

## CURRICULUM VITAE- Dr. JIJIMON K THOMAS



Name (In Block Letters)	<b>Dr. JIJIMON K THOMAS</b>
Father's Name/ Mother's Name	K.THOMAS
Department	Physics
Current designation	Associate Professor and Head
Date of Birth	17.03.1967
Sex	Male
Marital Status	Married
Nationality	Indian
Address (Residence)	KUMPUKATTU,BSNRA-101, MUKKOLA P.O,THIRUVANANTHAPURAM, PIN 695043, KERALA
Official Address (with Pin code)	ASSOCIATE PROFESSOR AND HEAD, DEPARTMENT OF PHYSICS, MAR IVANIOS COLLEGE(AUTONOMOUS),MAR IVANIOS VIDYA NAGAR, NALANCHIRA P.O, THIRUVANANTHAPURAM, PIN 695015, KERALA
Telephone No:	9447205190
Email	<a href="mailto:jjijimon.thomas@mic.ac.in">jjijimon.thomas@mic.ac.in</a> <a href="mailto:jkthomasemrl@gmail.com">jkthomasemrl@gmail.com</a>

### Academic Qualifications (Matric till post-graduation):

Examinations	Name of the Board/ University	Year of Passing	Division/ Class/ Grade	Subject
SSLC	Board of Public Examinations, Department of Education, Kerala State	1982	First	History, Civics, Economics, Geography, Physics, Chemistry, Biology, Mathematics
Pre Degree	University of Kerala	1984	First	Physics, Chemistry, Mathematics
B.Sc	University of Kerala	1987	First Class	Physics
M.Sc	Agra University	1989	First Class	Physics
M.Phil	Institute of Basic Sciences, Agra University	1990	First Class	Physics
Ph.D	Mahatma Gandhi University (Regional Research Laboratory CSIR)	1997		Physics

**Research Degree(s):**

<b>Degree</b>	<b>Title</b>	<b>Date of Award</b>	<b>University</b>
M.Phil	X-Ray absorption spectroscopic studies of some cobalt complexes.	1990	Institute of Basic Sciences, Agra University
Ph.D	Development and Characterisation of YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-δ</sub> thick films [T <sub>c(0)</sub> =92K] on rare earth Barium Hafnates : A new class of perovskite ceramic substrates	1997	Mahatma Gandhi University (Regional Research Laboratory CSIR)

**Posts held after appointment at this Institution**

<b>Designation</b>	<b>Department</b>	<b>Date of actual Joining</b>		<b>Grade</b>
		<b>From</b>	<b>To</b>	
Lecturer	Physics	12.07.1993	26.07.1998	Lecturer
Lecturer	Physics	27.07.1998-	26.07.2003	Senior grade
Scientific Officer (On deputation)	Science Technology and Environment Department, Government of Kerala	01.08.2002	01.04.2005	Scientific Officer
Lecturer	Physics	27.07.2003	26.07.2003	Selection grade
Reader	Physics	27.07.2003	26.07.2006	Reader in Physics
Associate Professor	Physics	27.07.2006		Associate Professor
Associate Professor and Head	Physics	01.06.2019		Associate Professor and Head

**Period of teaching experience** : 27

**Research Experience excluding years spend in M.Phil /Ph.D (in years)** : 27

**Field of specialization under the Subject/Discipline** : Materials Science

**Membership of Professional Bodies**

1. Member, New York Academy of Sciences USA – 1996
2. Member, American Ceramic Society 2006
3. Indian Science Congress Association(Life member)
4. Member Global Society for Health & Education growth, New Delhi-2010
5. Member, Institute of Physics, London .UK -2010 onwards
6. Chairman, Board of Studies In Physics(pass), University of Kerala 2011 -2014
7. Member, Board of Studies In Physics(PG), University of Kerala 2011 onwards
8. Member, Board of Studies In Nanoscience, University of Kerala 2015 onwards
9. Member, Board of Studies In Physics(UG&PG), Mar Ivanios College (Autonomous),Thiruvananthapuram (2014 onwards)
10. Member , Academy of Physics Teachers, 2017 onwards
11. Chairman, Board of Studies In Physics(UG&PG), Mar Ivanios College (Autonomous),Thiruvananthapuram (2019 onwards)

**Honors & Awards**

- Fast Track Young Scientist Award & Project, Department of Science and Technology, Government of India 2001
- Bharat Shiksh Ratna Award -2010
- Diplomatic Battle Award The Institute of Solid State Physics, University of Latvia , Riga, **Latvia**
- M Inst P (London)-2010
- FLAIR Research Excellence Award Government of Kerala -2016
- Berchmans Award 2018 for the Best College Teacher, Kerala

## Papers presented in International Conferences:

### Abroad

1. Advanced Workshop on Recent Developments in Nanomaterials' 15 - 19 January, 2007, The Abdus Salam International Centre for Theoretical Physics, **Trieste, (Italy)**
2. Nanotechnology Materials and Devices Workshop 2010, The University of **Cincinnati, Ohio, United States of America**
3. Functional Materials and Nanotechnologies 2011 5– 8 April 2011 The Institute of Solid State Physics, University of Latvia , **Riga, Latvia**
4. International Conference on Nanotechnology, Nanomaterials & Thin Films for Energy Applications (NANOENERGY 2015), during 1-3rd June 2015 to be held at Manchester Conference Centre, **Manchester, United Kingdom.**

### India

1. International Conference on Perspectives in Vibrational Spectroscopy ICOPVS 2008 Trivandrum
2. International Conference on Advanced Materials, February 18-21, 2008, School of Chemical Sciences, Mahatma Gandhi University, Kottayam.
3. International Conference on Advanced Functional Materials (ICAFM-2009) 9-10 December 2009, Trivandrum
4. International Conference on Materials Science & Technology ICMST-2012
5. International Conference on Perspectives in Vibrational Spectroscopy (ICOPVS), Thiruvananthapuram, Kerala July 8-12 (2014) Trivandrum

### Invited Talks in India

1. College of Engineering Trivandrum (2002)
2. All Saints College Trivandrum (2003)
3. St. Aloysius College Edathua.
4. CMS College Kottayam
5. Maharajas College Eranakulam
6. St. Thomas College Kozhencherry
7. St. Cyrils College Adoor
8. Nirmalagiri College Thalassery.
9. St. Xaviers College, Vaikom
10. T.M. Jacob Memorial Government College, Koothattukulam
11. V T M N S S College , Dhanuvachapuram (5 March 2020)

### Invited Talks – Assessment & Accreditation Process of NAAC

1. Mar Ivanios College Thiruvananthapuram 24. March 2018
2. St. Xaviers College Vaikom February 2019
3. Mother Theresa College, Nellikkad, (24 February 2020)
4. Gurudev Rabindranath Tagore College of Arts and Science, Payyannore -28 February 2020

### Foreign visits as part of Academic programmes (Invited talks, Paper presentation)

*Italy, Germany, USA, Singapore, Malaysia, Sri Lanka, Russia, Latvia, UK*

### Instrumental Experiences (Research)

X-ray Absorption Spectroscopy, Microphotometer Analysis, X-ray Diffraction Techniques (Rigaku Japan), Impedance Analyzer (HP 4192A) for dielectric measurements, Critical transition temperature and current density measurements, (Keithley Mille ammeter and Nano voltmeter), Fourier Transform Infrared Spectrometer (Perkin Elmer), Delta Nu Raman Spectrometer, Hioki LCR meter, Electrospinning,

### PUBLICATIONS IN JCPDS FILE

1. **J. Koshy, J. Kurian, J.K. Thomas, Y.P. Yadava and A.D. Damodaran Barium Praseodymium Niobium Oxide ( $\text{PrBa}_2\text{NbO}_6$ )**  
[JCPDS File, 47 -375 \(1996\), \(U.S.A\)](#)
2. J. Koshy, J. Kurian, **J.K. Thomas**, Y.P. Yadava and A.D. Damodaran  
Barium Neodymium Niobium Oxide ( $\text{NdBa}_2\text{NbO}_6$ )  
[JCPDS File, 47 -376 \(1996\), \(U.S.A\)](#)

3. J. Koshy, J.Kurian, **J.K. Thomas**, Y.P. Yadava and A.D. Damodaran  
Barium Samarium Niobium Oxide ( $\text{SmBa}_2\text{NbO}_6$ )  
[JCPDS File,47 -377 \(1996\),\(U.S.A\)](#)
4. J. Koshy, **J.K. Thomas**, J. Kurian, Y.P. Yadava and A.D. Damodaran  
Barium Gadolinium Niobium Oxide ( $\text{GdBa}_2\text{NbO}_6$ )  
[JCPDS File,47 -378 \(1996\),\(U.S.A\)](#)
5. J.Koshy, **J.K. Thomas**, J.Kurian, Y.P. Yadava and A.D. Damodaran  
Barium Yttrium Hafnium Oxide ( $\text{YBa}_2\text{HfO}_{5.5}$ )  
[JCPDS File, 47 -390 \(1996\),\(U.S.A\)](#)
6. Asha M.John, **J.K.Thomas**, R.Jose, J.Kurian, P.K.Sajith and J. Koshy  
Barium Samarium Hafnium Oxide ( $\text{Ba}_2\text{SmHfO}_{5.5}$ )  
[JCPDS File, 1998, ICDD \(U.S.A\)](#)
7. **J.K.Thomas**, J.Koshy, J.Kurian and A.D.Damodaran  
Barium Gadolinium Hafnium Oxide ( $\text{Ba}_2\text{GdHfO}_{5.5}$ )  
[JCPDS File, 1998, ICDD \(U.S.A\)](#)
8. D. Sornadurai, Chandy N.George, V.S. Sastry, **J. K. Thomas** and  
J. Koshy-  $\text{Mg}_2\text{YTiO}_{5.5}$  [JCPDS File, 2011, ICDD \(U.S.A\)](#)
9. D. Sornadurai, Chandy N.George, V.S. Sastry, **J. K. Thomas** and  
J. Koshy-  $\text{MgSm}_2\text{TiO}_6$ - [JCPDS File, 2011, ICDD \(U.S.A\)](#)

