

**Name : K. Girija.**

**Designation : Associate Professor and Head i/c**

**Department : Physics**

**Qualification : M.Sc., M.Phil., Ph.D.,**

**Experience : Teaching – 11 Years | Research – 11 Years**

**Specialization: Nanoscience and Technology**

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### Academic Qualifications

Degree	Branch	Institution / University Name	Year
Ph.D.	Physics – Nanoscience and Technology (Interdisciplinary)	Bharathiar University	2013
M.Phil.	Physics	Ramakrishna Mission Vidyalaya College of Arts	2008
M.Sc.	Physics	Kongunadu Arts and Science College/ Bharathiar University	2007
B.Sc.	Physics	PSGR Krishnammal College for Women / Bharathiar University	2005

### Additional Qualifications

Dip. / Cert.	Area of Specialization	Institution / Agency Name	Year
Certificate	The Agnirva AI Internship Program	Agnirva	2025
Certificate	Patent Course	Turnip	2025
Certificate	Physics of Semiconductors, Structural Analysis of Nanomaterials, Solid State Physics, Selection of Nanomaterials for Energy Harvesting and storage application, Biomedical Nanotechnology	NPTEL	2017, 2018, 2019, 2020
HDCA	Computer Basics and Programming	CSC Computer Education	2005

## Grants Received

Event Title	Agency	Amount (Rs.)	Date
International Travel Support Grant	Science and Engineering Research Board (SERB)	35,420	2023
Student Project Scheme 2022-23	Tamilnadu State Council for Science and Technology	7,500	2023
INSA Visiting Scientist Programme	Indian Academy of Sciences	60,000	2022
IASc-INSA-NASI Summer Research Fellowship	Science Academies	30,000	2018

## Patent

Title	Status	Year
Nanosensor based detection of pesticide residue in fruits UK	Published	2023
Nanotechnology based dipping system for water purification	Grant	2023
An Efficient analytical assay of nanospindles as SERS substrate for Identification of Imidacloprid on the surface of Fruits	Publication	2023
Formation of Single Crystalline novel LaFeO <sub>3</sub> dendritic nanostructures via a well-controlled hydrothermal process for dopamine analytical detection	Publication	2022

## Research Guidance

Programme	No. of Scholars	
	Awarded	Pursuing
Ph. D.	-	3
M. Phil.	-	-

## Research Publications

Girija Kesavan, Thirumalairajan Subramaniam, Hariharan Vaiyapuri Manemaran, Anagha Keloth, **Development of Ag/Cerium iron oxide nanostructured electrode material: an efficient electrochemical detection of tert-butylhydroquinone in food products**, *New Journal of Chemistry*, 49, 18784, 2005, ISSN: 1144-0546. IF:2.5 (Indexed in SCOPUS).

Thirumalairajan Subramaniam, Gomathi Velu, Kesavan Girija, and Sathyamoorthy Pon, **Critical Review on Multifunctional Nanostructure Based Electrochemical Immunosensors for Foodborne Pathogens**, *ACS Food Science & Technology*, ISSN: 2692-1944, IF:2.6 (Indexed in SCOPUS).

K. Girija, S. Thirumalairajan and V.M. Hariharan, **Development of promising Flower-like Ag/SrFeO<sub>3</sub> Nanosheets electrode materials: An Efficient and Selective Electrocatalyst Detection of Caffeic Acid in Coffee and Green Tea**, *ACS Omega*, ISSN: 2470-1343, IF:4.132. (Indexed in SCOPUS).

S. Thirumalairajan and K. Girija, **Tailored Construction of Ag/WO<sub>3</sub> nanospindles SERS substrates: An efficient analytical assay for identification of neonicotinoids on the surface of fruits**, *Optical Materials*, pp. 112861, 2022, ISSN: 0925-3467, IF:3.7, (Indexed in SCOPUS).

Thirumalairajan Subramaniam, Kesavan Girija, **Coherently designed sustainable SERS active substrate of Ag/TiO<sub>2</sub> hybrid nanostructures for excellent ultrasensitive detection of chlorpyrifos pesticide on the surface of grapes and tomatoes**, *Journal of Food Composition and Analysis*, Vol. 106, pp.104330-39, 2022, ISSN:0889-157, IF:4.556, (Indexed in SCOPUS).

