

Curriculum vitae



Name: Dr. Manasa Kalla

Affiliation:

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CAREER OBJECTIVE

My objective is to collaborate with esteemed institutions and universities in India, creating an enriching academic environment that facilitates the continuous enhancement of my knowledge and skills. This pursuit involves both teaching and research. I aspire to engage with both undergraduates and graduate students, imparting knowledge and a profound understanding of physics. Through dynamic and interactive teaching methodologies, my aim is to contribute to the academic growth of students and cultivate a passion for the subject. I intend to inspire and guide students to pursue advanced studies in physics particularly at research level.

Simultaneously, my dedication to research in Theoretical Condensed Matter Physics stands as a cornerstone of my career objective. I envision making meaningful contributions to the existing body of knowledge in this specialized field, striving to push the boundaries of understanding. This involves delving into intricate theoretical frameworks, conducting sophisticated mathematical modeling, and leveraging advanced computational simulations to explore and unravel the complex behaviors of condensed matter systems.

EDUCATIONAL QUALIFICATION

| Qualification | School / College | Time Period | University/Board | Percentage /CGPA |
|-----------------------------------|--|--------------------|---|-------------------------|
| Ph. D. Physics | School of Physics, University of Hyderabad | 2015-2022 | University of Hyderabad, Hyderabad. | Awarded |
| 5 Year Integrated M. Sc., Physics | Department of Physics | 2009-2014 | Sri Venkateswara University, Tirupati. | 75% |
| XII | Jawahar Navodaya Vidyalaya, Banavasi, Kurnool Dist, Andhra Pradesh | 2007-2009 | CBSE-AISSCE | 83% |
| X | Jawahar Navodaya Vidyalaya, Banavasi, Kurnool Dist, Andhra Pradesh. | 2002-2007 | CBSE-AISSE | 86% |

PUBLICATIONS

Peer Reviewed Journals

1. **Manasa Kalla**, Narasimha Raju Chebrolu and Ashok Chatterjee, Magneto-transport properties of a single molecular transistor in the presence of electron-electron and electron-phonon interactions and quantum dissipation, *Sci. Rep.* 9, 16510(2019).
2. **Manasa Kalla**, Narasimha Raju Chebrolu and Ashok Chatterjee, Quantum transport properties of a single molecular transistor at finite temperature, *Sci. Rep.* 11, 10458 (2021).
3. **Manasa Kalla**, Narasimha Raju Chebrolu and Ashok Chatterjee, Transient dynamics of a single molecular transistor in the presence of electron-phonon interaction at zero temperature *Sci. Rep.* 12, 1 (2022).
4. **Manasa Kalla**, Sanjeev Kumar, Sreekanth Sil and Ashok Chatterjee, Double Refraction and tunneling conductance across the metal-semiconductor junction in the presence of Rashba and Dresselhaus spin-orbit interaction: A spin filtering device, *Super lattices and Microstructures* 156, 106951 (2021).
5. **Manasa Kalla**, Swathi. T.S, Narasimha Raju Chebrolu and Ashok Chatterjee Transport properties of a single- molecular transistor at finite temperature. *IJIP, Vol. 1, Issue 2, (2020)*.
6. Kuntal Bhattacharyya, **Manasa Kalla** and A.Chatterjee, Quantum transport in a dissipative single molecular transistor in the presence of electron correlations and polaronic interaction at a finite temperature and external magnetic field *Journal of Applied Physics* 132 (19), 194303 (2022).
7. Kuntal Bhattacharyya, **Manasa Kalla**, Shreekantha Sil and A.Chatterjee, Spin-transport across a two-dimensional metal-semiconductor interface with a Dirac-delta potential: Double refraction and spin-filtering effect in the presence of Rashba and Dresselhaus spin-orbit couplings, *Micro and Nanostructures* 175, 207496 (2023).
8. H. K. Sharma, **Manasa Kalla** and A. Chatterjee, Non-equilibrium Quantum transport through a Quantum dot dimer in the presence of electron-electron interaction, electron-phonon interaction, magnetic field and quantum dissipation, *Sci. Rep.* 14, 1 (2024).
9. Pooja Saini, **Manasa Kalla** and Ashok Chatterjee, Thermoelectric properties of a correlated polar single molecular transistor in the presence of a magnetic field and dissipation (accepted in *Physica-E Low dimensional systems and Nanostructures*, Jan 2025).

