

## Curriculum Vitae

Dr. R. Nagalakshmi received her Ph.D., from Bharathidasan University, Tiruchirappalli, Tamil Nadu, India. She pursued her postdoctoral research in the Department of Condensed Matter Physics and Materials Science, Tata Institute of Fundamental Research, Mumbai. She joined in the Department of Physics NITT as faculty in December 2008.



### **Research work :**

1. Synthesis of organic nano fibers by electrospinning technique for nonlinear optical and terahertz applications
2. Investigations on some rare earth (Gd, Dy and Tb) and manganese based magnetic refrigerant materials
3. First Principles Calculations for predicting magnetic properties of strongly correlated Electron Systems
4. Preparation of Poly and single crystalline rare earth intermetallic compounds ( $3d$  transition metals, rare earth metals) which exhibits strong electron correlations such as magnetic order, Kondo, Heavy Fermion, Spin glass and superconductivity at low temperatures. The properties are measured using the techniques of electrical resistivity, magnetization and specific heat in the temperature range 1.8-300K and the analysis of data.
5. Synthesis, growth and characterization of new organic non-linear optical crystals with large transparency in UV-VIS region, optical susceptibilities, inherent ultrafast responses times, high optical threshold for laser power and good conversion efficiency for second harmonic generation (SHG) and Terahertz (THz) applications

### **Popular Publication:**

*In the study of FeAs systems, for Co-doped sample  $\text{CaFe}_{1.94}\text{Co}_{0.06}\text{As}_2$  a superconducting transition is observed at  $T = 17 \text{ K}$  (*Physical Review B* **79**, (2009) 012504)*

1. Name : Dr. R. Nagalakshmi
2. Designation : Associate professor
3. Office Address : Department of physics, NIT Trichy
4. Telephone : 0431-2503615
5. Email : [nagaphys@yahoo.com](mailto:nagaphys@yahoo.com) , [nagalakshmi@nitt.edu](mailto:nagalakshmi@nitt.edu)
6. Field(s) of Specialization :
  - Nonlinear optics
  - Strongly correlated electron system
  - Magnetocaloric materials
7. Employment Profile :

## National Institute of Technology, Tiruchirappalli:

Job Title	Employer	From	To
Associate Professor/Physics	National Institute of Technology, Tiruchirappalli, TN	March 2018	till date
Assistant Professor/Physics	National Institute of Technology, Tiruchirappalli, TN	Dec 2008	February 2018
Post-doctoral Fellow	Department of Condensed Matter Physics and Materials Science Tata Institute of Fundamental Research, Mumbai	August 2007	December 2008
Research Associate	Indian Institute of Science, Bangalore	02 July 2007	31 July 2007
Senior Research Fellow, CSIR	Periyar University, Salem	April 2007	June 2007
Junior Research Fellow, DRDO	Nehru Memorial College (Autonomous) Puthanampatti, Tiruchirappalli	April 2000	October 2006

### 8. Academic Qualifications:

Examination	Board / University	Year of completion	Division/ Grade	Subjects
Ph.D	Bharathidasan University Tiruchirappalli	2007	Commended	Physics, Materials Science
M.Phil	Bharathidasan University Tiruchirappalli	2004	89.6%, Distinction	Physics
M.Sc	Bharathidasan University Tiruchirappalli	2002	81.9% First Class	Applied Physics
B.Sc	Bharathidasan University Tiruchirappalli	2000	83.5%, First Class with Distinction	Physics
HSC	St.Marys Matriculation Hr.Sec School, Cuddalore	1997	83.2%	State Board
SSLC	Bharathi Matriculation Hr.Sec. School Thammampatty	1995	86.2%	Matriculation

### 9. Academic/Administrative Responsibilities within the Institute:

## National Institute of Technology, Tiruchirappalli:

<b>Position</b>	<b>Faculty/Department/Centre/Institution</b>	<b>From</b>	<b>To</b>
Field/ Lab Visit Committee	Department level	June 2022	Till date
GIAN - Coordinator	Institute level	December 2021	Till date
Skill test committee (Senior Technician/Ministerial)	Institute level	July 2021	-
Safety Review committee (Laboratory)	Institute level	March 2021	Till date
Deputy Registrar, Research and Consultancy, NITT	Institute level	December 09, 2020	Till date
DST-Gender Advancement for Transforming Institutes (GATI) proposal preparation-Nodal officer	Institute level	November 26, 2020	Till Date
Advisory Committee of Sophisticated Instrumentation Facility (SIF)-member	Institute level	September 29, 2020	Till Date
NITT Office club-Sub-Committee member	Institute level	February 2020	Till Date
Intellectual Property Rights evaluation committee - member	Institute level	February 2019	Till Date
ISRO- Space Technology Incubation Centre-member	Institute level	February 2019	Till Date
GIAN local coordinator	Institute level	October 2018	Dec 2021
M.Sc. II year course coordinator	Department level	January 2018	June 2020
HEFA- Coordination Committee -member	Institute level	January 2018	January 2020
Associate Dean	Research and Consultancy Institute level	December 2017	January 22,2020
Ph.D. Coordinator	Department level	June 2012	July 2016
Ph.D. Coordinator	Institute level for Physics and Chemistry departments	June 2012	June 2014

### 10. Academic/Administrative Responsibilities outside University

<b>Position</b>	<b>Institution</b>
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## National Institute of Technology, Tiruchirappalli:

Doctoral committee member	Anna University of Technology, Tiruchirappalli
	University College of Engineering, Panruti
	Bharathidasan University, Tiruchirappalli
	Anna University of Technology, Pudukottai
	Periyar University, Salem
	Karpagam Academy of Higher Education, Coimbatore
	Sastra university, Tanjore
Thesis Examiner (Ph.D/M.Sc/M.Phil)	Anna University of Technology, Tiruchirappalli
	Anna University, Chennai
	University of Kerala
	Anna University of Technology, Villupuram
	Vellore Institute of Technology, Vellore
Question paper Setting and Evaluation	Bharathidasan University, Tiruchirappalli Kalasalingam University, Virudhunagar
Board of Studies Member	Holy Cross College, Trichy
Academic Expert Of Academic Audit	Cauvery College for Women (Autonomous), Annamalai Nagar, Trichy
Staff Selection Committee (External Interviewer)	Cauvery College for Women (Autonomous), Annamalai Nagar, Trichy
Project Proposal Examiner	Cauvery College for Women (Autonomous), Annamalai Nagar, Trichy

### 11. Awards, Associateships etc.

Year of Award	Name of the Award	Awarding Organization
2020	Best Performer award	National Institute of Technology, Tiruchirappalli

## National Institute of Technology, Tiruchirappalli:

2019	Young Scientist Award-2019	Academy of Sciences, Chennai
2018	Award for significant contribution in Sponsored Research Project	National Institute of Technology, Tiruchirappalli
2016	Travel grant to present papers (Oral and Poster) in Conference at Big Sky, Montana, USA.	DST and INSA
2010	Young Scientist Research Award	Basic science Committee, Board of Research in Nuclear Sciences
2009-2012	Level – II certification on Ultrasonic Testing	ASNT
2002	1 <sup>st</sup> (Gold Medalist) in M.Sc Applied Physics	Bharathidasan University, Tiruchirappalli
2000	8 <sup>th</sup> Rank in B.Sc (Physics)	Bharathidasan University, Tiruchirappalli

### 12. Fellowships :

Year of Award	Name of the Fellowship	Awarding Organization	From (Month/Year)	To (Month/Year)
2006	Jawaharlal Nehru Memorial fellowship	Osaka University, Osaka, Japan	Apr 2006	July 2006
2006	Visiting Fellowship	Jawaharlal Nehru Centre for Advanced Scientific Research, Jakkur, Bangalore	2006	2007
2010 & 2016	National Slovak Scholarship for Teachers (Twice)	Slovak Academy of Sciences	May 2010	July 2010
2019	National Slovak Fellowship	Presov University	1 <sup>st</sup> July 2019	31 <sup>st</sup> July 2019

