

## CURRICULUM VITAE OF DR. K.R.S. PREETHI MEHER

Dr. K.R.S. Preethi Meher,  
 Department of Materials Science,  
 CLC 1A Building,  
 Central University of Tamil Nadu, Neelakudi  
 campus,  
 Kangalancherry post, Thiruvarur 610101  
[preethimeher@cutn.ac.in](mailto:preethimeher@cutn.ac.in) ; meherhere@gmail.com  
 9445203531

- A. Academic Qualification and Experience
- B. Honors/Awards
- C. Research Credentials
- D. Academic activities
- E. Institutional activities
- F. Personal

### A. Academic Qualification and Experience

#### 1. Details of the Academic Qualification in chronological order

	Degree	Year	Subject	University/ Institution	% of marks
1	B.Sc.	2001	Physics	University of Madras	73.3
2	M.Sc.	2003	Physics	University of Madras	73.2
3	M.Phil	2004	Physics	University of Madras	71.7
4	Ph.D.	2012	Materials Research	Indian Institute of Science Bangalore	6.8/8.0 CGPA (coursework)

2. Ph.D. Thesis Title, Guide's name, Institute/Organization/University, Year of Award: “Structural and Ferroic characteristics of  $Sr_2TiMnO_6$ ,  $Sr_{1-x}Mn_xTiO_3$  ( $0.03 \geq x \leq 0.09$ ) and  $Bi_4Ti_3O_{12}-BiFeO_3$ ”, Professor K.B.R. Varma, Materials Research Center, Indian Institute of Science, 2012

#### 3. Work Experience (in chronological order)

S. No	Position held	Name of the institute	From	To	Payscale
1	Assistant Professor	Central University of Tamil nadu, Thiruvarur	August 2016	Till date	Grade Pay 7000 INR
2	Research Associate	Indira Gandhi Center for Atomic Research Kalpakkam	September 2015	August 2016	38000 INR/month
2	Post-Doctoral Fellow	CNRS CRISMAT (ENSICAEN) France	September 2012	December 2013	2000 euros/month

#### 4. Professional Recognition/Honor/Award/Certificate/Fellowship

S. No	Name of award	Awarding Agency	Year
1	Fulbright Kalam Climate Change Fellowship – Academic and Professional Excellence	USIEF and William Fulbright Foundation USA	2023
2	Invited Participant at Indo French seminar on nanoscale energy harvesting systems	CEFIPRA and VIT Chennai	2016
3	Erasmus Mundus Willpower Fellowship	European Commission, France	2010
4	CNRS Post-doctoral Fellowship	CNRS France	2013
5	University IV rank in M.Sc. Physics examination	University of Madras	2003

### A. Research Area and Credentials

1. Current Research Areas being pursued:

- Synthesis of new inorganic/organic perovskite halides for various optoelectronics applications
- X-ray diffraction studies (both in-situ/ ex-situ such as temperature dependent studies to extract structural phase transitions, phase stability etc.) and Rietveld refinement as a tool to extract structural information of materials – expertise on FULLPROF
- Structure property correlation in multifunctional materials such as piezoelectric, ferroelectric and magnetoelectric materials

2. Research Projects

S. No	Name of Project	Awarding Agency	Value of project (INR)
1	UGC-Startup BSR Grant (2017-2019)	UGC	10,00,000
2	UGC-DAE-CSR Collaborative Research Scheme (2022-2025)	UGC-DAE-CSR (Ongoing)	2,26,000 Sanctioned for year I

3. Research/Doctoral students

S. No	Name of Student	Fellowship	Previous Post graduate Institution	Year of joining
1	Ms. Kayalvizhi	Institute Ph.D Fellowship	Department of Physics, Central University of Tamilnadu	2017 and Thesis submitted in June 2023
2	Mr. Niloy Basu	Institute Ph.D Fellowship	Department of Materials Science, Central University of Jammu	2019
3	Ms Roweena Agnes	UGC-DAE-CSR Project fellowship	Department of Physics, SASTRA Deemed to be University	2022

4. Research Facilities established at Central University of Tamilnadu

1.	High temperature programmable Furnaces, Vacuum Oven, Wet Chemistry laboratory for synthesis	4	R-F /DC sputtering system for thin films
2	Precision source meter (Keysight) and High resolution multimeter (Keithley)	5	High resolution optical microscope (Leica)
3	Electrochemical work station (C-H)	6	High energy ball mill (Fritsch GmBH) for synthesis

5. Collaboration with other National/international institutes

1	Dr. Antoine Maignan, CNRS Ensicaen France	2	Dr. Ranjith, IIT Hyderabad
3	Dr. Rajamani Raghunathan, UGC-DAE-CSR Indore	4	Dr. Murali D, IIITD Kurnool
5	Dr. Prabhu, ARCI, IIT Technopark Chennai	6	Dr. Rahul Vaish, IIT Mandi
7	Dr. S. Ayyappan, SRM Deemed to be University	8	Dr. Srinivas Satapathy, DAE-CAT Indore

6. Guidance of M.Tech Final year research projects at Central University of Tamilnadu

S. No	Name of Student	Title of the thesis	Year of joining
1	Mr. Sarbarigresan	Growth and studies of Na <sub>0.5</sub> Bi <sub>0.5</sub> TiO <sub>3</sub> thick films for lead free piezoelectric sensor applications (Internal Supervisor)	2017

