



# 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.S.Santhakumari  
**Designation** : Assistant Professor & Head  
**Department** : Physics  
**Qualification** : M.Sc., M.Phil., B.Ed., Ph.D  
**Experience** : **Teaching:31 Research: Nil (PG Physics Only)**  
**Area of Specialization(s)** : Liquid State Physics,Spectroscopy and antimicrobial activity.  
**Email (Official ID)** : [santhakumari@sigc.edu](mailto:santhakumari@sigc.edu)  
**Aadhar No** : 4473 1035 5630

## Academic Qualifications

Degree	Branch	Institution / University Name	Year of Graduation
Ph.D	Physics	Seethalakshmi Ramaswamy College, Trichy Bharathi dasan university, Trichy-620024	2018
M.Phil	Physics	Seethalakshmi Ramaswamy College, Trichy Bharathi dasan university, Trichy-620024	1998
M.Sc	Physics	Seethalakshmi Ramaswamy College, Trichy Bharathi dasan university, Trichy-620024	1991
B.Ed	Physical Science	Annamalai University. Chidampuram	1996
B.Sc	Physics	Seethalakshmi Ramaswamy College, Trichy Bharathi dasan university, Trichy-620024	1989

## Research Guidance

Programme	No. of Scholars	
	Completed	Pursuing
M.Sc Physics	62	Nil

## Research Publications (Indexed)

### International

1. Ms.S.Santhakumari et al Published the paper on International Organization of Scientific Research. (IOSR-JAP) VOL:4, Issue-1(May-June 2013) ISSN -2278-4861 PP (01-04).IMPACT FACTOR-1.119 [www.iosrjournals.org](http://www.iosrjournals.org) Analysis of transport properties and acoustical parameters of sulphanilamide in non-aqueous medium. UGC JOURNAL. <https://www.iosrjournals.org/iosr-jap/papers/Vol4-issue1/A0410104.pdf?id=3366>
2. Ms.S.Santhakumari et al Published the paper on International Journal of Recent Scientific Research(IJRSR).Vol.4, Issue-9,PP.1347-1349. (Sep 2013).IMPACT FACTOR-6.86. ISSN : 0976-3031.Thermo chemical, solvation number and acoustical parameters of sulfa drug using ultrasonic velocity. [http://recentscientific.com/sites/default/files/Download\\_16.pdf](http://recentscientific.com/sites/default/files/Download_16.pdf)
3. Ms.S.Santhakumari et al Published the paper on ISST Journal of Applied Physics , Vol 4 –No 2(July-Dec2013)PP (57-60) Intellectuals Society of Socio-Techno welfare .Impact factor-0.3. Analysis of solvation number, adiabatic compressibility and specific acoustic impedance of glycyl and amide salts. <https://portal.issn.org/resource/ISSN/0976-903X/?language=es>.
4. Ms.S.Santhakumari et alInternational Published the paper on Journal of Pharmaceutical Sciences and Research, Peer Reviewed, ISSN: 2320-5148, <http://ijpsr.com/> Comparative study of Specific Acoustic Impedance and Transport Properties of Sulfa Compounds using ultrasonic Velocity, IJPSR, September 2014, Vol 5(9) ,Page N0:3775- 3778. Impact Factor:3.5 , ICV :5.1,UGC Journal Scopus(2014- 2017)(5 citations). <http://ijpsr.com/bftarticle/comparative-study-of-specific-acoustic-impedance-and-transportproperties-of-sulfa-compounds-using-ultrasonic-velocity/>.
5. Ms. S. Santhakumari et al Published the paper on Indo American Journal of Pharmaceutical Sciences, Peer Reviewed, ISSN:2349-7750, <http://www.iajps.com/> Internal Pressure, Free volume and Compressibility Analysis of Amides in Non-aqueous Medium, IAJPS, February 2015, Volume 2, Issue 2,Page N0(587-592),Impact Factor:3.6 , ICV(2015):61.16 UGC Journal (5 citations).INDEXED BY ICI. [http://iajps.com/pdf/february/ISSN%202349%20\(1\).pdf](http://iajps.com/pdf/february/ISSN%202349%20(1).pdf)