### 13. Details of Academic Work :

#### (i) Curriculum Development: (Syllabus Revision)

**M.Sc.** : PH 677 - Instrumentation and PH 661 Solid State Physics,  
PH- 659-General Physics Laboratory – I (Introduced New Experiments)  
**M.Tech:** PH 614- Advanced NDT I  
**Ph.D** : Course work

#### (ii) Courses taught at Postgraduate and Undergraduate levels :

**B.Tech** : PH 101 and PH 102-(PHYSICS I and II), PHIR 11- Physics  
**M.Sc** : PH 677, PH 658 – Instrumentation and PH 661 Solid State Physics,  
PH- 659-General Physics Laboratory – I  
**M.Tech:** PH 614- Advanced NDT I  
**Ph.D** : Course work – PH: 800 Research Techniques in Physical Sciences

**(iii) Projects guided at Postgraduate level**

M.Sc.Projects	M.Tech.Projects
Completed:21 Ongoing: 0	Completed:20 Ongoing: 0

**(iv) Other contribution(s)**

- Purchase initiator of department plan fund purchases
- Committee members for convocation at institute level
- Stock verification at institute level
- Establishment of research laboratory facilities

14. Details of Major R&D Projects

Title of Project	Funding Agency	Duration		Cost(Rs.)	Status
		From	To		Ongoing/ Completed
Growth and irradiation of Rare earth intermetallic crystals for magnetic applications	DAE Young scientist Research Award by Basic science Committee, Board of Research in Nuclear Sciences (BRNS). <i>No: 2010/20/37P/13/BRNS dt 18/2/2011</i>	2010	2013	16,40,000/-	Completed
Functionalized materials for electro-optics: Synthesis, single crystal growth, nonlinear and electro-optical properties	Council Of Scientific And Industrial Research Human Resource Development Group <i>No: 03(1158)/10/EMRII dated 26/4/2010</i>	2010	2013	17, 23,000/-	Completed
Crystal growth vibrational studies and nonlinear optical properties of tartrates	Indo Portugese Joint Project by DST <i>No: INT/PORTUGAL/P-12/2009 dated 27/12/2009</i>	2010	2013	4,64,200/- (Exchange visits , 1 visit per year)	Completed

## National Institute of Technology, Tiruchirappalli:

Magnetic field induced structural transition studies on some rare earth and non-rare earth giant MCE compounds exhibiting first-order magnetic transitions	UGC-DAE Indore <i>No:CSR-IC/CRS-150/2015-2016/07</i> <i>Dated: 26/03/2016</i>	2016	2020	9,09,310/-	Completed
Synthesis of Organic Nanofibers for NLO Applications	DST-SERB, New Delhi <i>No: EMR/2016/005324</i> <i>dated:15/09/2017</i>	2017	2021	27,06,192/-	Completed
Synthesis of Organic nanofibers for Terahertz wave (T-ray) guiding applications	Council Of Scientific And Industrial Research Human Resource Development Group <i>No: 03(1475)/19/EMRII</i> <i>dated 05.08.2019</i>	2019	2022	22,58,000/-	Ongoing
Mn based melt spun ribbons for magnetic cooling of naval equipments	Naval Research Board, DRDO <i>NRB-495/MAT/22-23</i>	2022	2025	33,23,700/-	Sanctioned

### 15. Number of PhDs guided

Name of the PhD Scholar	Title of PhD Thesis	Role(Supervisor/ Co-Supervisor)	Year of Award
C. Yogeswari	Intensity dependent nonlinear absorption and optical limiting behaviour of electrospun organic & inorganic nanofibers	Supervisor	2022
K.Arun	Rare earth (Gd And Dy) and non-rare earth (Mn) based materials for green refrigeration	Supervisor	2021
K.M Hijas	Nonlinear optical studies and terahertz characterizations of some organic single crystals	Supervisor	2020
T.P.Rashid	Magnetocaloric properties of Gadolinium and Dysprosium based alloys for wide temperature range magnetic refrigeration	Supervisor	2018
S.Nallamuthu	Magnetic, Thermodynamic and Transport Properties of	Supervisor	2016

## National Institute of Technology, Tiruchirappalli:

	R-T-X Type Intermetallic Compounds		
N.Sudharsana	Growth And Characterization Of Novel Organic Crystals For Nonlinear Applications	Supervisor	2014

M.Sc.Projects	B.Tech. Internship	M.Tech.Projects	Ph.D
Completed:21 Ongoing: 0	Completed: 0 Ongoing: 1	Completed:20 Ongoing: 0	Completed: 6 (Regular) Ongoing:5 (Regular)

16. Participation in Workshops/ Symposia/ Conferences/ Colloquia /Seminars/Schools etc. (mentioning the role)

### Workshops

Date	Title of Activity	Level of Event (International / National/ Local)	Role (Participant/ Speaker/ Chairperson, Paper presenter, Any other)	Event Organized by	Venue
December 7-10, 2004.	Indo Japan Workshop on crystal growth and applications of advanced materials for Opto electronics	International	Participant	Crystal Growth Centre Anna University	Crystal Growth Centre Anna University, Chennai, India
July 6-7, 2005	Accelerator User Workshop	National	Participant	University Accelerator Centre (IUAC), New Delhi	University Accelerator Centre (IUAC), New Delhi,
August 18-19, 2005	Workshop on optics and Photonics- WOOP 2005,	National	Participant	National Institute of Technology	National Institute of Technology
August 30-31, 2005.	Workshop on recent advances in Physical	National	Participant	Periyar University, Salem	Periyar University, Salem,



## National Institute of Technology, Tiruchirappalli:

	science Research,				
2005 and 2009	irradiation of swift heavy ions		Experimental work	Inter University Accelerator Center (IUAC), New Delhi	Inter University Accelerator Center (IUAC), New Delhi
November 25 and December 5, 2007.	Workshop on 'Correlated Electrons and Frustrated Magnetism' (CEFM 07),	International	Participant	International Centre, Dona Paula, Goa,	International Centre, Dona Paula, Goa,
January 27, 2009 – February 2, 2009	Training and Certification course on ASNT – Level 2- on Ultrasonic testing, ,		Participant	MSME Testing Centre, Chennai	MSME Testing Centre, Chennai
December 10-12, 2009	National Seminar and Exhibition on Nondestructive Evaluation	National	Participated	BHEL, Trichy	NITT, India.
December 3-4, 2010	Science Academics Lecture workshop on Spectroscopy	National	Participant	Department of Chemistry, NITT	Department of Chemistry, NITT
September 5, 2012	CSIR project Monitoring Session of Extramural Research Schemes.	National	Project presenter	Physical sciences research committee by CSIR New Delhi	physical sciences research committee by CSIR New Delhi
November 26-28, 2012.	BRNS Project presentation in the Young Scientist Awardees Meet ,	National	Principal Investigator	BARC, Mumbai	BARC, Mumbai
October 25-26, 2013	BRNS Basic Science Meeting (BRNSProject Monitoring Session)	National	Principal Investigator	Anna University, Chennai-620025	Anna University, Chennai-620025
May 28, 2014	Presented DST project	National	Principal Investigator	PSG Institute of	PSG Institute of

## National Institute of Technology, Tiruchirappalli:

	proposal before the Programme Advisory Committee on “Condensed Matter Physics and Materials Science”			Advanced Studies, Coimbatore-641004	Advanced Studies, Coimbatore - 641004
Jan 20, 2015	Strongly Correlated Electron Systems (SCES)	National	Participant	Bharathidasan University, Trichy,	Bharathidasan University, Trichy,
Feb23-27,2015	Asian Charge Density Workshop (ACDW)	International	Participant	IISC, Bangalore	IISC, Bangalore
April 28-29, 2015	TEQIP-II sponsored Conclave on Academic Reforms(CAR 2015),	National	Participant	NITT	NITT
December 18-19, 2015	Research Scholars Workshop	National	<b>Best research paper presentation (oral) award</b>	UGC-DAE Consortium for Scientific Research	Indore, Madhya Pradesh
February 10, 2016	Collaborative Research Scheme	National	Principal Investigator	UGC-DAE Consortium for Scientific Research	Indore, Madhya Pradesh
March 11, 2016	Materials Research Panel Meeting by	National	Principal Investigator	Naval research Board	IIT Madras, Chennai
December 19-23, 2016	Physics of strongly correlated electron system (GIAN Program)	International	Participated	Bharathidasan University, Trichy	BDU Trichy
January 9-12 2017.	Indo-French workshop on pressure effects on strongly correlated electron systems	International	Participated	Bharathidasan University IWPEPCM-2017	BDU Trichy