Thirumalairajan Subramaniam, Girija Kesavan, and Ganesh Venkatachalam, **Development of CuAlO<sub>2</sub>-Encapsulated Reduced Graphene Oxide Nanocomposites: An Efficient and Selective Electrocatalyst for Detection of Neurodegenerative Disorders**, *ACS Applied Bio Materials*, pp. 7769-7778, 2020, ISSN: 2576-6422, IF:4.7 (Indexed in SCOPUS).

S. Thirumalairajan and K. Girija, **Efficient and tunable shape selective synthesis of Ag/CeO<sub>2</sub> nanostructures modified highly stable SERS substrate for ultrasensitive detection of pesticides on the surface of an apple**, *Nanoscale Advances*, pp. 3570-3581, 2020, ISSN: 2516-0230, IF:7.23, (Indexed in SCOPUS).

S. Thirumalairajan, K. Girija, Valmor R. Mastelaro, K. S. Subramanian, **Enhanced ultrasensitive detection of ozone gas using reduced graphene oxide-incorporated LaFeO<sub>3</sub> nanospheres for environmental remediation process**, *Journal of Materials Science: Materials in Electronics*, pp. 8933-8945, 2020, ISSN: 0957-4522, IF:2.22, (Indexed in SCOPUS).

K. Girija, S. Thirumalairajan, Valmor R Mastelaro & D. Mangalaraj, **Catalyst Free Vapor-Solid Deposition of Morphologically Different  $\beta$ -Ga<sub>2</sub>O<sub>3</sub> Nanostructure Thin Films for Selective CO Gas Sensors at Low Temperature**, *Analytical Methods*, Vol.8, pp.3224-3235, March 2016, ISSN:1759-9679, IF: 1.915, (Indexed in SCOPUS).

S. Thirumalairajan, K. Girija, Valmor R Mastelaro & N. Ponpandian, **Investigation on Magnetic and Electric Properties of Morphologically Different Perovskite LaFeO<sub>3</sub> Nanostructures**, *Journal of Materials Science: Materials in Electronics*, Vol.26, No.11, pp.8652- 8662, July 2015, ISSN: 0957-4522, IF: 1.57, (Indexed in SCOPUS).

K. Girija, S. Thirumalairajan, Valmor R Mastelaro & D. Mangalaraj, **Photocatalytic Degradation of Organic Pollutants by Shape Selective Synthesis of  $\beta$ -Ga<sub>2</sub>O<sub>3</sub> Microspheres Constituted by Nanospheres for Environmental Remediation**, *Journal of Materials*

*Chemistry A*, Vol.3, pp.2617-2627, December 2015, ISSN:2050-7488, IF: 10.7, (Indexed in SCOPUS).

S. Thirumalairajan, K. Girija, Valmor R Mastelaro & N. Ponpandian, **Photocatalytic Degradation of Organic Dyes Under Visible Light Irradiation by Floral-Like LaFeO<sub>3</sub> Nanostructures Composed of Nanosheets**, *New Journal of Chemistry*, Vol.38, pp.5480-5490, August 2014, ISSN: 1144-0546, IF: 3.15, (Indexed in SCOPUS).

S. Thirumalairajan, K. Girija, Valmor R Mastelaro & N. Ponpandian, **Surface Morphology Dependent Room Temperature LaFeO<sub>3</sub> Nanostructure Thin Films as Selective NO<sub>2</sub> Gas Sensor Prepared by Radio Frequency Magnetron Sputtering**, *ACS Applied Materials & Interfaces*, Vol.6 No.16, pp.13917-13927, July 2014, ISSN: 1944-8244, IF: 5.01, (Indexed in SCOPUS).

S. Thirumalairajan, K. Girija, Valmor R Mastelaro, V. Ganesh & N. Ponpandian, **Detection of Neurotransmitter Dopamine by a Glassy Carbon Electrode Modified with Self-Assembled Perovskite LaFeO<sub>3</sub> Microspheres Made up of Nanospheres**, *RSC Advances*, Vol. 4, pp.25957-62, May 2014, ISSN: 2046-2069, IF: 3.71, (Indexed in SCOPUS).

K. Girija, S. Thirumalairajan, & D. Mangalaraj, **Morphology Controllable Synthesis of Parallely arranged Single-Crystalline  $\beta$ -Ga<sub>2</sub>O<sub>3</sub> Nanorods for Photocatalytic and Antimicrobial Activities**, *Chemical Engineering Journal*, Vol. 236, pp.181-190, September 2014. ISSN: 1385-8947, IF: 4.05, (Indexed in SCOPUS).