#### LIST OF PATENTS SEALED

1. A novel ceramic substrate useful for the preparation of superconducting films and a process for preparing the films  
J. Koshy, **J.K.Thomas**, J. Kurian, Y.P.Yadava and A.D. Damodaran  
[U.S. Patent No. 585 6276, Jan 5, 1999](#)
2. Ceramic substrates for superconducting films  
J. Koshy, **J.K. Thomas**, J. Kurian, Y.P.Yadava and A.D. Damodaran  
[European Patent No. EP 0679615 B1, 21 July, 1999](#)
3. Process for preparing YBCO superconducting films on ceramic substrates  
J Koshy, **J.K.Thomas**, J Kurian, Y.P Yadava and A.D.Damodaran  
[USPatent No6121206, Dated Sept 19 2000](#)
4. Preparation of Superconducting films and a process for preparing the films  
J Koshy, **J K Thomas**, J Kurian, Y P Yadava and A D Damodaran  
[US Patent No 6040275 Dated March 21 2000](#)
5. A process for the preparation of new ceramic substrate  $\text{REBa}_2\text{MO}_6$   
(where RE = rare earth metals, M = metal like Nb, Sb, Hf, Sn,Zr) useful for the preparation of superconducting  $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$  films which are useful for microwave application,  
J. Koshy, **J.K. Thomas**, J. Kurian, Y.P. Yadava and A.D. Damodaran  
[Indian Patent 660/DEL/93 dated 29.6.1993 ,No.185974,Sealed in 26.05.2001](#)
6. A process for the preparation of superconducting  $\text{YBa}_2\text{Cu}_3\text{O}_{7-d}$  thick films on new ceramic substrate  $\text{REBa}_2\text{MO}_6$  (where RE = rare earth metals and M = metals like Nb, Sb, Sn, Hf, Zr)  
J. Koshy, **J.K. Thomas**, J. Kurian, Y.p. Yadava and A.D. Damodaran  
[Indian patent 660/DEL/93 dated 29.6.1993 ,No.186709,Sealed in 26.05.2001](#)
7. A green process technique for the synthesis of nanocrystalline metal/non-metal/ceramic, single or multicomponent oxides using citrate fruit extract  
Dr.S.Vidya and **Dr.Jijimon K Thomas**  
[Patent application filed through KSCSTE, Government of Kerala-2016](#)
8. **Jijimon K Thomas** & C.T.Mathew ‘Novel sintering technique by coupling resistive and microwave heating (resistive coupled microwave sintering) to fabricate nanocrystalline metal/non-metal/ceramic,single or multicomponent oxides with very high density, reduced grain size, enhanced infrared transmittance and extra hardness for Infrared domes and windows.’ (Under Review).[Patent application filed through KSCSTE, Government of Kerala No: 026/PF-PIC/2017/KSCSTE-2017](#)

## Research Expertise- A brief note.

My expertise covers the area of Electronic Ceramic materials, nano-materials and Superconductivity. In 2001 I have started the research wing “**Electronics Materials Research Laboratory (EMRL)**” in the Department of Physics, Mar Ivanios College to promote ‘Materials science’ research. This laboratory has acquired many major instrumental set up from funded research projects. Currently there are 10 PhD students doing research in the laboratory. Till 2020 my group has published more than 125 research papers in SCI journals and about 75 papers as proceedings in national and international conference. In 2000 my group had sealed three US patents, one European patent and 2 Indian patents, for the invention on the development new ceramic substrates for superconductors and two other patent applications were submitted one each in 2016 and 2017 respectively. We also reported the XRD patterns of 10 new compounds in JCPDS file.

Seven of my students were awarded PhD degree. Research and Development wing of the Government of India and Government of Kerala has awarded me 6 major research projects, one each by the Department of Science & Technology(DST), Government of India, University Grants Commission(UGC) ,Government of India, Indian Space Research Organization (ISRO), Department of Space ,Government of India, Kerala State Council for Science Technology& Environment Government of Kerala and Kerala State Higher Education Council . The ceramic nano-material developed in the ISRO project was proposed for making Patch Antenna in Indian satellites.

Currently my research is focused on the development (1) **IR transparent ceramics in nanostructured form with enhanced properties** and (2) **Polymeric nano-piezoelectric composite fibers for energy harvesting applications**. Apart from these, study on the improved critical current density of superconductors by incorporating nanostructured artificial flux pinning centers is also an area of my research.

### Academic Staff College Orientation/Refresher Course attended:

Name of the Course /Summer School	Place	Duration	Sponsoring Agency
Orientation course in Multidiscipline	Thiruvananthapuram	11.06.1998-08.07.1998	University of Kerala
Refresher course in Physics	Thiruvananthapuram	03.08.2001-24.08.2001	University of Kerala
Refresher course in Physics	Thiruvananthapuram	14.08.2003-04.09.2003	University of Kerala

### Administrative responsibilities held

Sl.No	Type of Responsibility	Role Performed
01	<b>Associate Director:</b> Mar Ivanios Centre for Information Technology 1997-2000	Training the students to use IT related computer functions
02	<b>Research Member :</b> Materials Science Research Division 1997onwards	Carrying out research activities , supervising MSc, M Phil and PhD research work,
03	<b>Secretary: Parent-Teacher Association 1998-2000</b>	Budgeting and utilization of PTA fund for the welfare of students and other developmental activities of the college
04	<b>Convener :</b> Mar Ivanios College Computer Centre Committee 2000-2001	Coordinating the activities of the computer centre viz. certificate courses for students, admission process and other
05	<b>Founder Head:</b> Electronic Materials Research Laboratory (EMRL), Department of Physics, from 2002 onwards. ( <a href="http://www.emrlmic.in">www.emrlmic.in</a> )	Managing a team of researchers which include faculty, PhD students, M Phil students and PG and UG project students
06	Staff Advisor (2006-2007)	Advising the College Union Office bearers and other students related to student activities on campus
07	Chief Editor, College Magazine(2006-2007)	Editing the College ‘Students Magazine-2007’

08	<b>Co-Convener</b> : DST-FIST programme, Department of Physics-2007 -2012	Implementation of DST-FIST project in the Department-Augmentation of BSc and MSc Physics lab.
09	<b>Co-convener-</b> MIC-IIST lab programme 2007-2010.	Implementation of the programme for Indian Institute of Space Technology (IIST) ISRO students. Modernization and augmentation of BSc and MSc Physics lab of the department.
10	<b>Coordinator &amp; Head</b> : Central Instrumentation Centre, from 2007 onwards(UGC –CPE project)	Coordinating the activities and extending instrumentation facilities to our students as well as students from other institutes.
11	<b>Coordinator/Member Secretary</b> : Research Promotion & Ethics Committee, 2009 -2016	Coordinating the Research activities for all research departments of the college. Design of policy, guidelines for researchers and other technical know-how.
12	<b>Coordinator:</b> XI & XII Plan UGC, Planning Board 2010, onwards.	Implementation of XI and XII Plan, Meetings of Planning Board, Utilization of approved amount for various activities.
13	<b>Chairman-</b> Board of Studies in Physics (UG), University of Kerala 2011-2014	Coordinating BoS meetings for modification and revision of syllabus for UG ,equivalency certification etc.
14	<b>Member-</b> Board of Studies in Physics (PG), University of Kerala 2011-2014	Participating in BoS meetings for modification and revision of syllabus for PG ,equivalency certification, selecting UGC listed journals etc.
15	<b>Coordinator:</b> IQAC 2013-2014 and 2017 onwards	Coordinating the activities of IQAC, preparing for NAAC accreditation and quality assessment of the activities of the college.
16	<b>Coordinator</b> :CPE Scheme(UGC):2013 onwards	Meetings, preparing budget and Utilization of approved amount for various activities under CPE scheme.
17	<b>Member:</b> Board of Studies, Mar Ivanios College (Autonomous) 2014 onwards	Active participation in the revision of syllabus for UG and PG, preparation of M Phil and certificate course syllabus etc.
18	<b>Secretary Finance</b> , Mar Ivanios College, (Autonomous), 2014 onwards	Meetings, preparing budget and Utilization of approved amount for various activities under UGC Autonomy grant every year.
19	<b>Secretary</b> College Council 2014-15	Preparation of minutes , arranging council meetings etc.
20	<b>Member-</b> Board of Studies in Nanoscience and Nanotechnology, University of Kerala-2014-2017	Active participation in the revision of syllabus for PG and M Phil syllabus etc.
21	<b>Convener</b> : Planning Board (UGC) 2015-16	Meetings, preparing budget and Utilization of approved amount for various activities under UGC XII Plan.
22	<b>Coordinator:</b> RUSA 2018 onwards	Meetings, preparing budget and Utilization of approved amount for various activities under MHRD-GoK RUSA project.
23	<b>Member:</b> Academic Council, Mar Ivanios College (Autonomous) 2016-17	Active participation for approval of decisions in the BoS meetings of all departments.
24	<b>Member:</b> Governing Council, Mar Ivanios	Active participation for approval of

	College (Autonomous) 2018 onwards	decisions in the Ac Council meetings and other policy decisions related to Autonomy.
25	<b>Member:</b> Management Council, Malankara Syrian Catholic Colleges 2018 onwards.	Active participation in framing policies and other decisions related to Malankara Syrian Catholic Colleges.
26	<b>Returning Officer :</b> College Union Election-2019	Smooth conducting of College Union Elections-2019
27.	<b>Member</b> College Council 2013-14,2014-15,2017-18, 2018-19	Active participation for approval of decisions related to the major activities of the college.
28	<b>Nodal Officer</b> –AISHE-2018 onwards	Submission of data base on All India Survey on Higher Education of MHRD every year.
29.	<b>Member</b> -Standing Committee	UGC-NAAC-Paramrsh Scheme 2019 onwards
30.	<b>Chairman</b> , Board of Studies in Physics, Mar Ivanios College- 2019 onwards	Coordinating BoS meetings for modification and revision of syllabus for UG and PG, etc. evaluation of examinations, question papers etc.
31.	<b>Assistant Coordinator</b> -NIRF-2018,2019,20120	Preparing database for National Institutional Ranking Frame work every year
32.	<b>Subject Expert</b>	Subject Expert in the interview panel for Assistant professors (Aided Colleges) 2012-2015

### Examination and evaluation duties assigned by the college/university or attending paper evaluation

Sl.No	Name of Duty	Role Performed
01	Pre-degree theory paper valuation, University of Kerala	Additional Examiner
02	Pre-degree practical examination, University of Kerala	Additional Examiner
03	BSc (Main) Theory Paper valuation, University of Kerala	Additional Examiner
04	BSc (Main) Practical examination, University of Kerala	Additional Examiner
05	BSc (Complementary) Theory Paper valuation, University of Kerala	Additional Examiner
06	BSc (Complementary) practical examination, University of Kerala	Additional Examiner
07	M.Sc Theory Paper valuation, University of Kerala	Additional Examiner
08	MSc Practical examination, University of Kerala	Additional Examiner
09	BSc (Main) Theory Paper valuation, Mar Ivanios College (Autonomous) ESE	Additional Examiner
10	BSc (Complementary) Theory Paper valuation, Mar Ivanios College(Autonomous) ESE	Additional Examiner
11	BSc (Complementary) practical examination, Mar Ivanios College (Autonomous) ESE	Internal Examiner
12	M.Sc Theory Paper valuation, Mar Ivanios College (Autonomous) ESE	Additional Examiner
13	MSc Practical examination, Mar Ivanios College (Autonomous) ESE	Internal Examiner
14	M Phil Examination-Dissertation	External examiner
15	PhD course work examination	Question paper setter
16	PhD qualifying examinations Mahatma Gandhi University	Question paper setter
17	PhD Open defense examination, Mahatma Gandhi University	Chairman

18	PhD Open defense examination, Tumkur University, Karnataka	Chairman
19	PhD and M Phil Thesis evaluation	Adjudicator
20	Research articles in (Journal of Alloys & Compounds, Materials Research Bulletin, Materials Characterization, Journal of Materials Science (JMSS), Materials Science & Engineering B, Journal of Inorganic Materials, International Journal of Applied Ceramic Technology, Journal of Electroceramics, etc.. )	Evaluator of research articles in scientific journals