## National Institute of Technology, Tiruchirappalli:

December 4-10, 2017	Capacity Building of Women managers in Higher Education	National	Participated	National Institute of Technology	NIT,Trichy
August 6-10 ,2018	Crystal Growth on Functional and Exotic Material (GIAN)	International	Participated	Bharathidas an University, Trichy	BDU Trichy
April 4-5, 2019	Introduction to Density Functional Theory	National	Participated	PG & Research, Department of Physics, Government Arts College, Melur	Government Arts College, Melur
June 12, 2020	A journey towards wave mechanics – webinar	National	Participated	B.S. Abdur Rahman Crescent Institute of Science and Technology, Chennai. Tamil Nadu	Virtual
July 7,2020	Nanoscale Non-linear optics	National	Participated	Vellore Institute of Technology, Chennai	Virtual
August 6, 2020	Quantum materials and nanoparticles for advanced applications – webinar	International	Participated	Kamaraj University, Thoothukudi	Virtual
August 25, 2020	Lasers and Nano-Optics – Webinar	National	Participated	NITT- OSA and SPIE student chapters, NIT Trichy, India	Virtual
September 9- 115, 2020	Research ethics and Characterization techniques in materials- Online Faculty development programme	National	Participated	MHRD, Govt. India, Guru Angad Dev Teaching and learning centre and Bishop Moore	Virtual

## National Institute of Technology, Tiruchirappalli:

				college, Mavelikara, Kerala.	
September 12- 18, 2020	Modern Approach on Magnetism and Material Science in Engineering – Webinar	National	Participated	Maharaja Institute of Technology, Mysore, India	Virtual
March 1-2, 2020	International Workshop on Advanced Materials and its Applications	International	Participated	NITT- OSA and SPIE student chapters, NIT Trichy, India	Virtual
September 27 – October 2021	Online training programme on ‘Enhancing Accountability and Responsiveness in Scientific Organizers’	National	Participated	Institute of Public Enterprise, Hyderabad, India	Virtual

### Conferences: International-23,National-28

Date (s)	Title of Activity	Level of Event (International/ National/ Local)	Role (Participant/ Speaker/ Chairperson, Paper presenter, Any other)	Event Organized by	Venue
March 8-10, 2004.	Regional Conference on Photo Acoustics, Condensed Matter Physics	National	Paper Presenter	Condensed Matter Physics and NDT (2004)	Madurai Kamaraj University, Madurai, India
December 26-30, 2004	49 <sup>th</sup> DAE Solid State Physics Symposium	National	Paper Presenter	Sponsored by Board of Research in Nuclear Sciences, Department of Atomic Energy, Nanak Dev University	Nanak Dev University, Amritsar, India
January 10 – 12, 2005	4 <sup>th</sup> DAE- BRNS National Laser	National	Paper Presenter	Babha Atomic Research Centre	Mumbai, India

## National Institute of Technology, Tiruchirappalli:

	Symposium (NLS-4)				
February 9 – 12, 2005	International Conference on Spectrophysics (INCONS 2005)	International	Paper Presenter	Pachaiyappa's College, Chennai	Pachaiyappa's College, Chennai
February 28-March 01, 2005	Conference on crystal growth techniques and modeling	National	Paper Presenter	Anna University, Chennai	Anna University, Chennai
April 22, 2005	National Symposium on Chemical Structures and Dynamics	National	Paper Presenter	Indian Institute Technology Madras, Chennai	Indian Institute Technology Madras, Chennai
February 16 -17, 2006	National conference on recent advances in Materials Science	National	Paper Presenter	Periyar University, Salem	Periyar University, Salem
December 21-22, 2006.	PTLUPA-6	National	Paper Presenter	Institute of Technology Madras, Chennai	Institute of Technology Madras, Chennai
January 29-30, 2007	National conference on Recent Advances in Vibrational Spectroscopy (NCVS 2007)	National	Paper Presenter	Periyar University, Salem	Periyar University, Salem
March 26- 27, 2007	Second National Conference on Nonlinear Optics and Modeling in Crystal Growth	National	Paper Presenter	Anna University, Chennai	Anna University, Chennai
December 27-31, 2007.	DAE Solid State physics Symposium sponsored	National	Poster presented	Department of Atomic Energy , Government of India	University of Mysore, Mysore, India
Aug 17- 24, 2008	International Conference on, Strongly Correlated Electron Systems	International	Poster presented	SCES-2008	SCES-2008 held in Brazil
December 17- 18, 2009	Beam time proposal	National	Paper Presenter	47 <sup>th</sup> Accelerator User Workshop, Inter University	New Delhi

## National Institute of Technology, Tiruchirappalli:

				Accelerator Centre	
March 18-19, 2011	Carried out Swift heavy ion irradiation (Oxygen and Gold ion of different fluencies)	National	Paper Presenter	47 <sup>th</sup> Accelerator User Workshop Inter University Accelerator Centre	New Delhi
July 6 – 9, 2010	14 <sup>th</sup> Czech and Slovak Conference on Magnetism	International	Participated	CSMAG 10 in Kosice	Kosice, Slovakia
November 10, 2010	32 <sup>nd</sup> Basic Science Review Committee, BRNS	National	Presented the salient features of the Major research project proposal	BARC	Mumbai
21-25 August 2011	Optics + Photonics 2011	International	Poster Presenter	SPIE	San-Diego, CA, USA
December 12-16, 2011	International Conference on Advanced Materials held	International	Paper Presenter	ICAM-2011	Department of Physics, PSG college of Technology, Coimbatore
December 19-23, 2011	56 <sup>th</sup> DAE-Solid State Physics Symposium	National	Poster Presenter	SRM University, Kattankulathur	SRM University, Kattankulathur
January 9-12, 2012	DAE-BRNS National Laser Symposium (NLS-20)	National	Poster Presenter	DAE-BRNS, Crystal Growth Centre	Anna University, Chennai
Feb 19-22, 2012	Conference on Materials Engineering and Technology (ICMET-2012)	National	Paper Presenter	ICMET-2012	KL, Malaysia
December 9-12, 2012	Photonics 2012	National	Poster Presenter	IIT Madras	IIT Madras
-	International Conference on Fundamental and	International	Paper Presenter	(ICFAS), Singapore	Singapore

## National Institute of Technology, Tiruchirappalli:

	Applied Sciences, (ICFAS)				
January 9-11, 2013	17 <sup>th</sup> National seminar on crystal growth	National	Paper Presenter	Department of Physics, Anna University	Chennai
October 23-25, 2013	Conference on Nanostructuring by Ion Beams (ICNIB 2013)	National	Poster Presenter	ICNIB 2013– Jaipur	Jaipur
December 16-20 2013	International Union of Materials Research Societies – International Conference	International	Poster Presenter	Asia – 2013(IUMRS-ICA 2013)	IISC, Bangalore-12
January 8-11, 2014	DAE-BRNS National Laser Symposium (NLS)	National	Poster Presenter	Department of Atomic and Molecular Physics	MIT, Manipal University, Manipal-576104, Karnataka, INDIA
February 3-4, 2014	Recent Advances in Materials Science (RAMS-2014)	National	Paper Presenter	(RAMS-2014 Department of Physics)	Bharathidasan University, Tiruchirappalli-24
July 7-11, 2014	International Conference on Strongly Correlated Electron Systems	International	Poster Presenter	SCES 14	Grenoble, France
September 15-17, 2014	International Conference on Magnetic Materials and Applications (ICMAGMA-2014)	International	Paper Presenter	Pondicherry University	Pondicherry, India
August 2 – 7, 2015	20 <sup>th</sup> American Conference on Crystal Growth and Epitaxy (ACCGE-20)	International	Paper Presenter	Big Sky, Montana, USA	USA
October 15-16, 2015	UGC sponsored two days national seminar	National	Paper Presenter	St. John's College, Anchal, Kollam	Anchal, Kollam, Kerala
May 26 – 28 2016	First Symposium On Advanced	National	Poster Presenter - 2	CECRI, Karaikudi	CECRI, Karaikudi

