

## **FACULTY PROFILE**

1. Name : Dr. N. R. DEVI
2. Designation : Assistant Professor
3. Qualification : M.Sc., M.Phil., Ph.D
4. Mobile number : 9790447244
5. E-mail id : devinr@auxiliumcollege.edu.in
6. Teaching Experience : 7 years
7. Area of specialization : Hydrogen storage in carbon nanomaterials, Gas sensors, Crystal growth, Preparation of Nanofluids etc.,
8. Positions Held in Auxilium: Department Association Secretary, Member in Board of Studies
9. Research Experience: 7years
10. No. of Papers Published : 10
12. No. of Papers Presented in the National/ International/ Seminars/ Workshops/ Conferences:5
13. No. of Seminars/Workshops/Conferences organized: 2
14. Membership in professional  
bodies (Descriptive) : National Science Foundation – Eco club  
Tamilnadu Science Forum
15. Honors& awards received (Descriptive): Proficiency award in UG and PG Level
18. No. of Online Courses completed (Minimum of 4 Weeks): 2
19. Any Other (Descriptive): External Examiner for question paper setting.

## **PUBLICATIONS**

### **Publications in Journals**

- ❖ Shivananda Moolya, Satheesh Anbalagan , Neelamegam Rajan Devi, Rekha Moolya – ‘Magnetohydrodynamics and Aspect Ratio Effects on Double Diffusive Mixed convection and Their Prediction: Linear Regression Model’, Journal of Heat and Mass Transfer Research, ISSN 2383-3068, January 2023, Vol. 9, pp169 – 188.
- ❖ R. Praveen Bharathwaj, M. B. Varun Pradeep, P. Padmanathan, A. Satheesh, N. R. Devi, ‘An Experimental study on Resuspension, Thermostability and Migration Phenomenon of Nanoparticles in Pool boiling’. J. Ther. Eng, 2148-7847, November - 2022, Vol. 8, Issue 6, pp. 757–765.
- ❖ N. R. Devi, Shivananda Moolya, Hakan F. Öztop, Nidal Abu-Hamdeh. P. Padmanathan , A. Satheesh. ‘A review on ferrofluids with the effect of MHD and entropy generation due to convective heat transfer’. ISSN 2190-5444, April – 2022, Eur. Phys. J. Plus Vol. 137, pp.482 (30 pages).
- ❖ N.R. Devi and V. Gayathri, ‘Structural aspects on carbon dioxide capture in nanotubes, International journal of research in engineering and science’, ISSN 2572 – 4304, January – 2016, Vol.4, Issue 1, pp.17-25.
- ❖ N.R. Devi and V. Gayathri, ‘Defect enhanced gas adsorption in hexagonal nanostructures for potential applications’, International journal of advanced research in science and engineering, ISSN 2319 – 8354, October – 2015, Vol. 4, Issue 10, pp 99-106.
- ❖ N.R.Devi and V.Gayathri, ‘Effect of pressure on defected and defect free carbon nanotubes for nano-electromechanical sensor applications’, International Journal of Chemtech Research, ISSN 0974-4290, 2015, Vol. 8, Issue 4, pp.1879-1887.
- ❖ N.R. Devi and V. Gayathri, ‘Effect of structural defects on the hydrogen adsorption in promising nanostructures’, Computational Materials Science, ISSN 0927-0256, January 2015, Vol. 96, pp. 284-289.
- ❖ V. Gayathri, N.R. Devi and R. Geetha, ‘Hydrogen storage in coiled carbon nanotube’, International Journal of Hydrogen Energy, ISSN 0360-3199, February 2010, Vol. 35, Issue 5, pp. 1313-1320.
- ❖ S. Natarajan, N.R. Devi, S. D. M. BrittoDhas and S. Athimoolam. ‘Growth, thermal and optical studies of a new organic NLO material: L-methionine L-methioninium hydrogen maleate’, Journal of Optoelectronics and Advance Materials – Rapid Communications, ISSN 1454 -4164, April 2010, Vol. 4, Issue 4, pp. 516-519.
- ❖ S. Natarajan, N.R. Devi, S. D. M. BrittoDhas and S. Athimoolam. Crystal growth and structural of L-methionine L-methioninium hydrogen maleate – a new NLO material, Science and Technology of Advance Materials, ISSN 1468 – 6996, July 2008, Vol. 10, Issue 9, pp. 025012-16.