K. Girija, S. Thirumalairajan, G.S. Avadhani, D. Mangalaraj, N. Ponpandian & C. Viswanathan, **Synthesis, Morphology, Optical and Photocatalytic Performance of Nanostructured  $\beta$ -Ga<sub>2</sub>O<sub>3</sub>**, *Materials Research Bulletin*, Vol. 48 No.6, pp.2296-2303, February 2013, ISSN: 0025-5408, IF: 2.1, (Indexed in SCOPUS).

K. Girija, S. Thirumalairajan, Astam K. Patra, D. Mangalaraj, N. Ponpandian & C. Viswanathan, **Enhanced Photocatalytic Performance of Novel Self-Assembled Floral  $\beta$ -Ga<sub>2</sub>O<sub>3</sub> Nanorods**, *Current Applied Physics*, Vol. 13, pp.652-658, November 2013, ISSN:1567-1739, IF: 2.0, (Indexed in SCOPUS)

K. Girija, S. Thirumalairajan, Astam K Patra, D. Mangalaraj, N. Ponpandian & C. Viswanathan, **Organic Additives-Assisted Synthesis of Mesoporous  $\beta$ -Ga<sub>2</sub>O<sub>3</sub> Nanostructures for Photocatalytic Dye Degradation**, *Semiconductor Science and Technology (IOP)*, Vol. 28, pp.035015, February 2013, IF: 2.20, ISSN: 0268-1242, (Indexed in SCOPUS).

S. Thirumalairajan, K. Girija, Neha Y. Hebalkar, D. Mangalaraj, & N. Ponpandian, **Shape Evolution of Perovskite LaFeO<sub>3</sub> Nanostructures: A Systematic Investigation on Growth Mechanism, Properties and Morphology Dependent Photocatalytic Activities**, *RSC Advances*, Vol. 3, pp.7549-61, March 2013, IF: 3.71, ISSN: 20462069, (Indexed in SCOPUS).

S. Thirumalairajan, K. Girija, V. Ganesh, D. Mangalaraj, C. Viswanathan & N. Ponpandian, **Novel Synthesis of LaFeO<sub>3</sub> Nanostructure Dendrites: A Systematic Investigation of Growth Mechanism, Properties, and Biosensing for Highly Selective Determination of Neurotransmitter Compounds**, *Crystal Growth and Design* (ACS), Vol.13, pp. 291-302, November 2013, IF: 4.55, ISSN: 1528-7483, (Indexed in SCOPUS).

S. Thirumalairajan, K. Girija, I. Ganesh, D. Mangalaraj, C. Viswanathan, A. Balamurugan & N. Ponpandian, **Controlled Synthesis of Perovskite LaFeO<sub>3</sub> Microsphere Composed of Nanoparticles via Self-Assembly Process and their Associated Photocatalytic Activity**, *Chemical Engineering Journal*, Vol. 290, pp. 420-428, August 2012, IF: 4.05, ISSN: 1385-8947, (Indexed in SCOPUS).

K. Girija, S. Thirumalairajan, S. M. Mohan & J. Chandrasekaran, **Structural, Morphological, and Optical Studies of CdSe Thin Films from Ammonia Bath**, *Chalcogenide Letters*, Vol. 6, No. 8, pp. 351-357, August 2009, IF: 0.934, ISSN: 1584-8663 (Indexed in SCOPUS).

K. Girija, S. Thirumalairajan & S. M. Mohan, **Deposition and Characterization of Cadmium Indium Selenide Thin Film by Chemical Bath Technique**, *Optoelectronics and Advanced Materials - Rapid Communications*, Vol. 3, No. 1, pp. 60-62, January 2009, IF: 0.563, ISSN: 18426573 (Indexed in SCOPUS).

S. Thirumalairajan, K. Girija, M. Sudha, P. Maadeswaran & J. Chandrasekaran, **Structural and Optical Investigation of Manganese Oxide Thin Films by Spray Pyrolysis Technique**, *Optoelectronics and Advanced Materials - Rapid Communications*, Vol. 2, No.12, pp. 779-781, December 2008, IF: 0.563, ISSN: 18426573 (Indexed in SCOPUS).