### Academic, student related co-curricular, extension and field based activities

Sl.No	Type of Activity	Role Performed
01	Orientation classes	Orientation classes for FDP Students
02	Orientation classes	Orientation classes for PhD students for research motivation
03	Remedial teaching	Remedial teaching for degree classes
04	Motivational lecture	Motivation classes for school students as part of Science Facilitation Centre of the college.
05	Field trip to Ooty Radio Astronomy Centre	For BSc Physics students to familiarize Radio Telescope.
06	Organized workshops on Genesis of quantum mechanics	For PG students and teachers through Academy of Physics teachers
07	Evaluator of Scientific Research projects-	Evaluator of Scientific Research projects-KSCSTE-Government of Kerala
08	Science Project Evaluator	Science Project Evaluator (SPYTiS),KSCSTE-2014
09	Technical & Subject Expert Panel	Evaluation of Research Centers University of Kerala-Christian College Chengannore -2015
10	Technical Experts panel	Technical Experts panel -DST-FIST Project Christian College ,Kattakada-2017
11	Poster presentation	Advanced Workshop on Recent Developments in Nanomaterials' 15-19January,2007, <b>The Abdus Salam International Centre for Theoretical Physics, Strada Costiera 11, 34014, Trieste, Italy.</b>
12	Paper presentation	International Conference on Perspectives in Vibrational Spectroscopy ICOPVS 2008 <b>Trivandrum</b>
13	Paper presentation	International Conference on Advanced Functional Materials(ICAFM-2009) 9-10 December 2009, <b>Trivandrum</b>
14	Invited Talk	Nanotechnology Materials and Devices Workshop, The University of Cincinnati, Ohio, <b>United States of America-2010.</b>
15	Paper presentation	Functional Materials and Nanotechnologies 2011 5- 8 April 2011 The Institute of Solid State Physics, University of Latvia , <b>Riga, Latvia</b>
16	Paper presentation	International Conference on Perspectives in Vibrational Spectroscopy (ICOPVS), Thiruvananthapuram, Kerala July 8-12 (2014)



		<b>Trivandrum.</b>
17	Paper presentation	International Conference on Nanotechnology, Nanomaterials & Thin Films for Energy Applications (NANOENERGY 2015), during 1-3rd June 2015 to be held at Manchester Conference Centre, Manchester, <b>United Kingdom</b>
18	Invited Talk	CMS College Kottayam-2014
19	Invited Talk	Maharajas College Eranakulam-2014
20	Invited Talk	Nirmalagiri College Kannur-2015
21	Invited Talk	St.Xaviers College, Vaikom -2016
22	Invited Talk	T.M.Jacob Memorial Government College, Koothattukulam-2016
23	Paper presentation	International Conference on Materials Science & Technology ICMST-2016-Pala
24	Invited Talk	St.Xaviers College, Vaikom - : Revised A&A process of NAAC-2018.
25	Presiding officer	Local body, Legislative and Parliament elections 6 times
26	Member	New York Academy of Sciences USA – 1996
27	Member	American Ceramic Society 2006
28	Member	Indian Science Congress Association(Life member)
29	Member	Global Society for Health & Education growth, New Delhi-2010
30	Member	Institute of Physics, London .UK -2010 onwards
31	Member	Academy of Physics Teachers, 2017 onwards

### **Organizing seminars/conferences/workshops and other college/university activities**

<b>Sl.No</b>	<b>Type of Activity</b>	<b>Role Performed</b>
01	2 <sup>nd</sup> International Conference on Perspectives in Vibrational Spectroscopy (ICOPVS-2008)", 24-28 February, 2008 at Mascot Hotel, Thiruvananthapuram.	Member-organizing committee
02	5 <sup>th</sup> International Conference on Perspectives in Vibrational Spectroscopy, 08-12 July, 2014 at Mascot Hotel, Thiruvananthapuram.	Member-organizing committee
03	National Seminar on Intellectual Property Rights Kerala State Council for Science Technology & Environment 16 Aug 2006	Convener
04	Physics Colloquium Series(Talk by Dr R.Jose Toyota, Japan - on Quantum dots,)December 2006	Coordinator
05	3 day lecture workshop on Quantum Mechanics, Quantum Field Theory and Tensors was conducted in the department during August 2007 in association with Indian Academy of Sciences	Joint coordinator
06	Refresher course in experimental physics 22 Oct-3Nov 2007 in the department with the support of Indian Academy of Sciences, Bangalore.	Joint coordinator
07	3 day Workshop in experimental physics conducted in the department with the support of Indian Academy of Sciences, Bangalore.2009	Joint coordinator
08	APSER 2014	Joint coordinator and Resource

		person
09	NAAC Sponsored two day Workshop on “Towards Formulating Best Classroom Practices in Teaching-Learning and Evaluation” .	Joint coordinator
10	Annual Researchers Day-2015; Invited lecture by Dr.Sabu Thomas and Dr.K Nandakumar	Coordinator
11	Physics colloquium series; 2015, Solar Cells-Invited lecture by Dr.Uthanna, Tiruppathy	Coordinator
12	Physics colloquium series; 2015; Dr.K.J.Thomas-Cambridge University	Coordinator
13	International year of Light; conducting lectures and demonstrations by faculty from IIST-TVM-2015	Programme Coordinator
14	Training session for the teachers ;Interactive smart boards as teaching material-2015	Programme Coordinator
15	Physics colloquium series on Nonlinear Optics by Dr.Pramod Gopinath-IIST Trivandrum-2016	Programme Coordinator
16	Physics colloquium series : Gravitational waves-Invited Lecture-Dr.Archana Pai ,IISER Trivandrum-2016	Programme Coordinator
17	Orientation seminar for faculty members-Towards Sustaining Institutional Excellence	Programme Coordinator
18	Organizing invited lecture of Dr.George Varghese“For decisive contributions to the LEGO detector and the observation of gravitational waves”, ((on declaration of Nobel Prize 2017)	Programme Coordinator
19	Physics colloquium series : 'How did I discover Carbon nanotubes: Invited lecture by Prof.Sumio Iijima-2017	Programme Coordinator
20	Orientation session, led by Dr. George Varghese (Research Director and Emeritus Professor), for research scholars and Assistant professors-2017	Programme Coordinator
21	Physics colloquium series : Nanostructured materials for solar cells-Invited lecture by Dr. R Jose-University of Malaysia-2017	Programme Coordinator
22	APT workshop- Genesis of Quantum mechanics-2017	Programme Coordinator
23	National Seminar on Intellectual property Rights-2018	Programme Coordinator
24	One day Workshop on 'New Accreditation Process of NAAC'-Mar Ivanios College, Trivandrum-2018	Programme Coordinator and Resource person
25	Prof. Stephen Hawking memorial lecture by Dr.George Varghese-2018	Programme Coordinator
26	Invited Talk on Chips Manufacturing-Patenting activities by Dr. Ajoy P Jacob, Global Foundaries, New York USA-2018	Programme Coordinator
27	Orientation programme and bridge course for fresh physics graduate students; Resource person Dr.Premlet	Programme Coordinator
28	Establishing Sastraposhini scheme in 36 Government schools (Setting up of Physics, Chemistry and Biology labs in selected schools throughout in the Kerala state.	Worked as a team member
29	Establishing Green corps (National Green Corps) in number of college campuses in Kerala with the support of Ministry of Environment and Forest, Government of India	Worked as a team member
30	Establishment of Patent Information Centre in KSCSTE with the support of TIFAC, Ministry of Science & Technology.	Worked as a team member
31	Establishment of Kerala School of Mathematics, Kozhikode	Worked as a team member
32	International Webinar on Advneces in Functional Materials-26-28 June 2020	Advisory Committee

## Ph. D./ M.Phil. Students

Sl.No	Name of Student	Date of Registration ( For Ph.D. only)	U.O granting Registration*	Status
01	Dr.R.Pazhani	18.09.2002	Ac E1 B1/9065/2003	Awarded
02	Dr. Mathai K C	02.04.2004	Part Time Ac E1 B1/9065/2003	Awarded
03	Dr.H.Padmakumar	09.06.2005	Ac E1 B1/7469/05	Awarded
04	Dr.Vidya S	05.11.2011	Full Time Ac E1 B1/36693/2010	Awarded
05	Dr. Rejith P.P	05.01.2011	Full Time Ac E1 B1/36693/2010	Awarded
06	Dr. Sherin J S	30.01.2010	Part Time; No. KU- 09ZF009 Karunya University	Awarded
07	Mr.Mathew. C.T	30.07.2012	Full Time No.Ac E.1B.1. 13575/2012	Awarded
08	Ms. Lekshmi J S	01.08.2014	Part Time Ac E.B.4/114/11150/	Ongoing
09	Ms. Rini Varghese	01.04.2016	Part Time Ac E.B.4/114/11170/	Ongoing
10	Ms.Nayana Madhu	20/02/2016	Part Time AcEBVI(4)1715IPHYI12949 .	Ongoing
11	Ms. Steffy Maria Jose	29.07.2017	Full Time Ac E.VI(4)/117/14942/2017	Ongoing
12	Ms. Swapna Y B	29.07.2017	Full Time Ac. EVI(4)/117/PHY/15368/2017	Ongoing
13	Ms. Nayana Nirmal	02.07.2020	Completed Doctoral Committee	Ongoing
<b>M.Phil /M Tech students</b>				
14	Mr. Mathai K C	M Phil- 2002	Reg. No. 1870 University of Kerala	Awarded
15	Ms. Emily Mathew	M Phil- 2003	Reg. No. 2259-University of Kerala	Awarded
16	Ms Ancy Das	M Tech-2009	Reg. No. FUS070612 University of Kerala	Awarded
17	Ms Steffy Maria Jose	M Phil-2016	Reg. No. 21414940 Mahatma Gandhi University	Awarded
18	Ms. Bincy Joseph N	M Phil-2016	Reg. No. 21414938 Mahatma Gandhi University	Awarded

## Details of Major research projects.

Sl.No	Name of the project	Funding Agency	Amount sanctioned/utilized
01	Development of Advanced Electronic Ceramic Materials as Nano particles and their characterization	Fast Track Young Scientist Project, Department of Science and Technology, Government of India	Rs. 10,32 000.00 (Completed)
02	Development of Nanoparticles of CaTiO <sub>3</sub> , MgTiO <sub>3</sub> and their Combinatorial Ceramic Oxides through a novel modified combustion process for Microwave Applications: Department of Space,	Indian Space Research (ISRO) Government of India (Completed) Organisation	Rs.9,95,000.00 (Completed)

03	Study on the effect of addition of nano-particles of ceramic oxides on the critical current densities of $YBa_2Cu_3O_{7-\delta}$ superconducting thick films	Kerala State Council for Science Technology and Environment (KSCSTE) Government of Kerala	Rs 12,68,300.00 (Completed)
04	Development of $BaMO_3$ and $REBa_2MO_6$ (RE= Y, Sm, Gd, Yb, M=Nb and Sn), as nano particles for their applications as Electronic materials, microwave dielectric materials and substrate materials for High $T_c$ superconductors,	University Grants Commission, New Delhi UGC-MRP	Rs 7,11,600.00 (Completed)
05	Development of high quality nanostructured infrared transparent ceramics- Yttria ( $Y_2O_3$ ), Yttrium Aluminates ( $Y_2Al_2O_4$ ), Yttria-Magnesia ( $Y_2O_3-MgO$ ) and Magnesium Aluminate Spinel ( $Mg_2Al_2O_4$ ) composites, by a modified combustion method for improved IR Windows and domes.	Department of Science and Technology, Government of India DST-SERB	Rs. 28,75,745.00 (Completed)
06	FLAIR Research Excellence Award - Project	Kerala State Higher Education Council(KSHEC) Government of Kerala	Rs.50,000.00 (Completed)

