

Faculty Profile

Name of Faculty	Dr. S. BALASARASWATHY	
Department	Physics	
Qualification	M.Sc., Ph.D.	
Designation	Assistant Professor	
Area of specialization	Applied Spectroscopy	
Date of Joining BNMIT	18.01.2021	
Nature of Association (Regular/Contractual/Adjunct)	Regular	
e-mail	sbalasaraswathy@bnmit.in , bali10shivakumar@gmail.com	
No. of years of Experience	Teaching: 11 years	

Academic Qualifications

- **Ph.D.** (2013), Department of Physics, Annamalai University, Annamalai Nagar, India.
- **Integrated M.Sc.** (2008), Department of Physics, Annamalai University, Annamalai Nagar, India (I Rank).

Working Experience Details

- Asst. Professor, Dept. of Physics, BNMIT, Bangalore, India (18.01.2021 to till date)
- Asst. Professor, Dept. of Physics, HKBKCE, Bangalore, India, (Feb 2016 to Oct 2020).

Subject taught

Topics Taught: Modern Physics, Quantum Mechanics, Quantum computing, Lasers and their applications, Optical fibers, Mechanical properties of materials, Electrical conductivity of materials, Dielectric properties of Materials, Superconductivity, Fundamentals of Nanotechnology & Composite materials, Semiconductors & its devices.

Academic Positions and other Responsibilities:

- Co-ordinator, Dept. of Humanities, BNMIT, Bangalore for the AY 2026-27
- Member Secretary of BOS, Dept. of Physics, BNMIT, Bangalore for the AY 2021-22 to 2026-27
- Member of BOE, Dept. of Physics, BNMIT, Bangalore for the AY 2021-22 to 2026-27
- Department level NBA/NAAC Coordinator, BNMIT, Bangalore for the AY 2021-22 to 2026-27
- Co-Ordinator for I year Scheme for the AY 2022-23 to 2026-27
- Co-Ordinator for B.E.I Yr Induction Programme for the AY 2022-23, 2024-25 & 2025-26
- Member of BOE, MVJCE, Bangalore from the AY 2019-20 to 2025-26
- Departmental Website Coordinator for the AY 2021-22 & 2022-23.
- Contineo Coordinator for the AY 2022-23 & 2023-24.
- Co-Ordinator of Academic review meeting for I year for the AY 2022-23, 2023-24.
- Co-Ordinator for BNMIT Science forum for the AY 2024-25 & 2026-27.

Experimental/ Computational/ Any other Skills:

- Biodegrading the textile effluent with fungal species
- Physico-chemical studies on treated effluent.
- Degradation studies of biodegraded textile effluent by UV – Vis & FTIR spectrophotometer.
- Morphological studies using SEM-EDS.

Awards/ Achievements/Memberships:

- **Department Topper in M.Sc. (Physics)** Five year Integrated, Annamalai University and awarded with **Annamalai University Prize**.
- Received **Dr. S. Kasturirangan Prize** for securing highest mark in “**Mechanics and Special Theory of Relativity**” in M.Sc. (Physics).
- Tamil Nadu Government awarded **Scholarship** in the final year (Vth year) for the academic proficiency.
- Life Member, Zero Waste Society of India
- Life Member, Indian Society for Technical Education.
- Awarded with “Professional Excellence award 2026” by THE INDIAN FORUM (registered under Niti Aayog, GoI) for Social leaders and achievers, Chennai, Tamil Nadu.
- Topper of the NPTEL course “Environmental Nanotechnology and Applications” conducted by IIT, Kharagpur for a duration of 8 weeks with a score of 91% (Elite +Gold)
- Topper of the NPTEL course “Soft Nano Technology” conducted by IIT, Kharagpur for a duration of 8 weeks with a score of 80% (Elite +Silver)
- Topper of the NPTEL course “Psychology of Learning” conducted by IIT Kanpur for a duration of 12 weeks with a score of 100% (Elite +Gold)
- Topper of the NPTEL course “Solar Photovoltaics: Principles, Technologies & Materials” conducted by IIT Kanpur for a duration of 8 weeks with a score of 89% (Elite +Silver)
- Topper of the NPTEL course “Nanotechnology, Science & Applications” conducted by IIT Madras for a duration of 8 weeks with a score of 81% (Elite +Silver)
- Topper of the NPTEL course “Biophotonics” conducted by IIT, Kharagpur for a duration of 12 weeks with a score of 87% (Elite +Silver)
- Topper of the NPTEL course “Introduction to Biomimicry” conducted by IIT, Madras for a duration of 8 weeks with a score of 86% (Elite +Silver)
- Design patent granted on “IoT based digital radiographic corrosion testing device”, issued on 15.01.2026. Design No.: 477557-001
- Design patent granted on “IoT based smoke and heat detector”, issued on 18.04.2024. Design No.: 408341-001

