



# SHRIMATI INDIRA GANDHI COLLEGE

(Affiliated to Bharathidasan University)

Nationally Accredited at 'A' Grade (4<sup>th</sup> Cycle) by NAAC | An ISO 9001 : 2015 Certified Institution  
Tiruchirappalli - 620 002

**Name** : Ms M.Premalatha  
**Designation** : Assistant Professor  
**Department** : Physics  
**Qualification** : M.Sc., M.Phil.,  
**Experience** : **Teaching: 17** **Research** : Nil  
**Area of Specialization(s)** : Spectroscopy  
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## Academic Qualifications

Degree	Branch	Institution / University Name	Year of Graduation
M.Phil	Physics	Seethalakshmi Ramaswami College – Trichy.	2009
M.Sc	Physics	Seethalakshmi Ramaswami College– Trichy.	2007
B.Sc	Physics	Seethalakshmi Ramaswami College– Trichy.	2005

## Research Publications (Indexed)

### International

1. Published a paper on Delving into 5-Amino-3-(4-chlorophenyl)-1-isonicotinoyl-2,3-dihydro-1H-pyrazole-4-carbonitrile ligand: Synthesis, spectroscopic (FT-IR, FT-Raman, NMR, UV- Vis), reactivity (ELF, LOL and Fukui), NCI, Molecular docking and in silico ADMET studies by experimental and DFT methods in Journal of Molecular Structure on 5.6.24.(available on online)

## **Presentations in Conference**

1. Oral Presentation on “Molecular Docking Studies, structural and spectroscopic data of Methyl 2-furoate” organized by P.K.R. Arts College For Women (Autonomous) in International conference on Emerging Trends And Projects in Nano Materials and applications (ETPNA-2022).
2. Oral Presentation on “Molecular structure, spectral analysis of Methyl 2-furoate based on density functional theory studies” organized by St Joseph’s College in International conference on Crystal Growth and Spectroscopy.
3. Oral Presentation on “Antibacterial activity, DFT study of the Infrared and Raman spectra of (2-(2-Nitrovinyl) Furan derivatives ” organized by Shrimati Indira Gandhi College in International conference on A Futuristic view on Novel Materials.14.9.22.
4. Oral Presentation on “Spectral techniques, Molecular Structure Analysis, Electronic properties of Furfural” organized by Jamal Mohamed College in International conference on Recent Innovations in Materials Science and Spectroscopy.10<sup>th</sup> jan2023.
5. Oral Presentation on “Molecular structure, Vibrational spectral studies and HOMO-LUMO analysis of 5-(2-Nitrophenyl)furfural” organized by Srinivasan College of Arts and Science in International conference on Environmental friendly materials and its applications.3&4<sup>th</sup> nov 2022.
6. Oral Presentation on “Structural, Spectral, DFT, HOMO-LUMO, Molecular docking and ADMET analysis of Methyl furan 2-carboxylate” organized by St Joseph’s College in International conference on Current Research and Advancements in Materials science and Spectroscopy. 10 &11<sup>th</sup> feb 2023.
7. Oral Presentation on Synthesis , Spectroscopic Characterization, Molecular structure analysis, chemical properties (HOMO-LUMO,MEP) and molecular docking studies organized by Thanthai Hans Roever College in International conference on 4 & 5<sup>th</sup> October 2023.
8. Oral Presentation on Synthesis, computational molecular structure analysis, electronic properties (HOMO-LUMO, MEP) and molecular docking studies of 5-Amino-3-(4-chlorophenyl)-1-isonicotinoyl-2,3-dihydro-1H-pyrazole-4-carbonitrile organized by SIGC in International conference on 20<sup>th</sup> September 2023.

9. Presented a paper on “Molecular structure, spectral (FTIR,FT-Raman &UV-Vis) properties and quantum chemical studies on furan derivative” organized by SIGC in International conference on 24<sup>th</sup> September 2024.
10. Presented a paper on “Theoretical and experimental spectroscopic techniques, docking studies, In-vitro and In-silico antimicrobial analysis of furan-3-ylethynyltrienethylsilane” organized by SIGC in International conference on “Pioneering innovations in life science research” on 7<sup>th</sup> January 2025.

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

1. Attended two days FDP programme on “Recent Developments in Materials Science” from 23.9.21 & 24.9.21. organized by Srimad Andavan Arts and Science College, Trichy
2. Attended one week FDP programme on “From Research to Publication” from 4.9.23-11.9.23. Adhiyaman arts and science college for women.
3. Five days FDP programme on “Data Literacy With Tableau” from 24.7.23-28.7.23.
4. Attended seven days faculty development programme on “Understanding outcome based education” from 10.6.2024-15.6.2024 and 18.6.2024 organised by IQAC of SIGC.

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

1. Attended 26.12.24 to 30.12.24 Five days international online workshop on master the art of research and publications: AI tools and techniques of research for quick report writing and quality publication.
2. Attended one day training programme on “women who advocate for equity, diversity & inclusion” organized by National human rights commission New Delhi.
3. Participated in National workshop on “Intellectual property rights” organized by SRM TRP Engineering college, trichy.
4. Participated in Nobel prize-2024 by webinar on “The Nobel prize in physics-2024” organized by Tamilnadu Astronomy and science society on 10<sup>th</sup> November 2024
5. Participated in a workshop titled “Vikaspedia-A platform for augmentation of multilingual digital resources for development” organized by CDAC on 20<sup>th</sup> February 2025.

## **Orientation programme**

Attended NEP 2020 Orientation and Sensitization programme under Malaviya Mission Teacher Training Programme of UGC Organized by Bharathidasan University.8.4.24-17.4.24

## **Patents**

1. Designed a patent on “Nanomaterial synthesis and purification device” on 18<sup>th</sup>February 2025.
- 2.Nanostructured coating for enhanced corrosion resistance in industrial applications.