

Curriculum Vitae

Prof. Joy Mitra School of Physical Sciences, Indian Institute of Science Education and Research Thiruvananthapuram
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Educational Qualifications PhD (2005) Indian Institute of Science, Bangalore, India
MS (1999) Indian Institute of Science, Bangalore, India
BSc, Physics Honours (1996) Presidency College, University of Calcutta, Calcutta, India

Professional Experience

- Professor (December 2022 – present)
- Associate Professor (June 2017 – December 2022)
School of Physics, Indian Institute of Science Education and Research Thiruvananthapuram, India
- Assistant Professor (May 2010 – June 2017)
School of Physics, Indian Institute of Science Education and Research Thiruvananthapuram, India
- Visiting Research Professor/Fellow (2011 – 2012, 2015, 2017 – 2018)
International Research Centre for Experimental Physics, Queen’s University Belfast, UK.
- Post-Doctoral Research Fellow, EPSRC (UK) June 2006 – May 2010
International Research Centre for Experimental Physics, Queen’s University Belfast, UK.
- Post-Doctoral Research Fellow, Nanotec Northern Ireland (UK) August 2004 – May 2006
International Research Centre for Experimental Physics, Queen’s University Belfast, UK.

Awards and Honours

- Publication selected for 10th Anniversary collection: Nanostructures 2021, RSC Advances
- Best Teacher Award, IISER Thiruvananthapuram, 2011.
- Awarded EPSRC Research Fellowship, UK 2006.
- Awarded Nanotec Northern Ireland Research Fellowship, UK 2004.
- Best Paper Award, MRS Fall 2004 meeting, Boston MA, USA
- SRF/JRF, Council of Scientific and Industrial Research, India 2000.
- Ranked 2nd in BSc (Physics Honours) University of Calcutta, India 1996.
- National Merit Scholarship, University of Calcutta, 1996.
- Govt. of India National Merit Scholarship, ICSE (Class 10), 1991.

Research Projects

- Scheme for Transformational and Advanced Research in Sciences (STARS) 2023, IISc/MoE
Principal Investigator (INR 7,500,000)
- SERB-DST, Govt. of India, Core Research Grant 2022
Co-Principal Investigator (INR X,X00,000)
- Consultancy Project 2022
Co-Principal Investigator, Accubits Invent Private Limited
- SERB-DST, Govt. of India, Core Research Grant 2021
Co-Principal Investigator (INR 200,000)
- Indo-Poland Collaborative Research Grant 2020, DST-NAWA
Principal Investigator (India), (INR 1,500,000)
- SERB-DST, Govt. of India, Core Research Grant 2020
Principal Investigator (INR 5,800,000)
- Royal Academy of Engineering, UK – Industry Academia Partnership Programme 2017
Newton Bhaba Fund, Principal Investigator (GBP 50,000)
- UK India Education and Research Initiative – UGC Collaborative Research Awards 2017 Principal Investigator (GBP 131,094)
- SERB-DST, Govt. of India, Core Research Grant 2014
Principal Investigator (INR 4,200,000)
- UK India Education and Research Initiative – UGC Collaborative Research Awards 2014
Principal Investigator (GBP 44, 802)
- UK India Education and Research Initiative – DST Collaborative Research Awards 2008
Co-Principal Investigator (GBP 58, 754)
- EPSRC UK Research Grant 2006, Post-Doctoral Researcher.

Professional Activities

- Member of the Indigo Consortium: The Indian initiative in gravity wave detection.
- Referee for IOP Journals, APS Journals, AIP Journals, Nature Publishing Journals
- Vaibhav Summit, Government of India, October 2020

- Administrative Activities**
- Associate Dean of Academics, IISER TVM (2023 –)
 - Head of School, School of Physical Sciences, IISER TVM (2020 – 2023)
 - Initiated Integrated and Interdisciplinary Sciences Programme at IISER TVM Coordinator: 2021 –
 - Established Placement Cell IISER TVM Coordinator: 2019 –
 - Established Media Cell IISER TVM Coordinator: 2021 –
 - IISER TVM Annual Report Committee (2020, 2021, 2022)
 - Coordinator – PhD and Integrated PhD Programmes at IISER TVM (Jan 2013 – Dec 2015)
 - Coordinator – BSMS Programme at IISER TVM (May – July 2014)
 - Local Coordinator, Kishore Vaigyanik Protsahan Yojana 2014, 2015
 - Coordinator JEST, IISER TVM
 - Member of various Academic and Administrative Committees at IISER TVM.