6. Ms.S. Santhakumari et al Published the paper on International Journal of Science and Research, Peer Reviewed, ISSN: 2319-7064, www.ijsr.net Thermo dynamical Parameters, Adiabatic Compressibility Analysis of Amides using Ultrasonic velocity IJSR January 2015, Volume 4, Issue I Page NO :236-23 Impact Factor: 5.962, Highly Indexed Journal. [https://www.researchgate.net/publication/320181307\\_Thermodynamical\\_Parameters\\_Adiabatic\\_Compressibility\\_Analysis\\_of\\_Amides\\_Using\\_Ultrasonic\\_Velocity](https://www.researchgate.net/publication/320181307_Thermodynamical_Parameters_Adiabatic_Compressibility_Analysis_of_Amides_Using_Ultrasonic_Velocity).
7. Dr.S.Santhakumari et al Published the paper on Literary Findings, International Journal of Multidisciplinary Research, Peer Reviewed, ISSN 2278-2311, [http:// literary findings.in/](http://literaryfindings.in/) Analysis of Acoustical parameters and Equivalent Conductance of Sulfa Drug using Ultrasonic Velocity In non-Aqueous Medium . December 2018 ,
8. Volume :6, Issue :12 , Page No: 33-37, Impact Factor : 3.25 UGC NO: 42329 <http://literaryfindings.in/files/articles/545fc23291ba2404acab254fc49aab46.pdf>.
9. Dr.S.Santhakumari et al Published the paper on Journal of Advanced Scientific Research, Peer Reviewed , ISSN:0976-9595 <http://www.sciensage.info> Ultrasonic Investigation of Ion Solvent Interactions in Non-Aqueous Medium. November 2019, Volume:10, Issue:4 Page NO:208-211. Impact Factor: 3.14 Scopus, Web of Science and Indian citation Index, UGC CARE LISI –I. [https://sciensage.info/current\\_issue\\_publish.php?p=455](https://sciensage.info/current_issue_publish.php?p=455)
10. Dr. S. Santhakumari et al Published the paper on Mukta Shabd Journal ISSN NO-2347-3150. Volume IX, Issue V, May 2020. A Comparative study of acoustical parameters of sulfa drugs in Non-Aqueous medium. Impact factor: 4.6 [submitmsj@gmail.com](mailto:submitmsj@gmail.com).

## National Publications

1. Ms.S.Santhakumari et al., Published the Ultrasonic investigation of internal pressure, free volume and acoustical parameters of sulphanilamide in non-aqueous medium in National Symposium on Acoustics- held at K.S.R institute for Engineering and technology, Tiruchengode, NSA-2012.
2. Ms.S.Santhakumari et al., Published the Quantitative relationship between thermodynamical and electrochemical parameters of a drug in non-aqueous medium in CSIR-National Physics Laboratory-New Delhi, India Acoustics-2013.

## **Book Published/Chapter details**

1. Book Published the CDE Course on “Microprocessor and Microcontroller” -Bharathidasan University, Trichy-24 in the year 2011.
2. Contributed **three** chapters and **2** lab experiments for the book 'AICTE Engineering Physics - Wiley Publications' published in Sep 2020.
3. Contributed one chapter for the Book - Novel materials for Emerging applications.
4. Publish the Book chapter on " Perspective of Nano-material synthesis and it's Energy storage Applications ", Taylor and Francis, June 2025 ( Review). Waiting for the Publications

