CURRICULAM VITAE

Dr.M.RAJA, M.Sc, Ph.D, PDF (NTU, Taiwán)

E.mail: phdstarraja@gmail.com
Mobile No : +91- 9123540349

Current Position:

Assistant Professor
Department of Physics
Rajapalayam Rajus' College, Rajapalayam,
Virudhunagar District, Pin-626117, Tamilnadu, India.

Education:

Name of Degree	Subject/Branch	Year	Rank/Class	University
PDF	**Spintronics/Thinfilms**	**2009-2010**	**Indo-Taiwan Merit Fellowship**	**National Taiwan University,Taiwan**
Ph.D	**Physics**	**2003-2008**	**Highly Commended**	**Alagappa University, India**
M.Sc	**Physics**	**2000-2002**	**Gold Medal/Ist Class**	**Alagappa University, India**
B.Sc	**Physics**	**1997-2000**	**First Class**	**Madurai Kamaraj University,India**

Research Guidance:

Ph.D Completed : 02
M.Phil completed : 09
M.Sc completed : 17
B.Tech completed : 05

Research Experience:

- Total no of years:**20 years**
- 2015-till now **,** Rajapalayam Rajus' College,
  Rajapalayam,Virudhunagar District, Pin-626117, Tamilnadu, India.
- 2010-2015 –**,** Dept of Physics, Kalasalingam University, Krishnankovil, India.
- 2009-2010: ***Postdoctoral Fellow***, Dept of Physics, NTU, Taiwan.
- 2003-2008: ***Research Scholar***,Thinfilm Lab, Dept of Physics, Alagappa University,Karaikudi-3,India.
- 2005-2006: ***AURF Fellow***, Dept of Physics, Alagappa University,India.
- 2002-2003: ***Project Assistant***, Dept of Physics, Alagappa University,India.
- 2001-2002: ***Project Student***, Melt Growth Lab,Crystal Research Centre, Dept of Physics, Alagappa University,India.

Teaching Experience:

- Total no of years:**16 years**
- 2015-till now –**Assistant Professor,** Rajapalayam Rajus' College,
  Rajapalayam,Virudhunagar District, Pin-626117, Tamilnadu, India.
- 2010-2015 : ***Assistant Professor***, Department of Physics,
  Kalasalingam University, Krishnankoil- 626126,
  India.
- 2008-2009 **:*Assistant Professor,*** Department of Physics, R.V.S College of Engineering, Dindigul, Tamilnadu,India.
- 2006-2007 : ***Guest Faculty*** for P.G students, Dept of Physics, Alagappa University,India.

- 2004-2005 : ***Guest Faculty*** for P.G students, Dept of Physics, Alagappa University,India

Awards and Fellowships:

- **Gold medal** in MSc (Physics) for standing 1st rank in Alagappa University (2002).
- **Postdoctoral Fellowship**, Centre for Nano Storage and Spintronics, Dept of Physics, NTU, Taiwan (2009-2010).
- **Alagappa University Research Fellowship (AURF)** in the year 2005 -2006.
- **P.M.T &V.O.C Merit Scholarship** in M.Sc Physics for excellence in the year (2001-2002).

Research Profile:

1. **Google Scholar: Citations-607, h-index-12, i10- index-12**
2. **Scopus: Citations-374, h-index-10**
3. **Web of Science: Citations-401, h-index-11**
4. **Research Gate: R.I. score-282.4, Citations-477, h-index-12**

Conference Organized:

International :01

Title : International conference on Advanced Materials and its Applications (ICAMA)-2012 (Active Member)

National:03

1. National Conference on "Technological Important Crystalline and Amorphous Solids" (TICAS-2014), (Active Member)
2. National Conference on "Technological Important Crystalline and Amorphous Solids" (TICAS-2013), (Active Member)
3. National Conference on "Technological Important Crystalline and Amorphous

Solids" (TICAS-2012), (Active Member)

No of Webinars Organised: 5

Research Interests:

- Thin Film Technology (Magnetic Materials (Multi-layer, GMR, TMR) Semiconductors and Solar Cells)
- Nano Science and Technology
- Crystal Growth
- Spintronics (Magnetic-Semiconductor-Organic-Spintronics)
- Composite Materials (MMC, PMC and CMC)
- Polymer Technology

Technical Expertise:

- **Characterization Techniques**:

  X-Ray Diffraction (XRD)

  Transmission Electron Microscopy (TEM)

  Scanning Electron Microscopy (SEM)

  Atomic Force Microscopy (AFM)

  Energy Dispersive Analysis of X-Rays (EDAX)

  X-Ray Photo Electron Spectroscopy (XPS)

  Vibrating Sample Magnetometer (VSM)

  UV-VIS-near IR (Transmission and Absorption)

  Electrochemical (CV, LSV)

  Photoelectrochemical Solar Cell studies.