K. Girija, G. Thilakavathi, C.K. Bibisha, K. Senthil & R. Sarojini, **Spectral Luminescence Study of Interaction of Metals with N-Acetyl- L-Cysteine - A Potent Antioxidant that Protects against Harmful Environmental Toxins**, *Eco-Chronicle* Vol.2, pp.185-188, December 2007, ISSN: 0973-4155, (Indexed in UGC).

#### **Books/ Book Chapters Publication**

**Characterization Techniques for Nano Materials: A Complete Guide**, K. Girija and Thirumalairajan, AkiNik Publications, Delhi, 2025, ISBN: 978-93-7150-526-0.

**Nano Science and Technology, Scientific Dictionary**. Thirumalairajan and K. Girija, AkiNik Publications, Delhi, 2024, ISBN:978-93-6135-086-3.

**Futuristic Trends in Agricultural Engineering & Food Sciences**, IIP Series, Volume 3, Book 12, Part 1, Chapter 3, Functional Nano Biosensor Materials for Food Safety Applications, 2024, e-ISBN:978-93-5747-486-3.

**Nano biosensor: concepts and applications**. Thirumalairajan and K. Girija, Astra publication, New Delhi, 2023, ISBN:9789354619564

**Fundamentals and Applications of Nanostructure Perovskite Oxides**, S. Thirumalairajan and K. Girija, Scholars World, New Delhi, 2023, ISBN:9789354617102.

**B.Sc. Chemistry and Mathematics Laboratory Manual**, Semester I: 222PY1A1IP – Modern Physics, Dr. N.G.P. Arts and Science College, Coimbatore, 2022, ISBN: 978-81-961172-0-7.

**Deposition and Analysis of CdSe and CdInSe Thin Films**, Girija K and Thirumalairajan S, Lambert Academic Publishing, 2022, ISBN: 978-620-4-98512-1.

**Construction and Analysis of Semi organic Crystal for NLO Applications**, S. Thirumalairajan and K. Girija, Lambert Academic Publishing, 2022, ISBN: 978-620-4-98509-1.

**Nanotechnology in Agriculture Energy and Environment**, Chapter 2 and 19, S. Thirumalairajan and K. Girija, 1<sup>st</sup> Edition, Daya Publishing House, New Delhi, 2020, ISBN:978-93-89719-33-8.

**Souvenir of First National Conference on Recent Trends in Basic and Applied Sciences**, Associate Editor, March 2-3, 2020, ISBN:978-81-943062-8-3.

#### **Presentations in Conference/ Seminar**

**Tailored fabrication of CeFeO<sub>3</sub> electrodes towards efficient hydroxycinnamic acid detection**, Global Congress on Sustainable Growth and Development, INTI University, Malaysia, 10 October 2025. (Best Presenter Award).

**Hydrothermal synthesis of Ag doped LaFeO<sub>3</sub> perovskite for electrochemical detection of Uric acid**, International Conference on Modern Functional Materials, Sri SaiRam Engineering College, Chennai, 11,12 September 2025.

**Sustainable Synthesis of Ag/CeFeO<sub>3</sub> nanocomposites: An Efficient Catalyst Electrochemical Detection of Propyl Gallate for Food Safety**, 17<sup>th</sup> International Conference on Nanostructured Materials, NANI 2024, Khalifa University, Abu Dhabi, UAE, 3-8 November 2024.

**Fabrication of Shape Dependent CeFeO<sub>3</sub> Electrodes for Detection of Caffeic Acid using Electrochemical Techniques**, DST-SERB & CSIR Sponsored International Conference on New Materials for industry and Medicine, P.S.G.R Krishnammal College for Women, Coimbatore, 30-31 January 2024.

**Floral network Nanostructured Ag/SrFeO<sub>3</sub> for electrochemical behaviour of Biomolecule detection**, DRDO sponsored two days National Conference on Advanced Biocompatible materials and devices/systems for Biomedical Applications, Department of Physics and Biomedical Engineering, Sri Ramakrishna Engineering College, Coimbatore, 10-11 August 2023.

**Fabrication of flower like AgSrFeO<sub>3</sub> nanostructures an efficient electrocatalyst detection of caffeic acid for clinical diagnosis**, 11<sup>th</sup> International Conference on materials for Advanced Technologies, IUMRS-ICAM and ICMAT, SUNTEC Singapore, 26-30 June 2023.