Workshops /Seminars Organized:

- Member of Organizing & Technical committee of “**International Conference on Applied Science & Advanced Materials**” organized by Dept. of Basic Science & Mech. Engg., BNMIT during Nov. 2025.
- Member of Organizing & Technical committee of “**International Conference on Advanced Material & Fluid Mechanics**” organized by Dept. of Basic Science & Mech. Engg., BNMIT during Nov. 2023.
- Organizer of One Day E - **Student Development Programme** on “Graphene based Technology” organized in HKBKCE on June 5th, 2020
- Member of Organizing committee of “**International conference on Innovation in Engineering, Science, Technology and Management**” organized by HKBKCE during May 2019.

Research Publications:

I. In National & International Journals

1. Anticancer Potential of Isolated Gymnemic Acid-III from *Gymnema sylvestre*: Insights from In vitro and In silico Analysis, Asian Journal of Chemistry, 38(5):1189-1195, May 2026, DOI: [10.14233/ajchem.2026.35623](https://doi.org/10.14233/ajchem.2026.35623)
2. Utilization of Catalytically Cracked Waste Transformer Oil in Compression Ignition Engines: Effects of Combustion Chamber Geometry on Efficiency and Emission Characteristics, Atmospheric Environment: X, 100402, Volume 29, January 2026
3. Development of Samarium and Cerium Doped Yttrium Orthoborate Phosphor for near UV LED Application, Asian Journal of Chemistry 37 (11), 2753-2758, Oct.2025
4. A comprehensive multispectroscopic and molecular docking studies on the interaction of bioactive coumarines with bovine serum albumin Journal of Biomolecular Structure and Dynamics, April 2025
5. Decolorization and biodegradation studies of the textile effluent treated by *Trametes versicolor*. International journal of Plant, Animal and Environmental Science, Vol.8, Issue -1, P.No.44-60, Jan-Mar 2018.
6. 2- Amino- N- (furan-2-ylmethyl) -5,6- dihydro- 4H- cyclopenta [b] thiophene-3-Carboxamide, IUCrData, x171211, 1-6, 2017
7. Spectroscopic Studies on the biodegradation of textile effluent by White Rot Fungus *Trametes hirsuta*, *Nature Environment and Pollution Technology*, Vol. 11, No. 2, 225-228, 2012. (Scopus/Web of Science indexed)
8. Biodegradation and Physico-Chemical changes of textile effluent by various fungal species, *Romanian Journal of Biophysics*, Vol. 21, No. 2, 113-123, 2011.