- **Thin Film Fabrication:**

  Multi-Gun-Sputtering

  Vacuum coating

Electrodeposition

Electroless deposition

Spray pyrolysis

Coating

SILAR method

- **Crystal Fabrication:**

  Czochralski Crystal pulling Technique

  Bridgman Technique

  Solution Growth

  Sankaranarayanan-Ramasamy Method.

- **Nano particle Fabrication:**

  Hydro thermal growth

  Wet chemical growth

  Solid State Reaction Method.

Publications:

International Journals:

S. NO.	Authors	TOPIC	JOURNAL NAME	VOLUME AND PAGE NO.	YEAR
1.	T. Mahalingam, V.S. John, **M. Raja**, Y.K. Su and P.J.Sebastian	*Solar Energy Materials and Solar Cells*	Electrodeposition and Characterization of transparent ZnO thin films	2005, 88, 227	2005
2.	R. Chandramohan, A. Kathalingam, K. Kumar, **M. Raja**, D. Kalyanaraman and T.Mahalingam,	*Proc.INCO SURF*	Studies on Nitrogen Ion Implanted CdSe Semiconductor Thin Films	2004, 359.	

3.	R.Chandramohan, L.-S. Hsu, S.Thanikaikarasan, **M.Raja**, K.Kumar, T. Mahalingam.	*Proc.Materials and Nanostructures*	Growth of ZnCdSe Semiconductor thin films for opto- electronic applications..	2006,6029,145	2005
4.	Mahalingam, S. Thanikaikarasan, **M. Raja**, C.Sanjeeviraja, Soonil Lee, Yong Deak Kim, Hosun Moon and P.J.Sebastian.	*J. New Materials for Electrochemical Systems.*	T Studies on electrochemically grown Cd-Fe-Se thin films.	2007, 10, 33.	2007
5.	Mahalingam, **M.Raja,** S. Thanikaikarasan, C. Sanjeeviraja, S.Velumani, H. Moon and Y. D. Kim,	Materials Characterization	T. Electrochemical deposition and characterization of Ni–P alloy thin films.	2007, 58, 800.	2007
6.	halingam, S. Velumani, **M. Raja,** S. Thanikaikarasan, J.P. Chu, S.F. Wang and Y.D. Kim.	Materials Characterization	T. Electrosynthesis and characterization of lead oxide thin films.	2007, 58, 817.	2007
7.	. T.Mahalingam, S. Thanikaikarasan, R. Chandramohan, **M. Raja,** C.Sanjeeviraja, J-Ho Kim and Yong Deak Kim.	*Materials Chemistry and Physics,*	T Effects of bath temperature in electrodeposited $FeSe_2$ thin films,	2007 106, 369.	2007
8.	Kyung Seek Lew, **M. Raja,** S.Thanikaikarasan, Taekyu Kim, Yong Deak Kim and T. Mahalingam	Materials chemistry and Physics	Effect of pH and current density in electrodeposited Co-Ni-P alloy thin films *Materials*	2008,112, 249.	2008
9.	S.Thanikaikarasan, T.Mahalingam, **M.Raja,** Taekyu Kim, Yong Deak Kim.	*J.Materials Science: Materials in Electronics*	Characterization of electroplated FeSe thin films ..	2008, DOI 10.1007/s 10854-008-9794-y, 20 (727-734)	2009
10.	John H. Kim, **M. Raja**, S. T hanikaikarasan, Yong Deak Kim, S.R. Srikumar and T. Mahalingam	***Applied Surface Science***	Effect of NaCl concentration in electrodeposited Co–P alloy thin films	2009,*255 6540-6544.*	2009
11.	T. Mahalingam, K.	*Advanced*	Effect of pH on composition, structure and	2009, 68, 52-59.	2009