## **Publications in Proceedings**

- ❖ Enhancement of Heat Transfer Through Entropy Generation Minimization In A Cooling Sector With the Presence of Magnetic Field - Advanced Materials and Applications (NCAMA) - Department of Physics, Auxilium College, Vellore. – September 7, 2018 – Proceedings
- ❖ Effect of shock waves in Silicon Nano fluids - 2nd national conference on Advanced Materials and Applications (NCAMA) - Department of Physics, Auxilium College, Vellore. – October 13-14, 2022 – Proceedings
- ❖ Synthesis and Characterization of CuO nanoparticles under shock wave -2nd national conference on Advanced Materials and Applications (NCAMA) - Department of Physics, Auxilium College, Vellore. – October 13-14, 2022 – Proceedings
- ❖ Structural, Molecular and Morphological studies of ZnO nanoparticles - Proceedings of National conference on Recent Advances in Biomolecules and Spectroscopy (NCRIBS - 2022), Department of Physics, Kandaswami Kandar's College, Velur, 978-93-95423-10-6, Namakkal, 4th November 2022.

## **List of FDP's Attended**

- ❖ Attended – Five Day Faculty Development programme on Advanced Materials For Energy Applications – Online organized by the Department of Physics Sathyabama Institute of Science and Technology, Chennai, Tamilnadu from 9-13<sup>th</sup> October, 2023.
- ❖ Attended - “ Workshop on AI Tools for Educators” organized by the Department of Computer Science and Applications, Auxilium College (Autonomous) , Gandhi Nagar, Vellore on 29th September 2023.
- ❖ Attended – FDP/Training programme on Research Paper Writing organized by Research Foundation of India & RFI-CARE from 21-26 August 2023.
- ❖ Attended - - 7 day National level online Faculty Development Programme on Outcome Based Education & Essential AI tools for Teachers organized by the Internal Quality Assurance Cell (IQAC) of Carmel College (Autonomous), Mala in Association with The Kerala State Higher Education Council (KSHEC) from 10-18 August 2023.
- ❖ Attended – Online workshop on Artificial Intelligence as a Magical Tool for Teachers and Researchers: Challenges and Oppourtunities – Organized by Sacred Heart College (Autonomous), Thevara, Kochi – 13 On 27<sup>th</sup> July 2023.
- ❖ Attended – One week National level online faculty program on Functional materials – Organized by the Department of Science and Humanities, T.J.S. Engineering college, Chennai during 22<sup>nd</sup> – 26<sup>th</sup> May 2023.

- ❖ Attended– National one week Faculty Development Programme on Carbon capture & Storage organized by the Department of Chemistry, central university of Tamil nadu, Thiruarur, India from 21<sup>st</sup>-25<sup>th</sup> February 2022.
- ❖ Attended– National level intercollegiate online faculty development programme on outcome based education organized by the Internal quality assurance cell of Auxilium college (Autonomous),Vellore in association with ipsr solutions limited during 22<sup>th</sup> - 27<sup>th</sup> November 2021.
- ❖ Attended– National Level FDP on “Recent Trends in Physics and Electronics organized by Department of Physics and Electronics, Little flower Degree college &Auxilium College during 27<sup>th</sup>January to 1<sup>st</sup>February 2021.
- ❖ AICTE sponsored online short term training programme on “Nanomaterials for Clean Energy and Environmental Applications” organized by Physics Division of Department of Science and Humanities, Dr. Mahalingam College of Engineering and Technology, Pollachi, 2<sup>nd</sup> - 7<sup>th</sup> November 2020.
- ❖ Attended– FDP on Advanced materials for energy storage applications organized by Department of Physics Velammal Institute of Technology, Chennai from 18<sup>th</sup> – 22<sup>th</sup> July 2020.
- ❖ Attended– Evolving Best Teaching and Learning Practices in the Pandemic Era 2020 – Auxilium College management – 15<sup>th</sup>- 21<sup>st</sup>June 2020.
- ❖ Attended– International online Faculty Development Programme on Recent Advances in Nanomaterials organized by Department of Science, St. Joseph’s College of Engineering, Chennai during 4<sup>th</sup> – 6<sup>th</sup> June 2020.
- ❖ Attended–Five day online faculty development programme on Advanced Materials and their Applications - PG & Research Dept. of Chemistry, Auxilium College, Vellore 2<sup>nd</sup> – 6<sup>th</sup>June, 2020.
- ❖ Attended–Smart Materials Sensor And Energy Devices (SMSED – 2020) organized by the Department of Electronics & Communication Engineering, SSN College of Engineering, Kalavakkam, Chennai, during 25<sup>th</sup> - 30<sup>th</sup> May 2020.
- ❖ Attended–FDP on Cell Designer – conducted by the Department of Biochemistry in association with Spoken tutorial, IIT Bombay – during 25<sup>th</sup> – 31<sup>st</sup> May 2020.
- ❖ Attended– A two days online Faculty development programme on Project proposals for funding agencies (UGC STRIDE & ICSSR IMPRESS): Preparation and submission protocol” organized by Partician college research committee on 16<sup>th</sup> – 17<sup>th</sup> May 2020.