Patents ● A Substrate for Analyte Detection And Method Thereof (*India patent; filed 2020*).

Selected Invited Talks ● National Conference on Quantum Materials, QMAT 2021, TIFR Mumbai

● Department of Physics, IISc, Bangalore, June 2019

● Institut des Sciences Moleculaires d'Orsay, Universite Paris Sud, France, June 2017

● IRCEP, Queen's University Belfast, UK, May 2016, June 2017, 2019

● Prof. J G Rao and Prof. B Ambadi Memorial Lecture

● Science and Technology for Society Forum 2016, Ministry of Science and Technology, Sri Lanka

● Advanced Technology Institute, University of Surrey, UK

Publications:

1. Mobility enhancement in CVD grown monolayer MoS₂ via patterned substrate induced non-uniform straining. Arijit Kayal, Sraboni Dey, Harikrishnan G., Renjith Nadarajan, Shashwata Chattopadhyay and **J. Mitra** (Nano Letters, 23, 6629, 2023, doi: [10.1021/acs.nanolett.3c01774](https://doi.org/10.1021/acs.nanolett.3c01774))
2. Frequency dependent impedance response analysis of nanocrystalline ZnO Chemiresistors Abhijith P V, Abin Tom, Kusuma Urs MB, K N Prajapati, Sajana S, **J. Mitra**, Deepshikha Jaiswal-Nagar, Vinayak B Kamble (Nanotechnology, 34, 365501, 2023, doi: [10.1088/1361-6528/acdca0](https://doi.org/10.1088/1361-6528/acdca0))
3. Symmetric Domain Segmentation in WS₂ Flakes: Correlating spatially resolved photoluminescence, conductance with valley polarization. Arijit Kayal, P K Barman, P V Sarma, M. M. Shaijumon, R. N. Kini and **J. Mitra** (Nanotechnology, 33, 495203, 2022 doi: [10.1088/1361-6528/ac8d9d](https://doi.org/10.1088/1361-6528/ac8d9d))
4. Hyperspectral imaging with Raman scattered photons: A new paradigm in Raman analysis. K. N. Prajapati, A. Nair, S Ravi P Silva and **J. Mitra** (Nano Express, 3, 035007, 2022 doi:[10.1088/2632-959X/ac90db](https://doi.org/10.1088/2632-959X/ac90db))
5. Tailoring Infrared Absorption and Thermal Emission with Ultrathin-film Interferences in Epsilon-Near-Zero Media. Ben Johns, Shashwata Chattopadhyay, **J. Mitra** (Adv. Photonics Research, 3, 2100153, 2022 doi: [10.1002/adpr.202100153](https://doi.org/10.1002/adpr.202100153))
6. Selective Enhancement in Phonon Scattering Leads to a High Thermoelectric Figure-of-Merit in Graphene Oxide-Encapsulated ZnO Nanocomposites. Soumya Biswas, Saurabh Singh, Shubham Singh, Shashwata Chattopadhyay, K. Kanishka H. De Silva, Masamichi Yoshimura, **J. Mitra**, and Vinayak B. Kamble. (ACS Appl. Mater. Interfaces, 13, 23771, 2021 doi: [10.1021/acsami.1c04125](https://doi.org/10.1021/acsami.1c04125))
7. Controlling the macroscopic electrical properties of reduced graphene oxide by nanoscale writing of electronic channels. Arijit Kayal, Harikrishnan G, Kingshuk Bandopadhyay, Amit Kumar, Ravi P Silva and **J. Mitra** (Nanotechnology, 32, 175202, 2021 doi: [10.1088/1361-6528/abda72](https://doi.org/10.1088/1361-6528/abda72))
8. Refractive index-assisted UV/Vis spectrophotometry to overcome spectral interference from impurities. Airin Antony and **J. Mitra**, Analytica Chimica Acta (Analytica Chimica Acta 1149, 238186, 2021)
9. Enhancement of photoacoustic signal strength with continuous wave optical pre-illumination: a non-invasive technique. Anjali Thomas, Souradip Paul, **J. Mitra** and M Suheshkumar Singh (Sensors 21, 1190, 2021; doi.org/10.3390/s21041190)
10. Thickness induced metal to insulator charge transport and unusual hydrogen response in granular palladium nanofilms. Dharmendra K. Singh, Praveen S. G., Adithya Jayakumar, Suma M. N., Vinayak B. Kamble, J. Mitra and D. Jaiswal-Nagar. (Phys.Chem.Chem.Phys., 2020, 22, 27861 doi: [10.1039/D0CP05508E](https://doi.org/10.1039/D0CP05508E))
11. Epsilon-near-zero response in indium tin oxide thin films: Octave span tuning and IR plasmonics. Ben Johns, Navas M P, Harikrishnan G, Akhileshwar Mishra, Ravi Pant, and **J. Mitra** (J. Appl. Phys. 127, 043102, 2020; doi: [10.1063/1.5128873](https://doi.org/10.1063/1.5128873))
12. Interaction of ZnO nanorods with plasmonic metal nanoparticles and semiconductor quantum dots. K. N. Prajapati, Ben Johns, K. Bandopadhyay, S. Ravi P. Silva, and **J. Mitra**. (JCP 152, 064704, 2020; doi.org/10.1063/1.5138944) *Selected as Editor's Pick*
13. Electrocatalysis on Edge-Rich Spiral WS₂ for Hydrogen Evolution. Prasad V. Sarma, Arijit Kayal, Chithra H. Sharma, Madhu Thalakulam, **J. Mitra**, and M. M. Shaijumon. ACS Nano, 13, 10448, 2019.
14. Negative photoresponse in ZnO/PEDOT:PSS nanocomposites and photogating effects. Harikrishna G., Sesha Vempati, K Bandopadhyay, K N Prajapati, Vijith Kalathingal and **J. Mitra** (Nanoscale Advances 1, 2435, 2019, doi: [10.1039/c9na00116f](https://doi.org/10.1039/c9na00116f))
15. Resistive switching in individual ZnO nanorods: delineating the ionic current by photo-stimulation.

