

## CURRICULUM VITAE

### P. S. Bhupal Dev

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#### Education:

- 2012 **Ph.D.** Physics, University of Maryland, College Park, USA.  
Thesis advisor: Prof. Rabindra N. Mohapatra.
- 2007 **M.S.** Physical Sciences, Indian Institute of Science, Bangalore, India.  
Thesis advisor: Prof. Rohini M. Godbole.
- 2004 **B.Sc.** Physics (with Honours & Distinction), Utkal University, Bhubaneswar, India.

#### Employment:

- 2016–now **Assistant Professor**, Department of Physics and McDonnell Center for the Space Sciences, Washington University in St. Louis, USA.
- 2015–16 **Postdoctoral Fellow**, Max-Planck-Institut für Kernphysik, Heidelberg, Germany.
- 2015 **University Foundation Fellow**, Technische Universität München, Germany.
- 2012–15 **CFP Postdoctoral Fellow**, University of Manchester, UK.

**Research Interests:** High Energy Physics, Astroparticle Physics, Cosmology, Gravitational Physics.

**Publication Summary:** **118** peer-reviewed journal papers, **7** under review, **18** invited contributions to white papers, yellow reports, and conceptual design reports, **26** conference proceedings, and **1** book chapter. Total citation: **12,254**; h-index: **62** (taken from INSPIRE database).

#### Research Grants and Fellowships:

- 2022-23 URA Visiting Scholars Program, single PI.
- 2021–24 US Department of Energy, co-PI.
- 2020–22 Fermilab Intensity Frontier Fellowship, single PI.
- 2020–21 US Neutrino Theory Network, PI.
- 2019–20 US Neutrino Theory Network, PI.
- 2018–21 US Department of Energy, co-PI.
- 2015–16 TUM University Foundation Fellowship, single PI.

#### Conference Grants:

- 2022 Simons Center for Geometry and Physics, co-PI.
- 2019 Indo-US Science and Technology Forum, co-PI.
- 2018 International Center for Theoretical Physics, co-PI.
- 2017 Amherst Center for Fundamental Interactions, co-PI.

#### Awards/Recognitions:

- 2022 Associate Editor, *Frontiers in Physics* (High-Energy and Astroparticle Physics Section).
- 2022 URA Visiting Scholars Program Award.
- 2020 Fermilab Intensity Frontier Fellowship.
- 2019 Editorial Board Member, *Universe*.
- 2018 Outstanding Referee, *Physics Letters B*.

- 2017 Outstanding Referee, *Nuclear Physics B*.
- 2015–16 TUM University Foundation Fellowship, Technische Universität München.
- 2015 Elected Member, Institute of Physics, UK.
- 2012–15 CFP Postdoctoral Fellowship, Consortium for Fundamental Physics, UK.
- 2006 CSIR Junior Research Fellowship, Government of India.
- 2004 Alumni Award for Best Graduate, Utkal University, Bhubaneswar, India.
- 2003 Top 1%, National Graduate Physics Exam, Indian Association of Physics Teachers.
- 2001–04 IISc Young Science Fellowship, Indian Institute of Science, Bangalore, India.
- 2001–04 National Scholarship, Government of India.

**Invited Plenary Talks at International Conferences:**

- 09/2022 *NuDM 2022*, Sharm El Sheikh, Egypt.
- 09/2022 *BLV 2022*, Université Libre de Bruxelles, Belgium.
- 05/2022 *CoSSURF*, South Dakota School of Mines, USA.
- 02/2022 *Snowmass NF Joint Workshop*, Virtual (hosted by University of Pittsburgh, USA).
- 05/2021 *PHENO Symposium 2021*, Virtual (hosted by University of Pittsburgh, USA).
- 05/2021 *PPC 2021*, Virtual (hosted by University of Oklahoma, USA).
- 09/2020 *Snowmass TF11*, Virtual (hosted by Fermilab, USA).
- 05/2019 *SUSY 2019*, Texas A&M-Corpus Christi, USA.
- 07/2018 *FPCP 2018*, University of Hyderabad, India.
- 06/2018 *Neutrino 2018*, Heidelberg, Germany.
- 05/2017 *PPC 2017*, Texas A&M-Corpus Christi, USA.
- 05/2017 *BLV 2017*, Case Western Reserve University, USA.
- 03/2017 *NeuTel 2017*, Venezia, Italy.
- 12/2015 *WHEPP 2015*, IIT-Kanpur, India.