**Antioxidant property of ZnO spherical nanostructures prepared from tomato extract**, “International Conference on Nanoscience and Nanotechnology (ICONN 2023)”, SRM Institute of Science and Technology, 27-29 March 2023.

**Network nanostructures of Ag/SrFeO<sub>3</sub> for electrochemical detection of Ascorbic acid**, Twenty Second National Convention of Electrochemists, Society for Advancement of Electrochemical Science and Technology (SAEST), PSG college of Technology, 26-27 August 2022.

**Thin films of  $\beta$ -Ga<sub>2</sub>O<sub>3</sub> designed to sense ethanol at room temperature**, World Sensor Congress, Centre for materials for Electronics Technology (C-MET), Thrissur & Centre for Excellence in IIoT Sensors, 8-10 March, 2022 (**First Prize – Poster Presentation**).

**Structural and Optical analysis of Self-assembled Nanostructure Spindles of Copper Oxide using facile Wet Chemical Method**, International Virtual Conference on “Recent Trends in Applied Mathematics, Physical Sciences and humanities”, Sri Ramakrishna Institute of Technology, 21 October 2021.

**Photocatalytic degradation of organic pollutants by oval shaped  $\beta$ -Ga<sub>2</sub>O<sub>3</sub> nanostructures for environmental waste remediation**, SERB Sponsored National Level Conference on Advanced Materials in Waste management at Dr. N.G.P. Institute of Technology, Feb. 8, 2019.

**Doped and Undoped ZnO nanostructures for Sodium Ion Batteries**, DST-SERB sponsored National Conference on Transition Metal based Sodium Ion Batteries for Ultrafast Energy Storage Systems, Dr. N.G.P Institute of Technology, Coimbatore, 13-Nov-19.

**Information and Communication Technology for Knowledge Centered Education**, 19<sup>th</sup> ISTE TN & P Section Annual Convention for faculty members of Engineering Colleges – 2016, Theme: “Internationalization of Engineering Education- Empowering the future”, Dr. N.G.P Institute of Technology, Coimbatore, 2-Dec-16 to 3-Dec-16.

International conference on Advances in New Materials at University of Madras, June 20-21, 2014. (**Best Poster Award**).

**Research and Education of Science – Current Scenario**, International conference on “Quality changes through Research, Experiences, Expectations & Enhancement”, Dr. N.G.P College of Education, Coimbatore, 14-March-14 to 15- March-14.

**Structural, Morphological and Optical Investigation of Nanostructured  $\beta$ -Ga<sub>2</sub>O<sub>3</sub>**, Proceedings of the International conference on “Advanced Materials”, Loyola College, Chennai, 5-Jan-12 to 7-Jan-12. (ISBN 978-81-9094-901-9).

**Characterization of Chemical Bath Deposited CdSe Thin Film**, Proceedings of the International Seminar on “Mathematical & Experimental Physics”, PSGR Krishnammal College for Women, Coimbatore, 18-Dec-08 to 19-Dec-08. (ISBN 978-81-8487-057-2).

## **Participation in Conference/Seminar**

### ***International:***

- 1) International Virtual Conference on “Advances in Nanomaterials and its Recent Applications”, Dr. N.G.P. Institute of Technology, 15-17, July 2020.
- 2) International Conference on “Quality changes through Research-Experiences, Expectations & Enhancement”, Dr. N.G.P Institute of Education, Coimbatore, 14-March-14 to 15- March-14.
- 3) International conference on “Advanced Materials”, Loyola College, Chennai, 5-Jan-12 to 7 Jan-12.

### ***National:***

- 1) National conference on “Advancement in Material Science”, Coimbatore Institute of Technology, 26-Sep-14 to 27-Sep.14.
- 2) Second National Conference on “Multifunctional Nanomaterials and Nanocomposites”, Bharathiar University, 24-Mar-11 to 25-Mar-11.
- 3) National Conference on “Multifunctional Nanomaterials and Nanocomposites”, Bharathiar University, 4- Feb-10 to 5-Feb-10.
- 4) National conference on “Emerging areas in Thin film Science & Technology”, PSG College of Technology, Coimbatore, 13-Feb-09 to 14- Feb-09.

