

# Susaiammal Arokiasamy, B.Sc., B.Ed., M.Sc., Ph.D.

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ResearchGate



## Education

- Jan.2024 **Ph.D. in Computational Material Physics**, National Sun Yat-sen University, Kaohsiung, Taiwan.
- May 2021 **B.Ed.**, Ch.Charan Singh University, Meerut, India.
- May 2016 **M.Sc. in Physics**, St. Aloysius College (Autonomous), Mangalore, India.
- May 2013 **Diploma Course in Theology**, Jnana Deepa Institute of Philosophy and Theology, Pune, India
- May 2012 **B. Sc. in Physics, Mathematics, Computer Applications**, St. Bede's College, Shimla, India



## Experience

- June 2025 – till date **Assistant Professor**, St. Aloysius (Deemed to be University), Mangaluru, India.
- July 2024 – Oct. 2024 **Assistant Professor**, St. Bede's College, Shimla, India.
- July. 2021 – Dec.2023 **Teaching and Research Assistant**, National Sun Yat-sen University, Kaohsiung, Taiwan.
- Jan. 2018 – Dec.2019 **Assistant Professor**, St. Joseph's College (Autonomous), Jakhama, India
- Jan. 2017 – Dec.2017 **Lecturer**, St. Bede's College, Shimla, India
- Oct. 2016 – Dec.2016 **Lecturer**, St. Joseph's Girls Degree College, Meerut, India
- July 2016 -Oct. 2016 **Lecturer**, St. Bede's College, Shimla, India














## Scholarships, Awards and Achievements

- July 2025 **BEST LIBRARY USER AWARD**, Certificate of Recognition is awarded for optimal use of the library's learning resources for the month of July, St. Aloysius (Deemed to be University), Mangaluru, India.
- 2020-2023 **Elite Doctoral Student Scholarship**, National Sun Yat-sen University, Kaohsiung, Taiwan
- 2021-2023 **Strengthening Cooperation and Exchange Plan with ASEAN and South Asian Countries R and D Elite Talent Professional class**, Ministry of Education, Taiwan
- Jan.2023 **AAPPS Award**, For excellent performance in oral presentation at annual meeting of TPS2023. Presented by Association of Asian Pacific Physical Society, TPS2023, Taiwan.
- Apr.2021 **For the successful participation and achievement of First Position In International Essay Writing Competition On Out Break of COVID-19: its impact and Assessment on Indian Economy**
- Apr.2016 **Best Outgoing Student Award**, Presented by St.Aloysius College, (Autonomous) Mangalore, India
- Nov.2016 **Rank Certificate**, For securing 2nd rank in M.Sc. Physics, presented by St.Aloysius College, (Autonomous) Mangalore, India


## Scholarships, Awards and Achievements (continued)

- Dec.2012        **Zeitler Memorial Essay-Third Prize**, Presented by Ishwani Kendra for Missiology, Pune, India
- Jan.2012        **National Essay-Third Prize**, Presented by Petroleum and Natural Gas Conservation Research Association, New Delhi, India















## Courses on DFT/ Research/SWAYAM or NPTEL Courses/FDPs Attended

- Sept. 2025 - Nov. 2025        **Online course for women religious: Sisters Reporting from the Margins: Journalism skills for religious sisters**, offered by the Dicastery for Communication, Vatican.
- June.2025        Faculty Development Program (FDP) on **Density Functional Theory Modelling of Advanced Materials (DFT -Advanced)** organized by the Centre for Advanced Computational Research, Delhi from 9th June to 18th June 2025 via Online Mode.
- May.2025        **Deep learning for physicists** an online Micro-credit course, National Sun Yat Sen University, Kaohsiung, Taiwan.
- Feb.2025        Completed the **Tanmaya Sadhana** course at Sadhana Institute, Lonavala—an intensive program in integral human formation combining psychology, spirituality, and personal transformation from 6th January to 28th February.
- Oct.2024        Completed the **NEP 2020 Orientation and Sensitization Programme under Malaviya Mission Teacher Training Programme (MM-TTP)** of University Grants Commission (UGC) Organized by Malaviya Mission Teacher Training Centre, Himachal Pradesh University, Shimla from 23rd September to 1st October.
- Mar 2024        **One-Day Workshop on Artificial Intelligence and Machine Learning: Exploring Advanced AI Platforms**, Tryst 2024, IIT Delhi, India.
- Mar 2022        **2022 Winter school on First Principles Computational Materials Research - Advanced Level**, NCTS-Physics Division, Taiwan.
- July 2021        Taken part in the online Teachers Training on **Cyber Safety and Security** organized by Indian Teacher Education Community, led by **Ministry of Electronics and Information Technology(Meity) Government of India**.
- June. 2021        **Center for Taiwan Academic Research Ethics Education Certificate of Completion**, Ministry of Education, Taiwan.
- May. 2021        **2021 Spring school on First Principles Computational Materials Research - Introductory Level**, NCTS-Physics Division, Taiwan.
- Feb. 2021        **20th International Workshop on Computational Physics and Materials Science: Total Energy and Force Methods**, International Center for Theoretical Physics, Italy.
- Nov. 2020        Participated the Virtual National Workshop on **Biomaterials: Design, Development and Scope for Future Generation** during November 03-07, 2020 organized by the Department of Mechanical Engineering, **National Institute of Technology Manipur**, Langol under the sponsorship of **Technical Education Quality Improvement Programme (TEQIP)-III**.
- Aug. 2020        Participated in two days **Faculty Development Program on Online Teaching Tools** organised by Department of Computer Science, St. Bede's College, Shimla

