



# 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** : Dr.K.Sujatha  
**Designation** : Assistant Professor  
**Department** : PHYSICS  
**Qualification** : M.Sc.,M.Phil.,Ph.D  
**Experience** : **Teaching: 26** **Research: Nil**  
**Area of Specialization(s)** : LIQUID STATE PHYSICS  
**Email (Official ID)** : [sujathak@sigc.edu](mailto:sujathak@sigc.edu)  
**Aadhar No** : 3141 2303 3188

## Academic Qualifications

Degree	Branch	Institution / University Name	Year of Graduation
Ph.D	Physics	Seethalakshmi Ramaswami College,Trichy	2017
M.Phil	Physics	Seethalakshmi Ramaswami College,Trichy	2000
M.Sc	Physics	Seethalakshmi Ramaswami College,Trichy	1992
B.Sc	Physics	Seethalakshmi Ramaswami College,Trichy	1990

### Additional Qualifications

Diploma / Vocational / Certification	Area of Specialization	Institution /University /Agency Name	Year
Diploma	PGDCA	BDU	2000
Certification	Journalism and Mass Communication	SRC	1990

### Research Publications (Indexed)

#### International

1. **May 2018** - A Study of Thermodynamical and Electrochemical Properties of Peptides in Non-Aqueous Medium, Sujatha.S, Padmavathy.R, Dhanalakshmi.K, International Journal of Pure and Applied Mathematics (ISSN: 1314-3395, Vol 119, Issue 12, pp: 2003-2011).
2. **May 2020** - Analysis of Acoustical Properties of Glycyl Peptides in Non-Aqueous Medium, Sujatha.S, Padmavathy.R, Alochana Chakra Journal (ISSN2231-3990, Volume XI, Issue 5).

### Book Publications

1. Contributed three chapters for theory and two chapters lab experiments for the book '**AICTE Engineering Physics - Wiley Publications**' published. ISBN-978-81-265- 2141-8 in 2021.
2. Contributed a chapter titled Role of Short Peptides in Health and Hygiene for the book '**Novel Materials for Emerging Applications**' published. ISBN-978-93-91373-10-8 in October 2021.
3. Contributed a chapter titled Prospective Materials for Potential in Energy Storage Devices for the book '**Materials for Sustainable Energy Storage at the Nanoscale**' published by **CRC Press-Taylor and Francis Group** in October 2023. ISBN-978-1- 032-40543-8.DOI: 10-1201/9781003355755.

## **Presentations in Conference**

### ***International:***

1. Presented a paper titled “Ultrasonics and its applications” in the state level seminar organized by A.V.V.M Sri Pushpam College, Thanjavur, in Aug 2013. Presented a poster titled “Compressibility studies of non-aqueous solution of a Glycyl salt using ultrasonic velocity” at an International conference on acoustics at CSIR- National Physical Laboratory, New Delhi (ISSN 0973—3302).
2. Presented a paper titled ‘ ‘Solvation number, Adiabatic compressibility, and specific acoustic impedance of Glycyl and Sulphanilamide salts” at an International level conference on acoustics at CSIR- National Physical Laboratory, New Delhi (ISSN 0973—3302).
3. Presented a paper titled “Analysis of Transport properties of some Glycyl peptides in non-aqueous medium” at International symposium on Ultrasonics at Nagpur, Jan 2015
4. .Presented a paper titled “A study of thermodynamical and electrochemical properties of peptides in non-aqueous medium” at an International Conference organized by K. Ramakrishnan College of Technology in March 2018
5. Published a paper titled “Electrochemical and spectral analysis of an antimicrobial peptide in non-aqueous medium” in the International conference Proceedings on ‘A Futuristic View on Novel Materials’ organized by the Department of Physics of Shrimati Indira Gandhi College in September 2022. ISBN-978-93-93253-44-6. EISBN-978-93-93253- 43-9  
  
Published a paper titled ‘A Study of Thermodynamic Properties and Antibacterial Activities of a Nutraceutical Peptide’ in the International conference Proceedings on ‘A Futuristic View on Novel Materials’ organized by the Department of Physics of Shrimati Indira Gandhi College in September 2022. ISBN-978-93-93253-44-6. EISBN-978- 93-93253-43-9.
6. Published a paper titled ‘Analysis of Specific Rotatory Power of Aqueous Solution of Sugars Using Polarimetry Technique’ in the International conference Proceedings on ‘Interdisciplinary Approaches in Mathematics and Physical Sciences’ organized by the Department of Mathematics, Physics and Chemistry of Shrimati Indira Gandhi College in September 2023. ISBN-978-93-93253-44-6. EISBN-978-93-93253-43-9
7. Presented a paper International conference on Recent advancements in Spectroscopy at 05 and 06-10-2023 organized by National college, Trichy in association with Indian spectro physics Association, Chennai, India

8. Published a paper on FTIR Spectral Analysis of Medicinal Drug In A Non Aqueous Medium in International conference on Advanced Perspectives in Material Science on
  - i. 07-01-2025 organized by Jamal Mohamed College,Trichy.
9. Published a Paper titled Electrochemical And Spectroscopic Analysis of A Shortchain HeteroPeptide In Non-Aqueous Medium in the International Conference on Recent Advancements in Materials Science and Spectroscopy held at Periyar Maniyammai Institute of Science & Technology,Thanjavur on 24.02.2025 &25.02.2025
10. Published a Paper Titled Electrochemical And Spectroscopic Analysis Of A Short Chain Nutraceutical Peptide In Non-Aqueous Medium in the International Conference on Recent Advancements in Materials Science and Spectroscopy held at Periyar Maniyammai Institute of Science & Technology,Thanjavur on 24.02.2025 &25.02.2025