## **Participation in Seminars**

- 1) One day National Level Seminar on “Futuristic Energy Materials and its Applications: FEMA 2025” supported by Tamilnadu State Council for Science and Technology” at Dr. N.G.P. Institute of Technology, Coimbatore, 14 February 2025.
- 2) Two-day National Seminar on “Envisioning New Bharat: Educational Reforms and Indigenous Systems” at Hotel Vivanta, Coimbatore, 8-9 June 2024.
- 3) Webinar on “Machine learning for Physics and Physics for Machine learning” organized by Department of Physics and Astronomy, NOT Rourkela and Indian Association of Physics teachers, 1-5 June 2024.
- 4) E-Seminar on “AI: State Space Search and Charles Darwin” at Dr. N.G.P. Arts and Science College, Coimbatore, 21 Oct.2021.
- 5) E-Seminar on “X-ray Diffraction Technique and its Analysis” at Dr. N.G.P. Arts and Science College, Coimbatore, 11 Oct.2021.
- 6) One day Seminar on “Energy Materials” at Sathyabama Institute of Science and Technology, Chennai, 4 June 2021.



- 7) One day National Seminar on “Photonics for Medical Diagnostics” at Dr. N.G.P. Institute of Technology, 3 July 2019.
- 8) National Level Technical Seminar on “X-Ray Photoelectron Spectroscopy for Nanomaterials Characterization”, Karunya Institute of Technology and Sciences, 19-Feb- 2019.
- 9) International seminar on “Mathematical & Experimental Physics”, PSGR Krishnammal College for Women, Coimbatore, 18-Dec-08 to 19-Dec-08.
- 10) National Seminar on “Advanced Materials and Applications”, Karpagam Arts and Science College, Coimbatore, 4 -Mar-08.
- 11) National level Seminar on “Spectroscopy of Nanoparticles”, Kongunadu Arts and Science College, Coimbatore, 4-Jan-07 to 5-Jan-07.
- 12) National level Seminar on “Astrophysics and Space Physics NASAS-2006”, P.S.G.R Krishnammal College for women, Coimbatore, 24- Feb-06.

#### **Participation in Orientation Programme / Short Term Courses**

- 1) The Agnirva Space Internship program, AICTE recognized, May 2025.
- 2) IP Awareness/Training Program under National Intellectual property Awareness Mission, GoI, 21 Feb.-2022.
- 3) IoT Wireless and Cloud Computing Emerging Technologies, Coursera, Nov-2020.
- 4) Digital Teaching Techniques, ICT Academy, Aug. 2020.
- 5) Non-linear Dynamics- An Introduction, Bharathidasan University, Jul. 2020.
- 6) Applications of Electrochemical Workstation, Sri Ramakrishna Engineering College, Coimbatore, 10-12-Jul-2017.
- 7) “5<sup>th</sup> DST Advanced School on Nanoscience and Nanotechnology”, IISC Bengaluru, 17-Jan-11 to 23-Jan-11.
- 8) IUAC Acquaintance Programme on “Accelerator Based Research”, Kongunadu Arts and Science College, Coimbatore, 1-Dec-06.

#### **Participation in Faculty Development Programme**

- 1) “Smart and Sustainable Materials: Advances in Material Chemistry for Global Challenges”, Department of Chemistry, SRM Institute of Science and Technology,

Ramapuram, Chennai in association with Society for Advancement in Chemical Sciences and Education (SACSE), IGCAR, Kalpakkam, 21- 26 July 2025.