## National Institute of Technology, Tiruchirappalli:

	Functional Materials(FUNMAT) conducted		<b>(Best Poster)</b>		
October 31 – November 4, 2016	2016 Conference on Magnetism and Magnetic Materials (MMM 2016)	International	Paper Presenter	New Orleans Marriott in New Orleans, Louisiana	U. S. A
July 17-21, 2017.	International conference on Strongly Correlated Electron Systems (SCES-2017)	International	Poster Presenter	Prague, Czech Republic	Prague
December 26-30, 2017	62 <sup>nd</sup> DAE Solid State Physics Symposium (DAE- SSPS 2017)	International	Paper Presenter	Bhabha Atomic Research Centre, Mumbai	DAE Convention Centre, Anushaktinagar, Mumbai
February 16, 2018	26 <sup>th</sup> MRSI National Symposium on Advances in Functional and Exotic Materials	National	Poster Presenter	Bharathidasan University, Trichy	SRM Hotel, Trichy
March 1-2, 2018	National Conference on Emerging Materials and Methods for Advanced Applications	National	Paper Presenter	Periyar University, Salem	Salem
July 4 – 7 2018	12 <sup>th</sup> Prague Colloquium on f – electron systems.	International	Paper Presenter	Charles University, Prague	Prague
September 27-28, 2018	International Conference on Molecular Structure of Nano and Biomaterials(ICMSNB M'18)	International	Paper Presented	Arignar Anna Govt.Arts College	Arignar Anna Govt.Arts College, Cheyyar
December 3-6, 2018	National laser symposium	National	Poster Presenter	RRCAT, Indore	RRCAT, Indore
August 12-13, 2019	International conference on advanced material science	International	Paper Presenter <b>(Best oral presentation award)</b>	Thanthaihan rover college	Perambalur



## National Institute of Technology, Tiruchirappalli:

September 16-17, 2019	International conference on advanced materials for sustainable energy and sensors	International	Poster/Paper Presenter	Alagappaunversity	Karaikudi
December 18-22, 2019	64 <sup>th</sup> DAE Solid State Physics Symposium	National	Poster Presentation	IIT	Jodhpur
December 27-28, 2019	2 <sup>nd</sup> International Conference On recent trends in metallurgy, materials science and manufacturing	International	Poster Presentation	NIT	Trichy
August 27, 2020	The 2020 Around-the-Clock Around-the-Globe (AtC-AtG) Magnetics Conference	International	Participated	IEEE Magnetics	Virtual
November 2-6, 2020	The 2020 Magnetism and Magnetic Materials conference	International	Paper presentation	IEEE Magnetics	Virtual
December 14-16, 2020	National Conference on Physics and Chemistry of Materials	National	Paper Presentation <b>(Best Oral Presentation)</b>	Department of Physics, Government Holkar Science College, Indore	Virtual
March 11-13, 2021	International Conference on Novel Materials for Bio-medical, Energy, Environment, Sensing and Other Applications (ICON-BEES) 2021'	International	Paper Presentation <b>(Best Oral Presentation)</b>	Department of Physics, NIT, Trichy	Virtual
April 30, 2021	INTERMAG21	International	Paper Presentation	IEEE Magnetics	Virtual
August 28, 2021	ATC-ATG around the clock around the world international conference organized by IEEE	International	Poster Presentation	IEEE Magnetics	Virtual

## National Institute of Technology, Tiruchirappalli:

### 17. Workshops/ Symposia/ Conferences/ Colloquia/Seminars Organized (as Chairman/ Organizing Secretary/ Convener / Co-Convener)

Title of Activity	Level of Event (International/ National/ Local)	Date (s)	Role	Venue
Convergence 2012 - <i>Recent Trends in Materials Research</i>	National	December 21-22, 2012	Convener	Department of Physics, NITT
Course- <i>Advancements in Crystalline Materials</i>	National	November 5, 2014	Convener	Department of Physics, NITT
Workshop - <i>Statistical Physics and Materials Science</i>	National	July 21-23, 2016	Coordinator	Department of Physics, NITT

### 18. Invited Talks delivered: **29**

Institute	Duration	Lecture Topics
Periyar University Salem	March 12, 2009	Intermetallic Superconductors - <i>Workshop on Recent Developments in advanced Materials Research</i>
Sri Paramakalyani College Alwarkurichi	March , 2009	Anisotropic, Magnetic and Superconducting properties of Iron oxide rare earth inter metallic compounds
National College Triruchirappalli	January 23, 2010	Anisotropic, Magnetic and Superconducting properties of rare earth inter metallic compounds
Institute of Experimental physics, Slovak Academy of Sciences, Slovakia	May 30, 2010	Strongly correlated systems
Institute of Physics Jan Dlugosz University, Poland	May 27 – 31,2011	Studies on rare earth intermetallic systems
National College, Trichy	December2, 2012	Invited talk on Anisotropic Magnetic and Transport Properties of Rare Earth Intermetallic Compounds
Anna University	January 9-11 2013	Strongly Correlated Electron System- <i>XVII National Seminar on Crystal Growth</i>

## National Institute of Technology, Tiruchirappalli:

Bishop Heber College Tiruchirappalli	August 5,2013	Swift Heavy ion irradiation
Department of Physics, Central University of Tiuvarur	January 29 2014	Strongly Correlated Electron System
Department of Production Engineering, NITT	March 17, 2014	Pnictide Superconductors
School of Electrical and Electronics Engineering SASTRA University, Tanjore.	October 10,11 2014	Photonic Materials
Bharathidasan University, Tiruchirappalli	20 November, 2014	Refresher Course
Dept of Physics, SeethalakshmiRamasw ami College, Trichy	29 January, 2015	Crystalline Materials
Bharathidasan University, Tiruchirappalli	22 February, 2016	Refresher Course
Dept of Physics National College, Trichy	1 October, 2016	Technology Assisted Research
Indo-French workshop on pressure effects on strongly correlated electron systems (IWPESCM-2017) in Bharathidasan University, Trichy	11 January, 2017	Interesting aspects of Rare Earth Intermetallics
Cauvery college for women,Trichy	28 February, 2017	Special Talk on Science Day
National College, Trichy	23 August, 2017	Crystal Microns to Meters- <i>Physics Association</i>
Cauvery college for women, Trichy	4 September, 2017	Terahertz Gap- <i>Physics Association</i>
UGC Human Resourse Development Centre Bharathidasan University, Tiruchirappalli	6 January, 2018	Refresher course in Nanoscience: Evaluating the seminar
National level seminar on superconducting and ultra conductorsMount Zeon college of Engineering and Technology, Pudhukottai	22 February, 2018	Superconductors

## National Institute of Technology, Tiruchirappalli:

National college Trichy	2 March, 2018	Characterization Techniques
UGC Human Resource Development Centre Bharathidasan University, Tiruchirappalli	19 March, 2018	Strongly Correlated Electron System- <i>UGC Refresher Course</i>
Periyar University PG and Research dept. of physics Periyar E.V.R College Tiruchirappalli	27 February, 2019	Recent Trends in Nanofibers
Sri Meenakshi Government Arts college for women, Madurai	5 February 2020	Current trends in Physics- <i>National level seminar</i>
Sathyabama Institute of Science and Technology (Virtual)	30 June, 2020	Interesting aspects of rare earth intermetallics and magnetic refrigeration- <i>Faculty Development Programme on 'Applications of new materials in emerging field'</i>
St. Marrys college (Autonomous) Thoothukudi (Virtual)	30 July 2021	'f'-Electron magnetism
Bharat Ratna Puratchi Thalaivar Dr MGR Government Arts and Science College, Dharmapuri	February 28, 2022	Special talk on Science day
Shrimati Indira Gandhi College, Tiruchirappalli	March 14, 2022	Terahertz Spectroscopy