**Other Invited\*/Contributed Talks at Conferences/Workshops:**

- 08/2022 \**MITP Workshop*, Johannes Gutenberg University, Mainz, Germany.
- 06/2022 \**NTN Workshop*, Fermilab, USA.
- 06/2022 \**Schwinger Fest*, UC Los Angeles, USA.
- 05/2022 \**Mitchell Workshop*, Texas A&M University, College Station, USA.
- 05/2022 *NDM 2022*, Ashville, USA.
- 05/2022 \**Snowmass RF Spring Meeting*, University of Cincinnati, USA.
- 05/2022 *PHENO 2022*, University of Pittsburgh, USA.
- 04/2022 \**Particle Physics on the Plains*, University of Kansas, USA.
- 03/2022 \**KITP Neutrino Workshop*, UC Santa Barbara, USA.
- 12/2021 \**Domain Wall Quarks@25 Years*, Virtual (hosted by Brookhaven National Lab, USA).
- 09/2021 *Aspen Neutrino Workshop*, Aspen Center for Physics, USA.
- 07/2021 \**Sixteenth Marcel Grossmann Meeting (MG16)*, Virtual (hosted by ICRANet, Italy).
- 03/2021 \**LHC Hidden Physics Workshop*, Virtual (hosted by University of Liverpool, UK).
- 09/2020 \**Snowmass RF01/RF05 Workshop*, Virtual (hosted by University of Arizona, USA).
- 08/2020 \**ACFI BNV Workshop*, Virtual (hosted by UMass Amherst, USA).
- 05/2020 \**ATLAS Mini-workshop*, Virtual (hosted by CERN, Switzerland).
- 05/2020 *PHENO 2020*, Virtual (hosted by University of Pittsburgh, USA).
- 05/2019 *PHENO 2019*, University of Pittsburgh, USA.
- 03/2019 *1st NPT Workshop*, Washington University in St. Louis, USA.
- 12/2018 \**PONDD 2018*, Fermilab, USA.