### **List of Conferences Attended**

- ❖ Attended - National Seminar on “Innovations in Chemistry for Environmental Sustainability (ICES’23)” on 3<sup>rd</sup> February, 2023.
- ❖ Attended - International Conference on Thermofluids, Organized by Kalinga Institute of Industrial Technology, Bhubaneswar, Odisha during 23<sup>rd</sup> – 25<sup>th</sup> Jan 2020.
- ❖ Attended - one day International Virtual Conference on “Photovoltaics and Materials Science” Organized by Centre for Crystal Growth, VIT Vellore held on 23<sup>rd</sup> June 2020.
- ❖ Attended - National seminar on Advances in Materials Chemistry (AMC ‘ 19) organized by the PG & Research Department of Chemistry, Auxilium College, Vellore, 6<sup>th</sup> December 2019.
- ❖ Attended - International Workshop on Materials Technology and Applications, Centre for Crystal Growth, Vellore Institute of Technology, Vellore, 11-12 October 2018.
- ❖ Attended - National conference on Smart materials (NCSM-2017), PG and Research Department of Physics, Sacred Heart College (Autonomous), Tirupattur, Vellore, 11<sup>th</sup> to 12<sup>th</sup> September 2017.
- ❖ Attended -. Investigation of Li adsorption in novel carbon nanostructures for electro chemical storage applications. Presented in International Conference on Electrochemical Power Systems (ICEPS-2008), Thiruvananthapuram, 26<sup>th</sup> to 28<sup>th</sup> Nov 2008.
- ❖ Attended - Band gap modulation on novel carbon nanostructures for smart sensor applications, International Conference on Active and Smart Materials (ICASM-2009), TCE Madurai, 7<sup>th</sup> to 9<sup>th</sup> Jan 2009.
- ❖ Attended - Li adsorption in novel nanostructures for energy storage applications, participated in International Conference on Carbon Nanotechnology Potentials and Challenges (INCCOM), IIT Kanpur, 15<sup>th</sup> to 17<sup>th</sup> Dec 2010.
- ❖ Attended - Nanostructures for Nanomechanical Sensor Applications , presented in National conference on Systematic Investigations of Structural, Morphological and optical Properties of Materials (NCSI’16), PG and Research Department of Physics, Sacred Heart College (Autonomous), Tirupattur, 1<sup>st</sup> December 2016.
- ❖ Attended – seminar on “A Career in Physics-Challenges and Prospects” held at school of Physics, Madurai Kamaraj University, Madurai on 11<sup>th</sup> September, 2003.