### 19. Membership of Learned Societies

Type of Membership	Organization	Membership No. with year of joining
Life Member	Indian Society for Non Destructive Testing	LM-8455-TC, 2009
Life Member	Materials Research Society of India	LMB2462, 2015

### 20. Academic Foreign Visits

Country	Duration of Visit	Programme
Osaka University Japan	April -July 2006	Jawaharlal Nehru Memorial fellowship
Institute of experimental Physics, Slovak academy of sciences, Kosice, Slovakia	23May-15 July, 2010	National Scholarship Program of the Slovak Republic

## National Institute of Technology, Tiruchirappalli:

Laboratory for molecular cryospectroscopy and Biospectroscopy, Department of Chemistry, Universidade de Coimbra , Portugal	15May – 15June, 2011	Indo Portugese Cooperation of science and Technology
Institute of Physics Jan Dlugosz University, Poland	27- 31 May, 2011	Invited talk on Studies on rare Earth intermetallic systems
Kuala Lumpur, Malaysia. July 24-26, 2012	19-22 February, 2012	International Conference on Materials Engineering and Technology (ICMET-2012)
International Centre for Theoretical Physics (ICTP), Trieste Italy	24- 26 September 2013	Workshop on Light Element Materials based Superconductors
Big Sky Montana USA	2-7August, 2015	AACGE Conference (Oral and Poster)
Prague, Czech Republic	July 17-21,2017	(SCES-2017)Poster Presentation
Presov, Slovak Republic	July 1-31, 2019	National Scholarship Programme for Slovak Republic

### Academic Foreign Visits (By Students)

Country	Name	Duration of Visit	Programme
Slovakia	Dr.S.Nallamuthu	October – December 2013	National Scholarship Program of the Slovak Republic Presov University
	T.P.Rashid	September – November 2015	
	K.Arun	August – October 2016	
	U D Remya	August-October 2021	
	S. Swathi	April - May 2022	
France	Dr.S.Nallamuthu (Sponsored by TEQIP)	7-11July, 2014	Strongly Correlated Electron Systems (SCES) Conference , Grenoble
USA	T.P.Rashid (Awarded DST Travel Grant)	31October - 4November, 2016	2016 Conference on Magnetism and Magnetic Materials (MMM 2016), New Orleans
Hungary	K.M.Hijas	February–July 2018.	Stipendium Hungaricum Fellowship 2017 – 18

## National Institute of Technology, Tiruchirappalli:

Prague	K.Arun (Awarded DST Travel Grant)	4-7 July, 2018	12 <sup>th</sup> Prague Colloquium on <i>f</i> -electron systems.
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### 20. Publications: Research Journals: 80

#### (A) Refereed Research Journals:

S.No	Author(s)	Title of Paper	Journal	Volume	Page No.	Year
1.	C Yogeswari, TC Sabari Girisun, <b>R Nagalakshmi</b>	Electrospun 2-Nitroaniline (2NA)-Poly (methylmethacrylate)(PMMA) nanofibers for power limiting and Q-switching applications	Chemical Physics Letters	786	139209	2022
2.	UD Remya, K Arun, S Swathi, A Dzubinska, M Reiffers, <b>R.Nagalakshmi</b>	Magnetic, magnetocaloric and magnetoresistive properties of Tb <sub>2</sub> Co <sub>3</sub> Ge <sub>5</sub> compound	Journal of Alloys and compounds	889	161536	2021
3.	C. Yogeswari, T.C. Sabari Girisun , <b>R. Nagalakshmi</b>	Excited state absorption assisted optical limiting action of Potassium dihydrogen phosphate (KDP) - polyethylene oxide (PEO) Electrospun nanofibers	Journal of Electronic materials	50	4619-4632	2021
4.	Swathi S, K. Arun, Remya U D, Andrea Dzubinska, Marian Reiffers, <b>R. Nagalakshmi</b>	Ising critical behavior and room temperature magnetocaloric effect in itinerant ferromagnetic Mn <sub>5</sub> Ge <sub>2.9</sub> Fe <sub>0.1</sub> compound	Intermetallics	132	107164	2021
5.	C. Yogeswari, K.M. Hijas, M. Abith, T.C. Sabari Girisun , <b>R. Nagalakshmi</b>	Intensity Dependent Two Photon Absorption and its Saturation in 2- Methyl 4-	Journal of Material Science: Materials in Electronics	32	370-372	2021

## National Institute of Technology, Tiruchirappalli:

		Nitroaniline Nanofibers				
6.	UD Remya, K Arun, S Swathi, A Dzubinska, M Reiffers, R Nagalakshmi	Magnetocaloric and magnetoresistance properties of reentrant spin glass $Tb_2Ni_{0.94}Si_{3.2}$ alloy	Applied Physics: A	126	1-11	2020
7.	HijasKalattummamMandagathingal, Shaoxian Li, SivasubramaniVediyappan, KaruppasamyPichan, MuthuSenthil Pandian, RamasamyPerumalsamy, PriyoSyamsulNugrah, GyulaPolónyi, JózsefAndrásFülöp, <b>NagalakshmiRamamoorthy</b>	Characterization of aminopyridinium based organic crystals for THz generation	Optics & Laser Technology	131	106394	2020
8.	C.Yogeswari, K.M.Hijas ,T. C. Sabari <b>GirisunR.Nagalakshmi</b>	Intensity dependent nonlinear absorption switching behavior of electrospun <i>meta</i> -nitroaniline nanofiber	Optical Materials	100	109691	2020
9.	K Arun, Swathi S,Remya U D, Andrea Dzubinska, Marian Reiffers, , <b>R Nagalakshmi</b>	Evaluation of critical exponents and magnetocaloric properties in moderate heavy fermion $Mn_{4.5}Ni_{0.5}Sn_3$ alloy	Journal of Applied Physics	127	053901	2020
10.	K Arun, TP Rashid, Marian Reiffers, Andrea Dzubinska, <b>R Nagalakshmi</b>	Systematic investigations on the magnetic properties of $Gd_3Ni_2In_4$ compound	Current Applied Physics	20	266-271	2020
11.	<b>R Nagalakshmi</b>	Magnetocaloric effect and critical exponent studies in $Mn_{4.5}Ni_{0.5}Sn_3$ alloy	Journal of Chennai Academy of Sciences	3	1-20	2020

## National Institute of Technology, Tiruchirappalli:

12.	Swathi S, K. Arun, Andrea Dzubinska, Marian Reiffers, <b>R. Nagalakshmi</b>	Systematic investigations on the magnetic properties of moderate heavy Fermion CeAg <sub>0.68</sub> Si <sub>1.32</sub> alloy	Physica B: Condensed Matter	575	411679	2019
13.	KM Hijas, S Madan Kumar, BC Manjunath, <b>R Nagalakshmi</b>	Vibrational analysis and physical property studies of 6-Methoxy-2-[(E)-phenyliminomethyl]-phenol in the THz, IR and UV-visible spectral regions	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	222	117227	2019
14.	K. Arun, T. P. Rashid, Ivan Curlik, Sergej Ilkovic, Marian Reiffers, Andrea Dzubinska, <b>R. Nagalakshmi</b>	Magnetism, magnetocaloric and magnetotransport properties of Dy <sub>5</sub> NiSi <sub>2</sub> alloy	Applied Physics A Material Science and processing	125	199	2019
15.	K Arun, TP Rashid, Ivan Curlik, Sergej Ilkovic, Marian Reiffers, Andrea Dzubinska, <b>R Nagalakshmi</b>	Metamagnetism, Multiple Magnetic Transitions and Wide Temperature Range Magneto caloric Effect in Dy <sub>6.5</sub> Co <sub>2</sub> Si <sub>2.5</sub> Alloy	Journal of Superconductivity and Novel Magnetism	32	1407-1414	2019
16.	T.P. Rashid, K. Arun, Ivan Curlik, Sergej Ilkovic, Marian Reiffers, Andrea Dzubinska, <b>R. Nagalakshmi</b>	Magnetocaloric and magnetotransport properties of Gd <sub>10</sub> Co <sub>20</sub> Si <sub>70</sub> alloy	Journal of Rare Earths	37	74-79	2019
17.	T.P. Rashid, K. Arun, Ivan Curlik, Sergej Ilkovic, Marian Reiffers, Andrea Dzubinska, <b>R. Nagalakshmi</b>	Influence of spin fluctuations on the magnetocaloric behavior of Gd <sub>2</sub> Co <sub>3</sub> Al <sub>9</sub> compound	Journal of Magnetism and Magnetic Materials	466	283-288	2018