- K Bandopadhyay, K N Prajapati and **J Mitra*** (Nanotechnology, 29, 105701, 2018; doi: [10.1088/1361-6528/aaa63f](https://doi.org/10.1088/1361-6528/aaa63f))
16. Novel Routes to Electromagnetic Enhancement and its Characterisation in Surface- and Tip-enhanced Raman Scattering. P. Dawson, D. Frey , V. Kalathingal , R. Mehruz and **J. Mitra** (Faraday Discussions, 205, 121, 2017; [10.1039/C7FD00128B](https://doi.org/10.1039/C7FD00128B)) *Selected for cover page*
 17. Scanning tunneling microscope light emission: Finite temperature current noise and over cut-off emission. Vijith Kalathingal, P. Dawson and **J. Mitra*** (Scientific Reports 7, 3530, 2017; doi: [10.1038/s41598-017-03766-x](https://doi.org/10.1038/s41598-017-03766-x))
 18. Scanning tunnelling microscope light emission: Effect of the strong dc field on junction plasmons. Vijith Kalathingal, P. Dawson and **J. Mitra*** (Phys. Rev. B, 94, 035443, 2016)
 19. Spatially resolved photoresponse on individual ZnO nanorods: correlating morphology, defects and conductivity. K. Bandopadhyay and **J. Mitra*** (Scientific Reports 6, 28468, 2016; doi: [10.1038/srep28468](https://doi.org/10.1038/srep28468))
 20. EB1 regulates attachment of Ska1 with microtubules by forming extended structures on the microtubule. Geethu E. Thomas, K. Bandopadhyay, Sabyasachi Sutradhar, M.R. Renjith, Puja Singh, K.K. Gireesh, Steny Simon, Binshad Badarudeen, Hindol Gupta, Manidipa Banerjee, Raja Paul, **J. Mitra** & Tapas K. Manna (Nature Communications 7, 11665, 2016; doi: 10.1038/ncomms11665)
 21. An alternative methodology in Schottky diode physics. **J. Mitra***, L. Feng, L. Peñate-Quesada and P. Dawson (Journal of Applied Physics 117, 244501, 2015)
 22. Zn interstitials and O vacancies responsible for n-type ZnO: what do the emission spectra reveal? K. Bandopadhyay and **J. Mitra*** (RSC Advances, 5, 23540, 2015) *Selected for the 10th Anniversary collection: Nanostructures 2021*
 23. One-step synthesis of ZnO nanosheets: a blue-white fluorophore. Sessa Vempati, **J. Mitra**, and P. Dawson (Nanoscale Research Letters, 7, 470, 2012)
 24. Unusual photoresponse of indium doped ZnO/organic thin film heterojunction. Sessa Vempati, Saraswathi C., **J. Mitra***, K. K. Nanda, P. Dawson and S. B. Krupanidhi (Applied Physics Letters, 100, 162104, 2012)
 25. Composites of poly(Σ -caprolactone) and Mo₆S₃I₆ nanowires. Seow Jecg Chin, Peter Hornsby, Damjan Vengust, Dragan Mihailovic , **J. Mitra**, P. Dawson and Tony McNally (Poly. Adv. Tech., 23, 149, 2012, DOI: 10.1002/pat.1838)
 26. High sensitivity (1 ppm) hydrogen detection using an unconventional Pd/n-InP Schottky device Lei Feng, **J. Mitra***, P. Dawson and G. Hill (Journal of Physics: Condens. Matter 23, 422201 (*Fast Track*), 2011)
 27. The electrical characterisation and response to hydrogen of Schottky diodes with a resistive metal electrode – rectifying an oversight in Schottky diode investigation. P. Dawson, L. Feng, L. Penate-Quesada, **J. Mitra** and G. Hill (Journal of Physics D, 44, 125101, 2011)
 28. Electromagnetic interaction between a metallic nanoparticle and surface in tunnelling proximity – modelling and experiment. **J. Mitra***, Lei Feng, Michael G. Boyle and P. Dawson (Journal of Physics D, 42, 215101, 2009)