II. In National/International Conference Proceedings

Nil

Papers presented in International/National Conferences

1. **Presented a paper** entitled “**Physico-chemical and Spectroscopic analysis of Mycodegradation of textile effluent by WRF *T.hirsuta***” in in a International conference on Applied Science and Advanced Materials, organized by Dept. Of PCM & Mech Engg, BNMIT, Bangalore on Nov.2025
2. **Presented a paper** entitled “Experimental Investigation of Swirl enhancing Piston bowl geometry in a diesel engine fueled with transformer oil” in a International conference on Advanced Materials and Fluid, organized by Dept. Of PCM & Mech Engg, BNMIT, Bangalore on Nov.2023
3. **Presented a paper** entitled “**Physico-chemical and Spectroscopic studies on *T.versicolor* treated textile effluent**” in a National Seminar on Recent trends on Material Sciences, organized by Dept. Of Physics, Thevanai Ammal College for Women, Villupuram, Feb 2018.
4. Presented paper entitled “**Physico-chemical and Spectroscopic studies on textile effluent treated by *T.hirsuta***” in the National Seminar on ‘Recent trends in Synthetic methods and Chemistry of Natural products (SMNP 2011)’ organized by Department of Chemistry, Annamalai University, Annamalai Nagar, Oct, 2011.
5. Presented paper entitled “**Physico – chemical and biodegradation studies of textile effluent by *Aspergillus niger* & *Trichoderma viridae***” in the National Conference on ‘Harnessing the power of Microbes for better Food, Agro- industry, Health and Environment’ held at Karpagam University, Coimbatore Sept. 2011
6. Presented paper entitled “**SEM-EDS & FTIR analysis of treated textile effluent**” in the National Conference on ‘Perspectives in Lasers and Spectroscopy (NCPLAS 2009)’ organized by Women’s Christian College, Chennai Sept. 2009

Participation in Training courses/Seminars/Workshops

FACULTY DEVELOPMENT PROGRAM:

1. One week FDP on “Extensible AI for Smarter Research: Tools that save Time and Improve Quality” organised by Research foundation of India from 24th -28th Feb., 2026.
2. Six days International FDP on “Next Gen Tech Synergy: Nano Engineering and Quantum computing for Global Impact” organised by Department of Science and Humanities, Vel Tech High Tech Engineering College, Chennai from 18th – 23rd August, 2025.
3. Two weeks FDP on “Future prospects of Green technologies with AI and ML applications” organised by Electronics and ICT Academy, NIT Patna from 14th – 25th July, 2025.
4. One week FDP on “Emerging trends in 3D printing and Industry5.0” organised by Dept. of Mech. Engineering, BNMIT from 07th – 11th July., 2025.
5. Six Day online International Faculty Development Programme on “Next-Gen Tech Synergy: Nano Engineering and Quantum Computing for Global Impact (NGTS’25)” Organized by Department of Science and Humanities (Physics), Vel Tech High Tech Dr.Rangarajan Dr. Sakunthala Engineering College, Avadi, Chennai, Tamil Nadu from 18th to 23rd August, 2025.
6. One Week FDP on “Extensible AI for smarter research: Tools that save Time and improve quality” organised by research fountaion of India, New Delhi, from 24th to 28th Feb., 2026.
7. One week FDP on “Practical aspects of ICT tools and Online teaching in current scenario” organised by Research Foundation of India from 07th – 14nd Nov., 2024
8. One-week AICTE recognized FDP on “Digital Twinning” organised by Department of Mechanical Engineering, NITTTR, Chandigarh from 09th – 13nd Sept., 2024