### Details of Publication in peer-reviewed or UGC or University listed journals

Sl. No.	Title with page Nos.	Journal	UGC/ University ISSN/ ISBN No.	Whether peer reviewed or not/imp. factor	Research Score
1	Order—Disorder transformation and its effect on the properties of (Lanthanide) $2Zr1.5Hf0.5O7$ functional nanoceramics, <b>pp. 1-11</b>	Materials Research Bulletin <b>115</b> <a href="https://doi.org/10.1016/j.materresbull.2019.03.010">https://doi.org/10.1016/j.materresbull.2019.03.010</a>	0025-5408	Yes 2.587	6
2	Structural, optical and electrical characterizations of $Ln_6WO_{12}$ (Ln=La, Nd, Sm, Gd) nanoceramics143	Applied Physics A: Materials Science and Processing A (2019) 125:143	0947-8396	Yes 1.784	4.5
3	Structural optical and electrical properties of $RE_4Zr_3O_{12}$ (RE = Dy, Y, Er, and Yb) nanoceramics	Ionics_Vol 25, p5091–103(2019)	0947-7047	Yes 2.289	6
4	Structural, optical and ionic transport properties of $Dy_{2-x}La_xZr_2O_7$ nanoceramics <b>pp. 906-915</b>	Journal of Alloys and Compounds Volume 769, 15 November 2018, Pages 906-915	0925-8388	Yes 4.175	6

5	Structural and temperature dependent dielectric properties of nanocrystalline PbTiO <sub>3</sub> synthesized through auto-igniting combustion technique	Solid State Sciences <a href="https://doi.org/10.1016/j.solidstatesciences.2019.106025">https://doi.org/10.1016/j.solidstatesciences.2019.106025</a> .	ISSN: 1293-2558	Yes 2.155 (2018)	14
6	Structural, optical and impedance spectroscopic characterizations of RE <sub>2</sub> Zr <sub>2</sub> O <sub>7</sub> (RE = La, Y) ceramics <b>pp. 112-122</b>	Solid State Ionics <b>323</b>	0167-2738	Yes 2.886	6
7	Electrical and optical properties of pure and zirconium added dysprosium titanates <b>pp. 7600-7612</b>	Journal of Materials Science: Materials in Electronics <b>29(9)</b>	0957-4522 (Print) 1573-482X (Online)	Yes 2.195	6
8	Structural, Optical and Impedance Spectroscopic Characterizations of Nanocrystalline A <sub>2</sub> Ti <sub>2</sub> Zr <sub>5</sub> O <sub>16</sub> (A = Mg, Ca, Ba and Sr) <b>pp. 2417-2428</b>	Journal of Electronic Materials <b>47(4)</b>	0361-5235 (Print) 1543-186X (Online)	Yes 1.676	4.5
9	A comprehensive analysis of the influence of resistive coupled microwave sintering on the optical, thermal and hardness properties of infrared transparent yttria-magnesia composites	Ceramics International <b>43(18)</b> pp. 17048-17056	0272-8842	Yes 3.450	14
10	Structural and optical characterization of Y <sub>2</sub> Ti <sub>2</sub> O <sub>7</sub> and Y <sub>2</sub> Ti <sub>1.5</sub> Hf <sub>0.5</sub> O <sub>7</sub> nanomaterials <b>pp. 18497-18507</b>	Journal of Materials Science: Materials in Electronics <b>28(24)</b>	0957-4522 (Print) 1573-482X (Online)	Yes 2.195	6
11	Enhanced infrared transmission characteristics of microwave-sintered Y <sub>2</sub> O <sub>3</sub> -MgO nanocomposite <b>pp. 1171-1178</b>	Bulletin of Materials Science <b>40(6)</b>	0250-4707 (print version) 0973-7669 (Online)	Yes 1.264	10.5
12	Influence of La <sup>3+</sup> ion in the yttria matrix in improving the microhardness of infrared transparent nano La <sub>x</sub> Y <sub>2-x</sub> O <sub>3</sub> sintered via hybrid heating <b>pp. 240-250</b>	Journal of Advanced Ceramics <b>6(3)</b>	2226-4108 (Print) 2227-8508 (Online)	Yes 2.3	14
13	Electrical and Optical Properties of Nanocrystalline A <sub>8</sub> ZnNb <sub>6</sub> O <sub>24</sub> (A = Ba, Sr, Ca, Mg) Ceramics <b>pp. 5183-5192</b>	Journal of Electronic Materials <b>46(8)</b>	0361-5235 (Print) 1543-186X (Online)	Yes 1.676	10.5
14	Electrical and optical properties of nanocrystalline RE-Ti-Nb-O <sub>6</sub> (RE = Dy, Er, Gd, Yb) synthesized through a modified combustion method <b>pp. 151-159</b>	Journal of Asian Ceramic Societies <b>5(2)</b>	21870764	Yes 2.60	6
15	Electrical and optical properties of nanocrystalline RE-Ti-Nb-O <sub>6</sub> (RE = Ce, Pr, Nd and Sm) electronic material <b>pp. 5997-6007</b>	Journal of Materials Science: Materials in Electronics <b>28(8)</b>	0957-4522 (Print) 1573-482X (Online)	Yes 2.195	6
16	Hybrid Microwave Sintering of Infrared Transparent Nano-Y <sub>3</sub> Al <sub>5</sub> O <sub>12</sub> Synthesized by a Modified Combustion Technique <b>pp. 920-928</b>	International Journal of Applied Ceramic Technology <b>13(5)</b>	1744-7402	Yes 1.074	10.5
17	Single step combustion synthesis of nanocrystalline scheelite Ba <sub>0.5</sub> Sr <sub>0.5</sub> MoO <sub>4</sub> for optical and LTCC applications: Its structural, optical and dielectric properties <b>pp. 142-149</b>	Journal of Electroceramics <b>36(1-4)</b>	1385-3449 (Print) 1573-8663 (Online)	Yes 1.966	10.5
18	Enhanced infrared transmittance properties in ultrafine MgAl <sub>2</sub> O <sub>4</sub> nanoparticles synthesised by a single step combustion method, followed by hybrid	Infrared Physics and Technology <b>72</b>	1350-4495	Yes 2.313	14

	microwave sintering <b>pp. 153-159</b>				
19	Synthesis and characterization of nanocrystalline $A_{x-6}Sb_4ZrO_{18-x}$ (A = Ca, Sr and Ba) functional ceramics <b>pp. 245-253</b>	Solid State Ionics <b>278</b>	0167-2738	Yes 2.886	6
20	Synthesis and characterisation of $MoO_3$ and $WO_3$ nanorods for low temperature co-fired ceramic and optical applications <b>pp. 3243-3255</b>	Journal of Materials Science: Materials in Electronics <b>26(5)</b>	0957-4522 (Print) 1573-482X (Online)	Yes 2.195	14
21	Synthesis, characterization and photoluminescent properties of $BaZr_xNd_{1-x}O_3$ perovskites <b>pp. 173-177</b>	Journal of Alloys and Compounds <b>629</b>	0925-8388	Yes 4.175	6
22	Optical properties of nanocrystalline $HfO_2$ synthesized by an auto-igniting combustion synthesis <b>pp. 64-69</b>	Journal of Asian Ceramic Societies <b>3(1)</b>	21870764	Yes 2.60	14
23	Infrared transmittance of hybrid microwave sintered yttria <b>pp. 10070-10078</b>	Ceramics International <b>41(8)</b>	0272-8842	Yes 3.450	14
24	Preparation, Characterization, and Ionic Transport Properties of Nanoscale $Ln_2Zr_2O_7$ (Ln = Ce, Pr, Nd, Sm, Gd, Dy, Er, and Yb) Energy Materials <b>pp. 28-37</b>	Journal of Electronic Materials <b>44(1)</b>	0361-5235 (Print) 1543-186X (Online)	Yes 1.676	4.5
25	Dielectric properties of nano crystalline $LnTiNbO_6$ (Ln = Ce, Pr, Nd, Sm, Gd, Dy, Er, Yb) ceramics	IOP Conference Series: Materials Science and Engineering <b>73(1)</b>	Online ISSN: 1757-899X Print ISSN: 1757-8981	Yes	-
26	Structural, optical, and compactness characteristics of nanocrystalline $CaNb_2O_6$ synthesized through an autoigniting combustion method	Advances in Condensed Matter Physics <b>2014</b>	16878108 <b>16878124</b>	Yes 1.01	10.5
27	Nanocrystalline scheelite $SrWO_4$ : A low temperature co-fired ceramic optical material-synthesis and properties <b>pp. 693-701</b>	Journal of Materials Science: Materials in Electronics <b>25(2)</b>	0957-4522 (Print) 1573-482X (Online)	Yes 2.195	14
28	Flux-pinning properties of nanocrystalline $HfO_2$ added $YBa_2Cu_3O_{7-\delta}$ superconductor	Physica Status Solidi (B) Basic Research 251(4), pp. 809-814	ISSN-1862-6300	Yes 1.606	10.5
29	$SmBa_2NbO_6$ nanopowders, an effective percolation network medium for YBCO superconductors	Advances in Materials Science and Engineering 2013	ISSN-1687-8434	Yes 1.372	10.5
30	Synthesis, characterization, and low temperature sintering of nanostructured $BaWO_4$ for optical and LTCC applications	Advances in Condensed Matter Physics 2013	ISSN-16878124	Yes 0.959	7.
31	Structural properties and ionic conductivity of nanocrystalline $Zr_5Ti_7O_{24}$ ceramic synthesized by autoignited combustion technique	Journal of Electronic Materials 42(10), pp. 2953-2960	ISSN: 0361-5235	Yes 1.676	4.5
32	Synthesis and characterization of thermally stable, high Q, $Nd_xY_{1-x}TiTaO_6$ dielectric resonators	Journal of Alloys and Compounds 455 (2008) 475-479	ISSN: 0925-8388	Yes 4.175	6