 29. The tip-sample water bridge and light emission in electron scanning tunneling microscopy Michael G. Boyle, **J. Mitra*** and P. Dawson (Nanotechnology 20, 335202, 2009). Featured as Technology Update, <http://nanotechweb.org/cws/article/tech/40296>.
 30. Infrared emission from tunneling electrons: The end of the rainbow in scanning tunneling microscopy Michael G. Boyle, **J. Mitra*** and P. Dawson (Applied Physics Letters, 94, 233118, 2009) also selected for publication in the *Virtual Journal of Nanoscience and Technology*, Vol. 19, Issue 26, June 2009.
 31. Very low frequency resistance fluctuations in thin films of La_{0.67}Ca_{0.33}MnO₃ with quenched disorder. Sudeshna Samanta, A. K. Raychaudhuri and **J. Mitra** (Phys. Rev. B 78, 014427, 2008)
 32. Non-linear electronic transport in Pt nanowires deposited by focused ion beam. L Peñate-Quesada, **J. Mitra*** and P. Dawson (Nanotechnology 18, 215203, 2007)
 33. Photon Emission at Step Edges of Single Crystalline Gold Surfaces Investigated by Scanning Tunnelling Microscopy. Michael G. Boyle, **J. Mitra** and P. Dawson (Jpn. J. Appl. Phys., 45, 2119, 2006).
 34. Temperature dependence of the gap in the Density of States in a hole doped Manganite. S. Kar, **J. Mitra** and A. K. Raychaudhuri (Solid State Commns. 136, 410, 2005)
 35. Temperature dependence of the density of states near Fermi level in a strain free epitaxial film of hole doped manganite La_{0.7}Ca_{0.3}MnO₃. **J. Mitra***, Mandar Paranjape, A. K. Raychaudhuri, N. D. Mathur and M. G. Blamire (Phys. Rev. B 71, 094426, 2005)
 36. Biaxial strain induced electrical inhomogeneities and phase separation in the ferromagnetic metallic phase in thin films of La_{0.7}Ca_{0.3}MnO₃: A scanning tunneling potentiometry/spectroscopy study. Mandar Paranjape, **J. Mitra**, A. K. Raychaudhuri, N. D. Mathur and M. G. Blamire; (Materials Research Society Symposium Proc. 838E, O1.2.1, 2005)
 37. Growth of oriented films of La_{0.67}Ca_{0.33}MnO₃ and La_{0.67}Sr_{0.33}MnO₃ on SrTiO₃ using chemical solution deposition. B Ghosh, L K Brar, H Jain, **J Mitra** and A K Raychaudhuri. (Journal of Physics D, 37, 1548, 2004)
 38. Non-linear electrical transport through artificial grain boundary junctions in epitaxial thin film of La_{0.7}Ca_{0.3}MnO₃. Mandar Paranjape, **J. Mitra**, A. K. Raychaudhuri, N. K. Todd, N. D. Mathur and M. G. Blamire. (Phys. Rev. B, 68, 144409, 2003).
 39. Depletion of density of states at the Fermi level in metallic colossal magnetoresistive manganites **J. Mitra***, A. K. Raychaudhuri, Ya. M. Mukovskii and D. Shulyatev. (Phys. Rev. B, 68, 134428, 2003).
 40. Point-contact spectroscopy of single crystal La_{0.75}Sr_{0.25}MnO₃ and resistivity due to electron-phonon interaction. **J. Mitra***, A. K. Raychaudhuri, N. Gayathri and Ya. M. Mukovskii. (Phys. Rev. B, 65, 140406 (*Rapid Commn.*), 2002).
 41. Low Level Measurements using OPAMP CA3140 at 77K. **J. Mitra***, S. Kar, A. K. Raychaudhuri (Solid State Physics, 44, 2002)
 42. The Homopolar Generator in Rotating Reference Frames.