## **Conference - Presented and Participation Details**

### **International**

1. International conference -CSIR-National Physics Laboratory-New Delhi,India Acoustics-2013,presented the paper on Solvation number, adiabatic compressibility and specific acoustic impedance of glycyl and sulphanilamide salts.
2. International Symposium(Conference) Ultrasonics, RTM,Nagpur university,Nagpur, ISU-2015, 7 August 21- 2015 presented the paper on “Thermodynamical parameters, adiabatic compressibility analysis of amides using ultrasonic velocity”.
3. International Conference on Recent Trends in Material Science & Application.(ICRM17) held at Urmu Dhanalakshmi College. Kattur Trichy on 21st August -2017 Presented the paper on Electrochemical parameters of Sulfa drug in non-aqueous Medium using ultrasonic Velocity.
4. International conference on “Emerging Trends in and prospects in Nano Materials and Applications” at 18-08-2022 held at P.K.R arts College for Women ,Gobichettipalayam.
5. 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.
6. International conference on Advanced Conference Perspectives in Material science on 07-01-2025 organized by Jamal Mohamed College,Trichy.

## **National**

1. National Symposium on Acoustics- held at K.S.R institute for Engineering and technology, Tiruchengode, Tamilnadu, India. NSA-2012 published on IR, UV Spectroscopy analysis of Benzene sulphonamide using ultrasonic velocity.
2. National Symposium on Acoustics, Acoustical Society of India, AIISH, Mysuru, India. Acoustics - 2014 published on An analysis of UV-VIS Spectra and thermochemical parameters of amides.
3. National conference Presented the paper on Nanomaterials for Energy Harvesting and Storage applications NCNEA 2025 at 08-01-2025.

## **Seminars**

1. Attended the National Seminar - Bonsecours College for women, Thanjavur, Tamilnadu, India on Challenging perceptions in physics and chemistry at 29-02-2012.
2. Attended the International Seminar- Jamal Mohamed College, (Autonomous), Tiruchirappalli, Tamilnadu, India on Crystalline materials and Optoelectronic devices at 03-02-2014.

## **FDP Participation Details**

1. Attended the Digital Teaching Techniques-One week online certificate-ICT Academy-FDP Programme on 29.6.2020 to 04.07.2020.
2. Mobility in the Noble Profession-SIGC-FDP Programme on 23-11-2020
3. Faculty development programme on “Role on Creative thinking in Physical Science and its application” organized by Srinivasan College of arts and science on 02-07-2021 to 04-07-2021.
4. Attended the five days FDP on “Redefining Research skills “ from April 1 to April 5 ,2024

## **Work Shop**

1. Look beyond what you can with IR Imaging-WebinarRegional level Work shop- Perkin Elmer,Chennai on 08-05-2020.
2. Accelerate your analysis with Hyphenation Techniques- Webinar-Regional level Work shop- Perkin Elmer,Chennai on 15-05-2020.
3. Advanced Materials-International level (IWAM-2020) Webinar-LRG Government of Arts College for women, Tirupur on 03-06-
4. Attended a webinar titled ‘An overview of Ancient Indian Astronomy’ conducted by Seethalakshmi Ramasamy college, Trichy in June 2020.
5. Attended a webinar titled ‘Advanced Text Processing using Latex’ conducted by Seethalakshmi Ramasamy College, Trichy in June 2020.

## **NEP 2020 Orientation Programme**

1. NEP 2020 Orientation Programme Completed on 04-03-2024 to 13-03-2024 organized by UGC - Malaviya mission Teacher training centre, Bharathidasan University,Trichy-24
2. **Any other informations:**
3. TNSCST- Student Funded Project Scheme 7500 rupees received in the year(2021-2022)
4. Patent published onPerovskite Sensors -Based Gas Monitoring in Li-Ion Batteries: A Deep Learning Perspective” on May 2024.

### **Invited Speaker / Session Chair- Conference / Seminar / Workshop**

National Science day, Feb- 2022 Sankara school,Trichy

**Member in BoS:- ( 2012-2015), (2021-2024) - Bharathi Dasan University,Trichy**  
**(2024 -2027)- CDE -Board of Studies,BDU,Trichy**

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

Member in PG Board.

### **Membership in Professional Bodies**

<b>Name of the Professional Body</b>	<b>Nature of membership</b>	<b>Duration</b>
Board of Studies	Member	3 years