



SHRIMATI INDIRA GANDHI COLLEGE

(Affiliated to Bharathidasan University)

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

Name : Dr. N. Sharmila
Designation : Assistant Professor
Department : Physics
Qualification : M.Sc., M.Phil., Ph.D
Experience : **Teaching: 22** **Research: 18**
Area of Specialization(s) : Crystallography, Chemical Engineering, Nuclear Physics
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Aadhar No : 6926 4471 7449

Academic Qualifications

Degree	Branch	Institution / University Name	Year of Graduation
Ph.D	PHYSICS	National College (AUTONOMOUS), Trichy	2019
M.Phil	PHYSICS	Manonmanium Sundaranar University, Tirunelveli	2003
M.Sc	PHYSICS	Seethalakshmi Ramaswamy College (AUTONOMOUS), Trichy 620002	2000
B.Sc	PHYSICS	Seethalakshmi Ramaswamy College (AUTONOMOUS), Trichy 620002	1995

Research Publications (Indexed)

International

LIST OF JOURNAL PUBLICATIONS

1. **Sharmila, N.**, Sundar, T. V., Sakthivel, P and Venkatesan, P.
Ethyl 6-(4-chlorophenyl)-2,2-dimethyl-4-oxo-3,4-dihydro-2Hpyran-5-carboxylate
IUCrData (2017). **2**, x170034. ISSN 2414-3146
<https://doi.org/10.1107/S2414314617000347>
2. **Sharmila, N.**, Sundar, T. V., Sakthivel, P and Venkatesan, P.
Ethyl 2,2-dimethyl-4-oxo-6-phenyl-3,4-dihydro-2H-pyran-5-carboxylate
IUCrData (2016). **1**, x161924. ISSN 2414-3146
<https://doi.org/10.1107/S2414314616019246>
3. **Sharmila, N.**, Sundar, T. V., Sathish, G and Venkatesan, P.
Crystal and geometry-optimized structure, and Hirshfeld surface analysis of 1-(2-bromoethyl)indoline-2,3-dione
ActaCryst. (2016). **E72**, 1569–1573. ISSN 2056-9890
<http://dx.doi.org/10.1107/S2056989016015760>
4. **Sharmila, N.**, Sundar, T. V., Sathish, G and Venkatesan, P. 1-Benzyl-5-methylindoline-2,3-dione
IUCrData (2016). **1**, x160381. ISSN 2414-3146
<http://dx.doi.org/10.1107/S2414314616003813>
5. **Sharmila, N.**, Sundar, T. V., Sathish, G., Ilangoan., A and Venkatesan, P. Two new isatin derivatives: 1-benzyl-4,5,6-trimethoxyindoline-2,3-dione and 1-benzyl-5-fluoroindoline-2,3-dione
ActaCryst. (2015). **C71**, 975–978. ISSN 2053-2296
<http://dx.doi.org/10.1107/S2053229615018422>
7. **Sharmila, N.**, Sundar, T.V., Yasodha, A. Puratchikody, A. and Sridhar, B. Crystal structure of 4-amino-1-(4-methylbenzyl)pyridinium Bromide *ActaCryst.* (2014). **E70**, o1293–o1294. ISSN 1600-5368 doi:10.1107/S1600536814025343

8. Jaikumar, P., Sundar, T. V., **Sharmila, N.**, Balakrishnan, T. and Ramamurthi, K. Hydrogen-bonding patterns in bis(cytosinium) tartarate Monohydrate
IUCrData (2017). 2, x170448 ISSN 2414-3146
<https://doi.org/10.1107/S2414314617004485>

9. Natchimuthu, V., **Sharmila, N.**, and Ravi, S.
Crystal structure and Hirshfeld surface analysis of 1-methyl-4-(2-methyl-10H-*enzo*[b]thieno[2,3-*e*]-[1,4]diazepin-4-yl)piperazin-1-ium 2,5-dihydroxy-benzoate propan-2-ol monosolvate
Acta Cryst. (2020). E76, 1168–1172. ISSN 2056-9890
<https://doi.org/10.1107/S205698902000818X>