	Sundaram, S.Velumani, **M.Raja**, S. Thanikaikarasan, Yong Deak Kim and Rene Asomoza	*Materials Research*	magnetic properties of electrodeposited Co-Ni alloys		
12.	5. T. Mahalingam, S. Thanikaikarasan, K. Sundaram, M**. Raja** and Jin-Koo Rhee	***Journal of New Materials for Electrochemical systems***	Electrochemical Deposition and Characterization of Lead Telluride Thin Films	**2010**,13 (35-39)	2010
13.	M**. Raja**, K. Sundaram, V. Dhanasekaran, Soonil Lee, Han-jo Lim, T. Mahalingam	*AIP Conf. Proc.*	Structural and Magnetic Properties of Electrodeposited Co-Ni-P Alloy Thin Films	2011, 1349, 763-764.	2011
14.	K.Sundaram, **M.Raja**, S.Thanikaikarasan, J.P.Chu, T.Mahalingam	Materials Science-Poland	Role of pH and current density in electrodeposited soft magnetic CoNi-Fe alloy thin films	29 (2011) 165-170.	2011
15.	K. Sundaram, V. Dhanasekaran, T. Mahalingam, M**. Raja**, Takeyu Kim, Yong Deak Kim	*AIP Conf. Proc.*	Current Density Effects on the Structural and Magnetic Properties of CoNiFe AlloyThin Films	2011,1349, 781-782	2011
16.	S.Thanikaikarasan, M.Raja, Soonil Lee and T.Mahalingam	Material Science in Semiconductor Processing	Electrochemical growth and characterization of iron doped cadmium sulfide thin films	37 (215-222)	2015
17.	V. Siva, S. Suresh Kumar, M. Suresh**, M. Raja,** S. Athimoolam, S. Asath Bahadur.	Journal of Molecular Structure	N-H…O hydrogen bonded novel nonlinear optical semiorganic crystal (4-methoxyanilinium trifluoroacetate) studied through theoretical and experimental methods	1133 (2017) 163–171	2017
18.	A. Shameem, P. Devendran, V. Siva, **M. Raja,** A. Manikandan, S. Asath Bahadur	Journal of Inorganic and Organometallic Polymers and Materials	·Preparation and Characterization of Nanostructured CdO thin films by SILAR method for Photocatalytic Application	27 (3) (2017), 692–699.	2017
19.	V. Siva, A. Shameem, S. Suresh Kumar, **M. Raja,** S. Athimoolam, S. Asath Bahadur.	Journal of Material Science: Materials in	Structural, spectral, Quantum chemical and thermal studies on a new NLO crystal: Guanidinium Cinnamate	28(17), (2017), 12484–12496.	2017

		Electronics .			
20.	Siva Vadivel, Asath Bahadur Sultan, Shameem Abdul Samad, Athimoolam Shunmuganarayanan, **Raja Muthu**	Chemical Physics Letters	Synthesis, structural elucidation, thermal, mechanical, linear and nonlinear optical properties of hydrogen bonded organic single crystal guanidinium propionate for optoelectronic device application.	2018;707:165–171.	2018

Invited Talks:

- **"Spintronics"-** Dept of Physics,Sri Sevugan Annamalai College,Devakottai- 630 003.Sep-14,2011.
- **"Magnetic Thinfilms for Memory Devices"-** SFR college of arts and science,Sivakasi.Aug-20,2011.
- **"Global Warming and Climate Change"** – NSS Camp, Rajapalayam Rajus' College,Nagercoil, Sep-20, 2019.

Total number of International and national level Workshop/ FDP/Webinars/Conferences Participation: 236

International Conferences:

1. **M.Raja**, K. Sundaram, V. Dhanasekaran, Soonil Lee, Han-jo Lim, T. Mahalingam"Structural and Magnetic Properties of Electrodeposited Co-Ni-P Alloy Thin Films"DAE - Solid State Symposium – December 2010.

2. K. Sundaram, V. Dhanasekaran**,** **M.Raja**, R. Chandramohan, S.R. SrikumarT. Mahalingam "Characterization of electrodeposited Co-Ni-Fe alloy thin films for memory devic***e"*** Advanced Materials and its applications (ICAMA-2011) 820-827ISBN: CORP-000187, Macmillan Advanced Research series.

3. K. Sundaram, V. Dhanasekaran, T. Mahalingam, **M.Raja**, Takeyu Kim, Yong Deak Kim"Current Density Effects on the Structural and Magnetic Properties of CoNiFe Alloy Thin Films"DAE - Solid State Symposium – December 2010.

4. T.Mahalingam, **M.Raja,** S.Thanikaikarasan, C.Sanjeeviraja, Hosun Moon, Yong Deak Kim and S.Velumani**.** "Electrochemical deposition and characterization of Ni-P alloy thin films"; Symposium 7, Materials Characterization, P.117, IMRC-2005, ISBN 968 863 8161, Cancún, México.

