

PROFILE



Name : M.ARULMOZHI
Designation : Associate Professor
Department : Physics
Date of Birth : 01.06.1970
Date of Appointment : 22.06.1998

CONTACT DETAILS

Present address : 15-3-4, Varadharajanar Street,
Thamaraikulam, Periyakulam – 625 605.
Permanent address : 15-3-4, Varadharajanar Street,
Thamaraikulam, Periyakulam – 625 605.
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ACADEMIC QUALIFICATIONS:

S. No.	Degree	University/Institution	Year of Completion
1.	B.Sc.	Fatima College, Madurai.	1990
2.	M.Sc.	Fatima College, Madurai.	1992
3.	PGDCA	Madurai Kamaraj University	1996
4.	Ph.D.	Madurai Kamaraj University	2001
5.	CYP/HRD Diploma in “Youth in Development Work”	Annamalai University	2007
6.	Certificate Course in “Computer Maintenance and Hardware”	Jayaraj Annapackiam College for Women (Autonomous), Periyakulam.	2009
7.	Online Course in “Physics of Semiconductors”	Indian Institute of Technology, Kanpur.	2017

Total Experience : UG - 23 years
PG - 14 years

M.Phil. - 11 years

Ph.D. - 6 years

Area of Specialization : Condensed Matter Physics

Academic achievements :

- First rank in B.Sc Physics at Fatima College, Madurai in 1990.
- Third rank in B.Sc Physics at Madurai Kamaraj University in 1990.
- First rank in M.Sc Physics at Fatima College, Madurai in 1992.
- Qualified in CSIR/UGC National Eligibility Test for Lecturership/JRF held in December 1991.
- Qualified in SLET (State Level Eligibility Test for Lecturership) held in March 1997.
- Second rank in Certificate Course in Computer Maintenance and Hardware at Jayaraj Annapackiam College for Women (Autonomous), Periyakulam in 2009.
- Qualified in SET (State Eligibility Test for Assistant Professor – SET 2017) held in April 2017.

Academic Affiliation

- NSS Programme Officer (2006 - 2009)
- IQAC Co-ordinator (2009 - 2014)
- Press & Notice Board In-charge (2014 - 2015)
- Staff Advisor of Current Events Club (2015 - 2016)
- Member Secretary of JACSAFA (2016 - 2018)
- Dean of Research (2018 - till date)

Professional Affiliation

- Member of the Board of Studies in Physics of Jayaraj Annapackiam College for Women (Autonomous), Periyakulam since 2004.
- Member of Women Physicists' Association of Mother Teresa Women's University, Kodaikanal since 2004.
- Life Member of Indian Association of Physics Teachers since 2007.
- Member of the Board of Studies in Physics of Fatima College (Autonomous), Madurai during 2012-'14.
- Life Member of Indian Science Congress Association since 2014.
- Life Member of The Indian Physical Society since 2016.
- Member of the Doctoral Committee for Ph.D. Programme of Physics at the Gandhigram Rural Institute since 2016.
- Life Member of Indian Physics Association since 2017.

RESEARCH EXPERIENCE

Projects Undertaken

Minor Project

Title of the Project : Studies on external perturbations in nanoquantum wells
Funding Agency : UGC
Period : 2007-2009
Amount Sanctioned : Rs. 65,000/-

Major Project

Title of the Project : Investigations on excitons in nanostructures
Funding Agency : UGC
Period : 2013-2017
Amount Sanctioned : Rs. 12,82,480/-

Research Guidance

- Approved Guide of Madurai Kamaraj University, Madurai for M.Phil. (Part Time). M.Phil.(guided) - Part time - 4
M.Phil. (guided) - Full time - 6 (in the College)
- Approved Guide of Mother Teresa Women's University, Kodaikanal for Ph.D.
Ph.D. (Completed) - 1
Ph.D. (guiding) - 2 (1 Full time + 1 Part time)