33	A novel reaction path to barium dysprosium zirconate [Ba <sub>2</sub> DyZrO <sub>(6-δ)</sub> ] by the auto ignition combustion synthesis method	Materials Science in Semiconductor Processing 16(3), pp. 797-801	ISSN-1369-8001	Yes 2.722	14
34	Synthesis of Nanocrystalline CaWO <sub>4</sub> as Low-Temperature Co-fired Ceramic Material: Processing, Structural and Physical Properties	Journal of Electronic Materials 42(1), pp. 129-137	ISSN-0361-5235	Yes 1.676	10.5
35	Synthesis, structural analysis and dielectric properties of Ba <sub>8</sub> (Mg <sub>1-x</sub> Zn <sub>x</sub> )Nb <sub>6</sub> O <sub>24</sub> hexagonal perovskites	Ceramics International 38(8), pp. 6487-6494	ISSN:0272-8847	Yes 3.450	6
36	Characterizations and electrical properties of ZrTiO <sub>4</sub> ceramic	Materials Research Bulletin 47(11), pp. 3141-3147	ISSN-0025-5408	Yes 1.79	4.5
37	Synthesis, sintering and optical properties of CaMoO <sub>4</sub> : A promising scheelite LTCC and photoluminescent material	Physica Status Solidi (A) Applications and Materials Science 209(6), pp. 1067-1074	ISSN -1862-6300	Yes 1.606	10.5
38	Structural and dielectric studies of nanocrystalline calcium substituted magnesium titanate synthesized through an auto-igniting combustion technique	International Journal of Applied Ceramic Technology 9(2), pp. 366-373	ISSN -1546-542X	Yes 1.074	10.5
39	Impedance and modulus spectroscopic studies on 40PrTiTaO <sub>6</sub> + 60YTbNbO <sub>6</sub> ceramic composite	Journal of Materials Science: Materials in Electronics 23(3), pp. 653-658	ISSN -0957-4522	Yes 2.195	6
40	Dielectric and optical properties of ZnO and Eu <sub>2</sub> O <sub>3</sub> doped Pr <sub>0.22</sub> Y <sub>0.78</sub> TiTaO <sub>6</sub> ceramic	Journal of Materials Science: Materials in Electronics 23(2), pp. 370-375	ISSN -0957-4522	Yes 2.195	6
41	Enhancement of vortex pinning in YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-δ</sub> -BaHfO <sub>3</sub> superconductor-insulator system	Journal of Superconductivity and Novel Magnetism 25(6), pp. 1817-1822	ISSN-1557-1939	Yes 1.130	10.5
42	Dielectric and photoluminescent properties of (Ca <sub>2</sub> Mg <sub>3-x</sub> Pb <sub>x</sub> )A <sub>2</sub> (Ti <sub>0.75</sub> Zr <sub>0.25</sub> )O <sub>12</sub> [x = 0 & 0.25; A = Nb & Ta] microwave ceramics	Journal of Materials Science: Materials in Electronics 23(1), pp. 200-205	ISSN -0957-4522	Yes 2.195	6
43	Electrical, optical and vibrational characteristics of nano structured yttrium barium stannous oxide synthesized through a modified combustion method	Materials Research Bulletin 46(10), pp. 1723-1728	ISSN-0025-5408	Yes 1.79	10.5
44	Structural, dielectric and optical characterization of BaMoO <sub>4</sub> nano powder synthesized through an auto-igniting combustion technique	IOP Conference Series: Materials Science and Engineering 23(1)	ISSN -1757-899X	Yes 2	14
45	Structure, microwave dielectric and optical properties of Ln <sub>2/3</sub> Gd <sub>1/3</sub> TiNbO <sub>6</sub> (Ln=Ce, Pr, Nd and Sm) ceramics	Journal of Materials Science: Materials in Electronics 22(7), pp. 776-780	ISSN -0957-4522	Yes 2.195	6
46	Synthesis, structural analysis and microwave dielectric properties of LnTiSb <sub>x</sub> Nb <sub>1-x</sub> O <sub>6</sub> (Ln = Ce, Pr) ceramics	Journal of Materials Science: Materials in Electronics 22(7), pp. 741-744	ISSN -0957-4522	Yes 2.195	6

47	Synthesis, vacuum sintering and dielectric characterization of zirconia ( $t\text{-ZrO}_2$ ) nanopowder	Journal of Alloys and Compounds 509(24), pp. 6819-6823	ISSN-0925-8388	Yes 4.175	14
48	Optical and dielectric properties of lanthanide titanium tantalate and niobate ceramic composites	Journal of Materials Science: Materials in Electronics 22(4), pp. 384-388	ISSN -0957-4522	Yes 2.195	6
49	Structural, spectroscopic and microwave characterizations of ( $\text{Sm}_{0.5}\text{Y}_{0.5}\text{Ti}(\text{Nb}_{1-x}\text{Ta}_x)\text{O}_6$ ) ceramics	Journal of Materials Science: Materials in Electronics 22(3), pp. 228-232	ISSN -0957-4522	Yes 2.195	6
50	Structure and properties of nanocrystalline $\text{BaHfO}_3$ synthesized by an auto-igniting single step combustion technique	Ceramics International 37(2), pp. 567-571	ISSN-0272-8847	Yes 3.45	14
51	Structural analysis and properties of thermally stable $\text{Ba}_{0.8}\text{Mg}(\text{Nb}_{6-x}\text{Sb}_x)\text{O}_{24}$ microwave ceramics	Journal of Alloys and Compounds 509(5), pp. 2401-2406	ISSN-0925-8388	Yes 4.175	6
52	Structural and optical characterization of $\text{BaSnO}_3$ nanopowder synthesized through a novel combustion technique	Journal of Alloys and Compounds 509(5), pp. 1830-1835	ISSN-0925-8388	Yes 4.175	14
53	Influence of lead oxide addition on $\text{LnTiTaO}_6$ ( $\text{Ln} = \text{Ce}, \text{Pr}$ and $\text{Nd}$ ) microwave ceramics	Bulletin of Materials Science 34(1), pp. 125-128	ISSN-0250-4707	Yes 1.264	4.5
54	Microwave and photoluminescent characterizations of $(\text{Ca}_{2}\text{Mg}_3)(\text{X}_{1.75}\text{Sb}_{0.25})\text{TiO}_{12}$ [ $\text{X} = \text{Nb}$ and $\text{Ta}$ ] ceramics	Journal of Materials Science: Materials in Electronics 21(11), pp. 1191-1194	ISSN -0957-4522	Yes 2.195	6
55	Photoluminescence and dielectric properties of $\text{Eu}^{3+}$ substituted microwave ceramics	Journal of Materials Science: Materials in Electronics 21(11), pp. 1132-1136	ISSN -0957-4522	Yes 2.195	6
56	Nanocrystalline $\text{SrHfO}_3$ synthesized through a single step auto-igniting combustion technique and its characterization	Journal of Alloys and Compounds 508(2), pp. 532-535	ISSN -0925-8388	Yes 4.175	14
57	Structural, spectroscopic and dielectric investigations on $\text{Ba}_{0.8}\text{Zn}(\text{Nb}_{6-x}\text{Sb}_x)\text{O}_{24}$ microwave ceramics. pp. 1389-1395	Materials Research Bulletin 45(10), pp. 1389-1395	ISSN: 0025-5408	Yes 0.870(2013)	3
58	Fabrication and characterization of $x\text{PrTiTaO}_6(1-x)\text{YTlNbO}_6$ microwave ceramic composites pp. 151-154	Journal of Alloys and Compounds 504(1), pp. 151-154	ISSN-0925-8388	Yes 3.779(2018)	6
59	Synthesis of nanocrystalline magnesium titanate by an auto-igniting combustion technique and its structural, spectroscopic and dielectric properties pp. 761-765	Materials Research Bulletin 45(7), pp. 761-765	ISSN-0025-5408	Yes 0.870(2013)	7
60	Synthesis, characterization, and spectroscopic analysis of $\text{Nd}_x\text{Y}_{1-x}\text{TiNbO}_6$ microwave ceramics pp. E129-E134	International Journal of Applied Ceramic Technology 7(SUPPL. 1), pp. E129-E134	ISSN: 1546-542X E-ISSN 1744-7402	Yes 1.074(2019)	4.5



61	Synthesis, structural analysis and microwave dielectric properties of Bi <sub>x</sub> Ln <sub>1-x</sub> TiTaO <sub>6</sub> (Ln = Ce, Pr and Nd) ceramics pp. 27-32	Journal of Materials Science: Materials in Electronics 21(1), pp. 27-32	ISSN: 0957-4522  E-ISSN 1573-482X	Yes 2.019(2016)	6
62	FT-Raman and FT-IR vibrational spectroscopic studies of nanocrystalline Ba <sub>2</sub> RESbO <sub>6</sub> (RE = Sm, Gd, Dy and Y) perovskites pp. 167-170	Journal of Alloys and Compounds 480(2), pp. 167-170	ISSN-0925-8388	Yes 3.779(2018)	6
63	Effect of WO <sub>3</sub> and MoO <sub>3</sub> addition on LnTiTaO <sub>6</sub> (Ln = Ce, Pr and Nd) microwave ceramics pp. 648-652	Journal of Alloys and Compounds 478(1-2), pp. 648-652	ISSN-0925-8388	Yes 3.779(2018)	6
64	Synthesis, characterization and dielectric properties of nanocrystalline Ba <sub>2</sub> DySbO <sub>6</sub> perovskite pp. 778-781	Journal of Alloys and Compounds 475(1-2), pp. 778-781	ISSN-0925-8388	Yes 3.779(2018)	6
65	Nanocrystalline GdBa <sub>2</sub> HfO <sub>5.5</sub> perovskite dielectric material-A single-step synthesis and its characterization pp. 703-706	Journal of Physics and Chemistry of Solids 70(3-4), pp. 703-706	E-ISSN 0022-3697	Yes 2.048(2015)	14
66	Synthesis of low loss, thermally stable CexY <sub>1-x</sub> TiTaO <sub>6</sub> microwave ceramics pp. 276-279	Materials Research Bulletin 44(2), pp. 276-279	ISSN-0025-5408	Yes 0.870(2013)	3
67	Composites and solid solutions of Pr-Y titanium tantalate microwave ceramics pp. 551-554	Journal of Materials Science: Materials in Electronics 20(6), pp. 551-554	ISSN: 0957-4522  E-ISSN 1573-482X	Yes 2.019(2016)	6
68	Synthesis, characterization, sintering and dielectric properties of nanostructured perovskite-type oxide, Ba <sub>2</sub> GdSbO <sub>6</sub> pp. 719-722	Bulletin of Materials Science 31(5), pp. 719-722	ISSN 0250-4707  E-ISSN 0973-7669	0.870(2013)	3
69	Synthesis, characterization and microwave dielectric properties of nanocrystalline CaZrO <sub>3</sub> ceramics pp. 306-309	Journal of Alloys and Compounds 464(1-2), pp. 306-309	ISSN-0925-8388	Yes 3.779(2018)	14
70	Ln(Zr <sub>1/3</sub> Ti <sub>2/3</sub> )TaO <sub>6</sub> (Ln = Ce, Pr, Nd and Eu): A novel group of microwave ceramics pp. 675-677	Journal of Alloys and Compounds 461(1-2), pp. 675-677	ISSN-0925-8388	Yes 3.779(2018)	6
71	Synthesis, structure analysis, and microwave dielectric properties of LnTiSbxTa <sub>1-x</sub> O <sub>6</sub> (Ln = Ce, Pr, and Nd) ceramics pp. 347-352	International Journal of Applied Ceramic Technology 5(4), pp. 347-352	ISSN: 1546-542X  E-ISSN 1744-7402	Yes 1.074(2019)	4.5
72	Characterization and sintering of BaZrO <sub>3</sub> nanoparticles synthesized through a single-step combustion process pp. 528-531	Journal of Alloys and Compounds 458(1-2), pp. 528-531	ISSN-0925-8388	Yes 3.779(2018)	14
73	Synthesis, Characterization and Sintering, high Q, NdxY <sub>1-x</sub> TiTaO <sub>6</sub> dielectric resonators pp. 475-479	Journal of Alloys and Compounds 455(1-2), pp. 475-479	ISSN-0925-8388	Yes 3.779(2018)	6
74	Effect of Nb <sub>2</sub> O <sub>5</sub> substitution on the dielectric characteristics of DyTiTaO <sub>6</sub> microwave ceramics pp. 1064-1066	Materials Letters 62(6-7), pp. 1064-1066	ISSN: 0167-577X	Yes 3.019(2018)	6

