

**CAUVERY COLLEGE FOR WOMEN (AUTONOMOUS)**  
**STAFF PROFILE**

**PERSONAL INFORMATION**

**1. Name : Dr R MEENAKSHI**

**2. Date of Birth : 10.05.1976**

**3. Address :**

Residential	Office
6/3363,KUTTIMANI NAGAR, THIRUVALUVAR AVENUE, BIKSANDER KOIL(POST), NO 1 TOLLGATE, TRICHY.621216 - Phone -9176083839	ASSISTANT PROFESSOR OF PHYSICS CAUVERY COLLEGE FOR WOMENANNAMAIAI NAGAR TRICHY-18 Phone -9176083839

**ACADEMIC INFORMATION**

**4. Designation & Department : ASSISTANT PROFESSOR ,PHYSICS**

**5. Educational Qualification :**

Degree	Year	College/University
Ph.d.,	2014	MANONMANIYAM SUNDARANAR
M.Phil.,	2005	BHARATHIDASAN
M.Sc.,	1999	BHARATHIDASAN
B.SC.,	1997	BHARATHIDASAN
B.Ed.,	2001	MADRAS

**6. Researcher ID :**

S.NO	SOURCES	ID
1	GOOGLE SCHOLAR	<a href="https://scholar.google.com/citations?user=W_6TIPoAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=W_6TIPoAAAAJ&amp;hl=en</a>
2	SCOPUS	35771164400
3	WEB OF SCIENCE RESEARCHER	Q-2295-2018
4	ORCID	<a href="https://orcid.org/0000-0002-6975-9088">https://orcid.org/0000-0002-6975-9088</a>
5	VIDWAN	174669
6	PUBLONS	<a href="https://publons.com/researcher/1567086/meenakshi">https://publons.com/researcher/1567086/meenakshi</a>

**7. Experience :**

Date of Joining	Institution	Year of Experience
20.06.2001 -10.04.2005	Cauvery College for Women	3 Yrs 8 Months
05.01.2009 - till date	Cauvery College for Women	10 Yrs 2 months

**8 Areas of Specialization : SPECTROSCOPY****9. Languages known : TAMIL, ENGLISH****10. Subjects Taught :**

<b>UG</b>	PROPERTIES OF MATTER, SPECTROSCOPY, THERMAL PHYSICS, OPTICS, ANALOG ELECTRONICS, COMMUNICATION PHYSICS
<b>PG</b>	MATHEMATICAL PHYSICS, CLASSICAL MECHANICS, QUANTUM MECHANICS, SPECTROSCOPY, NUCLEAR PHYSICS, NON-LINEAR OPTICS, STATISTICAL MECHANICS

**11. Research Supervision:**

<b>Degree</b>	<b>University from where guideship obtained</b>	<b>Thesis</b>		
		<b>Completed (in numbers)</b>	<b>Year of Completion</b>	<b>Pursuing (in numbers)</b>
<b>M.Phil</b>	<b>BHARATHIDASAN</b>	<b>5</b>	<b>2017</b>	<b>-</b>
		<b>4</b>	<b>2018</b>	
<b>P.hD</b>	<b>BHARATHIDASAN</b>	<b>-</b>	<b>-</b>	<b>-</b>

**12. Details of Publications:**

<b>S.NO</b>	<b>Journal Name &amp; Volume</b>	<b>Year of Publication</b>	<b>Title of the Paper</b>	<b>Impact Factor</b>	<b>Quartile</b>
1.	Spectrochimica Acta part A 82	2011	“Quantum chemical studies on structure of 1-3-dibromo-5-chlorobenzene”	2.098	Q2
2.	Spectrochimica Acta part A Vol.91	2012	“Vibrational spectroscopic studies and DFT calculations of 4-bromo-o-xylene”	2.098	Q2
3.	Spectrochimica Acta part A Vol.102	2013	“Vibrational spectroscopic investigations, first hyperpolarizability, HOMO-LUMO and NMR analysis of P-fluorobenzonitrile”	2.098	Q2
4.	Spectrochimica Acta part A Vol.105	2013	“PCM/TD-DFT analysis of 1-bromo-2,3-dichlorobenzene – A combined study of experimental (FT-IR and FT-Raman) and theoretical calculations”	2.098	Q2
5.	Spectrochimica Acta part A Vol.117	2014	“Vibrational spectra and theoretical calculations (Dimerization, UV-Vis, multi-nuclear NMR and PES analyses) of 3,4-dimethylbenzamide and 3,4,5-trihydroxybenzamide”	2.098	Q2
6.	Spectrochimica Acta part A Vol.117	2014	“Synthesis, growth, structure	2.098	Q2