18.	K.M. Hijas , S. Madan Kumar , K. Byrappa , T. Geethakrishnan , S. Jeyaram , <b>R. Nagalakshmi</b>	Spectroscopic investigations using density functional theory on 2-methoxy-4(phenyliminomet hyl)phenol: A non linear optical material	Journal of Molecular Structure	1155	249-259	2018
19.	T.P. Rashid , K. Arun , Ivan Curlik , Sergejllkovic , Marian Reiffers , Andrea Dzubinska , <b>R.Nagalakshmi</b>	Effect of spin fluctuations in magnetocaloric and magnetoresistance properties of Dy <sub>10</sub> Co <sub>20</sub> Si <sub>70</sub> alloy	Journal of Applied Physics	122	093903	2017
20.	S Nallamuthu, A Dzubinska, M Reiffers, JR Fernandez, <b>R.Nagalakshmi</b>	Ferromagnetism in orthorhombic RAgAl <sub>3</sub> (R= Ce and Pr) compounds	Physica B: Condensed Matter	521	128-133	2017
21.	TP Rashid, ICurlik, S Ilkovic, M Reiffers, <b>R.Nagalakshmi</b>	Gd <sub>3</sub> Fe <sub>4</sub> Si Alloy for Magnetic Refrigeration Application in a Wide Temperature Range	Journal of Superconductivity and Novel Magnetism	30	2283–2290	2017
22.	S Nallamuthu, S SelvaChandrasekaran, P Murugan, Marian Reiffers, <b>R Nagalakshmi</b>	Magnetic, thermodynamic and transport properties of novel non-centrosymmetric RCoSi <sub>3</sub> (R= Pr, Nd and Sm) compounds	Journal of Magnetism and Magnetic Materials	416	373-383	2016
23.	N Sudharsana, V Krishnakumar, <b>R Nagalakshmi</b>	Bis (3-methoxy-4-hydroxybenzaldehyde-2, 4, 6-trinitrophenol) organic cocrystal: Synthesis and physico-chemical properties	The European Physical Journal Plus	131	348	2016
24.	T.P. Rashid, S. Nallamuthu, K. Arun, Ivan Curlik, Sergejllkovic, Marian Reiffers, and <b>R. Nagalakshmi</b>	Magnetocaloric properties of GdFe <sub>0.83</sub> Al <sub>3.02</sub> multiphase alloy having multiple magnetic transitions	Materials Chemistry and Physics,	180	279-283	2016

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25.	T.P. Rashid, S. Nallamuthu, K. Arun, Ivan Čurlik, Sergej Ilkovic, Andrea Dzubinska, Marian Reiffers, and <b>R. Nagalakshmi</b>	Magnetocaloric effect over a wide temperature range due to multiple magnetic transitions in GdNi <sub>0.8</sub> Al <sub>1.2</sub> alloy	The European Physical Journal Plus,	131	156	2016
26.	N.Sudharsana, S.Hamad, S.Venugopal Rao, V.Krishnakumar, <b>R.Nagalakshmi</b>	A systematic study of hydroxyethylammonium p-nitrophenolate single crystal exhibiting third order nonlinearity	Journal of Crystal Growth	452	179-183	2016
27.	N. Sudharsana, A. Sharma, N. Kuş, R. Fausto, M. Luísa Ramos, V. Krishnakumar, R. Pal, T.N. Guru Row, <b>R. Nagalakshmi</b>	Low temperature FTIR, Raman, NMR spectroscopic and theoretical study of hydroxyethylammonium picrate	Journal of Molecular Structure	1104	40-51	2016
28.	N.Sudharsana, V.Krishnakumar, <b>R.Nagalakshmi</b>	Experimental and Theoretical Investigations of Non-Centrosymmetric 8-hydroxyquinolinium dibenzoyl-(L)-tartrate methanol monohydrate single crystal	Materials Research Bulletin	61	136-145	2015
29.	N.Sudharsana, S.Hamad, S.Venugopal Rao, V.Krishnakumar, <b>R.Nagalakshmi</b>	Hydroxyethylammonium maleate (HEAM) single crystal for optical limiting applications	Applied Physics A Materials Science and Processing	118	553-561	2015
30.	<b>R. Nagalakshmi</b> , Ruta Kulkarni, S.K. Dhar, A. Thamizhavel, V. Krishnakumar, Marian Reiffers, Ivan Čurlik,	Magnetic properties of the tetragonal RCuGa <sub>3</sub> (R=Pr, Nd and Gd) single crystals	Journal of Magnetism and Magnetic Materials	386	37-43	2015
31.	S. Prabu, <b>R.Nagalakshmi</b> , J. Balaji, P. Srinivasan	Synthesis, crystal growth, studies on vibrational spectroscopy and nonlinear optical properties of 4-	Materials Research Bulletin	50	446-453	2014

## National Institute of Technology, Tiruchirappalli:

		methoxy-4'-chloroalcone				
32.	S. Prabu, <b>R.Nagalakshmi</b> , J. Balaji, P. Srinivasan	Investigations on the Vibrational Modes and Non-linear Optical Properties of 4-Fluoro Chalcone Crystal	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	129	114-120	2014
33.	N.Sudharsana, G.Jasmine, S.Muthunatesan, V.Krishnakumar, <b>R.Nagalakshmi</b>	Experimental and theoretical studies of 2,5-dichloroanilinium picrate	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	121	53-62	2014
34.	S.Nallamuthu, T.P.Rashid, V.Krishnakumar, Celine Besnard, Hans Hagemann, Marian Reiffers, <b>R.Nagalakshmi</b>	Anisotropic magnetic, transport and thermodynamic properties of novel tetragonal Ce <sub>2</sub> RhGa <sub>12</sub> compound	Journal of Alloys and Compounds	604	379-383	2014
35.	N.Sudharsana, <b>R.Nagalakshmi</b> , V.Krishnakumar	Synthesis, Experimental and Theoretical Studies of 8-hydroxyquinolinium-3, 5-dinitrobenzoate single crystal	Journal of Crystal Growth	398	45-57	2014
36.	N.Sudharsana, K.Asokan, V.Krishnakumar, <b>R.Nagalakshmi</b>	Oxygen and gold ion irradiation effects on hydroxyethylammonium (L) tartrate monohydrate single crystals	Radiation Measurements	49	88-94	2013
37.	S. Prabu, <b>R.Nagalakshmi</b> , P.Srinivasan	Investigations on the physico chemical properties of 4-bromoalcone single crystals for nonlinear optical applications	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	103	45-52	2013
38.	LG Prasad, V Krishnakumar, <b>R Nagalakshmi</b>	Growth and characterization of semi-organic nonlinear optical crystal: Sodium 2, 4-dinitrophenolate monohydrate	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	110	377-382	2013