75	Spectroscopic Investigations on Ln (Zr <sub>1/3</sub> Ti <sub>2/3</sub> ) TaO <sub>6</sub> (Ln = Ce, Pr, Nd and Eu) Ceramics pp. 131-134	AIP Conference Proceedings 1075, pp. 131-134	ISSN: 0094-243X E-ISSN 1551-7616	NIL	1.5
76	Influence of zinc oxide addition on LnTiTaO <sub>6</sub> (Ln = Pr, Sm and Dy) materials for dielectric resonators pp. 51-54	Materials Science and Engineering B: Solid-State Materials for Advanced Technology 143(1-3), pp. 51-54	ISSN: 0921-5107	Yes 3.507(2018)	6
77	Nanoparticles of SmBa <sub>2</sub> HfO <sub>5.5</sub> through a single step auto-igniting combustion technique and their characterization pp. 3102-3107	Physica Status Solidi (A) Applications and Materials Science 204(9), pp. 3102-3107	ISSN: 1862-6300 E-ISSN 1862-6319	Yes 1.606	10.5
78	Synthesis and characterization of Ba <sub>2</sub> SmSbO <sub>6</sub> nanoparticles pp. 1227-1234	Modern Physics Letters B 21(19), pp. 1227-1234	ISSN: 0217-9849 E-ISSN 1793-6640	Yes 0.731(2018)	3
79	Photoluminescence and dielectric properties of LnTiTaO <sub>6</sub> (Ln = Ce, Pr, Sm) polycrystals pp. 831-835	Journal of Materials Science: Materials in Electronics 18(8), pp. 831-835	ISSN: 0957-4522 E-ISSN 1573-482X	Yes 2.019(2016)	6
80	Synthesis of strontium zirconate as nanocrystals through a single step combustion process pp. 1592-1595	Materials Letters 61(7), pp. 1592-1595	ISSN: 0167-577X	Yes 3.019(2018)	14
81	Effect of ZnO doping on the microwave dielectric properties of LnTiNbO <sub>6</sub> (Ln = Sm or Dy) ceramics pp. 2814-2818	Materials Letters 60(23), pp. 2814-2818	ISSN: 0167-577X	Yes 3.019(2018)	6
82	Synthesis and characterization of Ba <sub>2</sub> YSbO <sub>6</sub> nanoparticles through a modified combustion process,	Materials Letters 61 4924– 4927 (2007)	ISSN: 0167-577X	Yes 3.019(2018)	6
83	Effect of Nb <sub>2</sub> O <sub>5</sub> addition on the dielectric characteristics of DyTiTaO <sub>6</sub> microwave ceramics,	Materials Letters (USA) 62 (2008) 1064– 1066	ISSN: 0167-577X	Yes 3.019(2018)	6
84	Synthesis, characterization, sintering and dielectric properties of nanostructured perovskite-type oxide, Ba <sub>2</sub> GdSbO <sub>6</sub>	Bull. Mater. Sci., Vol. 31, No. 5, October 2008, pp. 719–722. ©	ISSN 0250-4707 (print)	Yes 1.264 (2018)	4.5
85	Synthesis and characterization of nanocrystalline strontium titanate through a modified combustion method and its sintering and dielectric properties	Journal of Alloys and Compounds, 486,711-715(2009)	ISSN: 0925-8388	Yes 4.175(2018)	14
86.	Characterization, sintering and dielectric properties of nanocrystalline of barium titanate synthesized through a modified Combustion process.	Materials Characterization, 60,322-326(2009)	ISSN 1044-5803	Yes 3.22 (2018)	14

87	Microwave and photoluminescent characterizations of $(Ca_{2}Mg_{3})(X_{1.75}Sb_{0.25})TiO_{12}$ [X = Nb and Ta] ceramics	Journal of Materials Science Materials in Electronics 21(11):1191-1194	ISSN: 0957-4522 (Print) 1573-482X (Online)	Yes 2.195 (2018)	6
88	Band gap tuning and improved optical properties of ZrO <sub>2</sub> -SnO <sub>2</sub> nanocomposite thin films prepared by sol-gel route	IOP Conf. Series: Materials Science and Engineering 23 (2011) 012030doi:10.1088/1757-899X/23/1/012030	Print ISSN: 1757-8981	Yes NIL	1.5
89	Development, characterization, sintering, dielectric and optical properties of NdBa <sub>2</sub> ZrO <sub>5.5</sub> nanocrystals	Bull. Mater. Sci. p.1039 Vol 35 -2012	ISSN: 0250-4707 (Print) 0973-7669 (Online)	Yes 1.264 (2018)	4.5
90	Enhancement of photoluminescence emission intensity of zirconia thin films via aluminum doping for the application of solid state lighting in light emitting diode	Journal of Luminescence 132 (2012) 3077–3081	ISSN 0022-2313	Yes 2.961(2018)	6
91	Effect of sol concentration on the structural, morphological, optical and photoluminescence properties of zirconia thin films	Thin Solid Films 520 (2012) 2683–2688	ISSN 0040-6090	Yes 1.888(2018)	4.5
92	Optical and dielectric properties of SrMoO <sub>4</sub> powders prepared by the combustion synthesis method Research <i>Vol1, No. 3, Sept 2012, pp 191-204</i> DOI: <a href="https://doi.org/10.12989/amr.2012.1.3.191">https://doi.org/10.12989/amr.2012.1.3.191</a>	Advances in Materials Research <i>Vol1, No. 3, Sept 2012, pp 191-204</i>	ISSN: 2234179X, 22340912)	Yes NIL	3.5
93	Optical and dielectric properties of nano BaNbO <sub>3</sub> prepared by a combustion technique DOI: <a href="http://dx.doi.org/10.12989/scs.2013.2.3.000">http://dx.doi.org/10.12989/scs.2013.2.3.000</a>	Advances in Material Research, <i>Vol.2,No.3(2013)000-000</i>	ISSN: 2234179X, 22340912	Yes NIL	3.5
94	A study of dielectric and optical properties of nano crystalline Nb <sub>2</sub> O <sub>5</sub> synthesized by a modified combustion technique	International Journal of Applied Mathematical Sciences, 5 (2012) 43.	ISSN 0973-0176	Yes NIL	3.5
95	Structural, optical and compactness characteristics of nanocrystalline CaNb <sub>2</sub> O <sub>6</sub> synthesized through an auto-igniting combustion method	Advances in Condensed Matter Physics-2013 (2013) 735878	ISSN 1687-8108	Yes NIL	3.5
96	Variation in optical, dielectric and sintering behavior of nanocrystalline NdBa <sub>2</sub> NbO <sub>6</sub>	Advances in Materials Research- 2 (2013) 77.	ISSN: 2234179X2 2340912	Yes NIL	3.5
97.	Enhancement in the transport critical current density J <sub>c</sub> in YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-δ</sub> added with an insulating nano crystalline YBa <sub>2</sub> HfO <sub>5.5</sub> perovskite	AIP Conf. Proc. 1576, 25-28 (2014)	ISBN: 978-0-7354-1206-4	Yes NIL	3.5

98	Electrical Transport and Lowered Percolation Threshold in YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-δ</sub> -Nano-YBa <sub>2</sub> ZrO <sub>5.5</sub> Composites	Int. J. of Supercond. 2014, 1-7 (2014)		Yes NIL	3.5
99	Electrical and Dielectric Properties of ZnO and CeO <sub>2</sub> Doped ZrTi <sub>2</sub> O <sub>6</sub> Ceramic doi:0.1063/1.4861994	AIP Conference Proceedings- Optoelectronic Materials and Thinfilms 1576, 106 (2014);		Yes NIL	1.5
100	Optical properties of PrAlO <sub>3</sub> nano ceramic, doi: 10.1063/1.4861993	AIP conference Proceedings Optoelectronic Materials and Thin films 1576, 102 (2014);		Yes NIL	1.5
101	Combustion Synthesis and Magnetic Studies of Hausmannite, Mn <sub>3</sub> O <sub>4</sub> , nanoparticles	International Journal of Engineering Research and Development Volume 10, Issue 7 (July 2014), PP.34-41		Yes NIL	3.5
102	Study on the optical band gap and photoluminescence of PbMoO <sub>4</sub> nano powder synthesized by an auto igniting combustion technique	IOP Conf. Series: Materials Science and Engineering 73 (2015) 012120	Online ISSN: 1757-899X Print ISSN: 1757-8981	Yes 0.197(SJR)	7
103	Effect of addition of BaTiO <sub>3</sub> nano particles on the electrical transport properties of YBCO superconductor	IOP Conf. Series: Materials Science and Engineering 73 (2015) 012146	Online ISSN: 1757-899X Print ISSN: 1757-8981	Yes 0.197(SJR)	7
104	Structural, Optical and Vibrational Characterization of Infrared -Transparent Nanostructured MgAl <sub>2</sub> O <sub>4</sub> Synthesized by a Modified Combustion Technique	Materials Today: Proceedings 2 ( 2015 ) 954 – 958	ISSN 2214-7853	Yes Cite score 1.09	10.5
105	Microwave Sintering of Infrared-Transparent Nanostructured MgAl <sub>2</sub> O <sub>4</sub> Synthesized by a Modified Combustion Technique,	International Journal of Engineering Research and Technology Conference Proceedings, 3[8] (2015) 29-32	ISSN 2249-8958	Yes 5.97 (2018)	17.5
106	Influence of YBa <sub>2</sub> HfO <sub>5.5</sub> - a 'derived secondary phase' on the critical current density and flux-Pinning force of YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-δ</sub> thick films	Cryogenics 72 (2015) 1–8	ISSN 0011-2275	Yes 1.336 (2018)	10.5
107	Structural, optical and dielectric characterization of nanocrystalline AMo <sub>0.5</sub> W <sub>0.5</sub> O <sub>4</sub> (where A=Ba,Sr and Ca) prepared by single step modified combustion technique	Materials Today: Proceedings 2 ( 2015 ) 904 – 908	ISSN 2214-7853	Yes Cite score 1.09	10.5
108	Improvement of critical current density in YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-d</sub> superconductor with nano TiO <sub>2</sub> addition	Materials Today: Proceedings 2 ( 2015 ) 997 – 1001 2214-7853	ISSN 2214-7853	Yes Cite score 1.09	10.5