	Acta part A Vol.125		and spectroscopic characterization of a new organic nonlinear optical hydrogen bonding complex crystal: 3-Carboxyl anilinium p- toluene sulfonate”-		
7.	Spectrochimica Acta part A Vol.134	2015	“Vibrational spectroscopic (FTIR and FT-Raman), first- order hyperpolarizability, HOMO, LUMO, NBO, Mulliken charge analyses of 2- ethylimidazole based on Hartree-Fock and DFT calculations”	2.098	Q2
8.	RSC Advances Vol.6	2016	“Experimental (FT-IR and FT- Raman) and spectroscopic investigations, electronic properties and conformational analysis by PES scan on 2- methoxy-5-nitrophenol and 2- methoxy-4-methylphenol	3.84	Q1
9.	RSC Advances Vol.6	2016	“Spectral investigations, Inhibition efficiency analysis and a TD-DFT study on tuning the Light Harvesting Efficiency (LHE) of Heterocyclic 5-Nitro- 1,3-Benzodioxole as a photosensitizer For Dye Sensitized Solar Cells (DSSCs)”	3.84	Q1
10.	Journal of Molecular Structure Vol.1127	2017	“Spectral investigations, DFT based global reactivity descriptors, Inhibition efficiency and analysis of 5- chloro-2-nitroanisole as $\pi$ - spacer with donor-acceptor variations effect for DSSCs performance”	1.78	Q2
11.	Journal of Molecular Structure Vol.1130	2017	“Vibrational, Electronic Absorption, Thermal and Mechanical Analyses of Organic Nonlinear Optical Material Guanidinium Phthalate “	1.78	Q2
12.	Journal of Physical Science Vol.28	2017	“Synthesis, crystal structure and vibrational spectral analysis of guanidinium hydrogen L- aspartate single crystal”	-	Q3
13.	Journal of Physical Science Vol.28	2017	Synthesis, Crystal Growth, vibrational spectral analysis, optical thermal and antimicrobial properties of Guanidinium Oxalate Monohydrate single crystal"	-	Q3
14.	Journal of Molecular Structure	2017	“ Growth, density functional theory (DFT) and spectral studies on L-2-aminobutyric	1.78	Q2

	Vol.1149		acid -Biologically active material”		
15.	Material Science – Poland	2018	Growth, spectral, density functional theory (DFT) and Hirshfeld surface analysis on 4-aminopyridinium adipate monohydrate nonlinear optical single crystal	0.610	Q3
16.	Heliyon	2019	Growth and combined experimental and quantum chemical study of glycyl-LValine crystal-2019, 5(5), e01574	1.667	Q1
17.	Review of Research	2019	Vibrational Spectral Studies, Dft Based Quantum Chemical Parameters And Nonlinear Optical Properties Of 3-Dimethylaminoanisole As Pi-Spacer With Donor And Acceptor Variations Effect For Dye-Sensitized Solar Cells Enactment-	5.7631	-
18.	International Journal of Scientific & Engineering Research	2017	Ab initio and density functional study of barrier heights of methyl group torsion and hyperconjugation in 1,2,3,5-tetramethylnaphthalene	4.2	-
19.	International Journal of Scientific & Engineering Research	2017	A Complete Theoretical Study Of Indirubin-A Blue Dye For Dye Sensitized Solar Cells (DSSCs) Applications		-
20.	Journal of the Iranian Chemical Society	2020	FT-IR and FT-RAMAN analysis and Light harvesting efficiency (LHE) enhancement for DSSC applications of hydrazide derivatives	1.552	Q2
21.	Asian Journal of Chemistry	2021	Synthesis, DFT and Bio-Potential Activities of Mn(II) and Hg(II) Complexes with Bidentate (E)-N'[(E)-3-Phenylallylidene]benzene-1,2-diamine ;	4.056	-
22.	Results in Chemistry	2021	Density functional theory study on the electronic structures and spectral properties of 3,5-Dimethylanisole dye sensitizer for solar cell applications	-	-