VISITS ABROAD

1. Delivered a talk on "Studies on semiconductor quantum wells" in the Colloquim of Departmente de Fisica, Universidad de los Andes, Bogota D.C, Colombia, South America on 15.09.2003.
2. Participated in "The Big Hope 2 – Youth Leaders Congress" at Liverpool Hope University, United Kingdom from 13.06.2018 to 20.06.2018.
3. Delivered a talk on "Dynamics of Donors and Excitons in Low Dimensional Systems" in the International Conference on Advances in Physical Sciences at Asian Institute of Technology Conference Center, Bangkok, Thailand on 27, 28.05.2019.
4. Participated in the International Workshop on Advanced Practices in Research Methodology at Dvaree Jomtien Conference Center, Chon Buri, Thailand on 29, 30.05.2019.

PAPER PUBLICATIONS

1. Binding energy of the hydrogenic donor and that of a Wannier exciton in the $|z|^{2/3}$ quantum well

Physical Review B 51(4), 2592-2595, 1995.

ISSN: 2469-9950. Impact factor: 3.836. H-index: 354.

SNIP: 1.000. SJR: 1.939.

Database: SCOPUS, CAS, Current Physics Index, Electrical & Electronics Index, Energy Research Abstracts, GeoRef, INSPEC, International Aerospace Abstracts, Mathematical Reviews etc.

2. Effect of magnetic field on the binding energy of hydrogenic donor in the $|z|^{2/3}$ quantum well
Physica Scripta 54, 651-656, 1996.
ISSN: 0031-8949. Impact factor: 1.28. H-index: 63
SNIP: 0.472. SJR: 0.366.
Database: Scopus, Inspec, CAS, Compendex, GeoRef, INIS Atom index (International Nuclear Information System), MathSciNet, NASA Astrophysics Data System etc.
3. Electron states in a rectangular quantum well with a tilted magnetic field
Physica Scripta, 60, 469-473, 1999.
ISSN: 0031-8949. Impact factor: 1.28. H-index: 63
SNIP: 0.472. SJR: 0.366.
Database: Scopus, Inspec, CAS, Compendex, GeoRef, INIS Atomindex (International Nuclear Information System), MathSciNet, NASA Astrophysics Data System etc.
4. Donor binding energies in nanoquantum wells with external perturbations
Oriental Journal of Physics, 4 (1), 7 – 15, 2012.
ISSN: 0973-5852
5. Higher Education – Present Scenario and Challenges
Ahead New Frontiers in Education, Vol. 45, No-1, 3 – 7,
2012. ISSN: 0972-1231
6. Electron-hole transition energies in $|z|^{2/3}$ quantum well –Matching in the middle method
International Journal of Physics and Mathematical Sciences, 3 (1), 7 – 12, 2013.
ISSN: 2277-2111 (Online); ICV: 5.69
Database: Google Scholar, Index Copernicus, Open J Gate etc.
7. Investigations on quality and osmotic pressure of water at Periyakulam, Theni District
JAC Journal of Science, Humanities and Management, 1 (1), 40-48, 2013.
ISSN: 2347 – 9868
8. Theoretical investigations on the properties of quantum nanostructures dependent on Density of States
Journal of NanoScience and NanoTechnology, 2(1), 83 – 86, 2014.
ISSN: 2279 – 0381