### **List of Webinar Attended**

- ❖ Attended - National Webinar on “GREEN CAMPUS INITIATIVES TOWARDS SUSTAINABLE DEVELOPMENT” organized by Internal Quality Assurance Cell (IQAC), Auxilium College (Autonomous), Gandhi Nagar, Vellore on 29.07.2023.
- ❖ Attended – National Webinar on “ Application of Physics in Medicine” jointly organized by PG & Research Department of Physics, Auxilium College, (Autonomous), Vellore, and Department of Physics, Little Flower Degree College, Hyderabad, on 22 August 2023.
- ❖ Attended – National Webinar on “Publish and Progress” organized by IQAC Committee for Research Ethics and Publications and IPR & Library, Auxilium College (Autonomous), Vellore on 26.8.2023.
- ❖ Attended– National webinar on Micro and Nanotechnology and its applications organized by Department of Physics, G.T.N. arts college, Dindigul on 14<sup>th</sup> May 2020.
- ❖ Attended– International level Covid-19 Pandemic webinar on Functional novel materials for electrochemical sensors and energy storage devices organized by Thiagarajar College, Madurai on 15<sup>th</sup> May 2020.
- ❖ Attended–A two days online Faculty development programme on Project proposals for funding agencies (UGC STRIDE & ICSSR IMPRESS): Preparation and submission protocol” organized by Partician college research committee on 16<sup>th</sup> – 17<sup>th</sup> May 2020.
- ❖ Attended– National webinar on ICT for effective physics teaching, Learning & Evaluation – organized by the Department of Physics, Stella Maris College, Chennai held on 18<sup>th</sup> May 2020.
- ❖ Attended– Participated in the webinar on “Supercapacitos, New age Energy storage Devices” Organized by the Department of Physics, AyyaNadarJanakiAmmal College, Sivakasi held on 19<sup>th</sup> May 2020.
- ❖ Attended– Webinar series on advanced materials: webinar series – I organized by the Department of Physics, School of Basic Sciences, Vels Institute of Science, Technology, and advanced studies (VISTAS), Pallavaram, Chennai held on 21<sup>st</sup> – 23<sup>rd</sup> May 2020.
- ❖ Attended– International webinar on Covid Pandemic, Media and Social Distancing organized by Department of History and Sociology held on 27<sup>th</sup> May 2020.
- ❖ Attended– National webinar on Nonlinear optical behavior of Nanomaterials organized by the Department of Physics, Lady Doak College, Madurai held on 28<sup>th</sup> May 2020.

- ❖ Attended– National webinar on Operator Formalism of Quantum Mechanics organized by Department of Physics, Annai college of Arts and Science combined with IQAC on 28<sup>th</sup> May 2020
- ❖ Attended– Webinar on Electron Microscopy: Essential tool for Nanomaterials Characterization organized by the Department of Electronics and Physics on 29<sup>th</sup> May 2020.
- ❖ Attended– One day online workshop on Materials science and applications organized by Department of Physics, ArulmiguPalaniandavar Arts college for women, on 29<sup>th</sup> May 2020.
- ❖ Attended– National webinar on Materials to Device Application” organized by the Department of Physics, SreeAyyappa college for women, chunkankadaai on 30<sup>th</sup> May 2020.
- ❖ Attended– National webinar on Dating Sand using Luminescence organized by Department of Physics, Voorhees College, Vellore held on 02<sup>nd</sup> June 2020.
- ❖ Attended– National webinar on Lecture Series on Spectroscopy and its Perspectives organized by Department of Physics, Sacred Heart College (Autonomous), Tirupattur, 5<sup>th</sup> June 2020.
- ❖ Attended– Interational webinar on Recent trends on Material Science organized by PG & Research Department of Physics, MuthurangamGovt.Artscollege, Vellore held on 6<sup>th</sup> June 2020.
- ❖ Attended– International webinar on Recent Trends in Physics organized by Department of Physics with Computer Applications and Internal Quality Assurance Cell, Chennai, 12<sup>th</sup> June 2020.
- ❖ Attended– National webinar Series on Research Methodology organized by Loyola college, Chennai, held on 12-13<sup>th</sup> June 2020,
- ❖ Attended– International level webinar on Tuning of Nano/micro structure for efficient photovoltaic and gas sensing application organized by PG & Research Department of Physics, ArulmiguPalaniandavar College of arts and culture, palani held on 13<sup>th</sup> June 2020.
- ❖ Attended– National webinar on Century of Quantum Mechanics and Still Going Strong organized by Applied Physics Department, Faculty of Technology and Engineering, The Maharaja Sayajirao University of Baroda, 15<sup>th</sup> – 17<sup>th</sup> June 2020.
- ❖ Attended– National webinar on Advances in Crystal Growth and Nanomaterials organized by Department of Physics, Kamaraj college, Tirunelveli on 18<sup>th</sup> June 2020.