### 13. Details of Papers Presented:

S.No	Date	Organizer	Name of the Seminar	Paper Title
1.	07.01.2010 -09.01.2010	Department of Physics, Women's Christian College, Nagarcoil-629 001	National Conference on Recent and Emerging Developments in Physics	FT-Raman and FTIR spectra, Assignments and Density Functional Theory Calculations
2.	22.09.2010 -24.09.2010	Department of Physics, Annamalai University, India.	International conference on Recent Frontiers in Applied Spectroscopy ICORFAS-2010)	Molecular structure and Vibrational Spectra of 1-Bromo-2,3-Dichlorobenze By ab initio and density functional
3.	14 <sup>th</sup> Feb, 2011	Bishob Heber college, Trichy	National conference On "Perspectives in laser, optics, spectroscopy and nanoscience (NCLOS2011)	A quantum chemical study of 3-bromo-o-xylene
4.	14 Jan 2012	Pachaiappa's college, Chennai	National conference on Spectrophysics	Monomeric and Dimeric Structures Expolaration and photophysical properties of 2-methyl-4-nitroanisole
5.	7 <sup>th</sup> - 9 <sup>th</sup> Aug-2012	Bishop Moore College, Mavelikara, Alappuzha, Kerala-690 110	International Conference on Molecular Spectroscopy of Advanced Materials and Biomolecules	FT-IR and FT-Raman Spectral Investigations, Conformational Stability, <sup>13</sup> C and <sup>1</sup> H NMR, UV-VIS, HOMO and LUMO, First-Hyperpolarizability and NBO Analyses of 5-chloro-2-nitroanisole by <i>Ab Initio</i> and Density Functional Method"
6.	07.01.2017	Holy Cross College, Trichirappalli.	International Conference on Advances in Material Science (ICAMS-2017)	1. Ab initio and density functional study of barrier heights of methyl group torsion and hyperconjugation in tetramethylnaphthalene 2. A complete theoretical study of indirubin-a blue dye for dye sensitized solar cells (dsscs) applications

7.	29.01.2018	Bishop Heber College, Trichirappalli	International Conference on Material Science(ICOM-2018)	New Charge Transport Materials Designing With Donor Variations For Dye Sensitized Solar Cells (DSSCS) Applications
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#### 14. Details of Seminars / Conferences / Workshops Attended:

Year & Date	Organizer	Title	National / International	Topic
18.3.2012	Pachaiyappa's College Indian Spectrophysics Association(ISPA)	National Conference on Spectrophysics	National	Spectrophysics
21.11.2012-23.11.2012	Bishop Heber College, Trichirappalli.	Enhancing Teaching Skills	National	Enhancing Teaching Skills Workshop
6.8.2013-7.8.2013	Government Arts College For Women, Pudukkottai Science	National Conference on Perspectives in Material	National	Perspectives in Material
06.02.2017 & 7.02. 2017	Periyar EVR college- Trichirappalli	Science Academies' Lecture workshop	-	Quantum Mechanics
13.10.2017 – 16.10.2017	Anna University, IIT Madras	India International Science Festival - 2017	International	Science Festival - 2017
29.10.18 - 02.11.18	Cauvery College for Women, Trichirappalli -18.	Capacity Building workshop On E- Content Development	-	E- Content Development
20.12.2018	Cauvery College for Women, Trichirappalli.	Microsoft (one note, Innovation Educator)	-	One note Innovation
15.03.2022-17.03. 2022	Department of Physics, Bishop Heber College,Trichy	workshop	-	Material Characterization Data Analysis using Rietveld Refinement, XPS and DFT

#### 15. Details of Orientation / Refresher Course Attended:

Date	Title of the Course	Organizer
21.06.04 - 18.07.04	Orientation	UGC Academic staff college,Bharathidasan University

**16. Details of Study Materials / Books written and published:**

<b>Title of book</b>	<b>Publisher</b>	<b>ISBN</b>
5-chloro-2-nitroanisole as $\pi$ -spacer with D-A variations for DSSCs - Online book	LAMBART Academic	978-3-659-96826-6

**17. Details of Incharge / Participation in Extracurricular Activities :**

( NSS, NCC, Sports, Games, Voluntary Association and Cultural Activities):

<b>Nature of Activity</b>	<b>Period of Incharge</b>
HALE BOPP CLUB INCHARGE	2012-2013
Sports Incharge	2012-2013,,2014-2015,2016-2017,2018-2019
Cultural Incharge	2011-2012,2013-2014,2015-2016,2017-2018

**18. (a) Research Projects**

<b>Year</b>	<b>Funding Agency</b>	<b>Title of the project</b>
2017-2019	UGC	Analysis of light harvesting efficiency (LHE) of dyes for Dye Sensitized Solar cells (DSSCs) using TD-DFT studies with the support of FTIR and UV-VIS spectra.
2021-2022	TNSCT	DFT study on light harvesting efficiency of organic dyes for dye-sensitized solar cells(DSSCs)
2021-2022	UGC-DAE-CSR	Growth and Characterization of amino acid controlled crystals supported by DFT study

(b) **Fellowship:** INSA-IASc-NASI Summer Research Fellowship -2021