109	Studies on the structural, optical and electrical properties of CeO <sub>2</sub> /SnPc nanocomposite for electronic applications	Journal of Materials Science:Materials in Electronics, ISSN 0957-4522, DOI 10.1007/s10854-016-5636-5	ISSN-0957-4522	Yes 2.195 (2018)	6
110	Effect of resistive coupled microwave sintering on the microhardness and thermal properties of infrared transparent nano yttria	International Journal of Materials Science, 12 [2] (2017) 239-258.	ISSN 0973-4589	Yes	
111	Electrical and optical properties of nanocrystalline RE-Ti-Nb-O <sub>6</sub> (RE = Dy, Er, Gd, Yb) synthesized through a modified combustion method	Journal of Asian Ceramic Societies- Volume 5, 2017 - Issue 2 2017' ISSN: 2187-0764	ISSN 2187-0764	Yes 1.24 (2018)	4.5
112	Structural and temperature dependent dielectric properties of nanocrystalline PbTiO <sub>3</sub> synthesized through auto-igniting combustion technique	Solid State Sciences Volume 98, December 2019, 106025	ISSN 1293-2558	Yes 2.155 (2018)	14
113	Development of Ba <sub>2</sub> REMO <sub>6</sub> (RE=Rare-Earth, M=Hf, Zr, Sn, Nb, Sb): A New class of Substrate materials for high T <sub>c</sub> Superconductors	Metal, Materials and Processes 13, 301, (2002)(India)	No	Yes (0)	0.15
114	Synthesis and characterisation of SmBa <sub>2</sub> HfO <sub>5.5</sub> and its use as substrate for high T <sub>c</sub> superconductors	International Journal of Inorganic Materials 3, 737 (2001)	ISSN 14666049	Yes 1.08(2001)	7
115	Superconducting YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-x</sub> and YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-x</sub> -Ag thick films by dip coating on YBa <sub>2</sub> HfO <sub>5.5</sub> ceramic substrates	Mat. Lett., 25, 301-304 (1995)	ISSN 0167-577x	Yes 3.019(2018)	14
116	Superconducting YBCO and YBCO-Ag thick film (T <sub>c(0)</sub> = 92 K) by dip coating on GdBa <sub>2</sub> HfO <sub>5.5</sub> , a new perovskite ceramic substrate	Supercond. Sci. Technol., 8, 825 (1995)	ISSN: 0953-2048	Yes 2.861(2018)	14
117	Electrical transport and superconductivity in YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-x</sub> -YBa <sub>2</sub> HfO <sub>5.5</sub> a percolation system	J. Appl. Phys., 76,4, 2376 (1994)	ISSN- 0021-8979	Yes 2.328 (2018)	14
118	Superconductivity in YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-x</sub> -YBa <sub>2</sub> HfO <sub>5.5</sub> composites by rapid quenching in air,	Physica C, 219, 141-144 (1994)	ISSN: 0921-4534	Yes 0.985(2018)	0.15
119	Rare-earth barium niobates: a new class of potential substrates for YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-x</sub> superconductors	Jap. J. Appl. Phys., 33, 117 -121(1994) (Japan)	ISSN: 0021-4922	Yes 1.471 (2018)	4.5

120	Development and characterisation of GdBa <sub>2</sub> NbO <sub>6</sub> , a new perovskite ceramic substrate for superconducting YBCO thick films	Mater. Letters, 17, 393 (1993)	ISSN 0167-577X	Yes 3.019(2018)	6
121	Superconducting YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-d</sub> thick film (T <sub>c(o)</sub> = 92 K) on SmBa <sub>2</sub> NbO <sub>6</sub> , a newly developed perovskite ceramic substrate	Physica C, 215, 209 - 212(1993)	ISSN: 09 21-4534	Yes 0.985(2018)	0.15
122	The structural and superconducting properties of the YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-x</sub> -HfO <sub>2</sub> system	Journal of Applied Physics, 73,7 3402 (1993)	ISSN- 0021-8979	Yes 2.328 (2018)	6
123	YBa <sub>2</sub> HfO <sub>5.5</sub> : Synthesis, properties and compatibility with YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-x</sub> .	Materials Letters, 15, 298-301 (1992)	ISSN 0167-577X	Yes 3.019(2018)	6
124	Preparation, characterization and properties of LnSmWO <sub>6</sub> (Ln = Nd and Dy) nanofunctional ceramics <a href="https://doi.org/10.1007/s12034-019-1887-0">https://doi.org/10.1007/s12034-019-1887-0</a>	Bull. Mater. Sci. (2019) 42:178 © Indian Academy of Sciences	ISSN: 0250-4707 (print); 0973-7669 (web)	Yes 0.870 (2013)	3

#### Articles/Chapters published in Books/Full papers in Seminar Proceedings

Sl. No	Title with Page Nos.	Book, Title, Editor & Publisher	ISSN/ISBN No.if any
01	Development of a substrate for superconducting microstrip transmission lines p.37-40	Proc. National Symp. Antennas and propagation, Cochin, 1993 (India)	NO
02	Superconductivity in YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-x</sub> -HfO <sub>2</sub> system p-348-351	Proc. Fifth Kerala Science Congress, Kottayam, 1993(India)	NO
03	YBa <sub>2</sub> HfO <sub>5.5</sub> : Synthesis, properties and compatibility with YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-x</sub> . P.363	Proc. Fifth Kerala Science Congress, Kottayam, 1993(India)	NO
04	Development of novel substrates for superconductor films	Indo-US Symposium on Thin Films, University of Pune 1993(India)	NO
05	Superconducting YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-x</sub> thick film (T <sub>c(o)</sub> = 92 K) by spin coating on GdBa <sub>2</sub> NbO <sub>6</sub> : a new non-reacting ceramic substrate P-304-306	Proc. Sixth Kerala Science Congress, Trivandrum, 1994(India)	NO
06	Superconducting YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-x</sub> thick film (T <sub>c(o)</sub> = 92 K) by screen printing on SmBa <sub>2</sub> SbO <sub>6</sub> , a newly developed cubic perovskite ceramic substrate P-306-308	Proc. Sixth Kerala Science Congress, Trivandrum, 1994(India)	NO
07	Rare Earth Barium Hafnates- Synthesis, Characterisation and their possible application as Substrates for high T <sub>c</sub> superconductors.	Proc. of the DAE Solid State Symposium, Bombay Vol 39(C) 1996. (India)	ISBN 81 7371 198 4;
08	Synthesis and characterisation of Barium holmium zirconate, a new perovskite oxide through a modified combustion process	Conference on perspectives in Physical metallurgy and Material Science July 12-14,(2001)	NO
09	High Temperature Superconductivity: Challenges in IPR Regime and Strategies for National Initiatives,	Proceedings of the National Seminar on Challenges in IPR regime and need for new Strategies for R&D	NO

		2001,Trivandrum,(India)	
10	A brief review of patent activities at Regional Research Laboratory(CSIR),Trivandrum on high Tc superconducting thick films on novel ceramic substrates	<a href="http://www.patentmatics.com">http://www.patentmatics.com</a> (Feb.2002) (India)	NO
11	Superconductivity, the technology for the 21 <sup>st</sup> century –a new vision, P-739	15 <sup>th</sup> Kerala Science Congress (2003). (India)	ISBN-81-86366-41-5 ISBN-81-86366-42-3
12	Nanoscience and nanotechnology ‘The way to the future’ Challenges in human resources Development. Compendium on HRD for Science and Technology,	DST, Government of Kerala, Trivandrum, (2003)	NO
13	Synthesis and Characterization of Nanoparticles of Yttrium Barium Hafnium Oxide by a Single Step Modified Combustion Route, Materials Science & Technology Materials Science & Technology, MS& T ,2006,	Proceedings Title: Nanostructured Materials: Synthesis, Characterization and Applications, October 2006 Cincinatti, Ohio (USA)	NO
14	Synthesis of Nano Particles of Electronic Ceramic Materials by a Modified Combustion Technique.	Advanced Workshop on Recent Developments in Nanomaterials’ 15 -19 January, 2007,(Poster) The Abdus Salam International Centre for Theoretical Physics, Strada Costiera 11, 34014 Trieste, (Italy)	NO
15	Sm <sub>3/4</sub> Er <sub>1/4</sub> TiNb <sub>x</sub> Ta <sub>1-x</sub> O <sub>6</sub> –Electronic materials for microwave communication,’	National Conference on Recent Trends in Optoelectronics & Laser Technology (NCOL 2007), University of Kerala, Trivandrum India (9-11April 2007) (India)	NO
16	Sr <sub>2</sub> (Sm Sb)O <sub>6</sub> an electronic perovskite ceramic material prepared as nano particles through a single step combustion technique	National Conference on Recent Trends in Optoelectronics & Laser Technology (NCOL 2007), University of Kerala,Trivandrum India (9-11April 2007) (India)	NO
17	Synthesis of Nanoparticles of Ceramic Materials,	Invited Lecture (National Seminar on Material Science, St. Thomas College ,Kozhencherry ,Kerala, India 23Feb2007) (India)	NO
18	Synthesis of Ceramic Dielectric Materials as Nanoparticles,	Invited Talk,National Seminar on OptoElectronic Phenomenon(NSOP)10-12August 2007,St.Aloysius College,Edathua(India)	NO
19	Microwave dielectric properties of nanocrystallineBaZrO <sub>3</sub> and SrZrO <sub>3</sub> ,	National Seminar on OptoElectronic Phenomenon(NSOP)10-12August 2007,St.Aloysius College,Edathua(India)	NO
20	Synthesis and Characterisation of BaNb <sub>2</sub> O <sub>6</sub> Nanoparticles	National Seminar on OptoElectronic Phenomenon(NSOP)10-12August 2007,St.Aloysius College,Edathua(India)	NO
21	Spectroscopic investigations on Ln(Zri/3Ti2/3)Ta06 (Ln = Ce, Pr, Nd and Eu)Ceramics	International Conference on Perspectives in Vibrational SpectroscopyICOPVS 2008 Trivandrum	ISBN 978-0-7354-0606-3
22	Single step combustion synthesis of Nano-crystalline BaTiO <sub>3</sub> ,	International Conference on Advanced Materials, February 18-21, 2008, School of Chemical Sciences, Mahatma Gandhi University, Kottayam.	NO
23	Synthesis, characterization and properties of (Sm <sub>0.5</sub> Y <sub>0.5</sub> )Ti(Nb <sub>x</sub> Ta <sub>1-x</sub> )O <sub>6</sub> microwave ceramics	International Conference on Advanced Functional Materials (ICAFM-2009) 9-10 December	NO