5. T.Mahalingam, S.Velumani, **M. Raja**, S.Thanikaikarasan, J.P.Chu, S.F.Wang and Yong Deak Kim, "Electrosynthesis and characterization of lead oxide thinfilms", Symposium 7, Materials Characterization, p.126, IMRC-2005, ISBN 968 863 8161, Cancún, México.

6. T.Mahalingam, **M.Raja**, Homero Castaneda, P.J. Sebastian and S.Velumani, "Preparation and Characterization of CdFeSe Thin Films" XIII International Materials Research Congress, Symp 2, Solar Hydrogen Fuel cells, p 40, Aug.22-26, 2004, ISBN 968 863 7572, Cancun, Mexico.

7. S.Velumani, **M.Raja**, S.Thanikaikarasan, Homero Castaneda, P.J.Sebastian PP and T.Mahalingam, "Electrocrystallization and Studies on of Ferrous Selenide thin films" XIII International Materials Research Congress, Symp 2, Solar Hydrogen Fuel cells, p 42, Aug.22-26, 2004, ISBN 968 863 7572**,** Cancun, Mexico.

8. S.Velumani, **M.Raja,** J.A.Chavez, Homero Castaneda and T.Mahalingam, "Preparation and Characterization of CoMn alloy thin films", XIII International Materials Research Congress, Symp 5, p 13, Magnetic Materials, ISBN 968 863 7572**,** Aug.22-26, 2004, Cancún, México.

9. T.Mahalingam, **M.Raja,** A.Thanikaikarasan, J.A.Chavez, Homero Castaneda and S.Velumani, "The effect of NaCl concentration on the properties of CoP thin alloy films", XIII International Materials Research Congress, Symp 5, p.14, Magnetic Materials, Aug.22-26, 2004, ISBN 968 863 7572, Cancun, Mexico.

10. S.Velumani, **M.Raja,** J.A.Chavez, Homero Castaneda and T.Mahalingam, "Synthesis and Characterization of NiFe alloy thin films", XIII International Materials Research Congress, Symp 7, p.14, Materials Characterization, Aug.22-26, 2004, ISBN 968 863 7572**,** Cancun, Mexico.

11. S.Velumani, **M.Raja,** J.A.Chavez, Homero Castaneda and T.Mahalingam, "The influence of pH on Galavanostatically deposited CoNi alloy thin films", XIII International Materials Research Congress, Symp 5, p.15, Magnetic Materials, Aug.22-26, 2004, ISBN968 863 7572**,** Cancun, Mexico.

12. S.Velumani, **M.Raja**, J.A.Chavez,, Homero Castaneda and T.Mahalingam,

"Investigations on Ni-P alloy thin films prepared by electro deposition", XIII International Materials Research Congress, Symp 5, p.15, Magnetic Materials, Aug.22-26, 2004, ISBN 968 863 7572**,** Cancun, Mexico.

13. T.Mahalingam, **M.Raja**, J.A.Chavez,, Homero Castaneda and S."Velumani, "Electrosynthesis and characterization of lead oxide thin films", XIII International Materials Research Congress, Symp 5, p. 17, Magnetic Materials, Aug.22-26, 2004, ISBN 968 863 7572, Cancun, Mexico.
14. T.Mahalingam, V.Dhanasekaran, **M.Raja,** S.R.Srikumar, G.Ravi and R.Chandramohan. "Preparation and Characterization of Double dip coated CdS Thinfilms" NCAFMA-2011,PP71.
15. V.Dhanasekaran, K.Sundaram, **M.Raja**, S.R.Srikumar and T.Mahalingam. "Synthesis and Characterization of Electrodeposited ZnTe thinfilms" NCAFMA-2011,PP-72.
16. V. Siva, S. Asath Bahadur, A. Shameem, D. Vanitha, S. Athimoolam, **M. Raja.** Growth, optical, dielectric and mechanical properties of organic single crystal: 4-methoxyanilinium trifluoroacetate, Proceedings of the National conference on Recents Trends in Functional materials (2017), ISBN: 978-93-87526-07-5.
17. V. Siva, A. Shameem, A. Murugan, S. Athimoolam, **M. Raja,** S. Asath Bahadur., Theoretical investigations on molecular structure, HOMO-LUMO and population analysis of Guanidinium Propionate for Nonlinear Optical Applications, Proceedings of the National seminar on Technologically Important crystalline and Amorphous solids (2018),ISBN: 978-81-909237-3-6.