Conference Proceedings

1. **Manasa Kalla**, Ashok Chatterjee Magneto-transport in an Interacting Single Molecular Transistor using Anderson- Holstein model. *AIP Conference Proceedings* 1942, 110027 (2018).
2. **Manasa Kalla**, Narasimha Raju Chebrolu and Ashok Chatterjee Magneto-transport properties of a single molecular transistor: Anderson-Holstein-Caldeira-Leggett model. *AIP Conference Proceedings* 2115, 030450 (2019).

3. Kuntal Bhattacharya, **Manasa Kalla** and A.Chatterjee, Effect of finite temperature and external magnetic field on the non-equilibrium transport in a single molecular transistor with quantum dissipation: Anderson-Holstein-Caldeira- Leggett model, *Materials today: Proceedings(2021)*.

COMPUTATIONAL SKILLS

Expertise

- FORTRAN
- Python
- Matlab
- Mathematica
- LaTeX,
- ORIGIN
- C, C++
- Basic DFT skills
- Web Technology (HTML)
- M.S. OFFICE : M.S. WORD, M.S. POWER POINT & M.S. EXCEL.

EXPERIENCE

- Working as a Guest Lecturer from SEP 2024 at Department of Physics, Tripura University, Agartala.
- Worked as a National Postdoctoral Fellow at School of physical Sciences in the National Institute of Science Education and Research, Bhubaneswar.
- Worked as a Postdoctoral Fellow at School of physical Sciences in the National Institute of Science Education and Research, Bhubaneswar.
- Worked as a Senior Project Associate at School of physical Sciences in the National Institute of Science Education and Research, Bhubaneswar.
- Worked as a Guest Lecturer from APRIL-JULY 2022 at School of physics in the Central University of Karnataka.
- Worked as a Teaching Assistant (M.Sc. Physics) for Classical mechanics from JULY-DEC 2016 Under Prof. Ashok Chatterjee at School of physics in the University of Hyderabad.
- Worked as a Teaching Assistant (M.Sc. Physics) for Phase transitions and critical phenomena from JAN- JUNE 2017 Under Prof. S. N. Kaul at School of physics in the University of Hyderabad.
- Worked as a Teaching Assistant (M.Sc. Physics) for Advanced Quantum Mechanics from JAN-JUN 2018 Under Prof. Shiva Kumar at School of physics in the University of Hyderabad.

ACHIEVEMENTS

- International Travel scheme (**ITS**) 2024 to attend International Conference on Magnetism

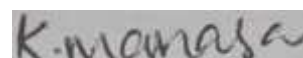
held at Bologna, Italy

- National Postdoctoral Fellowship (**NPDF**) for research (2024)
- **CSIR** fellowship for pursuing Ph.D. (Qualified with rank of AIR-123 in the exam held on 25th December (2014).
- Qualified **GATE**-2015.
- Attended FIP (Frontiers in Physics) at University of Hyderabad, Hyderabad, Telangana, in March 2016.
- Attended National conference on condensed Matter physics at ISI, Kolkata in February 2017.
- Attended Summer school at ICTS, Bangalore, in June 2018.
- Presented Poster in DAE-SSPS-2017 held at BARC, Mumbai, Maharashtra
- Given Oral Presentation in ICABS-2018 held at GDC Memorial College, Bahal, Haryana.
- Presented Poster in DAE-SSPS-2018 held at Guru Jambheshwar University of Science and Technology, Hisar, Haryana
- Attended workshop on Integrable system in Mathematics, Condensed matter and Statistical physics at ICTS, Bangalore, in August 2018.
- Presented Poster in QMAT-2019 held at IISc, Bangalore, Karnataka.
- Given an Oral Presentation in International Conference on Condensed Matter Physics held at IEM, Kolkata, West Bengal in FEB 2019.
- Participated in Young Investigators meet on quantum condensed matter theory -2022 held at NISER, Bhubaneswar, Odisha in OCT 2022.
- Participated in QMAT-2023 held at NISER, Bhubaneswar, Odisha.
- Given an Oral presentation in International Conference on material science (ICMS-2024) held at Tripura University, Agartala, Tripura in JAN 2024.
- Given a Poster presentation in International Conference on Magnetism (ICM-2024) held at Bologna Congress Centre, Bologna, Italy in JUN 2024.
- Given a Poster presentation in QMAT-2024 held at IIT Guwahati in DEC-2024.

DECLARATION

I here declare that the information provided as above is true to the best of my knowledge and belief.

Looking forward to hear from your end.



Signature

(Manasa Kalla)

