

JAMAL MOHAMED COLLEGE (AUTONOMOUS), TIRUCHIRAPPALLI-20

PG & RESEARCH DEPARTMENT OF PHYSICS

1. Name : **Dr. S. PRABHAKARAN**
2. Father's Name : Dr. M. Subramaniam, M.Sc., Ph.D.,
3. Designation : Assistant Professor
4. Date of Birth : 05.10.1968
5. Educational Qualification : M.Sc., B.Ed., M.Phil., Ph.D.,
6. Teaching experience : UG- 14 Years & PG- 11 Years
7. Email id & Mob no. : sppy@jmc.edu [Mob. 96776 93993]
8. Area of Specialization : **Vibrational Spectroscopy**



9. Research: **Title of the Thesis:**

“Density Functional Theory studies of Vibrational Spectra, HOMO-LUMO and NLO analysis of some Polyatomic Molecules”

Details of Publications: 08 (5 International, 3 National)

- FTIR and FT-Raman, normal coordinate analysis of the structure and vibrational spectra of o-nitrobenzaldehyde oxime, *Elixir Vib Spec.36 (2011) 3397-3404.*
- Molecular structure, vibrational spectroscopic, first hyper-polarizability, NBO and HOMO, LUMO studies of p-iodobenzene sulfonyl chloride, *Spectrochimica Acta Part A 82 (2011) 332-339.*
- DFT studies and vibrational spectra of 2-bromomethyl-4-nitroanisole, *Indian Journal of Pure & Applied Physics, Vol.50, January 2012, pp. 26-33.*
- Vibrational spectroscopic investigations, first hyperpolarizability, HOMO-LUMO and NMR analyzes of p-fluorobenzonitrile, *Spectrochimica Acta Part A 102 (2013) 59-65.*
- Scaled quantum chemical studies of the structure and vibrational spectra of 4-bromo-1,2 (methylene dioxy) benzene, *International Journal of Sciences and Applied Research, Vol.4(3) 2017, 49-61.*
- Vibrational (IR and Raman) and Computational Tool (HF and DFT) analysis on 2,4-difluoro benzyl alcohol, *Imperial Journal of Interdisciplinary Research, Vol.3(3) 2017, 1586-1595.*
- Vibrational analysis, *ab initio* HF and DFT studies of 2,4,6-trimethyl phenol, *Indian Journal of Pure & Applied Physics, Vol.56, February 2018, 119-127.*
- ADMET, molecular docking, spectroscopic investigations and electronic properties of 4-fluoro-3-nitrobenzaldehyde using DFT calculations, *Eur. Chem. Bull. 2023,12(10), 3197-3232.*

10. Details of Papers Presented: 03

1. Presented a research paper entitled, "Vibrational analysis, ab initio HF and DFT studies of 2,4,6-trimethylphenol" in the **International Conference on Chemistry and Materials**, organized by Department of Chemistry, Bharathidasan Institute of Technology, Anna University, Tiruchirappalli –24 during Nov 14th and 15th 2014.
2. Presented a research paper entitled, "Scaled quantum chemical studies of the structure and vibrational spectra of 4-bromo-1,2(methylene dioxy) benzene", UGC sponsored **International Conference on Chemical and Environmental Research**, organized by the Department of Chemistry, Jamal Mohamed College (Autonomous) Tiruchirappalli – 20 on 7th January, 2017.
3. Presented a research paper entitled, "Structure, First hyper polarizability, HOMO-LUMO and NBO analysis of 1,5 - difluoro - 2,4 – dinitrobenzene based on DFT", UGC Sponsored **National Level Seminar on Recent Advancements in Materials**, organized by the Department of Physics, Jamal Mohamed College (Autonomous) Tiruchirappalli – 20 on 15th February, 2017.