9. One-week AICTE recognized FDP on “Effective Curriculum Design & Evaluation” organised by Curriculum Development Center, NITTTR, Chandigarh from 18th – 22nd Mar., 2024
10. One-week AICTE recognized FDP on “NAAC & Internal Quality Assurance” organised by Media Engineering Department, NITTTR, Chandigarh from 26th Feb. – 01st Mar, 2024
11. Five days FDP on “Cocoon – Nurturing the hidden potential to unleash it” organised by BNMIT from 7th– 11th August 2023.
12. One-week AICTE recognized FDP on “Green Energy materials and Technology” organised by Department of Applied Science, NITTTR, Chandigarh from 1st – 5th May, 2023
13. One-week AICTE recognized FDP on “Applications of Technology in Environmental Sustainability” organised by Department of Applied Science, NITTTR, Chandigarh from 17th – 21st Apr, 2023.
14. Second International FDP on “Advanced materials for technological applications” organised by Sathyabama Institute of Technology from 24th March – 4th Apr.,2023.
15. 3 days FDP on “Innovation & Design Thinking” organised by Impact college of Engineering and Applied Sciences, Bengaluru from 6th Oct – 8th Oct, 2022
16. 5 days FDP on “Science of New age materials for Advanced Technological applications” organised by Department of Chemistry, Acharya Institute of Technology, Bangalore from 25th – 29th April, 2022.
17. 5 days Virtual International FDP on “Scope & Developments in Teaching & Research strategies in Basic Science” organised by Sri Ramakrishna College of Arts & Science, Coimbatore from November 22nd -26th, 2021
18. One Week FDP on “Innovations in Applied Research for Science and Technology” organized by Department of Basic Science and Humanities, KDKCE Nagpur in association with Indian Association for Radiation Protection (IARP), Luminescence Society of India (LSI) & Society for Technologically Advanced Material of India (STAMI) from October 11th – 18th, 2021.
19. AICTE QIP sponsored Online Short-Term Course (STC) on “Intelligent Nano photonics” organised by Dept. of CSE, NITTTR, Chandigarh from October 4th – 9th, 2021.
20. One week FDP on “Emerging Trends in Applied Physics” organised by Department of Physics, SGT University from July 5th – 9th, 2021.
21. 5 Days FDP on “Inculcating Universal Human Values in Technical Education” organized by All India Council for Technical Education (AICTE) from May 3rd to 7th, 2021.
22. 5 Days FDP on Virtual Lab in Physics by National College, BNMIT & Udayabhanu Kala Sangha from February 3rd – 7th, 2021.
23. 3 Days FDP on e- Learning: creating and managing e-content, V.V. Institute of Engineering & Technology, Solapur from June 22nd – 24th, 2020
24. 5 Days FDP on Innovative teaching pedagogy in Technical Institutions, MVPS’s KBT college of Engineering, Nashik from June 1st – 5th, 2020.
25. FDP on Physics of Material, Jain university, Bangalore from May 28th – 30th, 2020.
26. AICTE recognized 5 Days FDP on Outcome based curriculum, Department of Rural development, NITTTR, Chandigarh from May 25th – 29th, 2020.
27. AICTE recognized 5 Days FDP on Environment and Sustainable development, Department of Rural development, NITTTR, Chandigarh from May 18th -22th, 2020.
28. AICTE recognized 5 Days FDP on Nano material & Devices, Department of Applied Science, NITTTR, Chandigarh from May 11th -15th, 2020.
29. FDP on Contemporary tools and techniques for teaching and researchers in Higher education: Experience of using virtual classrooms, Cambridge Institute of Technology, Bangalore on May 9th, 2020.
30. AICTE recognized FDP on Quantum and Energy Materials: Potential & Applications organised by Department of Applied Science, NITTTR, Chandigarh from May 4th -8th, 2020.
31. 5 Days FDP on Enhancing Teaching skills and develop the next generation of Engineering educators organized by HKBKCE held in Dec, 2019.

32. FDP on Research methodology held by Department of Engg. Chemistry, HKBKCE, dated Oct 2019.
33. FDP on Physics experiments for Engineers held by Department of Physics, CMRIT, Bengaluru on Feb 2019.
34. FDP on Revised Engineering Physics theory and Laboratory curriculum, 2018-19 CBCS scheme held at CMRIT, Bengaluru on July 2018.
35. FDP on CBCS based curriculum development towards Autonomy held in HKBK college of Engineering held on Jan 2018.

SEMINARS/ CONFERENCES:

1. **Presented a paper** entitled “Physico-chemical and Spectroscopic analysis of Mycodegradation of textile effluent by WRF *T.hirsuta*” in in a International conference on Applied Science and Advanced Materials, organized by Dept. Of PCM & Mech Engg, BNMIT, Bangalore on Nov.2025
2. **Presented a paper** entitled “Experimental Investigation of Swirl enhancing Piston bowl geometry in a diesel engine fueled with transformer oil” in a International conference on Advanced Materials and Fluid, organized by Dept. Of PCM & Mech Engg, BNMIT, Bangalore on Nov.2023.
3. Attended webinar on “Engineering One-Dimensional Nanorod Arrays for Photocatalytic Application” organized by Aaivaler Materials Society (AMatS), April 29th, 2021.
4. Attended International webinar on Nanomaterial and its energy applications organized by BLDEA’s S.B Arts & K.C.P. Science College, Department of PG studies in Physics, Vijayapur on 7th Nov, 2020.
5. Attended webinar on “Insight into Nanotechnology” organized by Dr. Ambedkar Institute of Technology on 6th August 2020.
6. Attended webinar on Nano materials: the materials with Multi-functional potential organized by Sai Vidhya Institute of Technology on 27th July 2020.
7. Attended webinar on “Environmental Sustainability” organized by MIT, Aurangabad on July 2020.
8. Attended webinar on ‘Nano technology in Water and Waste Water treatment’ organized by Indian Water works Association, Vadodara on 20th May 2020.
9. Attended webinar on E learning/ICT based education, Jawaharlal Institute of technology, Borawan, M.P, 24th May, 2020
10. Attended Seminar on Two-dimensional materials for diverse applications, Cambridge Institute of Technology, Bangalore, 23th May 2020
11. Attended International E-conference on strategies & challenges in Higher education during COVID- 19 Lockdown period in India with reference to the world, Govt. Vidarbha Institute of Science & Humanities, Amravati, May 15th -17th, 2020
12. **Presented a paper** entitled “Physico-chemical and Spectroscopic studies on *T.versicolor* treated textile effluent” in a National Seminar on Recent trends on Material Sciences, organized by **Dept. Of Physics, Thevanai Ammal College for Women, Villupuram** on Feb 2018.
13. Attended an International conference on “Recent trends in Environmental Science and Technology” organized by APS college of Engineering, Bangalore held on Dec., 2017.
14. **Presented a paper** in the National Seminar on ‘Recent trends in Synthetic methods and Chemistry of Natural products (SMNP 2011)’ organized by Department of Chemistry, **Annamalai University, Annamalai Nagar** on 14 & 15 Oct, 2011.
15. **Presented a paper** in the National Conference on ‘Harnessing the power of Microbes for better Food, Agro- industry, Health and Environment’ held at **Karpagam University, Coimbatore** during 19 & 20 Sept., 2011.

16. Participated in the International Conference on ‘Recent Frontiers in Applied Spectroscopy (ICORFAS 2010)’ organized by Annamalai University during September 2010
17. National Seminar on ‘Chemistry of Nanomaterials and Molecular Dynamics (CNMD 2010)’ organized by Annamalai University during December 2010.
18. **Presented a paper** in the National Conference on ‘Perspectives in Lasers and Spectroscopy (NCPLAS 2009)’ organized by **Women’s Christian College, Chennai** on September 2009.
19. Participated in a National Seminar on ‘Nano Science and Technology’ organized by Rajiv Gandhi College of Engineering and Technology, Pondicherry during February 2007.

WORKSHOPS:

1. Attended 2 days Workshop on “Project writing for Grants” organized by Research foundation if India from 27th -28th June, 2025.
2. Attended 5 days Faculty Development Workshop on “High Impact Teaching- Learning Skills” organized by TLC, BNMIT from October, 25th – 29th, 2021.
3. Attended 3 days Faculty Development Workshop on Innovative Teaching – Learning methodologies, organised by BNMIT, Bangalore from Sept. 16th to 18th, 2021
4. Attended a workshop on “New model curriculum for I year B.E/ B.Tech – CBCS detailed syllabus as per OBE format including COs and Bloom’s Taxonomy” held at BIT, Bangalore in May 2018.
5. Attended ‘Asia-Pacific Workshop on Materials Characterization’ held at Anna University, Chennai in Sept., 2011.
6. Participated in DST sponsored National Training Programme on Enzyme Technology held at Centre of Advanced Study in Marine Biology, Annamalai University, Parangipettai, Tamil Nadu during March 2010.
7. Participated in the UGC Sponsored Interaction Programme on Research Methodology for Ph.D. and Post-doctoral Scholars held at Academic Staff College, University of Madras, Chennai during December 2009.
8. Attended ‘Kodai Summer School in Physics’ organized by Indian Institute of Astrophysics, Kodaikanal during June 2007.
9. Attended a Workshop on ‘Crystal Growth Methods’ organized by Sri Siva Subramaniya Nadar College of Engineering (SSN), Chennai during August 2006.

Personal Details:

- **Date of Birth:** 10 – 11 –1985
- **Religion:** Hindu
- **Marital status:** Married
- **Languages known:** English, Tamil, Telugu & Kannada

11.08.2026

S. BALASARASWATHY.