

Curriculum Vitae of
Dr. A. ABBAS MANTHIRI
Associate Professor



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POSITIONS HELD

- ◆ Entrepreneurship Development Cell Coordinator(2015–2017)
- ◆ Rotaract club Staff Adviser(2018–2019)
- ◆ Physics Association Vice President (2013-2014)
- ◆ Hostel Deputy Warden (2016–2019)
- ◆ Hostel Sub Warden (2002-2011)
- ◆ Staff in-charge in JAMAL INSTRUMENTATION CENTRE (2021 onwards)

EDUCATION

Ph.D. – 2021

Department of Physics, Tranquebar Bishop Manikam Lutheran College,
Porayar – 609 307

M.Phil. – 2004

Department of Physics, Jamal Mohammed College (Autonomous),
Tiruchirappalli – 620 020

M.Sc. – 2001

Department of Physics, Jamal Mohammed College (Autonomous),
Tiruchirappalli – 620 020

PUBLICATIONS, RESEARCH AND TEACHING EXPERIENCE

Research Publications	Number of Articles/Books Published	Research Experience	Teaching Experience	
			UG & PG	M.Phil.
Peer-Reviewed International Journal	06			
International Conferences	06	07years	21years	07years
National Conferences	12			

DETAILS OF EMPLOYMENT

- ◆ **Associate Professor**
Department of Physics, Jamal Mohamed College (Autonomous), Tiruchirappalli
From 27.10.2021–Present
- ◆ **Assistant Professor**
Department of Physics, Jamal Mohamed College (Autonomous), Tiruchirappalli
17.08.2006 – 26.10.2021
- ◆ **Assistant Professor (Self finance scheme)**
Department of Physics, Jamal Mohamed College (Autonomous), Tiruchirappalli
10.06.2002 –16.08.2006

AREA OF RESEARCH

- ◆ Ultrasonics in Liquid
- ◆ Molecular Spectroscopy

CONFERENCE ORGANIZED

- ◆ National Conference on "**Recent Advancements in Materials (NLS-RAM:17)**" [Under UGC Autonomous Grant] -15th February 2017
- ◆ One day Workshop on **Entrepreneurship Development 2017** - 21st March 2017

EDITOR OF THE BOOK

Book Title	Recent Advancements in Materials
Publisher	Jami Publications, India
Email	jamitrichy@gmail.com /09597225518

Orientation / Refresher Course

Name of the Course	Academic Staff College/ University	Duration	Date
Orientation Course	UGC Academic Staff College, Bharathidasan University, Tiruchirappalli	28 days	01.11.2008 to 28.11.2008
Refresher Course I	UGC Academic Staff College, University of Kerala, Kariavattom	21 days	01.11.2011 to 22.11.2011
Refresher Course II	UGC Academic Staff College, Bharathidasan University, Tiruchirappalli	21 days	06.11.2014 to 26.11.2014
Refresher Course III	UGC Academic Staff College, Bharathidasan University, Tiruchirappalli	21 days	20.12.2017 to 09.01.2018

RESEARCH GUIDANCE

Degree	Completed	Pursuing
M.Sc.	44	03
M.Phil.	21	--
Ph.D.	--	--

MEMBERSHIP IN SCIENTIFIC SOCIETIES

- ◆ Life Member, Indian Society of Systems for Science & Engineering (ISSE)

INVITED TALK

- ◆ Served as Resource Person in **One Week Certificate Programme on Spectroscopic And Chromatographic Techniques** organized by Jamal Instrumentation Centre (JAMIC) (DST-FIST Sponsored) Jamal Mohamed College (Autonomous), Tiruchirappalli – 620 020, during March 09th to 13th, 2023