06/2018 \**MASS 2018*, CP<sup>3</sup>-Origins, Denmark.  
 05/2018 \**Mitchell Institute Workshop*, Texas A&M-College Station, USA.  
 05/2018 *PHENO 2018*, University of Pittsburgh, USA.  
 01/2018 \**HEP 2018*, Universidad Técnica Federico Santa Maria, Chile.  
 12/2017 \**WHEPP 2017*, IISER-Bhopal, India.  
 12/2017 *SUSY 2017*, Tata Institute of Fundamental Research, India.  
 10/2017 \**INT Workshop on Neutron-antineutron Oscillations*, University of Washington, USA.  
 07/2017 \**ACFI Workshop on Neutrinos at High Energy Frontier*, UMass Amherst, USA.  
 05/2017 \**Snellius Workshop*, Lorentz Center, Leiden, The Netherlands.  
 05/2017 *PHENO 2017*, University of Pittsburgh, USA.  
 01/2017 \**XXIII Cracow EPIPANY Conference*, IFJ PAN, Poland.  
 08/2016 *ICHEP 2016*, Chicago, USA.  
 07/2016 \**ECT\* Sakharov Workshop*, Trento, Italy.  
 06/2016 \**MIAPP Workshop*, Garching, Germany.  
 06/2016 \**MITP Workshop*, Mainz, Germany.  
 05/2016 \**Polish Physical Society Symposium*, Katowice, Poland.  
 05/2016 *Workshop on Perspectives on the Extragalactic Frontier*, ICTP, Trieste, Italy.  
 03/2016 \**NuHoRIZons VI*, Harish-Chandra Research Institute, Allahabad, India.  
 12/2015 \**WHEPP 2015*, IIT-Kanpur, India.  
 10/2015 *DESY Theory Workshop*, Hamburg, Germany.  
 09/2015 \**IPP 2015*, Institute for Research in Fundamental Sciences, Tehran, Iran.  
 09/2015 \**LFC15, ECT\**, Trento, Italy.  
 08/2015 \**MITP Workshop*, Mainz, Germany.  
 07/2015 \**Nu@Fermilab*, Fermilab, USA.  
 06/2015 \**WIN 2015*, Max-Planck-Institut für Kernphysik, Heidelberg, Germany.  
 05/2015 *PHENO 2015*, University of Pittsburgh, USA.  
 04/2015 \**BLV 2015*, UMass Amherst, USA.  
 03/2015 *IOP Conference*, University of Manchester, UK.  
 12/2014 \**XXI DAE-BNRS High Energy Physics Symposium*, IIT Guwahati, India.  
 12/2014 *DISCRETE 2014*, King's College London, UK.  
 09/2014 *ATLAS Run-II Kick-off/Brainstorm Session*, CERN, Switzerland.  
 09/2014 *Workshop on Multi-Higgs Models*, Universidade de Lisboa, Portugal.  
 07/2014 *SUSY 2014*, University of Manchester, UK.  
 07/2014 *ICHEP 2014*, Valencia, Spain.  
 10/2013 \**Workshop on the Origin of Neutrino Mass*, ICTP Trieste, Italy.  
 08/2013 *SUSY 2013*, ICTP Trieste, Italy.  
 05/2013 *PHENO 2013*, University of Pittsburgh, USA.  
 05/2013 *Brookhaven Forum 2013*, Brookhaven National Laboratory, USA.  
 04/2013 *BLV 2013*, Max-Planck-Institut für Kernphysik, Heidelberg, Germany.  
 12/2012 *8th UK Neutrino Network Meeting*, IPPP, Durham, UK.  
 05/2012 *PHENO 2012*, University of Pittsburgh, USA.  
 10/2011 *Brookhaven Forum 2011*, Brookhaven National Laboratory, USA.  
 08/2011 *SUSY 2011*, Fermilab/University of Chicago, USA.  
 05/2010 *Brookhaven Forum 2010*, Brookhaven National Laboratory, USA.  
 05/2009 *PHENO 2009*, University of Wisconsin-Madison, USA.  
 01/2009 \**NuHoRIZons*, Harish-Chandra Research Institute, Allahabad, India.

02/2007 *IMPRS Workshop*, Max-Planck-Institut für Extraterrestrische Physik, Germany.  
01/2004 *NIT Fest*, National Institute of Technology, Rourkela, India.

**Invited Colloquium Talks:**

08/2022 Indian Institute of Science Education and Research, Berhampur, India.  
01/2022 (Virtual) Ravenshaw University, Cuttack, India.  
09/2021 (Virtual) BITS Pilani, KK Birla Goa Campus, Goa, India.  
03/2020 (**O.M. Stewart Colloquium**) University of Missouri, Columbia, USA.  
11/2019 (**SPS Guest Lecture**) Lawrence Technological University, Southfield, USA.  
04/2019 Missouri University of Science and Technology, Rolla, USA.  
07/2018 Ravenshaw University, Cuttack, India.  
12/2017 National Institute of Science Education and Research, Jatni, India.  
09/2017 Oklahoma State University, Stillwater, USA.  
10/2016 University of Alabama, Tuscaloosa, USA.  
03/2016 Utkal University, Bhubaneswar, India.  
02/2016 Washington University, St. Louis, USA.  
12/2015 (**MLL Colloquium**) Technische Universität München, Garching, Germany.  
08/2015 Harish-Chandra Research Institute, Allahabad, India.  
03/2015 (Virtual) Universidad Nacional Autónoma de México, Cuernavaca, Mexico.