11. Details of Seminars / Conferences / Workshops attended:

- ❖ NAAC sponsored National level seminar on "Quality Enhancement in Teaching, Research and Extension in Higher Education Institutions – Prospects and Problems" organized by Jamal Mohamed College (Autonomous), Tiruchirappalli-20 from April 15 and 16, 2010.
- ❖ "Recent Advances in Spectroscopic Techniques" organized by P.G and Research Department of Physics, Bishop Heber College (Autonomous), Tiruchirappalli-17 on 7th September 2010.
- ❖ UGC sponsored Inter collegiate seminar on "Nano Science and Technology" held at Jamal Mohamed College (Autonomous), Tiruchirappalli-20 on 7th October 2010.
- ❖ Seminar on "Creating Competitiveness to Excel in Higher Education-a TQM approach" organized by Internal Quality Assurance Cell, Jamal Mohamed College(Autonomous), Tiruchirappalli-20 on 8th December 2010.
- ❖ UGC Sponsored National Conference on "Perspectives in Laser, Optics, Spectroscopy and Nano-science" organized by P.G. and Research Department of Physics, Bishop Heber College (Autonomous), Tiruchirappalli-17 on 14th February 2011.
- ❖ National Conference on Spectrophysics, organized by the Indian Spectrophysics Association, held at Pachaiyappa's College, Chennai during 7-8 March 2012.
- ❖ UGC Sponsored State Level Seminar on "Advanced Research in Physics - A Few Perspectives," on 28th February 2012 held at Jamal Mohamed College (Autonomous), Tiruchirappalli-20.
- ❖ Participated in the "Quality' 12 (Excellence in NDE)" a National Level Symposium held in the Department of Physics, National Institute of Technology, Tiruchirappalli-19 on 13.03.2012.
- ❖ UGC Sponsored National Level Seminar on "Nano science and Laser Materials Processing" held at Jamal Mohamed College (Autonomous), Tiruchirappalli-20 on 9th March, 2013.
- ❖ UGC Sponsored International Seminar on "Crystalline Materials and Optoelectronic Devices" held at Jamal Mohamed College (Autonomous), Tiruchirappalli 20 on 3rd February 2014.

- ❖ Workshop on “Amateur Radio” on 28th February, 2014 held at Jamal Mohamed College (Autonomous), Tiruchirappalli – 20.
- ❖ State level seminar on “Avenues for Higher Scientific Pursuits” on 8th September 2014 held at Jamal Mohamed College (Autonomous), Tiruchirappalli – 20.
- ❖ National workshop on “Analytical Techniques for Chemical Characterization” on 13th March 2015, organized by Department of Chemistry, SCSVMV University, Kanchipuram.
- ❖ National level seminar on “Laser and its Applications” held at Jamal Mohamed College (Autonomous), Tiruchirappalli-20 on 16th March 2015.
- ❖ International conference on “Recent trends in Materials science and Applications” held at Jamal Mohamed College, Tiruchirappalli-20 on 29th February 2016.
- ❖ Workshop on “The role of a Teacher in the present Scenario”, organized by the Internal Quality Assurance Cell of Jamal Mohamed College, Trichy-20 on 10-12-2016.
- ❖ National level Seminar on “Recent Advancements in Materials”, organized by PG and Research Department of Physics, Jamal Mohamed College (Autonomous), Tiruchirappalli-20 on 15.02.2017.
- ❖ **Faculty Development Program** on “Presentation Skills Level 1” conducted by ICT Academy, Chennai, on 23rd and 24.02.2017 held at Jamal Mohamed College, Trichy-20.
- ❖ **NLP-Based Faculty Empowerment Programme**, organized by the Internal Quality Assurance Cell of Jamal Mohamed College, Trichy-20 on 17th, 19th and 20th June 2017
- ❖ International conference on “Advanced Management-Changes and Challenges in Knowledge Era”, organized by Jamal Institute of Management, Jamal Mohamed College, Tiruchirappalli-20 on 17th February 2018.
- ❖ National Seminar on “Solid State Physics and its Applications”, organized by Department of Physics, Jamal Mohamed College (Autonomous), Tiruchirappalli-20 on 28th February 2018.
- ❖ **Orientation programme** on “Soft Skills Development” organized by Department of Physics, Jamal Mohamed College (Autonomous), Tiruchirappalli-20 on 22nd June 2018.
- ❖ Workshop on “Writing Winnable Project Proposals”, organized by the Internal Quality Assurance Cell, Jamal Mohamed College, Trichy-20 on 23rd June 2018.
- ❖ UGC CPE Sponsored workshop on “Professional Development for Academic Leadership in Curriculum Design” organized by Curriculum Development cell, Jamal Mohamed College (Autonomous), Tiruchirappalli-20 on 18th and 19th January 2019.
- ❖ National Seminar on “Challenges and Changes in the Evaluation System”, organized by the Internal Quality Assurance Cell, Jamal Mohamed College, Trichy-20 on 26th February 2019
- ❖ National Seminar on “Advanced Topics in Physics”, organized by Department of Physics, Jamal Mohamed College (Autonomous), Tiruchirappalli-20 on 06th March 2019.
- ❖ **Staff Enrichment programme** on “Ownership culture” organized by IQAC of Jamal Mohamed College, Trichy on 14.06.2019.
- ❖ National Seminar on “Advanced Materials” organized by Department of Physics, Jamal Mohamed College, Trichy-20 on 23.01.2020.