9. Excitons in a Surface Quantum Well
Superlattices and Microstructures, 75, 222 – 232, 2014.
ISSN: 0749-6036; Impact factor: 1.979; SNIP: 1.075; SJR: 0.745
Database: Academic Onefile, Academic Search Complete, Academic Search Premier, Compendex, Inspec, Scopus, Web of Science, Zetoc
10. Wavelengths of substances by Photoelectric effect
JAC Journal of Science, Humanities and Management, 1 (2), 19 – 26, 2014.
ISSN: 2347 – 9868
11. Magnetic field effects on exciton binding energy in a near triangular quantum well
International Journal of ChemTech Research, Vol. 7, No. 3, 1438-1444, 2015.
ISSN: 0974-4290; H index: 23; SNIP: 0.598. SJR: 0.175
Database: SCOPUS, Index Copernicus, DOAJ, MAPA, CAS, EMBASE etc.
12. A Comparative Study on the properties of ZnO and ZnS nanoparticles
International Journal of ChemTech Research, Vol. 9, No. 3, 308-315, 2016.
ISSN: 0974-4290; H index: 23; SNIP: 0.598. SJR: 0.175
Database: SCOPUS, Index Copernicus, DOAJ, MAPA, CAS, EMBASE etc.
13. Effect of Temperature on exciton binding energy in ZnSe/Zn_{1-x}Mg_xSe quantum well with Pöschl-Teller potential,
International Journal of ChemTech Research, Vol. 9, No. 8, 298-304, 2016.
ISSN: 0974-4290; H index: 23; SNIP: 0.598. SJR: 0.175
Database: SCOPUS, Index Copernicus, DOAJ, MAPA, CAS, EMBASE etc.
14. A Comparative Analysis of the properties of Zinc Oxide (ZnO) nanoparticles synthesized by Hydrothermal and Sol-gel methods
Indian Journal of Science and Technology, Vol. 9, No. 40, 1-6, 2016.
DOI:10.17485/ijst/2016/v9i40/92696. H-index: 22.
SNIP: 0.804. SJR: 0.27. ISSN: 0974-6846
Database: SCOPUS, CAS, Ebsco, DOAJ, NISCAIR, Index Copernicus etc.
15. A Case for Applied Education today
JAC Journal of Science, Humanities and Management, Vol. 4, No. 1, 22-25, 2016.
ISSN: 2347 – 9868
16. Exciton binding energy in a corner of CdTe/Cd_{1-x}Mn_xTe
JAC Journal of Science, Humanities and Management, Vol. 4, No. 1, 101-110, 2016.
ISSN: 2347 – 9868
17. Excitonic susceptibility in near triangular quantum wells
Indian Journal of Physics, Vol. 91, No. 3, 287-292, 2017.

- DOI:10.1007/s12648-016-0924-8. Impact factor: 1.166. H-index: 21.
SNIP: 0.801. SJR: 0.401. ISSN: 0973-1458
Database: SCOPUS, CAS, Academic Onefile, Google Scholar, INSPEC, SCImago etc.
18. Simultaneous effects of pressure and temperature on excitons in Poschl-Teller quantum well
International Journal of Modern Physics B, Vol. 31, No. 8, 1750050(1)-1750050(13), 2017.
DOI:10.1142/s0217979217500503. Impact factor: 0.85. H-index: 58.
SNIP: 0.348. SJR: 0.338. ISSN: 1793-6578
Database: SCOPUS, CAS, Ebsco, JCR, Science Citation Index, Google Scholar etc.
19. Effects of Dielectric Screening Function and Image Charges on hydrogenic donor
binding energy in a Surface Quantum Well
Journal of Physical Science, Vol. 28, No. 1, 73-85, 2017.
DOI: 10.21315/jps2017.28.1.6. H-index: 6. SNIP: 0.598. SJR: 0.196.
ISSN (Print): 1675-3402. ISSN (Online): 2180-4230.
Database: SCOPUS, CAS, DOAJ, ProQuest, Ebsco, ACI, ROAD etc.
20. Photo-ionization Cross-Section and Binding Energy of Exciton in a Parabolic Quantum Well
International Research Journal of Engineering and Technology, Vol. 04, Special Issue: 09, 197-
204, 2017.
e-ISSN: 2395-0056. p-ISSN: 2395-0072
21. Effect of spatially dependent effective mass and non-parabolicity on hydrogenic impurity
binding energy in a near triangular quantum well
International Research Journal of Engineering and Technology, Vol. 04, Special Issue: 09, 308-
311, 2017.
e-ISSN: 2395-0056. p-ISSN: 2395-0072
22. Exciton binding energy in a pyramidal quantum dot
Pramana-J.Phys. Vol. 90:57, 1-6, 2018.
Impact factor: 0.699. H-index: 43. SNIP: 0.320. SJR: 0.214
ISSN: 0304-4289 (print). e-ISSN: 0973-7111 (online)
Database: SCOPUS, SciSearch, INSPEC, CAS, ADS, INSPIRE etc
23. Polarizability of Exciton in Surface Quantum Well
Journal of Physical Science, Vol. 30(1), 33-45, 2019.
H-index: 6. SNIP: 0.598. SJR: 0.196.
ISSN (Print): 1675-3402. ISSN (Online): 2180-4230.
Database: SCOPUS, CAS, DOAJ, ProQuest, Ebsco, ACI, ROAD etc.