10. Vinotha, G., Sundar, T.V. and **Sharmila, N.**
13-Benzyl-4,11-dihydroxy-1,8-diphenyl-2,9-dithia-13-aza-dispiro[4.1.4.3]tetradecan-6-one
IUCrData (2021). 6, x210210
<https://doi.org/10.1107/S2414314621002108>

National

1. **Sharmila, N., Sundar, T. V., Sathish, G and Venkatesan, P.**
Crystal Structure, Energy Minimization and Geometry Optimization Studies of (2*R*, 3*R*)- Ethyl 2,3-Dimethyl-4-Oxo-6-Phenyl-3,4-Dihydro-2*H*-Pyran-5-Carboxylate
In the International Conference on Recent Trends in Material Science and its Applications (ICRM-2017), (2017), 53-55. ISBN: 978-93-80622-04-0

2. **Sharmila, N.**, Sundar, T. V., Sathish, G and Venkatesan, P.
Crystal structure, energy minimization and geometry optimization studies of 5-bromo-1-ethyl-indoline-2,3-dione. International Journal of Latest Research in Engineering and Technology, (2016), 87-90.

ISSN: 2454-5031(2016) www.ijlret.com

RESEARCH EXPERIENCE

COLLABORATIONS WITH RESEARCH INSTITUTES

1. CSIR-Indian Institute of Chemical Technology (IICT), Hyderabad
2. Department of Pharmaceutical Technology, Anna University Chennai, BIT CAMPUS, Trichy.
3. School of Chemistry, Bharathidasan University, Palkalaiperur, Trichy-24
4. Department of Pharmaceutical Chemistry, PGP college of Pharmaceutical Science & Research Institute, Namakkal.

Book Publications

BOOK CHAPTER - NATIONAL

Title of the chapter

A search on the crystalline features and drug likeness of acrylamide derivatives

Name of the book;

“Novel Materials for Emerging Applications” (ISBN)

Presentations in Conference

1. Presented a paper entitled Crystal Structure, Energy Minimization and Geometry Optimization Studies Of (2*R*, 3*R*)-Ethyl 2,3-Dimethyl-4-Oxo-6-Phenyl-3,4-Dihydro- 2*H*-Pyran-5-Carboxylate in International Seminar on Materials Science and Applications on 21st August 2017 at Urumu Dhanalaksmi College, Kattur, Tiruchirappali-19.
2. Presented a paper entitled Crystal structure, energy minimization and geometry optimization studies of 5-bromo-1-ethyl-indoline-2,3-dione in the International Seminar on Materials Science and Applications on 25th November 2016 at Mother Teresa Women’s University, Kodaikanal.
3. Presented a paper entitled CRYSTAL STRUCTURE ANALYSIS OF 1-BENZYL- 4,5,6-TRIMETHOXY-1*H*-INDOLE-2,3-DIONE (C₁₈H₁₇NO₅) in the National
4. Conference on Frontier Areas in Applied Physics (NCFAAP 2016) organized by the Engineering Physics, Faculty of Engineering Technology, Annamalai University, Chithambaram, on 27th, April, 2016.