**Invited Seminar Talks:**

08/2022 Indian Institute of Science Education and Research, Kolkata, India.  
07/2022 Institute of Physics, Bhubaneswar, India.  
03/2022 University of California, Santa Cruz, USA.  
03/2022 California Institute of Technology, Pasadena, USA.  
03/2022 University of California, Berkeley, USA.  
02/2022 University of Florida, Gainesville, USA.  
11/2021 (Virtual) Wayne State University, Detroit, USA.  
05/2021 (Virtual) Fermilab, Batavia, USA.  
05/2021 (Virtual) University of Kansas, Lawrence, USA.  
04/2021 (Virtual) Oklahoma State University, Stillwater, USA.  
04/2021 (Virtual) University of Groningen, The Netherlands.  
09/2020 (Virtual) University of Oklahoma, Norman, USA.  
07/2020 (Virtual) Brookhaven National Lab, Upton, USA.  
11/2019 Wayne State University, Detroit, USA.  
05/2019 University of California, Irvine, USA.  
04/2019 University of California, San Diego, USA.  
04/2019 University of California, Riverside, USA.  
03/2019 Case Western Reserve University, Cleveland, USA.  
10/2018 University of Minnesota, Minneapolis, USA.  
06/2018 University of Maryland, College Park, USA.  
06/2018 CP<sup>3</sup>-Origins, Odense, Denmark.  
03/2018 University of Kentucky, Lexington, USA.  
09/2017 Oklahoma State University, Stillwater, USA.  
07/2017 Brookhaven National Laboratory, Upton, USA.  
03/2017 SLAC, Stanford, USA.

11/2016 Fermilab, Batavia, USA.  
 11/2016 (**Invisibles Webinar**) European Union Invisibles Network.  
 10/2016 Texas A & M University, College Station, USA.  
 10/2016 University of Alabama, Tuscaloosa, USA.  
 08/2016 CERN, Geneva, Switzerland.  
 05/2016 (**VHEPP Seminar**) Fermilab, Batavia, USA.  
 05/2016 University of Katowice, Katowice, Poland.  
 02/2016 (Virtual) STFC, Swindon, UK.  
 01/2016 Institute for Particle Physics Phenomenology, Durham, UK.  
 10/2015 Université Libre de Bruxelles, Brussels, Belgium.  
 08/2015 Harish-Chandra Research Institute, Allahabad, India.  
 05/2015 University of Maryland, College Park, USA.  
 05/2015 Pennsylvania State University, University Park, USA.  
 05/2015 Ohio State University, Columbus, USA.  
 04/2015 Brookhaven National Laboratory, Upton, USA.  
 04/2015 Massachusetts Institute of Technology, Cambridge, USA.  
 04/2015 Michigan State University, East Lansing, USA.  
 04/2015 University of Alabama, Tuscaloosa, USA.  
 03/2015 Universidade de Lisboa, Lisbon, Portugal.  
 03/2015 University of Southampton, Southampton, UK.  
 12/2014 Saha Institute of Nuclear Physics, Kolkata, India.  
 12/2014 Indian Association for the Cultivation of Sciences, Kolkata, India.  
 12/2014 Siksha 'O' Anusandhan University, Bhubaneswar, India.  
 12/2014 Institute of Physics, Bhubaneswar, India.  
 12/2014 University of Sussex, Brighton, UK.  
 10/2014 Max-Planck-Institut für Physik, Munich, Germany.  
 10/2014 Technische Universität München, Garching, Germany.  
 10/2014 CERN Theory Division, Geneva, Switzerland.  
 09/2014 Helsinki Institute of Physics, Helsinki, Finland.  
 06/2014 Universidad de Granada, Granada, Spain.  
 11/2013 Max-Planck-Institut für Kernphysik, Heidelberg, Germany.  
 11/2013 Technische Universität München, Garching, Germany.  
 10/2013 University of Cambridge, Cambridge, UK.  
 10/2013 University College London, London, UK.  
 05/2013 Brookhaven National Laboratory, Upton, USA.  
 05/2013 University of Delaware, Newark, USA.  
 02/2013 Institute for Particle Physics Phenomenology, Durham University, Durham, UK.  
 02/2013 University of Liverpool, Liverpool, UK.  
 10/2012 Lancaster University, Lancaster, UK.  
 07/2012 Harish-Chandra Research Institute, Allahabad, India.  
 07/2012 Indian Association for the Cultivation of Sciences, Kolkata, India.  
 07/2012 Tata Institute of Fundamental Research, Mumbai, India.  
 05/2012 Carnegie Mellon University, Pittsburgh, USA.  
 01/2012 (Virtual) TRIUMF, Vancouver, Canada.  
 12/2011 (Virtual) Perimeter Institute for Theoretical Physics, Waterloo, Canada.  
 12/2011 (Virtual) Jožef Stefan Institute, Ljubljana, Slovenia.