RESEARCH ACTIVITIES

MOLECULAR SPECTROSCOPY

Computational quantum chemistry usually provide a valuable and frugally widespread alternative to the traditional method of drug design. The Pharmacology conceptually related to quantum chemistry and it is played important role medical applied sciences and technology since it is backbone of rational therapeutics and provides drug information. The theory of pharmacology described the interaction of exogenously administered chemical molecules as a drug with living systems for curing the disease. The theoretical pharmacology is moderately innovative and fast growing field of research in which problems of pharmaceutical chemistry in particular computational quantum chemistry is solved by of molecular mechanics, Hartree fock and DFT theories offered the ideas and methods to design and customization of drug compounds. The fundamental goal of theoretical pharmacology is to rationalize the link between the activity of a specific drug, as perceived experimentally, and its structural features as derived from computer experiment. Furthermore, the concepts of theoretical pharmacology is found to be used to predict the chemical and biological activity of general type as existing drugs with respect to the structure, consists of base and substitutional groups. It is adversely used to interpret and characterize entirely new classes of drugs to fabricate tailor-made for specific purposes. The computer based drug design is popular and important techniques of computational quantum chemistry which developed intractable and the computational comprehension of the acquainted ball-stick and ball-bond prototype of molecules are employed to examine their molecular-structure and physical, chemical and biological properties.

LIST OF PUBLICATIONS IN INTERNATIONAL JOURNALS

1. **A. Abbas Manthiri**, Gene George, S. Ramalingam, R. Aarthi, "Analysis on biological importance of antiseptic drug, *O-Benzylhydroxylamine*", by the application of spectroscopic and theoretical tools, **Elsevier**, 2019.
2. **A. Abbas Manthiri**, S. Ramalingam, Gene George, R. Aarthi, "Molecular structure analysis and biological properties investigation on antiseptic drug; *2-amino-1-phenyl-1-propanol* using spectroscopic and computational research analysis", **Elsevier**, 2021.
3. **A. Abbas Manthiri**, S. Ramalingam, R. Aarthi, "Structural and mulliken-electronic property analysis of *Metronidazole* using Spectroscopic and computational tools" **Progress in ADALYA JOURNAL, Volume 8, Issue 10, October 2019.**
4. **A. Abbas Manthiri**, S. Ramalingam, R. Aarthi, D.Vidhya, "Systematic Computational investigation on change of Mulliken charge assignment, HOMO-LUMO interaction, ¹³C NMR chemical environment by sequential substitution of amino group on naphthalene ring", **European Journal of Molecular & Clinical Medicine, ISSN 2515-8260, Volume 10, Issue 01, 2023.**
5. **A. Abbas Manthiri**, S. Ramalingam, R. Aarthi, G. Susithra, "Computational investigation and assessment on photo-electron diffraction and Production of inter-molecular charge transfer complex (ICT complex) in organic heterocyclic system by the influence of electronegative species substitution," **European Journal of Molecular & Clinical Medicine, ISSN 2515-8260, Volume 10, Issue 01, 2023.**
6. S. Ramalingam, M. Mansoor Ali, Gene George, **A. Abbas Manthiri** & S.Periandy, "Vibrational investigation on pharmaceutical activity of *m-xylene-4-sulphonic acid* by quantum computational and experimental support", **Journal of Taibah University for Science, 2017.**

RESEARCH PAPERS PRESENTED IN NATIONAL/INTERNATIONAL CONFERENCES

1. "**NLO dynamic activity analysis on Ni doped Thio-Semicarbazone using spectroscopic and computational tools**", International conference on Recent Advances in Materials (ICRAM-2018), held at Department of Physics, National College (Autonomous), Tiruchirappalli, during 22 & 23-03-2018.
2. "**Spectroscopic and computational investigation of the structures and Pharmacological activity of Metronidazole**", 4th International conference on Chemical and Environmental Research - ICCER – 2018, Department of Chemistry, Jamal Mohamed College, Tiruchirappalli, during 19-12-2018.
3. "**Spectroscopic (Infrared and Raman) analysis on Cyclohexanone oxime using HF and DFT study**", National Conference on Advanced functional Materials (NCAFM-2020), Department of Physics, National College (Autonomous), Tiruchirappalli, during 13-02-2020.
4. "**Docking and spectral studies – FT-IR, Raman, NMR and UV of 1-(5-chlorothiophen-2-YL)-3-Thiophen-2-YL)-2-PROPEN-1-one using Quantum computational (DFT) method**", 5th International conference on Chemical and Environmental Research (ICCER-2020), Department of Chemistry, Jamal Mohamed College (Autonomous), Tiruchirappalli, during 08-01-2020.