5. Presented a paper entitled CRYSTAL STRUCTURE OF 3-N-DIPHENYL ACRYLAMIDE ($C_{15}H_{13}NO$) in the National seminar on Recent Advances in Physics - 2014 organized by the Department Of Physics, Presidency College (Autonomous), Chennai – 600 005 during 7th – 8th March, 2014.
6. Presented a poster entitled Virtual screening of potential drug analogs with their geometrical descriptors on 5th National Symposium Cum Workshop on Recent Trends in Structural Bioinformatics and Computer Aided Drug Design (SBCADD 2013) organized by the Department of Bioinformatics at Alagappa University, Karaikudi during 19th–22nd February, 2013.
7. Presented a paper entitled “Crystal Structure Of Pyridinium Derivative($C_{13}H_{15}N_2Br$) in the UGC sponsored National seminar on Recent Trends in Crystal Growth and
8. Nano Materials organized by PG& Research Department of Physics at National college (Autonomous), Tiruchirappalli during 15th– 17th March 2012.
9. Presented a paper entitled Search on The Crystalline Features of Acrylamide
10. A Nano Filtration Membrane in the State level Technical Seminar on Recent Advancements in Nanotechnology organized by PG & Research Department of Physics at Government Arts College (Grade 1), Tiruvannamalai during 5th & 6th August 2011.
11. Presented a paper entitled Drug likeness Evaluation of Some Compounds against Covid-19 Virus using Test Filters and Machine Learning Experiments in the Biomaterials Online Conclave 2022, 2022 Organized by National Centre for Nanoscience and Nanotechnology University of Madras Chennai. In collaboration with Society for Biomaterials and Artificial Organs of India (SBAOI) & Society for Tissue Engineering and Regenerative Medicine (India) (STERMI) during March 7 -15.
12. Presented a poster on the topic Polymorphism and supramolecular assemblies ethyl (Z)-3-((4-bromophenyl)amino)-2-cyanoacrylate: Insights from the Hirshfeld surface, PIXEL energy, and QTAIM analysis organized by SASTRA university, Thanjavore during 13-17 sep 2021.

Participation in Conference

International

National

1. Participated in International Seminar on Materials Science and Applications on **21st August 2017** at Urumu Dhanalaksmi College, Kattur, Tiruchirappali-19.

2. Participated in the International Seminar on Materials Science and Applications on **25th November 2016** at Mother Teresa Women's University, Kodaikanal.
3. Participated in the National Conference on **Frontier Areas in Applied Physics (NCFAAP 2016)** organized by the Engineering Physics, Faculty of Engineering Technology, Annamalai University, Chithambaram, on **27th, April, 2016**.
4. Participated in the National seminar on **Recent Advances in Physics - 2014** organized by the Department Of Physics, Presidency College (Autonomous), Chennai – 600 005 during **7th – 8th March, 2014**.
5. Participated on 5th National Symposium Cum Workshop on **Recent Trends in Structural Bioinformatics and Computer Aided Drug Design (SBCADD 2013)** organized by the Department of Bioinformatics at Alagappa University, Karaikudi during **19th–22nd February, 2013**.
6. Participated in the UGC sponsored National seminar on **Recent Trends in Crystal Growth and Nano Materials** organized by PG & Research Department of Physics at National college (Autonomous), Tiruchirappalli during **15th– 17th March 2012**.
7. Participated in the State level Technical Seminar on **Recent Advancements in Nanotechnology** organized by PG & Research Department of Physics at Government Arts College (Grade 1), Tiruvannamalai during **5th & 6th August 2011**.
8. Participated in Online Conclave 2022, 2022 Organized by National Centre for Nanoscience and Nanotechnology University of Madras Chennai. In collaboration with Society for Biomaterials and Artificial Organs of India (SBAOI) & Society for Tissue Engineering and Regenerative Medicine (India) (STERMI) during March 7 -15.
9. Participated in Polymorphism and supramolecular assemblies ethyl (Z)-3-((4-bromophenyl)amino)-2-cyanoacrylate: Insights from the Hirshfeld surface, PIXEL energy, and QTAIM analysis organized by SASTRA university, Thanjavore during 13-17 sep 2021.
10. Participated in the celebration of UGC sponsored National seminar on **Recent Trends in Advanced Materials Science** organized by the PG & Research Department of Physics, Periyar EVR College (Autonomous), Tiruchirappalli on **11th February, 2015**.