PAPER PRESENTATIONS: 40

SEMINARS, CONFERENCES, SYMPOSIA ORGANIZED

- Organizing Secretary for the National Conference on “Quality and Relevance in Higher Education – New Challenges” in 2008-'09.
- Convener of the UGC sponsored National Seminar on “Human Rights” in 2010-'11.
- Convener of the UGC sponsored National Conference on “Recent Trends in Physics” in 2017-'18.

SEMINARS/CONFERENCES/WORKSHOPS PARTICIPATED: 38

RESOURCE PERSON:

- Special Lecture on “Basic Physics” in “Summer Science Awareness Camp” at Jayaraj Annapackiam College for Women (Autonomous), Periyakulam on 15.05.2008.
- Talk on “Nanotechnology – an overview” in “Inservice training Programme for Secondary Grade Science Teachers” at Jayaraj Annapackiam College for Women (Autonomous), Periyakulam on 08.01.2009.
- Special Lecture on “Internet – a tool for research” in 5 day Summer Science Awareness Camp - “Hands on Training in Information Technology at Jayaraj Annapackiam College for Women (Autonomous), Periyakulam on 29.06.2009.
- Special Lecture on “Physics in everyday life” in the Science Awareness Programme for talented rural school students in Theni District at Jayaraj Annapackiam College for Women (Autonomous), Periyakulam on 05.02.2010.
- Guest Lecture on “Female Nobel Laureates” in the Physical Science Association, St. Anne’s College of Education, Periyakulam on 09.03.2011.
- Inaugural address in "PHYIONICS - 2011", an Intercollegiate Meet at NMS Sermathai Vasan College for Women, Madurai on 10.08.2011.
- Valedictory address in "IT GALAXY '13" of the Department of Computer Science at Jayaraj Annapackiam College for Women (Autonomous), Periyakulam on 06.09.2013.
- Moderator of the Panel Discussion on "Marriage is the basic institution which builds the society successfully" in the History Association meeting at Jayaraj Annapackiam College for Women (Autonomous), Periyakulam on 09.09.2014.
- Inaugural address in "PHYNIX 2015" at Mangayarkarasi College of Arts & Science for Women, Madurai on 29.07.2015.
- Guest lecture on "Contribution of Mathematicians in various fields" in the Department of Mathematics, Jayaraj Annapackiam College for Women (Autonomous), Periyakulam on 08.01.2016.
- Guest lecture on "Innovative Teaching Methods using New Technologies" in the State level Conference on "Challenges for Quality Teacher Education in the Present Scenario" at St. Anne's B.Ed. College for Women, Periyakulam on 27.02.2016.

- Guest lecture on "Revolutionary contributions in quantum physics" at VVV College for Women (Autonomous), Virudhunagar on 14.07.2016.
- Inaugural address in "PHYIONICS - 2016", an Intercollegiate Meet at NMS Sermathai Vasan College for Women, Madurai on 10.08.2016.
- Talk on "Atomic and Nuclear Physics" in the "TNSCST Inservice Training Programme for Secondary Grade Science Teachers at Jayaraj Annapackiam College for Women (Autonomous), Periyakulam on 28.08.2017.
- Guest Lecture on "Physics in Daily Life" in the Physics Association of Thiravium College of Arts & Science for Women, Periyakulam on 15.12.2017.
- Invited talk on "Birth of Quantum Physics" in the Physics Association Meeting at Arul Anandar College (Autonomous), Karumathur, Madurai on 15.02.2018.
- Guest Lecture on "Motivation and Preparation for NET/SET Examinations" organized by Minority Cell at Jayaraj Annapackiam College for Women (Autonomous), Periyakulam on 01.03.2018.
- Resource person in Crash Course on Cracking UGC- NET/JRF Examination, Exclusive Focus on Paper I conducted by JAC NET/SET Coaching Wing on September 28th & 29th September 2019.