- ❖ Attended– International webinar on Recent trends in advanced materials science – RTAMS – 2020 organized by Post graduate & research Department of Physics, American College, madurai held on 19<sup>th</sup> June, 2020.
- ❖ Attended– National webinar on Astronomy and Astrophysics entitled A star's Dance at the centre of our milky way galaxy organized by the Department of Applied Physics, Karunya Institute of Technology and sciences, Coimbatore on 19<sup>th</sup> June 2020.
- ❖ Attended– National webinar on Nanomaterials for Environmental Applications organized by Department of Physics, Kings Engineering College, Held on 20<sup>th</sup> June 2020.
- ❖ Attended– National webinar on Grid connected Photovoltaic system : An overview organized by Panimalar Institute of Technology, Chennai on 20<sup>th</sup> June 2020.
- ❖ Attended– National webinar on Radiation Physics organized by Department of Science, St. Joseph's College of Engineering, Chennai held on 23<sup>rd</sup> June 2020.
- ❖ Attended– International Webinar on Materials for Energy and Environmental Applications organized by Department of Physics, Sacred Heart College (Autonomous), Tirupattur, 24<sup>th</sup> June 2020.
- ❖ Attended– Two Days International webinar on Advanced functional materials for Biomedical and energy organized by Department of chemistry, Loyola college, Chennai held on 24 – 25<sup>th</sup> June 2020.
- ❖ Attended– National webinar on Importance of Nano structured thin film cathode materials for Lithium ion Battery Applications organized by Department of Physics, ArumugampillaiSeethaiAmmal College, Tirupattur, Sivagangai, Tamilnadu held on 26<sup>th</sup> June 2020.
- ❖ Attended– National webinar on Emerging applications of nanostructured materials in storage Devices organized by PG Department of Physics, ArulmiguPalaniandavar college of arts and culture, Palani held on 27<sup>th</sup> June 2020.
- ❖ Attended– National webinar on National Education Policy 2020 with a focus on Technology organized by the internal quality Assurance cell, AuxiliumCollege, Vellore, held on 12<sup>th</sup> October 2020.



### **List of Papes Presented in Conferences**

- ❖ Attended – Structural, Molecular and Morphological studies of ZnO nanoparticles – Proceedings of National conference on Recent Advances in Biomolecules and Spectroscopy (NCRIBS -2022) held at KandaswamiKandar's College, Velur, Namakkal, 4<sup>th</sup> November 2022.
- ❖ Attended - Effect of shock waves in Silicon Nano fluids, 2<sup>nd</sup>National Conference on “Advanced Materials and Applications, Organized by Department of Physics in Association with Indian Spectrophysics Association during 13<sup>th</sup>-14<sup>th</sup> October, 2022.
- ❖ Attended - Synthesis and Characterization of CuO nanoparticles under shock wave, 2<sup>nd</sup>National Conference on “Advanced Materials and Applications, Organized by Department of Physics in Association with Indian Spectrophysics Association during 13<sup>th</sup>-14<sup>th</sup> October, 2022.
- ❖ Attended - Density functional Theory study on Silicon Carbide Nanotubes for Hydrogen Storage Applications, presented in National Seminar on Crystal Growth and Applications, Department of Physics, Sacred Heart College (Autonomous), Tirupattur, 29<sup>th</sup> to 31<sup>st</sup> January 2018.
- ❖ Attended - Li Functionalized single walled carbon nanotubes for hydrogen storage under electric field, presented in Int. Symposium on Energy Materials: Opportunities and Challenges (ISEM-2011) held at CGCRI, Kolkata during 1-2 March 2011
- ❖ Attended - Site dependent hydrogen adsorption in coiled carbon nanotubes (CCNTs) for hydrogen storage applications, presented in International Conference on World Hydrogen Technology Convention (WHTC2009), New Delhi, 26<sup>th</sup> to 28<sup>th</sup> Aug, 2009. – MNRE Project Presentation.
- ❖ Attended - Comparative study of hydrogen adsorption binding energy of CNT with other hexagonal nanostructures – AlN, GaN and BN. Presented in International Conference in Hydrogen and Hydrogen Storage Methods and Materials (H3-2009), IISc Bangalore, 3<sup>rd</sup> to 6<sup>th</sup> Jan 2009.
- ❖ Attended - Presented a paper titled Transducers in the intercollegiate Students seminar on 20.02.2004 conducted by the Department of Physics, Thiagarajar College, Madurai on 20<sup>th</sup> February 2004.

## **Online Course**

- ❖ **CERTIFICATE COURSE ON BIONANOTECHNOLOGY** - Center for Faculty Development (CFD) of Association of Indian Biologists (AIB), Chennai, Tamil Nadu - during the period of 15.05.2020 to 11.06.2020 with Distinction.
- ❖ **“LibreOffice suite Writer, Calc & Impress”** organized by The Board of Management, Auxilium College (Autonomous), Vellore in association with Spoken Tutorial, IIT Bombay (funded by the NMEICT, MoE, Govt. of India) from 26.05.2022 to 10.06.2022.