## Courses on DFT/ Research/SWAYAM or NPTEL Courses/FDPs Attended (continued)

Feb. 2017     Completed the course, 'Developing Soft Skills and personality' through NPTEL online Certification with DISTINCTION 90% from IIT Kanpur.

## Workshops/Seminars Attended

- 2020     Participated in **National Webinar on New Education Policy (NEP) 2020 Forward Looking Policy**, ST. JOSEPH'S GIRLS DEGREE COLLEGE, Sardhana(Meerut) U.P.
-  Participated in International e-Conference on "**Recent Trends in Advancement of Mathematical and Physical Sciences**", Deva Nagri College, Meerut.
-  Participated in the International Virtual Conference on **Physics of Solid State Materials**, St. Aloysius College (Autonomous), Mangalore.
-  Participated in a webinar on **Low Dimensional Physics:A New Paradigm**,Department of Physics, St Joseph Engineering College, Mangaluru.
- 2018     **Participated in the National workshop on, "Advances in Production and Material Science Engineering" organized at NIT Nagaland.**
- 2016     Participated in the one-day workshop on **INNOVATIONS IN MEDICAL INSTRUMENTATION** held at St. Aloysius College, Mangalore.
-  Participated in the National Workshop on **Theoretical Physics** held at Alva's College, Moodbidri, Karnataka.
- 2015     Participated in one-day seminar on **THEORETICAL ASPECTS OF PARTICLE AND HIGH ENERGY PHYSICS** held at St. Philomena College, Puttur Karnatakka.
-  **Attended in the one-day lecture series titled "Theory Fest: Celebrating Concepts in Theoretical Physics organized by PHYSIKA at SDM College, Ujire, Karnatakka.**
-  Participated in the National Seminar "**SAGA OF LIGHT**" organized by the Department of Physics at St. Aloysius College, Mangalore.
-  Participated in the KSCSTE sponsored "**National seminar on OPTICS AND PHOTONICS** organized by Payyanur College, Kerala.
- 2014     Participated in the National Seminar on **X-Ray Crystallography** organized by the Department of Physics and Chemistry at St. Aloysius College, Mangalore.
- 2011     Attended UGC National Workshop Cum Seminar on **Physics Education Research: Research based Reforms in Physics Instruction** held at St. Bede's College.
- 2004     Completed the **SPIRITUAL HUMAN YOGA INDIA** the level 3 seminar in Human and Universal Energy.

## Membership in Professional Bodies

Dec. 2025 – Present     **Cognate/Reciprocal Society Member, Australian Institute of Physics(AIP).**

## Membership in Professional Bodies (continued)

Apr.2024 –present	■ <b>Member at Division of Condensed Matter Physics, Association of Asia Pacific Physical Societies(DCMP-AAPPS).</b> Membership ID: DCM-PCPST388NJMH.
Dec. 2020 –present	■ <b>Member of the Taiwan Physical Society (TPS) and TG3.1: Computational quantum materials.</b>
Dec. 2020 – Dec. 2021	■ <b>Member of the American Physical Society (APS).</b>
Jan. 2018 – Dec. 2019	■ <b>Management and Governing Board member,</b> St. Joseph's College (Autonomous), Jakhama, India.

## Skills




Languages	■ Strong reading, writing and speaking competencies for English, Tamil, Hindi.
Language Proficiency Tests	■ <b>TOEIC Listening and Reading test,</b> TOEIC total score: 830 out of 990 (Dec. 2022) Taiwan.
Coding	■ Python, Matlab, Mathematica, ...
DFT Research Packages	■ VASP, Quantum ESPRESSO.
Misc.	■ Academic research, teaching, effective communication, self-motivated, committed, determined, goal-oriented, community-minded, hardworking, and multitasking.

## My Peer Reviews

2025	<b>Journal of Physics: Condensed Matter (IOP)</b> (3 peer review records of 1 manuscripts).
2022	<b>Chinese Journal of Physics (TPS, Taiwan)</b> (2 peer review records of 1 manuscripts).