### ***National***

1. Presented a paper titled “Analysis of acoustical, thermodynamical, and electro- chemical properties of aqueous solution of an electrolyte” at the National Conference on Ultrasonics organized by Holy Cross College, Trichy in Dec 2005
2. Presented a paper titled “Acoustic impedance, intermolecular free length, and transport behavior of peptides using ultrasonic velocity” at the National level conference on acoustics organized by Acoustical Society of India at K.S.R. Engg College, Thiruchengode in Dec 2012 (ISBN 978-93-82563-48-8).
3. Presented a paper titled “Electrochemical, thermodynamical, and vibrational spectral analysis of a peptide in non-aqueous medium” at the National level conference on acoustics organized by Acoustical Society of India at K.S.R. Eng. College, Thiruchengode in Dec 2012 (ISBN 978-93-82563-48-8).
4. Presented a paper titled “A study of acoustic and solvation properties of Glycyl salts non-aqueous medium” at a National level symposium on acoustics at Mysore (2014).
5. Presented a Paper titled Advanced Materials For Potential Applications In Energy Storage Systems at the National Conference on Nanomaterials for energy harvesting and storage applications organized by Arignar Anna Govt. Arts College,Musiri on 8-9 ,January 2025

## **Participation in Workshop**

1. 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.

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

1. NEP 2020 Orientation Programme Completed on 04-03-2024 to 13-03-2024 organized by
2. UGC - Malaviya mission Teacher training centre, Bharathidasan University, Trichy-24

## **Participation in Faculty Development Programme**

1. Attended a state level conference on current trends in Research field of Computer Science organized by Shrimati Indira College and CSI Trichy in Oct 2006.
2. Attended a regional level workshop conducted by Srimad Andavan Arts & Science College and IAPT in Feb 2011.
3. Attended a National Level workshop on NAAC awareness program conducted by Primax Foundation and SIGC at Bengaluru in July 2019.
4. Attended a National level webinar titled ‘Look beyond what you can with IR imaging’ conducted by Perkin Elmer in May 2020.
5. Attended a webinar titled ‘Trends in AI - A modern perspective’ conducted by St. Joseph Institute of Technology, IEEE CS, ACM Chennai, and Wiley India in May 2020.
6. Attended an International webinar titled ‘Advanced Materials’ conducted by LRG Govt Arts College for women, Tirupur in June 2020.
7. Attended National level webinar titled ‘Advancements in Material Science’ conducted by Jeppia Institute of Technology in June 2020.
8. Attended a webinar titled ‘A journey towards wave mechanics’ conducted by B.S.Abdur Rahman Crescent Institute of Science and Technology in June 2020.
9. Attended a webinar titled ‘Writing a research grant proposal’ conducted by Teerthankar Mahaveer University, Moradabad in June 2020.
10. Attended a webinar titled ‘An overview of Ancient Indian Astronomy’ conducted by Seethalakshmi Ramasamy college, Trichy in June 2020.
11. Attended a webinar titled ‘Space Technology and ISRO’ conducted by Rathinaam College of Arts and Science in June 2020.
12. Attended a webinar titled ‘Father of Modern Physics - Galileo’ conducted by Jansons Institute of Technology and Tamil Nadu Science Forum in June 2020.

13. Attended a webinar titled ‘Sir Issac Newton’ conducted by Jansons Institute of Technology and Tamil Nadu Science Forum in June 2020.
14. Attended a webinar titled ‘Need of Socrates in Modern World’ conducted by Jansons Institute of Technology and Tamil Nadu Science Forum in June 2020.
15. Attended a webinar titled ‘Advanced Text Processing using Latex’ conducted by Seethalakshmi Ramasamy College, Trichy in June 2020.
16. Attended an International webinar titled ‘Application of Physics in Industrial Automation’ conducted by Seethalakshmi Ramasamy college, Trichy in July 2020.
17. Attended Faculty Enrichment Programme ‘Shape yourself with Siddha’ by Department of Chemistry, Shrimati Indira Gandhi College.
18. Attended five days FDP on “Redefining Research skills“ from April 1-April 5, 2024

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

1. Organized a Demonstration Programme on Improving Self Confidence Through Self Defence as a Co-ordinator in Internal Complaints Committee of Shrimati Indira Gandhi College on 16.11.2023
2. Organized an Awareness Programme titled “Gender and Socialization “on 07.08.2024 as a Co-ordinator in Internal Complaints Committee of Shrimati Indira Gandhi College in association with Department of Women’s Studies, Bharathidasan university

### **Chairperson in conference**

1. Adjudicator for Paper Presentation Contest conducted by Research and Development Cell of Shrimati Indira Gandhi College on 25.01.2025
2. Chairperson for oral session in the International Conference on Recent Advancements in Materials Science and Spectroscopy held at Periyar Maniyammai Institute of Science & Technology, Thanjavur on 24.02.2025 & 25.02.2025

## **FUND RECEIVED**

Received Rs.20000/- for the conduct of Programme '**PCB Design and Fabrication**' for UG and PG students funded by **TNSCST and NCSTC, Govt. of India, New Delhi** under Popularization of Science Scheme.

## **PATENTS : 1**

## **MEMBER IN COMMITTEES**

ISO Audit Committee

Newsletter Committee

NAAC Criteria 6 Champion

Co-ordinator in Internal Complaints Committee

Social Media Team

Question Paper Setter in **BDU,MKU** universities and autonomous institutions.

Member in PG Board.