National Conferences:

S. NO.	NAME OF THE EVENT	ORGANISED BY	DATE	YEAR
1.	Awareness workshop on "THE FACILITIES OF UGC-DAE CONSORTIUM FOR SCIENTIFIC RESEARCH"	Department of Physics, Pondicherry University	Nov 04 & 05	2004
2.	National workshop on "THIN FILM PREPARATION AND CHARACTERISATION TECHNIQUES FOR ENERGY CONVERSION"	Alagappa University, Karaikudi.	Nov 22 to 26	2004
3.	National conference on "APPLICATION ORIENTED NANOMATERIALS "	Department of Industrial chemistry, Alagappa University.	Mar 10 &11	2005
4.	National workshop on "NANOMATERIALS – SYNTHESIS, CHARACTERIZATION AND APPLICATION"	Department of Industrial chemistry, Alagappa University.	Dec 14 &15	2006
5.	National level workshop on "TECHNOLOGY OPTIONS FOR A GREENER ENVIRONMENT"	Mount zion college of Engineering and technology,	Mar 08 &09	2007

		pudukkottai.		
6.	RECENT ADVANCES IN METAL-ORGANIC CHEMISTRY AND MATERIALS SCIENCE	Department of chemistry, PSG College of Technology, Coimbatore.	Jul 05 & 07	2007
7.	Workshop on “LUMINESCENCE AND ITS APPLICATION”	Department of Physics, Kalasalingam University	Feb 12	2010
8.	DAE-SOLID STATE PHYSICS SYMPOSIUM	Department of Physics, Kalasalingam University	Dec 26 to 30	2010
9.	RECENT ADVANCES IN MATERIALS SYNTHESIS AND CHARACTERIZATION-2011	Department of Physics, SreeSevuganAnnamalai college, Devkottai.	Nov 01	2011
10.	National Conference on “ADVANCED FUNCTIONAL MATERIALS AND APPLICATIONS”	Department of chemistry, Kalasalingam University	Dec 16 & 17	2011
11.	National Seminar on “TECHNOLOGICALLY IMPORTANT CRYSTALLINE AND AMORPHOUS SOLIDS-2012”	Department of Physics, Kalasalingam University	Mar 2 &3	2012
12.	National Seminar on “TECHNOLOGICALLY IMPORTANT CRYSTALLINE AND AMORPHOUS SOLIDS-2012”	Department of Physics, Kalasalingam University	Mar 1 &2	2013
13.	“SECOND NATIONAL CONFERENCE ON ADVANCED FUNCTIONAL MATERIALS AND APPLICATIONS”	Department of chemistry, Kalasalingam University	Mar 22 & 23	2013
14.	National Seminar on “ENGINEERING MEGA-SCCIENCE PROJECTS WITH EMPHASIS ON INO”	Kalasalingam University	Apr 03	2013
15.	Third National Seminar on “TECHNOLOGICALLY IMPORTANT CRYSTALLINE AND AMORPHOUS SOLIDS”	Department of Physics, Kalasalingam University	Feb 28 to Mar 1	2014
16.	“THIRD NATIONAL CONFERENCE ON ADVANCED FUNCTIONAL MATERIALS AND APPLICATIONS”	Department of chemistry, Kalasalingam University	Mar 21 & 22	2014
17.	Workshop on “Physics in Engineering”	Department of Physics, Thiagarajar College of Engineering	Nov 5 & 6	2015
18.	Fifth National Conference on “ADVANCED FUNCTIONAL MATERIAL AND APPLICATIONS”	Department of chemistry, Kalasalingam University	Mar 30 & 31	2017

19.	GROWTH, OPTICAL, DIELECTRIC AND MECHANICAL PROPERTIES OF ORGANIC SINGLE CRYSTAL 4-METHOXYANILINIUM TRIFLUOROACETATE	B.S.Abdurrahaman crescent Institute of science and Technology, Chennai	Dec 5 & 6	2017
20.	THEORETICAL INVESTIGATIONS ON MOLECULAR STRUCTURE, HOMO-LUMO AND POPULATION ANALYSIS OF GUANIDIUM PROPIONATE FOR NONLINEAR OPTICAL APPLICATIONS	Department of Physics, Kalasalingam University	Mar 2 &3	2018
21.	Fifth National Conference on "TECHNOLOGICALLY CRYSTALLINE AND AMORPHOUS SOLIDS-2019"	Department of Physics, Kalasalingam University	April 5 & 6	2019

ComputerSkills:

M.S. Office, FoxPro, Language-C, Windows, Internet and scientific software's.