Books Published / Edited

- Co-author of the book on "Practical Physics" - 2007-'08.
- Co-author of the book on "NSS" - 2008-'09.
- Co-author of the II Edition of the book on "Practical Physics" – 2015-'16.
- Co-editor of the Proceedings of the National Conference on "Recent Trends in Physics and Materials Research" at Jayaraj Annapackiam College for Women (Autonomous), Periyakulam during 04, 05 .02.2016.

Course Material Prepared

- II UG Students (Foundation Course) – A Chapter in "Social Education" – 2005-'06.
- Non-major Elective course on "Astronomy and Astrophysics" – 2015-'16.

Awards and Recognition

- Best Paper Presentation in the National Conference on "Advanced Functional Materials (NCAFM 2008) at SRM University, Kattankulathur on 15 & 16.02.2008.
- Mock Peer Team Member for Re-accreditation by NAAC at Yadava College, Thiruppalai, Madurai on 26.02.2010.
- Member of External Question Paper Validation Committee at Lady Doak College, Madurai on 27.03.2010.

- Member of the Expert Committee for the discussion session on “Motivation to students towards research” in the National Level Seminar on “Recent Trends in Physics” at SFR College for Women, Sivakasi during 29 & 30.12.2010.

- Member of the Staff Recruitment Committee at St. Anne's College of Education, Periyakulam on 19.07.2012.
- Judge for "Puthiya Thalaimurai Aayudham Seivom's "Veetuku Oru Vingnaani 2012" Science Fest at T. M. H. N. U. Matriculation Higher Secondary School, Muthudevanpatti, Theni 27.07.2012.
- Steering Committee Co-ordinator, NAAC Peer Team Visit at Jayaraj Annapackiam College for Women (Autonomous), Periyakulam during 13.03.2014 to 15.03.2014.
- Chair person for Session - II of Paper Presentation in the UGC Sponsored National Seminar on "Ranking the Research Publications: Citation analysis, Citation databases and Anti-plagiarism" at Jayaraj Annapackiam College for Women (Autonomous), Periyakulam during 27, 28.01.2016.
- Chair person for Paper Presentation session in the UGC Sponsored National Conference on "Recent Trends in Physics & Materials Research" at Jayaraj Annapackiam College for Women (Autonomous), Periyakulam during 04, 05.02.2016.
- Member of the Doctoral Committee for the Ph.D. Programme of Ms. I. Janet Sherly, Department of Physics, Gandhigram Rural Institute - Deemed University.
- Judge for "Arts & Science Exhibition" at Seventh Day Adventist Matric. Hr. Sec. School, Periyakulam on 13.11.2016.
- Jury for "Silk Cotton Princess" competition in "Fine Arts 2k16" at Jayaraj Annapackiam College for Women (Autonomous), Periyakulam on 16.12.2016.
- Jury for "Hair do" competition in "Fine Arts 2k17" at Jayaraj Annapackiam College for Women (Autonomous), Periyakulam on 14.12.2017.
- Jury for "Short film" competition in "Fine Arts 2k17" at Jayaraj Annapackiam College for Women (Autonomous), Periyakulam on 16.12.2017.
- Subject Expert in the Board of Studies (UG) at V. V. Vanniaperumal College for Women (Autonomous), Virudhunagar on 07.06.2018.
- Talk on "Revolutionary transitions of Physics in the 19th Century" in the Workshop organized by Department of Mathematics, Physics and Chemistry at Mary Matha College, Periyakulam on 20.07.2018.
- Talk on "Physics in our day-to-day life" in the One Day State level seminar on "Recent Trends in Nanoscience & Nanotechnology" at St. Antony's College of Arts & Sciences for Women, Dindigul on 18.09.2018.
- Jury for "Short film" competition in "Fine Arts 2k18" at Jayaraj Annapackiam College for Women (Autonomous), Periyakulam on 14.12.2018.
