clear fiber in the world. (1997 -2002)
3. Fiber Manger for MINOS. Total Fiber cost was approximately USD 4 Millions. (1998 – 2002)
4. Project Manager for Fermilab Recycler Ring BPM upgrade – USD 1 Million. Successfully implemented. (2002 – 2004).
5. Project Manager for Fermilab Main Injector BPM upgrade. Planned the project. Cost approximately USD 1 Million. Was successfully implemented using the same technology as Recycler Ring BPM after me. (2002 – 2004).
6. Beam line Physicist for the Meson-Test test beam facility SY 120 at Fermilab. (2005).
7. Level 3 manager for NOvA fiber procurement (2003 – 2006 – when I left for India). Successfully negotiated with vendor Fiber cost of approximately USD 20 Millions.
8. Member Publication Committee - CMS Collaboration - 2010-11 (2 years).
9. Member Publication Committee – Exotica Board – CMS Collaboration – 2012-13 (2 years).
10. Member Publication Committee – TOP-BPH Board – CMS Collaboration – 2014 -2016 (3 years).
11. Leader - Neutrino Working Group - for Indo-US Collaboration on Project-X - (since 2010).
12. Technical project Manager India-Fermilab Neutrino Collaboration (IIFC-vP, 2009 onward).
13. Member interim international Executive Committee (iiEB) to decide the future course of Long-Baseline Neutrino Experiment/Project (LBNE/LBNF) at Fermilab (2014-15). It led to the finalization of the LBNF-DUNE project.
14. **Member CMS Finance Board (2017-2019).**
15. **Member CMS Management Board (Nov. 2018 – 2020).**
16. **Spokesperson, India-CMS Collaboration, August 2017 – August 2021.**
17. **Spokesperson, Indian Institutions – Fermilab Collaboration in Neutrino Physics, 2010-2017 and 2019 – 2024.**

Selected other Scientific Contributions:

1. On Local Organizing Committee for "10th International Conference on Calorimetry in High Energy Physics (CALOR02)", held at California Institute of Technology, Pasadena, USA.
2. On National Organizing Committee for WHEPP 2006, held at IOP, Bhubaneswar.
3. On the National Organizing Committee for the "Workshop on Synergy between High Energy and High Luminosity Frontiers", January 10 - 12, 2011, TIFR, Mumbai, India
4. On the Scientific Program Committee, National Organizing Committee, and Co-Convener of Local Organizing Committee for NuINT-2011 - Seventh International Workshop on Neutrino-Nucleus Interactions in Few GeV Region, March 7th - 11th, 2011, Dehradun, Uttarakhand, India.
5. On the Scientific Committee for symposium "Particle Physics at Crossroads", Edinburgh-Delhi Particle Physics symposium, 15 – 17 February 2013, India International Center, New Delhi.
6. On the Organizing Committee respectively for Invisibles School (8 – 13 July, 2014; Chateau De Button,

Paris) and Invisibles Workshop (14 – 18 July, 2014; Institute Des Cordeliers, Paris) on “Neutrinos, Dark Matter and Dark Energy Physics”.

7. On panel of experts for HEP projects on behalf of Department of Energy (DOE), USA for FY 2014 - 2017 (3 yrs).
8. Invited by Astroparticle Physics European Consortium (APPEC), Paris, June 23-24, 2014 to set the framework and global coordination for preparation of the next large neutrino infrastructures.
9. On panel of experts for European Commission for the proposal for Horizon 2020, call 2015.
10. On the International Advisory Committee of the “International Neutrino School – 12th Rencontres du Vietnam”, ICISE, Quy Nhon, Vietnam, July 17 – 29, 2016.
11. On the National Organizing Committee of the “International Workshop on Frontiers in Electroweak Interactions of Leptons and Hadrons, AMU, 2-6 Nov., 2016.”
12. On the Scientific Program Committee of “International Symposium on Neutrino Frontiers” to be held at ICISE Center, Quy Nhon, Vietnam from July 16-19, 2018.

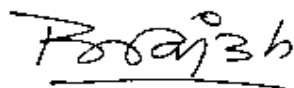
Conference Presentations – Few Selected Invited Plenary Talks and other important talks since 2009:

1. 2009 - “Physics with Long-Baseline Neutrino Experiments” at “CTP International Conference on Neutrino Physics in the LHC Era”, 15-19 November 2009, Luxor, Egypt.
2. 2010 - “LBNE: Physics Reach and Status” at “12th International Workshop on Neutrino Factories, Super Beams and Beta Beams”, 20-25 October 2010, TIFR, Mumbai, India.
3. 2011 - “Review of Long-Baseline Neutrino Oscillation Physics at Fermilab” at “NuHoRizons IV – Neutrinos in Physics, Astrophysics and Cosmology” – 23-25 February 2011, HRI-Allahabad, India.
4. 2011 - “Neutrino Physics in India” on behalf of Indian Institutions at “Intensity Frontier Workshop – Fundamental Physics at the Intensity Frontier”, Nov 30 – Dec 2, 2011, Rockville, MS, USA.
5. 2012 - “The Physics Reach of Fermilab Long-Baseline Neutrino Experiments and Indo-US Collaboration” at “NuHoRizons V – Neutrinos in Physics, Astrophysics and Cosmology” – 1-3 February 2012, HRI-Allahabad, India
6. 2012 - “India-based Neutrino Observatory (INO)” at “2012 Project X Physics Study”, 14-23 June 2012, Fermilab, USA.
7. 2012 - “A Review of Fermilab Long-Baseline Neutrino Program”, at “What is ν ? From New Experimental Neutrino Results to a Deeper Understanding of Theoretical Physics and Cosmology”, 11th July 2012, The Galileo Galilee Institute, Florence, Italy.
8. 2012 - “HEP Program and Planning – Next Decade in India” at “DPF organized Community Planning Meeting (CPM2012) for Community Summer Study (CSS2013) of APS”, 11-13 October 2012, Fermilab, USA. **Represented Indian HEP community. At the invitation of DPF Vice Chair.**
9. 2013 - “Neutrino Experiments – Recent Results and Future Prospects” at “XX DAE-BRNS High Energy Physics Symposium”, 13-18 January 2013, Visva-Bharati, Santiniketan.
10. 2013 – “A Review of Neutrino Physics: An Experimentalists Perspective”, IPM International School and Workshop in Particle Physics (IPP13), May 4-6, 2013, IPM, Teheran Iran. **(via SKYPE)**
11. 2013 - “Long Tern Neutrino Prospects” at “25th Recontres de Blois – Particle Physics and Cosmology”, May 26-31, 2013, Blois, France.
12. 2013 – “Overview of Upcoming Neutrino Experiments”, Interface of Numerical Relativity with Gravitational-Wave Astronomy, Neutrino Physics and High-Energy Astrophysics, June 24 – July 5, 2013, ICTS, Bangalore, India. **(Via SKYPE)**
13. 2013 - “The Mass Hierarchy and CPV from Long-baseline Neutrino Experiments”, Annual meeting of ITN Invisibles – Invisibles13, 15-19 July, 2013, Durham University and IPPP at Lumley Castle, Durham, UK.
14. 2014 – “Physics case for LBNE/ELBNF/LBN*”, Present and Future Neutrino Physics, Kavli Institute of Theoretical Physics, University of California, Santa Barbar”, Nov 12, 2014, USA.
15. 2014 – “Perspective for Mass Hierarchy from NOvA” at Present and Future Neutrino Physics, Kavli Institute of Theoretical Physics, University of California, Santa Barbara”, Nov 19, 2014, USA.

16. 2014 – “LBNE and LBNF”, NuPhys2014: Prospects in Neutrino Physics, Queen Mary, University of London, 15-17 December 2014.
17. 2015 – Introduction and discussion session on “Neutrino Oscillation Experiments and Theory”, led by Brajesh Choudhary, Enrique Fernandez-Martinez, Stephen Parke and Kate Scholberg, Aspen Center for Physics, July 28, 2015, USA.
18. 2016 – “Long-Baseline Program in USA: MINOS-MINOS+/NOvA/LBNF-DUNE – And some flights of Imagination”, PHENO1@IISERM, IISER, Mohali, 6 – 9, April 2016.
19. 2016 – “Long-Baseline Program at Fermilab: Current Results and Future Expectations”, International Workshop on Frontiers in Electroweak Interactions of Leptons and Hadrons, 2-6 November 2016, AMU, Aligarh, India.
20. 2017 – “Results from Long-Baseline Neutrino Experiment”, Uno sguardo alla fisica del neutrino: presente e futuro, 9 June 2017, University of Bologna, Bologna, Italy.
21. 2018 – “NOvA Results and Future Prospects”, Windows On The Universe: 25th Anniversary of the Rencontres du Vietnam, ICISE, August 5–11, 2018, Quy Nhon, Vietnam.
22. 2018 – “Recent Results from Long-Baseline Experiments”, Invisibles 2018: Neutrinos, Dark Matter, Axions and other Elusives - 3-7 September 2018, KIT, Karlsruhe, Germany.
23. 2018 – “Recent Results in Neutrino Physics & Future Prospects”, International Symposium on Nuclear Physics, Dec 10 – 14, 2018, BARC, Mumbai.
24. 2018 – “Recent Results from Neutrino Experiments”, XXIII DAE-BRNS HEP Symposium 2018, Dec 1- -14, 2018, IIT Madras, Chennai.

IMPORTANT SESSION CHAIR:

1. *Invited to Chair plenary session: "Top & Higgs Bosons" at Rencontres de Moriond QCD and High Energy Interactions, March 2011, La Thuile, Italy.*
2. *Invited to Chair plenary session: "KITP Conference on: Neutrinos: Recent Developments and Future Challenges", Nov 3-7, 2014, KITP, UCSB, USA.*
3. *Invited to Chair plenary session on Long-Baseline Neutrino Physics at "NuPhys2015: Prospects in Neutrino Physics", 16 – 18 December 2015, London. Organized by Queen Mary, University of London.*
4. *Invited to Chair plenary session on Long-Baseline Neutrino Physics at "NuPhys2017: Prospects in Neutrino Physics", 20 – 22 December 2017, London. Organized by Queen Mary, University of London.*
5. *Invited to Chair plenary session on "Neutrino Physics" at "Windows On The Universe: 25th Anniversary of the Rencontres du Vietnam", ICISE, August 5–11, 2018, Quy Nhon, Vietnam.*



10.August.2019