Participation in Seminars

1. Participated in the UGC sponsored National seminar on **Recent Trends in Advanced Materials Science** organized by the PG & Research Department of Physics, Periyar EVR College (Autonomous), Tiruchirappalli on **11th February, 2015**.
2. Participated in the international seminar on **Crystalline Materials And Optoelectronic Devices** held at the Department Of Physics, Jamal Mohamed College (Autonomous), Tiruchirappalli – 620 020 during **3rd February, 2014**.
3. Participated in the celebration of UGC sponsored National seminar on **Recent Trends in Advanced Materials Science** organized by the PG & Research Department of Physics, Periyar EVR College (Autonomous), Tiruchirappalli on **11th February, 2015**.

Participation in Workshop

LIST OF WORKSHOP/ TRAINING PROGRAMS ATTENDED

1. Participated in the workshop on **Crystal and Molecular Structure Determination from X-ray Diffraction Measurements (CMSDX 2016)** organized by the Centre for Instrumentation and maintenance Facility (CIMF), Periyar University, Salem – 636 011 during **28th – 29th March, 2016**.
2. Presented a poster entitled **CRYSTAL STRUCTURE ANALYSIS OF 1-BENZYL-4, 5, 6-TRIMETHOXY-1H-INDOLE-2,3-DIONE (C₁₈H₁₇NO₅)** in the National
3. Symposium on **X-ray Diffraction and Recent Advances in Crystallography(XDRAC-2015)** organized by the Department of Physics, School of Sciences, Periyar University, Salem – 636 011 during **27th – 28th February, 2015**.
4. Participated in the workshop on “Recent Trends In Materials Research” held at the Department of Physics, National Institute of Technology, Tiruchirappalli during
5. **21st–22nd December, 2012**.
6. Participated in the workshop on **Preparation, Characterization of Crystalline Materials and Their Applications (WPCCMA- 2012)** organized by the Department of Physics at Anna University, Chennai during **16th -17th July, 2012**.
7. Participated in the 4th National Symposium Cum Workshop on **Recent Trends in Structural Bioinformatics and Computer Aided Drug Design (SBCADD 2012)** organized by the Department of Bioinformatics at Alagappa University, Karaikudi during **20rd-23rd February 2012**.

8. Participated in the cloud-based hands on workshop on **Contemporary topics & Techniques in Computational Drug Discovery & Design** organized by SASTRA Deemed to be University & Schroedinger, Tanjore during **13th -17th Sep, 2021**.
9. Participated workshop on **Computational Physics with Python** organized by Department of Physics, Bharathidasan University, Tiruchirappalli-24 during 29th -**30th Sep, 2021**.
10. Participated workshop on Contemporary topics & Techniques in computational drug discovery design organized by SASTRA university, Thanjavore during 13-17 sep 2021.
11. Participated workshop on Intellectual property rights (Theme 2025-IP monetization and Technology Transfer) organized by SRM TRP Engineering college, Trichy, in association with CSIR-Institute of minerals and materials technology, Bhubaneswar, Odisha held on 25th April 2025.

Invited Speaker / Session Chair- Conference / Seminar / Workshop

1. Resource person in AIMAN College of Arts and Science and gave a lecture on the topic “Innovation Project Ideas in Modern Science” on January 6th 2025 for UG Science students.

Membership in Professional Bodies

Name of the Professional Body	Nature of membership	Duration
IQAC	Member	2022 – till date

Awards / Honors

Awards / Honors	Agency / Institute	Year of Award
Student Project Scheme	Tamilnadu State Council of Science and Technology	2022
Student Project Scheme	Tamilnadu State Council of Science and Technology	2024

FUNDED PROJECT CARRIED OUT

1. Tamilnadu State Council for Science and Technology, Chennai
under Student Project Scheme
Amount Sanctioned; 7500 Rs
PROJECT TITLE; Search on the Crystalline Features and Druglikeness of Acetamide
Year of carried out; 2021
2. Tamilnadu State Council for Science and Technology, Chennai
under Student Project Scheme
Amount Sanctioned; 7500 Rs
PROJECT TITLE; A Nanofiltration Membrane in water treatment
Year of carried out; 2024