39.	V Krishnakumar, G Shanmugam and <b>R.Nagalakshmi</b>	Large third-order optical nonlinearity of Mg-doped PbS/PVA freestanding nanocomposite films	Journal of Physics D: Applied Physics	45	165102	2012
40.	N.Sudharsana, B.Keerthana, <b>R.Nagalakshmi</b> , V.Krishnakumar, L. Guru Prasad	Growth and Characterization of Hydroxyethylammonium Picrate Single Crystals for Third-Order Nonlinear Optical Applications	Materials Chemistry and Physics	134	736-746	2012
41.	N. Sudharsana, G. Subramanian, V. Krishnakumar, <b>R. Nagalakshmi</b>	Growth and characterization of anilinium hydrogen sulfate (AHS) single crystals: An organic nonlinear optical material	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	97	798-805	2012
42.	L.Guruprasad, V.Krishnakumar <b>R. Nagalakshmi</b>	Growth and nonlinear optical studies of N-acetyl-L-Cysteine crystal	The European Physical Journal- Applied Physics	57	10201	2012
43.	V.Krishnakumar, M. Rajaboopathi, <b>R. Nagalakshmi</b>	Studies on vibrational, dielectric, mechanical and thermal properties of organic nonlinear opticalco-crystal:2,6-diaminopyridinium-4-nitrophenolate-4-nitrophenol	Physica B: Condensed matter	407	1119-1123	2012
44.	V.Krishnakumar, M.Rajaboopathi, <b>R. Nagalakshmi</b>	Optical and mechanical properties of MgCl <sub>2</sub> added triglycinesulphate single crystals	International Journal of Modern Physics B	26	1250038	2012
45.	<b>R.Nagalakshmi</b> , Ruta Kulkarni, S.K.Dhar, .Thamizhavel,	Crystal growth and structure determination of	Chemistry of Metals and Alloys	4	229-233	2011

## National Institute of Technology, Tiruchirappalli:

	V.Krishnakumar, Céline Besnard, Hans Hagemann, Marian Reiffers	novel tetragonal compound $Ce_2RhGa_{12}$				
46.	V. Krishnakumar, M. Rajaboopathi, <b>R. Nagalakshmi</b>	MgCl <sub>2</sub> added triglycinesulphate crystals	Advanced Materials Letters	2	163-169	2011
47.	L.Guruprasad, V.Krishnakumar, <b>R. Nagalakshmi</b> , S.Manohar	Physicochemical properties of highly efficient organic NLO crystal: 4-aminobenzamide	Materials Chemistry and Physics	128	90-95	2011
48.	<b>R. Nagalakshmi</b> , V.Krishnakumar, Hans Hagemann, S.Muthunatesan	Polarized Raman and hyperpolarizability studies of Hydroxyethylamm onium (L) tartrate monohydrate for quadratic nonlinear optics	Journal of Molecular structure	988	17-23	2011
49.	<b>R.Nagalakshmi</b> , V.Krishnakumar, N.Sudhars ana, A.Wojciechowski, M.Piasecki, I.V.Kityk, Michael Belsley ,DmitryIsakov	Studies on physico – chemical properties of Hydroxyethylamm onium (L) tartrate monohydrate single crystals	Physica B: Condensed Matter	406	4019-4026	2011
50.	V.Krishnakumar, <b>R. Nagalakshmi</b> , S.manohar, M.Piasecki, I.V.Kityk, P.Bragiel	Parametrical optical effects in the 1:1 complex of resorcinol and urea – a nonlinear optical crystal	Physica B Condensed Matter	405	839-842	2010
51.	Neeraj Kumar, K.V.Shah, <b>R. Nagalakshmi</b> , S.K.Dhar	Strongly correlated electron behavior in $R_2Ru_3Ga_9$ (R = Ce and U)	Journal of Applied Physics	107	09E113	2010
52.	L.Guruprasad, V.Krishnakumar, <b>R. Nagalakshmi</b>	Investigation on the physicochemical properties of 2,4-dinitrophenol- :Efficient organic nonlinear optical crystal for frequency doubling	Physica B Condensed Matter	405	1652	2010
53.	V.Krishnakumar , S.Manohar, <b>R. Nagalakshmi</b>	Semiorganic nonlinear optical l- lysine sulphate	Spectrochimica Acta Part A: Molecular and	75	1394-1397	2010

## National Institute of Technology, Tiruchirappalli:

		growth and characterization	Biomolecular Spectroscopy			
54.	L.Guruprasad, V.Krishnakumar, M. Jothi, <b>R. Nagalakshmi</b>	Spectroscopic and physicochemical studies on organic crystal of Brucine hydrogen maleate pentahydrate	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	77	87-91	2010
55.	V.Krishnakumar, <b>R.Nagalakshmi</b> , S.Manohar, K.Ozga, B.Claudet, M.Piasecki, I.V.Kityk, L.Kocsis, J.Pisarek	Elastooptical spectra of novel L-lysine monohydrochloride dehydrate single crystals	International Journal of Modern Physics B	24	629-645	2010
56.	L.Guruprasad, V.Krishnakumar, <b>R. Nagalakshmi</b>	Structural, thermal and optical studies on 2-naphthol crystal	Crystal Research and Technology	45	1057-1063	2010
57.	V. KrishnaKumar, S. Manohar, <b>R.Nagalakshmi</b> , M. Piasecki, I.V. Kityk, P. Bragiel	Zinc potassium phosphate hexahydrate crystals for nonlinear optics	The European Physical Journal-Applied Physics	47	30701	2009
58.	Neerajkumar, <b>R.Nagalakshmi</b> , R.Kulkarni, P.L.Paulose, A.K.Nigam, S.K.Dhar, A.Thamizhavel	Anisotropic magnetic and superconducting properties of $\text{CaFe}_{2-x}\text{Co}_x\text{As}_2$ ( $x=0,0.06$ ) single crystals	Physical Review B	79	012504	2009
59.	V. Krishnakumar, L. Guruprasad, <b>R. Nagalakshmi</b> , P.Muthusamy	Physicochemical properties of organic non-linear optical crystal for frequency doubling : glycine acetamide	Materials Letters	63	1255-1257	2009
60.	V.Krishnakumar, <b>R.Nagalakshmi</b> , K. Ozga, M. Piasecki, I. V. Kityk, P. Bragiel	3-nitroaniline and 3-nitrophenol : A novel nonlinear optical material	Journal of optoelectronics and Advanced Materials	11	123-133	2009
61.	V.Krishnakumar, L.GuruPrasad, <b>R.Nagalakshmi</b>	Investigation on 3-aminophenol: A nonlinear optical crystal for frequency doubling	The European Physical Journal-Applied Physics	48	20403	2009
62.	Devang A. Joshi, <b>R.Nagalakshmi</b> , R.	Crystal growth and anisotropic magnetic	Physica B Condensed Matter.	404	2988	2009

	Kulkarni, S.K. Dhar, A. Thamizhavel	properties of $RAg_2Ge_2$ ( $R=Pr$ , $Nd$ and $Sm$ ) single crystals				
63.	Devang A. Joshi, <b>R.Nagalakshmi</b> , S.K. Dhar, A. Thamizhavel	Anisotropic magnetization studies of $R_2CoGa_8$ single crystals ( $R=Gd$ , $Tb$ , $Dy$ , $Ho$ , $Er$ , $Tm$ , $Y$ , and $Lu$ )	Physical Review B	77	174420	2008
64.	V.Krishnakumar, <b>R.Nagalakshmi</b> , and S.Manohar	Crystal growth and characterization of N-Hydroxyphthalimide ( $C_8H_5NO_3$ ) crystal	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	71	110-115	2008
65.	V.Krishnakumar, <b>R.Nagalakshmi</b> , and S.Sivakumar	Investigations on the physicochemical properties of the nonlinear optical crystal for blue green laser generation	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	71	119-124	2008
66.	V.Krishnakumar and <b>R.Nagalakshmi</b>	Studies on the first order hyperpolarizability and terahertz generation in 3-nitroaniline	Physica B: Condensed Matter	403	1863-1869	2008
67.	V.Krishnakumar, G. Eazhilarasi, <b>R.Nagalakshmi</b> , M. Piasecki, I.V. Kityk and P. Bragiel	Field-induced nonlinear optical features of p-aminoazobenzene crystals	The European Physical Journal - Applied Physics	42	263-267	2008
68.	V.Krishnakumar <b>R.Nagalakshmi</b> , and S.Manohar	Probes on l-lysine monohydrochloride dihydrate: A semiorganic nonlinear optical crystal	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	71	471-479	2008
69.	G.Eazhilarasi, <b>R.Nagalakshmi</b> and V. Krishnakumar	Studies on crystal growth, vibrational and optical properties of organic nonlinear optical crystal: p-Aminoazobenzene	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	71	502-507	2008