Under Review/Preparation:

43. Single-Layer Silver Cluster-Assembled Material for p-type Field Effect Transistor (*under review*)
44. Coexistence of Multiple Magnetic Interactions in Oxygen Deficient V₂O₅ Nanoparticles (*under review*)
45. Surpassing the quarter-wave limit for thin film perfect absorbers with epsilon-near-zero media
Ben Johns, Shashwata Chattopadhyay, J. Mitra ([arXiv:2102.00239](https://arxiv.org/abs/2102.00239))

Selected Conference Presentations: (2018 -)

1. A novel heterostructure architecture for photodetection and photo-enhanced electron emission applications. European MRS – Spring Meeting – 2022, May 2022
2. A novel heterostructure architecture for photodetection and photo-enhanced electron emission applications. Frontier Symposium in Physics, IISER Thiruvananthapuram, India. April 2022
3. Tuning of Opto-electronic Properties in TMDCs by defect, strain, electrostatic gating and substrate interaction. Frontier Symposium in Physics, IISER Thiruvananthapuram, India. April 2022
4. Investigating the phase segmented WS₂ flake with spatially resolved techniques and correlating local photoluminescence, conductance with defects. National Conference on Quantum Materials 2021.
5. Plasmon mediated electron - photon interactions in metallic nanostructures. National Conference on Quantum Materials 2021.
6. Ultrathin Planar Resonant Cavities with Refractive Index Below Unity. OSA Advanced Photonics Congress, 2021
7. Plasmonics in near-zero-index media.
11th International Conference on Metamaterials, Photonic crystals and Plasmonics 2021
8. Epsilon-near-zero (ENZ) thin film on metal substrate: sub-wavelength Berreman-like modes and momentum matched SPPs. NFO16, Ottawa, Canada, 2020
9. Tunable epsilon-near-zero & plasmonic response in indium tin oxide thin films. ICONSAT 2020, Kolkata
10. Air-side optical excitation of surface plasmon polaritons on gold. 2019 COMSOL Conference, Bangalore
11. Dynamic tuning of ENZ region of ITO and sensing using a tapered optical fiber. XXI International Workshop on Physics of Semiconductor Devices, December 2021 (Best Poster Award)
12. Modelling a ITO nanostructured system for developing a spectrally selective absorber/emitter. XXI International Workshop on Physics of Semiconductor Devices, December 2021
13. ZnO: Plasmonic Hybrid System: From Photoluminescence to Surface Enhanced Raman Spectroscopy. European Material Research of Society - Fall Meeting-2019, Warsaw, Poland September 2019
14. Surprises in Optoelectronics of low dimensional conducting oxides. JNC conference, Thiruvananthapuram, 2018
15. Smartening Surfaces and Characterizing them in the Nanoscale.
J. Mitra and C. Bhat (14th FICCI Higher Education Summit, New Delhi, 2018)
16. Nanoscale Tunnel Junctions - A Unique Forum for Plasmonic Cross-talk between Electrons and Photons. Vijith Kalathingal, Paul Dawson, and J. Mitra (NFO15, Troyes, France 2018)