12/2011 University of Delaware, Newark, USA.  
09/2011 Northwestern University, Evanston, USA.

**Public Lecture:**

11/2018 *Saturday Science Lecture*, Washington University, St. Louis, USA.

**Invited Summer-School Lectures:**

07/2018 *Post-FPCP School*, Indian Institute of Technology Hyderabad, India.

**Conference Organization:**

- 03/2023 Co-organizer, *Anomalies 2023 Workshop*, Simons Center for Geometry and Physics, SUNY Stony Brook, USA.
- 09/2022 Member of the Organizing Committee, *International Conference on Neutrinos and Dark Matter (NuDM-2022)*, Sharm El Sheikh, Egypt.
- 07/2022 Co-convenor of the Neutrino parallel session at *PASCOS 2022*, Max-Planck-Institut für Kernphysik, Heidelberg, Germany.
- 06/2022 Chair of the Local Organizing Committee, *PPC 2022*, Washington University in St. Louis, USA.
- 11/2021 Co-organizer, *Anomalies 2021 Workshop*, IIT Hyderabad, India.
- 08/2021 Co-convenor of the Neutrino parallel session at *SUSY 21*, Beijing, China.
- 03/2021 Member of the International Organising Committee for the workshop *Unveiling hidden Physics Beyond the Standard Model at the LHC*, University of Liverpool, UK.
- 09/2020 Co-organizer, *Anomalies 2020 Workshop*, IIT Hyderabad, India.
- 07/2019 Co-organizer, *Anomalies 2019 Workshop*, IIT Hyderabad, India.
- 07/2019 Co-convenor of the “Neutrinos and Non-Accelerator Probes of New Physics” session at *PASCOS 2019*, University of Manchester, UK.
- 05/2019 Main organizer of the *NTN Workshop on Neutrino Non-standard Interactions*, Washington University in St. Louis, USA.
- 09/2018 Co-chair of the Tau LFV Session of *The 15th International Workshop on Tau Lepton Physics (Tau 2018)*, Amsterdam, The Netherlands.
- 05/2018 Co-organizer of the *ICTP Advanced Workshop on Physics of Atmospheric Neutrinos (PANE 2018)*, ICTP, Trieste, Italy.
- 07/2017 Co-organizer of the *ACFI Workshop on Neutrino Physics at High-Energy Frontier*, University of Massachusetts, Amherst, USA.
- 01/2013 Co-organizer of *YETI 2013* at IPPP, Durham University, UK.