		2009,NIIST, Trivandrum	
24	Band gap tuning and improved optical properties of ZrO <sub>2</sub> - SnO <sub>2</sub> nanocomposite thin films prepared by sol-gel route	Functional Materials and Nanotechnologies 2011 5– 8 April 2011 IOP Conf .Series: Materials Science and Engineering IOP Conf. Ser.: Mater. Sci. Eng. 23 012030	doi:10.1088/1757-899X/23/1/012031
25	Synthesis and characterization of Microwave dielectric properties of LnPb <sub>x</sub> Ti <sub>1-x</sub> TaO <sub>6</sub> ceramics,	Indian Science Congress proceedings , Materials Science page 112 -2010	NO
26	Synthesis and photoluminescence of Sb and Pb substituted Ca <sub>2</sub> Mg <sub>3</sub> (Nb/Ta) <sub>2</sub> TiO <sub>12</sub> ceramics, M	Indian Science Congress proceedings , Materials Science page 111 -2010.	NO
27	Synthesis and characterization of Ln <sub>2/3</sub> Dy <sub>1/3</sub> TiNbO <sub>6</sub> microwave ceramics, ,	Indian Science Congress proceedings , Materials Science page 110 -2010.	NO
28	Synthesis characterization and properties of (Ce <sub>0.5</sub> Y <sub>0.5</sub> )Ti(Nb <sub>1-x</sub> Ta <sub>x</sub> ) <sub>0.6</sub> Microwave ceramics,	Indian Science Congress proceedings , Materials Science page 123 -2010.	NO
29	Structural assignment of b-cation sublattice type in Ba <sub>2</sub> LaTaO <sub>6</sub> and Ba <sub>2</sub> CeTaO <sub>6</sub> double perovskites,	National conference on Materials Science, Nagercoil 2010	NO
30	Structural and Optical properties of Sr MoO <sub>4</sub> ,	International conference of Advanced Materials ,IIST,ISRO, Trivandrum.2010	NO
31	An auto-igniting single step combustion synthesis	Proceedings of the Nanotechnology Materials and Devices Workshop 2010, The University of Cincinnati, Ohio, USA	NO
32	Enhanced transport critical current density in YBCO superconductor by the addition of nano HfO <sub>2</sub> synthesized through an auto igniting combustion synthesis, P-241	Proc. XXIII Kerala Science Congress, Trivandrum-2011	ISBN: 81-86366-74-1
33	Comparison of nano and micro scale synthesis of calcium magnesium titanate microwave ceramics P-232	Proc. XXIII Kerala Science Congress, Trivandrum-2011	ISBN: 81-86366-74-1
34	Synthesis and characterization of nanoparticles of Yttrium barium stannous oxide by a single step modified combustion route	Proc. XIII Indian Science congress, Chennai-2011	NO
35	Structural, dielectric and optical characterization of BaMoO <sub>4</sub> nano powder synthesized through an auto-igniting combustion technique ,	Functional Materials and Nanotechnologies 2011 5– 8 April 2011 IOP Conf .Series: Materials Science and Engineering 23 (2011) 012031	doi:10.1088/1757-899X/23/1/012031
36	Dielectric properties of nanocrystalline LnTiNbO <sub>6</sub> (Ln=Ce , Pr,Nd,Sm,Gd,Er,Yb) ceramics, .	International Conference on Materials Science & Technology ICMST-2012 Pala Kerala	doi:10.1088/1757-899X/73/1/012011
37	Effect of Addition of BaTiO <sub>3</sub> Nanoparticles on the Electrical Transport properties of YBCO superconductor,	International Conference on Materials Science & Technology ICMST-2012	doi:10.1088/1757-899X/73/1/012146
38	Study on the Optical Band gap and study of PbMoO <sub>4</sub> nanopowder synthesized by an auto igniting combustion technique.	International Conference on Materials Science & Technology ICMST-2012	doi:10.1088/1757-899X/73/1/012120
39	Improved transport J <sub>c</sub> and flux pinning force in nano structured BaTiO <sub>3</sub> added YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-δ</sub> superconductors, P-712	Proc. XXIV Kerala Science Congress, Kottayam-2012	ISBN: 81-86366-77-6
40	Synthesis and characterization of nano crystalline PrTiNbO <sub>6</sub> ceramic, “ P-673	24 <sup>th</sup> Kerala Science Congress 2012”	ISBN: 81-86366-77-6
41	Synthesis of CaWO <sub>4</sub> nanoparticles by combustion technique for LTCC and optical applications, “ P-679	Proc. XXIV Kerala Science Congress, Kottayam-2012	ISBN: 81-86366-77-6
42	Synthesis characterization and dielectric properties of ZrTi <sub>2</sub> O <sub>6</sub> ceramic, “ P-705	24 <sup>th</sup> Kerala Science Congress 2012”	ISBN: 81-86366-77-6
43	Synthesis characterization and dielectric properties of ZnNb <sub>2</sub> (TiZr)O <sub>8</sub> ceramic, “ P-683	24 <sup>th</sup> Kerala Science Congress 2012”	ISBN: 81-86366-77-6



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45	Enhancement of flux pinning in YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-δ</sub> superconductors by doping nanoparticles of insulating YBa <sub>2</sub> HfO <sub>5,5</sub> ,	Proc. XXV Kerala Science Congress, Trivandrum-2013	ISBN: 81-86366-74-1
46	Improved transport current density in nano HfO <sub>2</sub> added YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-x</sub> thick film, Proc. National Seminar on Materials; Process and applications of Novel Technologies	Proc. National Seminar on Materials; Process and applications of Novel Technologies (NMAT) , Trivandrum-2013	ISBN: 81-84-9
47	Optical properties of PrAlO <sub>3</sub> nano ceramic,	International Conference on Perspectives of Vibrational Spectroscopy (ICOPVS-2014), Thiruvananthapuram, Kerala (2014). AIP Conference Proceedings 1576, 102 (2014); doi: 10.1063/1.4861993	ISBN: 978-0-7354-1206-4
48	Electrical and dielectric properties of ZnO and CeO <sub>2</sub> doped ZrTi <sub>2</sub> O <sub>6</sub> ceramic	International Conference on Perspectives of Vibrational Spectroscopy (ICOPVS-2014), Thiruvananthapuram, Kerala (2014). AIP Conference Proceedings 1576, 106 (2014); doi: 10.1063/1.4861994	ISBN: 978-0-7354-1206-4
49	A study of structural, optical and dielectric properties of crystalline Sr <sub>2</sub> Nb <sub>2</sub> O <sub>7</sub> nanoparticles synthesized by a modified combustion technique	International Conference on Perspectives of Vibrational Spectroscopy (ICOPVS-2014), Thiruvananthapuram, Kerala (2014). AIP Conference Proceedings 1576, 186 (2014); doi: 10.1063/1.4862016	ISBN: 978-0-7354-1206-4
50	Optical and Vibrational Characterization of Infrared - Transparent Nanostructured MgAl <sub>2</sub> O <sub>4</sub> Synthesized by a Modified Combustion Technique,	International Conference on Perspectives of Vibrational Spectroscopy (ICOPVS-2014), Thiruvananthapuram, Kerala (2014).	ISBN: 978-0-7354-1206-4
51	Microwave Sintering of Infrared-Transparent Nanostructured MgAl <sub>2</sub> O <sub>4</sub> Synthesized by a Modified Combustion Technique,	National Seminar on New Materials and Nanotechnology (NSNMN), International Journal of Engineering Science & Technology	ISSN:2278-0181
52	Infrared-Transparent Nanostructured La <sub>0.3</sub> Y <sub>1.7</sub> O <sub>3</sub> Synthesized by a Modified Combustion Technique,	National Seminar on Advanced Materials Characterization and Techniques (AMCT'15),	NO
53	Sm/YTi (Ta/Nb) O <sub>6</sub> : Optical and Microwave Ceramic Composites,	5th International Conference on Perspectives in Vibrational Spectroscopy, Original Research Article,Pages 1036-1040 Materials Today: Proceedings, Volume 2, Issue 3, Pages 887-1056 (2015)	ISSN : 22147853
54	Synthesis and Characterization of Nano Crystalline Ca <sub>8</sub> ZnSb <sub>6</sub> O <sub>24</sub> Functional Ceramic	5th International Conference on Perspectives in Vibrational Spectroscopy, Materials Today: Proceedings, Volume 2, Issue 3, Pages 887-1056 (2015) 5th Original Research Article Pages 1031-1035	ISSN : 22147853
55	Optical and Dielectric Properties of Nano GdAlO <sub>3</sub> ,	5th International Conference on Perspectives in Vibrational Spectroscopy Materials Today: Proceedings Volume 2, Issue 3, Pages 887-1056 (2015), Original Research Article, Pages 1012-1016	ISSN : 22147853
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71	Synthesis of Dy <sup>3+</sup> ion doped nano crystalline Y <sub>2</sub> O <sub>3</sub> ceramics by a modified combustion technique.	ICMSR 2018	
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74	Resistive coupled microwave sintering of Y <sub>3</sub> Al <sub>5</sub> O <sub>12</sub> for infrared transparent window applications, International	International Conference on Recent Trends in Materials Science and Technology (ICMST 2018),	
75	Synthesis and characterization of ZnO-Y <sub>2</sub> O <sub>3</sub> nanocomposites for their application as infrared transparent materials,	International Conference on Molecular Spectroscopy (ICMS 2017),	
76	Synthesis of nano Lead Tungstate (PbWO <sub>4</sub> ) by Single Step Modified Combustion Process and Characterization for their application as LTCC and Optical Material	Materials Science and Technology (ICMST 2016), IOP Conference Series; Materials Science and Engineering, 360 (2018) 012016 doi:10.1088/1757-899X/360/1/012016.	ISSN : 1757899X, e- ISSN : 17578981
77	Structural and Spectroscopic Studies of Nanostructured Alumina Doped LaFeO <sub>3</sub> a Photo catalyst Ceramics Synthesized Through an Auto Igniting Combustion Synthesis	Materials Science and Technology (ICMST 2016), IOP Conference Series; Materials Science and Engineering, 360 (2018) 012026 doi:10.1088/1757-899X/360/1/012026	ISSN : 1757899X, e- ISSN : 17578981
78	Synthesis and characterization of ZnO-Y <sub>2</sub> O <sub>3</sub> nanocomposites for their application as infrared transparent materials	International Conference on Molecular Spectroscopy (ICMS 2017), Mahatma Gandhi University, Kottayam, Kerala (2017).	NO
79	Resistive coupled microwave sintering of Y <sub>3</sub> Al <sub>5</sub> O <sub>12</sub> for infrared transparent window applications	International Conference on Recent Trends in Materials Science and Technology (ICMST 2018), IISER, Thiruvananthapuram, Kerala (2018).	NO

## **EDITION OF BOOKS**

1. Associate Editor, "Proceedings of the 15<sup>th</sup> Kerala Science Congress 2003" Published by the Government of Kerala, Trivandrum, India
2. Associate Editor, "A Compendium on Human Resources Development for Science and Technology, 2003" Published by the Government of Kerala, Trivandrum, India.
3. Associate Editor, "A Compendium on the National Science Day 2003" Published by the Government of Kerala, Trivandrum, India.
4. Editorial Committee of "Perspectives in Vibrational Spectroscopy"—2009' published by American Institute of Physics, USA.
5. Manual for Experimental Physics-2009
6. Editorial Committee: Elsevier Materials Today 'Conference proceedings' 2015

## **PROFESSIONAL TRAINING**

1. Orientation course for college lecturers: 11th June to 8<sup>th</sup> July 1998  
Academic Staff College University of Kerala
2. Refresher course (physics) for college lecturers: 3-24<sup>th</sup> August 2001  
Academic Staff College University of Kerala
3. Beginner's Course of the Intel Teach to the Future Program,  
4<sup>th</sup> Dec 01 to 1<sup>st</sup> Jan 02 Mar Ivanios College Trivandrum
4. Training program Web-based systems development and database  
management at EPTRI Hyderabad 28<sup>th</sup> – 30<sup>th</sup> Nov, 2002
5. Computer Software training course at ER&DCI Government of India  
Trivandrum 6<sup>th</sup> - 13<sup>th</sup> Jan 03.
6. Training on Scientometry at M.S.Swaminathan Research Foundation  
Chennai 3<sup>rd</sup> - 9<sup>th</sup> April 2003
7. Training on Patent Drafting at TIFAC New Delhi
8. National seminar on 'Intellectual Property Rights and Higher Education' 16 August 2006-Training in  
Drafting patent applications
9. Advanced Workshop on Recent Developments in Nanomaterials' 15-19 January, 2007, The Abdus Salam  
International Centre for Theoretical Physics, Strada Costiera 11, 34014, Trieste, Italy-Training in  
Computational Nanoscience
10. National Workshop - CPE Colleges, University Grants Commission, PSG College Coimbatore, 22-23  
March 2007
11. National workshop in Experimental Physics, Indian Academy of Sciences, 2007, 2008, 2009-Hand on  
training in experimental physics
12. Nanotechnology Materials and Devices Workshop 2010, University of Cincinnati, Ohio, USA. - Hand on  
training in nano labs
13. International Conference on Functional Materials and Nanotechnologies 2011, Institute of Solid State  
Physics, University of Latvia. Hand on training in nano labs
14. International Conference on Nanotechnology, Nanomaterials & Thin Films for Energy Applications  
(NANOENERGY 2015), during 1-3<sup>rd</sup> June 2015 to be held at Manchester Conference Centre,  
Manchester, UK.