- ❖ **Orientation Program** on “MOOC’S and e-learning” on 29.01.2020 organized by Department of Library, Jamal Mohamed College, Trichy-20
- ❖ National Seminar on “Popularization of solar energy and Materials for solar cell” organized by Department of Physics, Periyar E.V.R College, Trichy-23 on 31.01.2020.
- ❖ “Stress Management” organized by Department of Management and Research, AVS College of Arts and Science, Salem, from 13.04 2020 to 17.04.2020.
- ❖ “Basic Principles of Spectroscopy” organized by Department of Chemistry, AVS College of Arts and Science, Salem, from 17.04.2020 to 19.04.2020.
- ❖ **TWO WEEKS FACULTY DEVELOPMENT PROGRAMME** on “Managing Online Classes and Co-Creating MOOCS” organized by Teaching Learning Centre, Ramanujan College, University of Delhi, sponsored by MHRD, PMMMNMTT from April 20 - May 06, 2020.
- ❖ Webinar on “Emerging Technologies” organized by CSI-Vidyalankar Institute of Technology, Mumbai, from 20.04.2020 to 22.04.2020
- ❖ “How to become an Online Teacher” organized by Amity University, New Delhi, on 23.04.2020
- ❖ Webinar on “Fine-Tuning Research Skills for Effective Writing (Thesis, Article & Proposal)” organized by PG and Research Department of Commerce, Vivekananda College of Arts and Sciences for Women, Tiruchengode on 03.05.2020.
- ❖ Webinar on “How Teachers and Counselors shall respond to the current Pandemic” organized by Amrita School of Engineering, Coimbatore on 09.05.2020.
- ❖ One week “Online National **Faculty Enrichment Programme**”, organized by IQAC of Mannar Thirumalai Naicker College, Madurai from 13.05.2020 to 19.05.2020
- ❖ Workshop on “Internet of Things” organized by Universal College of Engineering, Vasai, Maharashtra in association with The Institute of Engineering and Technology, on 14.05.2020 and 15.05.2020.
- ❖ A webinar on “Principle for Communicate an Effectual Manuscript” conducted by SKC LNCT Group of Colleges, Indore on 18.05.2020.
- ❖ National level webinar on “Explore the world of Electronic Media” organized by Maa Narmada Mahavidyaiaya, Dhamnod (M.P.) on 24.05.2020.
- ❖ International webinar on “Art of writing Research review/Articles for Publishing in peer Reviewed Journals” organized by the IQAC of MES College, Erumely, Kerala on 25.05.2020.
- ❖ National level Awareness Quiz on “ICT Initiatives of MHRD and UGC” organized by IQAC of Jamal Mohamed College in association with CSI, Tiruchirappalli chapter on 27.05.2020.
- ❖ Interactive session of Hon'ble Minister of HRD, Shri Ramesh Pokhriyal Nishank ji on the topic “Turn the Challenges to Opportunities: COVID-19 Pandemics and measures to combat by Higher Education of India” hosted by NAAC, Bengaluru on 28.05.2020.
- ❖ **Faculty Development Programme** on “C and C++” organized by PG and Research Department of Physics, Jamal Mohamed College, Trichy-20 from 27.05.2020 to 30.05.2020

- ❖ International webinar on “Advanced Materials”, Organized by Department of Physics, LRG Government Arts College, Tirupur on 03.06.2020
- ❖ **4-WEEKS INDUCTION/ORIENTATION PROGRAMME** for “Faculty in Universities / Colleges / Institutes of Higher Education” organized by Teaching Learning Centre, Ramanujan College, University of Delhi, sponsored by MHRD, PMMMNMTT from June 04 – July 01, 2020
- ❖ Online Level Quiz on NAAC, Organized by Department of Computer Engineering, P.V.P.P College of Engineering, Mumbai on 11.06.2020.
- ❖ National online workshop on “Blended Learning” , organized by Department of Educational Technology, SNDT Women’s University, Mumbai on 13.06.2020.
- ❖ Webinar on “Rebellion Einstein”, organized by Jansons Institute of Technology, Coimbatore in association with Tamilnadu Science Forum, Tirupur on 24.06.2020
- ❖ Webinar on “Father of Modern Physics- Galileo”, organized by Jansons Institute of Technology, Coimbatore in association with Tamilnadu Science Forum, Tirupur on 25.06.2020.
- ❖ Webinar on “Sir.Isaac Newton”, organized by Jansons Institute of Technology, Coimbatore, in association with Tamilnadu Science Forum, Tirupur on 26.06.2020
- ❖ International webinar series on “Emerging trends in energy & healthcare”, organized by Department of chemistry, Annai Hajira Women’s college, Melapalayam, Tirunelveli from 25.06.2020 to 27.06.2020
- ❖ Online Outreach programme on “Role of Meteorites in Solar System” under DBT Star College scheme in Commemoration of the World Asteroid Day, organized by Department of Physics and TNSF-Trichy, Jamal Mohamed College, on 30.06.2020.
- ❖ Webinar on “Preparation Methods and Deposition Techniques of Nano structures”, organized by Department of Physics, National College, Trichy on 25.07.2020.
- ❖ Online **Faculty Development Programme** on “Spectroscopic Techniques” organized by Department of Physics, Jamal Mohamed College- Trichy from 03.08.2020 to 05.08.2020.
- ❖ Three days Online **Faculty Development Programme** On “Condensed Matter Physics” organized by Department of Physics, Jamal Mohamed College, Trichy from 19.10.2020 to 21.10.2020
- ❖ Online **Faculty Development Programme** on “Astrophysics” organized by Department of Physics, Jamal Mohamed College, Trichy from 11.11.2020 to 12.11.2020.
- ❖ A Two day International Online Workshop on “Integration of Animation in Teaching-Learning” organized by C-KART, School of Education, PMMMNM on Teachers and Teaching, MoE, Govt.of India, from 28th to 29th January, 2021.
- ❖ Online **Faculty Enrichment Programme** on “Art of writing in indexed Journal Publications” organized by Department of Library in association with IQAC Jamal Mohamed College, Trichy on 28.07.2021
- ❖ **Two week online workshop** on “Thinfilm and Nanomaterials (IWTN-2021)”, organized by Department of Physics, Sathyabama Institute of Science and Technology, Chennai, in Association with TNSCST during 09.08.2021 to 20.08.2021