**Community Service:**

- *Referee* for Physical Review Letters, Physical Review D, Journal of High Energy Physics, Journal of Cosmology and Astroparticle Physics, European Physics Journal C, Euro Physics Letters, Physics Letters B, Nuclear Physics B, Chinese Physics C, Frontiers in Physics, Progress in Theoretical and Experimental Physics, Progress in Particle and Nuclear Physics, Galaxies, Symmetry, Universe, Journal of Physics G, and International Journal of Modern Physics.
- *Co-convenor* of the 2021 Snowmass NF03 topical subgroup “Baryon Number Violation Searches at Neutrino Experiments”; co-editor of the BNV whitepaper 2203.08771.
- *Grant Reviewer* for

- The Research Foundation – Flanders (FWO), Belgium (2022).
- Research Grants Council, Hong Kong (2022).
- Fondo Nacional de Desarrollo Científico y Tecnológico, Chile (2020).
- Minerva-Weizmann Programme, Israel (2016).
- *Life Member*, American Physical Society (2017–present).

#### **Department/University\* Service:**

2022-present	*Faculty Fellow, Literacies for Life and Career Initiative
2022-present	Chair, Graduate Admissions Committee.
2022-present	Member, Department of Physics Executive Committee.
2022-present	Member, Graduate Studies Committee.
2019-present	Member, Diversity, Equity and Inclusion Committee.
2018-present	Faculty Advisor for Physics Majors.
2021-2022	Member, Graduate Admissions Committee.
2021	Member, Digital Transformation Faculty Search Committee.
2018-21	Coordinator for Undergraduate Research.
2017-20	Co-organizer of Particle/Nuclear Theory Seminars.
2017-19	Member, Public Outreach Committee.
2019	*Member, Goldwater Scholarship Internal Selection Committee.
2018-19	*Physics Lectures at Summer Orientation Advising Registration (SOAR).

#### **Teaching:**

- Washington University (2017-present):
  - **Undergraduate:**
    - \* PHY 191: Physics I (Fall 2019 & 2021)
    - \* PHY 197: Physics I (Fall 2017 & 2018)
    - \* PHY 474: Intro Particle Physics (Spring 2018, 2020 & 2022)
  - **Graduate:**
    - \* PHY 547: Particle Physics (Fall 2022)
    - \* PHY 543: Group Theory and Symmetries in Physics (Spring 2017, 2019 & 2021)
    - \* PHY 584: Computational Methods in Physics (Spring 2018)
- University of Manchester (2013-15): Tutor for 2nd year Undergraduate Physics.
- University of Maryland (2007-12): Teaching Assistant for various Undergraduate and Graduate Physics courses and Labs.
- Indian Institute of Science (2006): Teaching Assistant for the Graduate course on Elementary Particle Physics.

#### **Mentoring:**

- **Postdoctoral Fellows:**

- Fa Peng Huang (2019-21, co-supervised with Francesc Ferrer), now faculty at Sun Yat-sen University, China.
- Yongchao Zhang (2017-20), now faculty at Southeast University, China.

• **Graduate Students:**

- Takuya Okawa (2021-present, co-supervising with Francesc Ferrer).
- Fang Xu (2017-present).
- Garv Chauhan (2016-21), now postdoc at CP3 Louvain, Belgium.
- Yicong Sui (2016-20), now data scientist at Epsilon.

• **Undergraduate Students:**

- Harry Go (2022–present, co-supervising with Saori Pastore).
- Tinnon Corbin, uSTAR Fellow (2021).
- Jacob Sprague (2018-19).
- Matthew Galik, Knight Fellow (Summer 2018).

**Public Outreach:**

2021-present	Teacher volunteer and mentor, Y3 group (10th graders), Balvihar, St. Louis.
2008-present	Popular science article contributions to local newspapers and magazines in native Odia language.
2017-20	Mentor and judge at the Annual Honors Division Science Fair organized by the St. Louis Academy of Sciences.
2017-19	Volunteer for Physics Family Fun Day, Washington University.
2016	ICHEP Outreach Presentation, South Chicago School District.
2015	IOP ‘Physics in the Fields’, Liverpool, UK.
2009-12	Physics Demo Coordinator at Annual Maryland Day Festival, University of Maryland, College Park.

**In the News:**

2021	ScienceNews
2020	ScienceNews, Live Science, APS News
2019	Forbes
2018	Live Science, APS News
2015	New Scientist