5. **"Molecular Docking studies, Intermolecular electronic interaction and Analysis on 3-Fluoro Banzoic Acid (3-FBA)"**, 5th International conference on Chemical and Environmental Research (ICCER-2020), Department of Chemistry, Jamal Mohamed College (Autonomous), Tiruchirappalli, during 08-01-2020.
6. **"Biological investigation on 4-Phenyanisole"**, 5th International conference on Chemical and Environmental Research (ICCER-2020), Department of Chemistry, Jamal Mohamed College (Autonomous), Tiruchirappalli, during 08-01-2020.
7. **"Spectral Analysis of Molecular Dynamics of 3-Acetyl Pyridine using DFT method."**, 5th International conference on Chemical and Environmental Research (ICCER-2020), Department of Chemistry, Jamal Mohamed College (Autonomous), Tiruchirappalli, during 08-01-2020.
8. **"Spectroscopic (FT-IR, FT-RAMAN, FT-NMR and UV-VIS) investigation on 4-Benzyloxy-3-Methoxy Benzaldehyde using Quantum computational method."**, 5th International conference on Chemical and Environmental Research (ICCER-2020), Department of Chemistry, Jamal Mohamed College (Autonomous), Tiruchirappalli, during 08-01-2020.
9. **"NMR analysis and Gaussian hybrid computational investigation (MEP maps/HOMO and LUMO) on Cyclohexanone oxime"**, National seminar on Advanced Materials – (NSAM-2020), Department of Physics, Jamal Mohamed College (Autonomous), Tiruchirappalli, during 23-01-2020.
10. **"Vibrational spectroscopy (FT-IR and FT-Raman) investigation on 3-methyl-2-nitrophenol using HF and DFT theory"**, National seminar on Advanced Materials – (NSAM-2020), Department of Physics, Jamal Mohamed College (Autonomous), Tiruchirappalli, during 23-01-2020.
11. **"Vibrational [IR and RAMAN] and NLO property analysis on 2,4,6-Nitrophenal using HF and DFT calculations"**, National seminar on Advanced Materials – (NSAM-2020), Department of Physics, Jamal Mohamed College (Autonomous), Tiruchirappalli, during 23-01-2020.
12. **"Vibrational [IR and Raman] and NLO property analysis on 1,3,5-Nitrophenol using HF and DFT Calculations"**, International Conference on Recent Innovations in Materials Sciences and Spectroscopy (ICRIMS-2023), Organized by PG & Research Department of Physics, Jamal Mohamed College (Autonomous), Tiruchirappalli, during 10.01.2023.
13. **"Spectroscopic (Infrared and Raman) analysis on Cyclohexanone oxime using HF and DFT study"**, International Conference on Recent Innovations in Materials Sciences and Spectroscopy (ICRIMS-2023), Organized by PG & Research Department of Physics, Jamal Mohamed College (Autonomous), Tiruchirappalli, during 10.01.2023.
14. **"Theoretical investigation using DFT (B3LYP, B3PW91 and MPW1PW91) analysis on the structure of 2-Nitro 3-Amino Phenol"**, International Conference on Recent Innovations in Materials Sciences and Spectroscopy (ICRIMS-2023), Organized by PG & Research Department of Physics, Jamal Mohamed College (Autonomous), Tiruchirappalli, during 10.01.2023.