## Research Publications

### Journal Articles

- 1 S. Arokiasamy, G. M. Macam, S. P. C, *et al.*, “**Electronic, magnetic, and topological properties of ferromagnetic 2D perovskite-type oxides**,” *New Journal of Physics*, 2024, ISSN: 1367-2630.  DOI: <https://doi.org/10.1088/1367-2630/ad9be0>.
- 2 R. K. M. M. S. M. S. A. T. S. M. G. M. A. I. V. P. A. A. J. T. N. Myasoedova, “**Synergetic FeMoSe@NiCo-LDH hybrid heterostructures as a stable and effective bifunctional catalyst for sustained overall water splitting and seawater splitting**,” *Journal of Alloys and Compounds*, 2024, ISSN: 0925-8388.  DOI: <https://doi.org/10.1016/j.jallcom.2024.175389>.
- 3 S. Arokiasamy, G. M. Macam, R. A. B. Villaos, *et al.*, “**Prediction of quantum spin Hall and Rashba effects in two-dimensional ilmenite oxides**,” *Chinese Journal of Physics*, vol. 86, pp. 242–254, 2023, ISSN: 0577-9073.  DOI: <https://doi.org/10.1016/j.cjph.2023.09.022>.


### Conference Proceedings

- 1 S. Arokiasamy, G. M. Macam, R. A. B. Villaos, *et al.*, “**Prediction of Quantum Spin Hall and Rashba Effects in Two-Dimensional Pristine and Janus Ag-Doped AuBiO Monolayers**,” in *Wagga2026/AC2MP2026*, The 48th Annual Condensed Matter and Materials Meeting in conjunction with the 6th Asia-Pacific Conference, Wagga Wagga, NSW, Australia, 2026.
- 2 S. Arokiasamy, G. M. Macam, R. A. B. Villaos, *et al.*, “**Quantum spin Hall, van Hove singularities, and Rashba effect in two-dimensional perovskite oxides**,” in *Taiwan Physical Society Annual Meeting 2023*, Taiwan, 2023.


### Poster Presentations

- 1 S. Arokiasamy, G. M. Macam, S. P. C, *et al.*, **Quantum anomalous Hall effect in Hematene-type two-dimensional perovskite oxides**, Taiwan Physical Society Annual Meeting 2024, Taiwan, 2024.
- 2 S. Arokiasamy, G. M. Macam, R. A. B. Villaos, *et al.*, **Prediction of quantum spin Hall and Rashba effects in two-dimensional perovskite oxides**, NCTS-KIAS Workshop on Ab Initio Approaches to Quantum Materials, Taiwan, 2023.

### PhD Dissertation




- 1 S. Arokiasamy, **First-principles study on the topology of two-dimensional perovskite-type oxides**, PhD dissertation, 2024.  URL: [https://ethesis.lis.nsysu.edu.tw/ETD-db/ETD-search-c/view\\_etd?URN=etd-0022124-172614](https://ethesis.lis.nsysu.edu.tw/ETD-db/ETD-search-c/view_etd?URN=etd-0022124-172614).

### PhD Colloquium

- 1 S. Arokiasamy, **First-principles study on the topology of two-dimensional ABO<sub>3</sub> materials**, PhD Colloquium, 2024.  URL: <https://phys.nsysu.edu.tw/static/file/181/1181/img/985968005.pdf>.

## Articles Under Review

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- 2025  **Highly entangled magnetodielectric, magnetostriction, and spin-phonon coupling phenomena in a chiral incommensurate antiferromagnet  $\text{Ni}_2\text{ScSbO}_6$** , Neha Patel, Arkadeb Pal, C. W. Wang, G. R. Blake, J. Khatua, T. W. Yen, Susaiammal Arokiasamy, H. S. Kuntwar, Y. C. Lai, Y. C. Chuang, V. Sathe, Kwang-Yong Choi, H. D. Yang, Sandip Chatterjee, <https://doi.org/10.48550/arXiv.2503.06043>
-  **Anomalous Hall, Nernst, and Spin Hall effects in  $\text{CoMnCrGa}$ : A first-principles study**, Manuscript reference: JPCM-125741, (Journal of Physics: Condensed Matter), Anurodh Sharma, Srivani Javvaji, Lakhansingh Kowachi, Abhipsha Pattnaik, Hrishikesh Sinha, Susaiammal Arokiasamy, CH. Prashanth, Mitch Chou, Shiu-Ming Huang, and P. Rambabu
- 2026  **Synthesis, Crystal Structure, Multifunctional Properties and Computational Study of 4 DMAT: A Heteroaromatic Chalcone with Antioxidant, Corrosion Inhibition, and Third-Order Nonlinear Optical Activity**, Manuscript reference: MRB-D-26-00038, (Materials Research Bulletin), Divya Shetty; Narasimha Raghavendra; Suman Rani; Susaiammal Arokiasamy; P. Rambabu; Bheemalingam Chittari; Akash Bag; Neelamma B. Gummagol