17. Tuning the electric field enhancement at fibre taper and Indium Tin Oxide thin film junction across the epsilon-near-zero wavelength. A. Mishra, B. Johns, Navas M P, R. Pant and J. Mitra (NFO15, Troyes, France 2018)
18. Tuning the dielectric-metal transition in Indium Tin Oxide thin films and probing the crossover by modal interference of optical fibres. B. Johns, Navas M P, A. Mishra, R. Pant and J. Mitra (NFO15, Troyes, France 2018)
19. Alternative strategies in HAMR: hybrid- and gap mode-plasmon. Reyad Mehruz, Vijith Kalathingal, Paul Dawson, and J. Mitra (NFO15, Troyes, France 2018)
20. Novel Routes to Electromagnetic Enhancement and its Characterisation in SERS.
Paul Dawson, David Frey, Vijith Kalathingal, Reyad Mehruz and J. Mitra (Surface Enhanced Raman Scattering - SERS: Faraday Discussions, Glasgow, United Kingdom, September 2017)
21. Surface plasmon polariton: Excitation and amplification using active tunnel junctions.
Vijith Kalathingal, Paul Dawson, and J. Mitra (8th International conference on Surface Plasmon Photonics (SPP8), Taipei, Taiwan, May 2017) (*Outstanding Poster Award*)
22. Surface Plasmon Mediated Light Emission Driven by Tunnelling Electrons: Macro- to Nano-scale over 40 Years.
Paul Dawson, Lei Feng, Michael G. Boyle, Vijith Kalathingal, and J. Mitra (8th International conference on Surface Plasmon Photonics (SPP8), Taipei, Taiwan, May 2017)
23. Designing Defects in ZnO: A few curiosities. J. Mitra (Science and Technology for Society Forum 2016, Colombo, Sri Lanka, 7 – 10 September 2016)
24. Nanoscale photo-conductivity mapping on individual ZnO nanorods: effect of spatially distributed surface defects
K. Bandopadhyay and J. Mitra (European MRS Spring Meeting, Lille, France, 2 – 6 May 2016)

Mentoring and Supervision

Current Post-Doctoral Fellows: 0

Current PhD Students: 3

Current Integrated PhD Students: 2

Past Post-Doctoral Fellows: 3

Doctoral Theses Supervised

1. Dr Harikrishnan G – IISER TVM, India PhD (2023)
2. Dr Arijit Kayal – IISER TVM, India PhD (2022)
Engineering optical, electrical and electronic properties of 2D van der Waals Materials
3. Dr Ben Johns – IISER TVM, India PhD (2021)
Infrared photonics of epsilon-near-zero thin films
4. Dr K N Prajapati – IISER TVM, India PhD (2020)
ZnO emission: from Photoluminescence to Surface Enhanced Raman Spectroscopy
5. Dr. V Kalathingal – IISER TVM, India PhD (2017)
STM Light Emission: The physics of a nanoscale plasmonic light source.
6. Dr. K. Bandopadhyay – IISER TVM, India PhD (2017)
Defect driven optoelectronic properties of ZnO nanostructures and related devices.
7. Dr. Pavan Kumar, Queen's University Belfast, UK PhD (2012)
Thin film and nanostructured zinc oxide: characterisation and device applications.
8. Dr. L. Penate-Quesada, Queen's University Belfast, UK PhD (2008)
[Exploiting resistive macro- to nano- scale metal electrodes in Schottky barrier structures.](#)