- 2) **“AI and Computational Studies in Teaching and Learning Process”**, Department of Physics and Chemistry, Dr. N.G.P. Arts and Science College, 5, 6 and 9 June, 2025.
- 3) **“Multidisciplinary Approach on Nanotechnology”**, Department of Chemistry, Vellalar College for Women, 23-27 September 2024.
- 4) **”Empowering teaching and research through emerging Technology”**, Department of Physics, Ethiraj College for Women, 22-26 & 29-30 July 2024.
- 5) **Empowering Education for innovation – A NEP perspective**, Center for Professional Development, Dr. N.G.P. Arts and Science College, 30 June – 4 July 2023.
- 6) **“Implementation of NEP 2020 for University and College Teachers”** Indira Gandhi national Open University, 7-16 Nov, 2022.
- 7) **“Scope and Development in Teaching & Research Strategies in Basic Science”** Sri Ramakrishna College of Arts and Science, Coimbatore, 22-26 Nov. 2021.
- 8) **“Advances in Nanomaterials and Single Crystals on Practical Device Applications”** Adikavi Nannaya University, Rajamahendravaram, 3 Feb. 2021. (On-line)
- 9) **“Research Methodology and Pedagogy for Tertiary Education”**, Dr. N.G.P. Arts and Science College, 15-21, June- 2021.
- 10) **“Impacts of Nanomaterials Applications in the Environment”** Mepco Schlenk Engineering College, 17-21, Aug.-2020
- 11) **“Recent Trends in Nano materials and its Applications”**, Coimbatore Institute of Technology, 15-27- Feb-2021.
- 12) **“Advanced Materials for Energy, Environment and Health care applications”**, Sethu Institute of Technology, 29-30 June and 1 July 2020.
- 13) **“Advancements in Materials Science”** Jeppiaar institute of Technology, 5 & 6-June-2020.
- 14) **“Recent Trends in Material Frontiers”**, St. Joseph’s College of Engineering, 29-30 May 2020.
- 15) **“Quality Initiatives in Higher Education”**, Dr. N.G.P. Arts and Science College, 13-20 April 2020.
- 16) **“Virtual Teaching”** CIT- TLC, 20&21-April-2020.

- 17) “Shifting paradigm: Improving mentor competencies to match present –day academic priorities” Dr. N.G.P Institute of Technology, 28-Dec-16.
- 18) “Instructional Design and Delivery System” National Institute of Technical Teachers Training & Research, at Dr. N.G.P Institute of Technology, Coimbatore, 11-Nov-13 to 15-Nov-13.
- 19) NAAC Revised Accreditation Framework & OBE Assessment Methodology, Dr. N.G.P. Arts and Science College, Coimbatore, 27-May-19 to 2-Jun-19.

### **Participation in Workshop**

- 1) “X-ray Photoelectron Spectroscopy: Basic, Instrumentation and Applications” Centre for Nanoscience and Nanotechnology & Sathyabama Institute of Science and Technology, Chennai, 25 October 2024.
- 2) “Beneficial Applications of Radiation Technology and Indian Nuclear Programme” Department of Medical Physics in association with KMCH Institute of Allied Health Sciences, Coimbatore, 31 August 2023.
- 3) Outcome Based Education, Dr N.G.P. Arts and Science College in association with IPSR Solutions Limited, on 4<sup>th</sup> March 2023.
- 4) “Nanomechanical and Tribological Characterization of Materials”, Sathyabama Institute of Science and Technology, Chennai, 4-5 March 2022.
- 5) Materials Science and Computational Methods”, Jamal Mohamed College, Tiruchirappalli, 15-16 Feb. 2022.
- 6) “Ion Beams in Sensor Development”, Inter- University Accelerator Centre, New Delhi, 7-8 Sep. 2021.
- 7) “Introduction to Research based Characterization tools and Techniques – IRCTT 2021”, Rathinam College of Arts and Science, Coimbatore, 23-27 August 2021.
- 8) “Awareness of I-Stem Portal for Use of the R& D Resources, Bharathiar University, 29-30 March 2021.
- 9) “Introduction to Origin Software”, KL University, 29&30 – Sep.-2020.
- 10) “Software tools and Data Interpretation for Nanomaterials Characterization”, Arulmigu Palaniandavar Arts College for Women, 12- Sep-2020.

- 11) “Materials Technology advancement in Current Scenario”, Sathyabama Institute of Science and Technology, 4 -10 July 2020.
- 12) “How to combat Covid 19 with a mask”, New Prince Shri Bhavani Arts and Science College, Chennai. 27 June 2020.
- 13) “Book & Article publishing and Springer link platform Demonstration” Guru Nanak Dev University in collaboration with Springer nature, Amritsar, 29-April-2020.
- 14) “Advances in Nano Technology”, Coimbatore Institute of Technology, 31-Aug-2018.
- 15) “Advanced Materials”, PSG College of Technology, Coimbatore, 28-Feb-14.
- 16) “Advanced Instruments for Characterization”, Bharathiar University, 27-Mar-12.
- 17) “Spectroscopy”, Bharathiar University, 7-Mar-12.
- 18) “Patent Awareness Workshop”, Bharathiar University, 3-Mar-10.
- 19) “Solid state physics to material science”, Pondicherry University, 19- 21Aug-09.
- 20) “Advanced techniques for materials characterization”, Bharathiar University, 19 Mar.-09.