## National Institute of Technology, Tiruchirappalli:

70.	V.Krishnakumar, <b>R.Nagalakshmi</b> , and S.Sivakumar	Effect of doping an organic molecule ligand on TGS single crystals	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	71	480-485	2008
71.	V.Krishnakumar and <b>R.Nagalakshmi</b>	Terahertz generation in 3- Nitroaniline Single Crystals	Crystal Growth and Design.	8	3882-3884	2008
72.	V.Krishnakumar,D.K.Avast hi, Fouran Singh, P.K.Kulriya and <b>R. Nagalakshmi</b>	Study of the damage produced in K [CS (NH <sub>2</sub> ) <sub>2</sub> ] <sub>4</sub> Br - A non-linear optical single crystal by swift heavy ion irradiation	Nuclear InstrumentsAn d Methods in Physics Research.	256	675-682	2007
73.	V Krishnakumar, <b>R Nagalakshmi</b>	Crystal growth and characterization of K [CS (NH <sub>2</sub> ) <sub>2</sub> ] <sub>4</sub> Br—A semiorganic non- linear optical crystal	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	68	443-453	2007
74.	VKrishna Kumar, <b>R Nagalakshmi</b>	Vibrational spectroscopic studies of an organic non-linear optical crystal 8- hydroxyquinolinu m picrate	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	66	924-934	2007
75.	V. Krishnakumarand <b>R.Nagalakshmi</b>	Polarised Raman and infrared spectral analysis of L-alanine oxalate (C <sub>5</sub> H <sub>9</sub> NO <sub>6</sub> ) – a non-linear optical single crystal	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	64	736-743	2006
76.	V.Krishnakumar, and <b>R.Nagalakshmi</b>	Growth and spectroscopic characterization of a new organic non linear optical crystal-8- hydroxyquinoline	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	61	1097-1103	2005
77.	V.Krishnakumar, and <b>R.Nagalakshmi</b>	Growth and vibrational spectroscopic studies of yttrium doped single crystals of trisodium barium	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	61	2724-2729	2005



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		pentachloride dihydrate				
78.	V Krishnakumar, <b>R Nagalakshmi</b>	Crystal growth and vibrational spectroscopic studies of the semiorganic non-linear optical crystal— bistiourea zinc chloride	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy	61	499-507	2005
79.	V.Krishnakumar and <b>R.Nagalakshmi</b>	Polarised infrared and Raman studies of $YCa_4O(BO_3)_3$ – a non-linear optical single crystal	Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy .	60	2733-2739	2004
80.	V Krishnakumar, <b>R Nagalakshmi</b>	Polarised Raman studies of $YCa_4O(BO_3)_3$ – a non-linear optical single crystal	Science Access	2	214-215	2004

### (B) Conferences/Workshops/Symposia Proceedings: 11

Author(s)	Title of Abstract/ Paper	Volume	Page No.	Journal	Year
Remya U D, Athul S R, Arun K, <u>Swathi S</u> , Andrea Dzubinska, Marian Reiffers, Nagalakshmi R	Investigations on magnetic, magnetocaloric and transport properties of $Co_2Ti_{1-x}Sn_{1+x}$ ( $x = 0.25, 0.5$ ) Heusler Alloys	2369	020086	AIP Conference Proceedings	2021
C.Yogeswari, K.M. Hijas, T.C.Sabari Girisun, R.Nagalakshmi	Synthesis of nanoscale 4-Nitroaniline-Polystyrene fiber for optical limiting application using electrospinning technique	39	1719-1721	Materials Today: Proceedings	2021
Arun K, Swathi S, Remya U. D, Andrea Dzubinska, Marian Reiffers, and <b>Nagalakshmi R.</b>	Magneto-resistance and magnetocaloric properties of $Dy_6Fe_2Si_3$ alloy	2265	030591	AIP Conference Proceedings	2020

## National Institute of Technology, Tiruchirappalli:

S. Nallamuthu, K. Arun, Andrea Dzubinska, Marian Reiffers and R.Nagalakshmi	Investigation on Magnetic properties of $\text{Sm}_3\text{Ag}_{2.55}\text{Al}_{8.45}$ compound	1942	130043	AIP Conference Proceedings	2018
S. Nallamuthua, A. Džubinská, M. Reiffers and R. Nagalakshmi	Low Temperature Magnetic Ordering in $\text{NdAgAl}_3$	131	1015	ActaPhysicaPolonica A	2017
P.Srinivasan, R.Nagalakshmi, Dmitry Isakov, Etelvina de Matos Gomes, Michael Scott Belsley and S.Prabu	Ruminations on the effect of MeV $\text{Si}^{8+}$ and $\text{Ag}^{8+}$ ion irradiation on nonlinear optical l-Valinium picrate single crystals	1482	695-700	AIP Conference Proceedings	2012
N Sudharsana, GJ Priya, V Krishnakumar, R Nagalakshmi	Linear and nonlinear optical properties of 2, 5-DCAP crystal-A combined experimental and theoretical study	-	TPo. 48	International Conference on Fiber Optics and Photonics	2012
N.Sudharsana, R.Nagalakshmi, V.Krishnakumar, A.Sharma, R. Fausto, T. N. Guru Row, RumpaPal	Vibrational and third-order nonlinear optical study on hydroxyethylammonium picrate (HEAP) single crystals	1447	1263	AIP Conference Proceedings	2012
T. Pandiyarajan, R. Nagalakshmi, B. Karthikeyan	Optical and vibrational studies of surface modified ZnO nanostructures	8094	8094Q-1	Proceedings of SPIE - The international society for optical engineering	2011
V.Krishnakumar, L. Guru Prasad, R. Nagalakshmi, and Hans Hagemann	Vibrational studies of the NLO crystal – 2,4-Dinitrophenol	1267	1198 – 1199	AIP Conference Proceedings	2010
R. Nagalakshmi, V.Krishnakumar, Hans Hagemann, S.Muthunatesan	Polarized Raman and hyperpolarizability studies of hydroxyethylammonium (L) tartrate monohydrate for quadratic nonlinear optics	1267	1200	AIP Conference Proceedings	2010

**(C) Books & Monographs: 2**

Title	Year	Publisher
Field Induced Magnetic Transition Driven Large Magnetic Entropy Change In Dy <sub>10</sub> Co <sub>20</sub> Si <sub>70</sub> Alloy	2021	SIAS International Publishers
Novel Organic Terahertz Generators	2021	Lambert Academic Publishing

**22. Establishment of facilities**

1. Crystal growth facilities for organic crystals. (Solution growth technique).
2. Tri arc furnace for preparation of Rare-earth and Transition metals based alloys.
3. Electrospinning Setup- synthesis of Nanofibers
4. Constant temperature bath
5. Glass blowing set up
6. High temperature box furnace
7. Low temperature Transport measurements (50-300K).
8. Optical Microscope

**Exposure to scientific equipments and software**

1. Perkin Elmer Spectrometer model RX1 and the software Spectra V2.00
2. UV Spectrophotometer
3. X-Ray – Laue back reflection method for orienting the single crystals and cutting
4. X-ray rocking curve
5. Vibrating Sample Magnetometer (VSM)
6. Superconducting quantum interference device (SQUID)
7. Physical Property Measurement Systems(1.8K-300K)
8. GAUSSIAN 16, FULL PROOF, GSAS, CRYSTAL 09
9. WEIN 2K

**Extra-curricular activities**

Attended the Outbound Experiential Learning Camp for Team Building and Group Dynamics conducted by Adventure Zone (ISO 9001:2008) during 11-12 February, 2013