Masters Theses Supervised

Physics Major

1. Shamna Subair (2023)
2. Alphin Joseph (2022)
3. Sreehari Rajendran (2022)
4. Anoop Nair (2021)
5. Sabuj Mondol (2021)
6. Miliya K M (2021)
7. Kartik E (2020)
8. Amit Kumar (2020)
9. Sharath Sasikumar (2020)
10. Pratik Kumar (2018)
11. Abu Alex (2018)
12. Kanchan Soni (2018)
13. G Mitra (2017)
14. B C Joseph (2017)
15. Anupama (2017)
16. Harikrishnan G (2016)
17. P Mandal (2016)
18. M Thampi (2015)
19. Sisira K (2015)
20. A Mohan (2014)
21. P Pathak (2013)

Physics Minor

- 1.
2. Amulya Hejaji (2022)
3. Adarsh K (2022)
4. Akashdeep (2022)
5. C Ranjithkumar (2021)
6. Angela P A (2021)
7. Arunima S (2021)
8. Nancy Bhadiar (2021)
9. J. Gowtham Nirmal (2020)
10. Sreelakshmi V (2020)
11. Divya P. S. (2020)
12. Vishnu V (2019)
13. Meera Madhu (2019)
14. Nandita Mohandas (2019)
15. Sanjeev Nanda P (2019)
16. Narmada Naidu (2018)
17. Rashmiparvathi K (2018)
18. Mohammed Siddhique
19. Gudla Harish (2017)
20. A Ali (2016)
21. A Anand Ojha (2016)
22. D Devasia (2015)
23. D Suryavanshi (2014)
24. N Thejaswi (2013)
25. H Lingam (2013)
26. A Bhusan (2013)

Teaching	1. UGC-CSIR, National Eligibility Test, Qualified for Lectureship (1999)		
	2. UG/PG Teaching: Department of Physics, Queen's University Belfast, UK (2006 – 2009)		
	3. UGC Staff College Lectures at Kerala University (Nov 2014, Dec 2015, Feb 2016, Dec 2016).		
	4. Teaching at IISER-TVM (2010 – present)		
	Electronics	IDC211/PHY313	2010, 2012
	Electricity and Magnetism	PHY 121	2011, 2012, 2013, 2021, 2022
	Mechanics	PHY 111	2020
	Classical Mechanics	PHY 312	2011, 2013, 2014, 2020, 2021, 2022
	Statistical Mechanics	PHY 321	2013, 2023
	Advanced Experimental Laboratory	PHY 315/325	2014, 2015, 2016, 2018, 2019
	Experimental Methods	PHY 411/611	2015, 2016, 2017
	Semiconductor Physics and Technology	PHY 4120/6120	2017, 2018, 2019, 2020, 2022, 2023
	Expts. in Heat and Thermodynamics	PHY 222	2022

Research Interests:

1. Tunnelling induced light emission – nanoscale Plasmonics.
 - (i) Electrical and Optical excitation of Surface Plasmons – Fundamentals and Applications
 - (ii) Chemical fingerprinting of molecules via STM light emission
 - (iii) Phenomenological modelling of plasmon excitation and electron-photon coupling
2. Plasmonics and Optoelectronics of Conducting Oxides
3. Optical, electrical and optoelectronic properties of 2D layered systems
4. Metal – Semiconductor Schottky Junctions (micro to nanoscale)
 - (i) Electrical transport along elongated nanoscale Schottky junctions
 - (ii) Applications of nanoscale Schottky junction devices in high sensitivity chemical sensing
5. Nanostructured ZnO based hybrid devices for photovoltaic applications
6. Imaging Biological systems in the nanoscale