#### **Conference / Seminar / Workshop Organized**

- 1) Convenor, National Conference, “Emerging Trends in Physical Sciences and Mathematics” Dr. N.G.P Arts and Science College, Coimbatore, April 12, 2023.
- 2) Organizing Secretary, Joint Outreach programme on remote Sensing & GIS under Prakriti ICFRE” Dr. N.G.P Arts and Science College and IFGTB, Coimbatore, May 6 & 7, 2022.
- 3) Organizing Secretary, E - Workshop “Phase Identification of Polycrystalline materials using XRD data in Software’s” Dr. N.G.P Arts and Science College, Coimbatore, Sep. 25, 2021.
- 4) Organizing Secretary, E - Workshop “Introduction to ORIGIN and Basic Plotting” Dr. N.G.P Arts and Science College, Coimbatore, December 26, 2020.
- 5) Organizing Secretary, Two-day National Workshop, Nano Characterization and Applications of Biosensor, Dr. N.G.P. Arts and Science College, Coimbatore, 20&21-Feb.-20.
- 6) Organizing Member, Faculty Development Programme, Engineering Materials and its Applications, Dr. N.G.P Institute of Technology, Coimbatore, 11-Jan-18.

- 7) Organizing Secretary, National Conference, Advanced Functional materials and their Applications in Engineering (NCAFMAE-2017), Dr. N.G.P Institute of Technology, 25-Jan-17.

#### **Invited Speaker / Session Chair/ Reviewer**

Resource Person – Guest lecture, “Revolution of Nano technology in Engineering Applications at PPG Institute of Technology”, Coimbatore, 6 December 2024.

Session Chair - National Seminar on Integration of Traditional Indian Knowledge system into Modern Higher Education: NEP Perspective (ICSSEIKS 2024), Dr. N.G.P. Arts and Science College, Coimbatore, 4-5 July 2024.

Chaired a Technical Session - Fourth International Conference on Materials Science and Manufacturing Technology (ICMSMT 2022), 08-April-2022.

Parent Representative (Special Guest) – Children’s Day celebration, Lisieux Matriculation Higher Secondary School, Coimbatore, 15-Nov.-2021.

Chief Guest – National Science Day Celebration, Dr. N.G.P. College of Education, 02- March-2021.

Session Chair - Conference, First National Conference in Recent trends in Basic and Applied Sciences, Dr. N.G.P. Arts and Science College, Coimbatore, 02-March-20.

#### **Editorial / Reviewer Board Member**

Review Board Member: Journal of Nanoparticle Research, 2023

Review Board Member: Physica E Low Dimensional Systems and Nanostructures, Journal of Physics and Chemistry of Solids, 2017-2018.

#### **Member in BoS**

Chairman, Board of Physics, Dr. N. G. P. Arts and Science College (Autonomous), Coimbatore, since 2023.

Member, Board of Physics, Sri Ramakrishna College of Arts and Science (Autonomous), 2020-21.

Member, Board of Physics, Dr. N. G. P. Arts and Science College (Autonomous), Coimbatore, 2018.

### Membership in Professional Bodies

Name of the Professional Body	Nature of membership	Duration
Materials Research Society of India (MRIS-INDIA)	Life member	-
The society for Advancement of Electrochemical Science and Technology	Life member	-
Fellow of Asian Research Association (FARA)	Life member	-
Electron Microscope Society of India (EMSI-INDIA)	Life member	-
Indian Society for Technical Education (ISTE)	Life member	-

### Awards / Honors

Awards / Honors	Agency / Institute	Year
Post-Doctoral Fellowship	FAPSEP, University of Sao Paulo, Brazil	2015
Senior Research Fellow SRF)	CSIR, Government of India	2014
Junior Research Fellow (JRF)	DRDO BU-CLS, Bharathiar University, India.	2010-2013

### Recognitions - National / International

Nature of Recognition	Organization / Institution	Year
Certificate of Appreciation for INSA Visiting Scientist fellowship	Dr. N.G.P. Arts and Science College	2022
Best Women Faculty Award	Nature Science Foundation	2020
Best Women Faculty Award	Novel Research Academy	2019
Dr. Abdul Kalam Award for Scientific Excellence	Marina Labs	2019