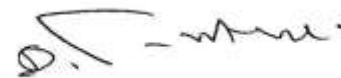
- ❖ **Eight weeks NPTEL-AICTE Faculty Development Programme on “Managing Services” course from 23.08.2021 to 24.10.2021**
- ❖ A Two day National webinar on Functional Materials “NWFm’21”, organized by K. Ramakrishnan College of Engineering, Trichy on 23.08.2021 & 24.08.2021.
- ❖ Advanced Materials – Webinar Series 2021 (Event 2): “Materials characterization using Non Destructive Testing (NDT)” organized by Department of Physics, St. Joseph’s College, Trichy on 20.09.2021
- ❖ Advanced Materials – Webinar Series 2021 (Event 3): “Recent Trends in Laser Materials Processing” organized by Department of Physics, St. Joseph’s College, Trichy, on 21.10.2021
- ❖ Advanced Materials – Webinar Series 2021 (Event 4): “Advanced Materials – Focus on Solar Energy” organized by Department of Physics, St. Joseph’s College, Trichy on 15.11.2021
- ❖ Advanced Materials – Webinar Series 2021 (Event 5): “Novel Materials Materials” organized by Department of Physics, St. Joseph’s College, Trichy on 20.12.2021
- ❖ Two day Online **Faculty Development Programme** on “Condensed Matter Physics” jointly organized by Department of Physics and IQAC, Jamal Mohamed College, Trichy in collaboration with ISPA-Chennai on 24.01.2022 & 25.01.2022
- ❖ **Faculty Development Programme** on “Digital Teaching and Learning” organized by Department of chemistry, under DBT Star Scheme, Jamal Mohamed College, Trichy from 24.01.2022 to 29.01.2022 24.01.2022 & 25.01.2022
- ❖ A School & College Teachers Online outreach programme on “HAM Radio as Technical hobby for social Service” organized by Department of Physics, Jamal Mohamed College, Trichy on 05.02.2022
- ❖ An Online **Faculty Development Programme** on “Astronomical Studies” organized by Department of Physics and Chiguru CoLab, Bangalore, Jamal Mohamed College, Trichy on 07.02.2022 & 08.02.2022
- ❖ An International Online Workshop on “Materials Science and Computational Methods”, organized by Department of Physics, Jamal Mohamed College, Trichy on 15.02.2022 & 16.02.2022
- ❖ A one-day Orientation programme on Gender and Socialisation, held at Department of Women’s Studies, Bharathidasan University, khajamalai campus, Tiruchirappalli-23 on 21st Dec’ 2022.
- ❖ **Inter Departmental Faculty Development Programme** on “Nanomaterials” organized by PG and Research Department of Physics, under DBT Star College Scheme, Jamal Mohamed College, Trichy on 13.02.2023.
- ❖ **InterDepartmental Faculty Development Programme** on “Observational Astronomy” organized by PG and Research Department of Physics, under DBT Star College Scheme, Jamal Mohamed College, Trichy on 18.02.2023.

12. Administrative Positions held in the College:

- ❖ Member-in-charge of the Department (SF) Women section (2014-2022)
- ❖ Member- Board of Studies
- ❖ Vice-President of Physics Association- SF (SF 2014-2021)
- ❖ Executive Committee member-JMC Alumni Staff chapter
- ❖ Department Library in-charge (SF 2014-2022)
- ❖ Indian Society of Systems for Science & Engineering - Life member

Extra- curricular activities:

- Active NSS volunteer and NCC 'B' Certificate holder
- Countries visited: Australia, Kuala Lumpur, Penang, Langawi, Bangkok, Pattaya, and Thailand.



Staff Signature