2	Ms Spandan Kornepati	Bio inspired growth and characterization of apatite like structures for bio medical applications (Internal Supervisor)	2019
3	Ms Malar Maria Ancy	Compositional dependent structural stability of (1-x) BCT-xBZTO morphotropic composition (Internal Supervisor)	2020
4	Mr Atul Kumar Sahu	Synthesis and characterization of Nickel Cobalt Oxide incorporated with Poly (para phenlenediamine) NiCo <sub>2</sub> O <sub>4</sub> @PpPD for supercapacitor applications (Internal Supervisor)	2020
5	Mr Balanchandar	Micro mechanical and biological properties of plasma treated TiO <sub>2</sub> coating on PMMA for bio activation of medical devices (Internal Supervisor)	2020
6	Mr. Daniel Wilson	Formability improvement of incremental forming of Mg-Az31 alloy (Internal Supervisor)	2020
7	Mr Divyeswar Pratap	Synthesis and characterization of lead free piezoelectric Ba <sub>0.85</sub> Ca <sub>0.15</sub> Zr <sub>0.1</sub> Ti <sub>0.9</sub> O <sub>3</sub> -Ferrimagnetic BaFe <sub>12</sub> O <sub>19</sub> polycrystalline composites for magnetoelectric sensor applications (Project supervisor)	2020
8	Mr Ramanthan	Hydrothermal synthesis of pure and Cd doped Cesium lead Bromide (CsPbBr <sub>3</sub> ) for photovoltaic applications (Project supervisor)	2021
9	Mr Balaji	Synthesis and dielectric characterization of lead free piezoelectric Ba <sub>0.85</sub> Ca <sub>0.15</sub> Zr <sub>0.1</sub> Ti <sub>0.9</sub> O <sub>3</sub> for multifarious applications (Project supervisor)	2021
10	Mr Sudhan	Synthesis and Characterization of CdO nanofibers by electrospinning (Internal Supervisor)	2021
11	Mr. Sakthibalan	Synthesis and Characterization of electrospun ZnO nanofibers (Internal Supervisor)	2021
12	Ms Lakshmi Srujana	Synthesis and Characterization of Halogen plumbate nanocomposites (Project supervisor)	2022
13	Mr. Surendra Kumar	Synthesis and structural characterization of Bi <sub>0.5</sub> K <sub>0.5</sub> TiO <sub>3</sub> , BiFeO <sub>3</sub> -Bi <sub>0.5</sub> K <sub>0.5</sub> TiO <sub>3</sub> and BiFe <sub>0.9</sub> Co <sub>0.1</sub> O <sub>3</sub> -Bi <sub>0.5</sub> K <sub>0.5</sub> TiO <sub>3</sub> (Project supervisor)	2022
14	Mr Gold Suganth	Synthesis and Characterization of Nd doped BCZT ceramics for x=0.01, 0.015, 0.02, 0.025 for multifarious applications (Project supervisor)	2022
15	Mr. Dhanush Prabhu	Synthesis and Characterization of lead free piezoelectric Ba <sub>0.85</sub> Ca <sub>0.15</sub> Zr <sub>0.1</sub> Ti <sub>0.9</sub> O <sub>3</sub> – Ferrimagnetic BaFe <sub>12</sub> O <sub>19</sub> composites (Project supervisor)	2022
16	Mr. Janakirajan k	Synthesis of all Inorganic Ruddlesden Popper metal halide perovskites for Optoelectronic applications (Project supervisor)	2023
17	Mr.Mukilan	Synthesis, structural and optoelectronic characterization of Cs <sub>2</sub> AgBiBr <sub>6</sub> in the form of polycrystalline powders and thin films (Project supervisor)	2023
18	Ms. Soumya	Study of Chemical polishing effect on surface finishing and electrical properties of CdZnTe (Internal Supervisor)	2023
19	Mr Vigneswaran	Effects of Graphene flakes to improve the thermal and electrochemical performance of Li ion battery (Internal Supervisor)	2023

7. Publications after joining Central University of Tamil nadu (List of papers published in SCI journals yearwise)

S.No	Author(s)	Title	Name of journal	Vol	Page	Year
19	Kayalvizhi, Ayyappan Sathya, Suresh Perumal and <b>K.R.S.Preethi Meher</b>	Structural, Optoelectronic and Electrochemical behavior of the	Journal of Solid state chemistry	323	123997	2023

		mechanochemically synthesized CsPb1-xNaxBr3 (x= 0 to 0.15)				
18	G. Vijayaragavan, D. Prabhu, M.B. Ponnuchamy, <b>K.R.S. Preethi Meher</b> , Ravi Gautam, Mainak Saha, R. Gopalan, K.G. Pradeep	Microstructure evolution and phase analysis of Sm60Ni40 alloy	J Magnetism and Magnetic Materials	566	170323	2023
17	T. Kayalvizhi, Ayyappan Sathya and <b>K.R.S. Preethi Meher</b>	Hydrothermal synthesis of perovskite CsPbBr3: Spotlight on the role of Stoichiometry in Phase Formation Mechanism	Journal of Electronic Materials	51	3466	2022
16	S. Satapathy, Golla Prudhvi, Azam Ali Khan, Pratik Deshmukh, Anju Ahlawat, <b>K.R.S. Preethi Meher</b> and A.K. Karnal	MgFeO4/(BaCa)(ZrTi)O3 lead free ceramic composite: A study on multiferroic and magnetoelectric coupling properties at room temperature	Journal of Alloys and Compounds	853	156960	2021
15	T. Kayalvizhi, Ayyappan Sathya and <b>K.R.S. Preethi Meher</b>	Facile synthesis of monoclinic CsPbBr3 – for promising photovoltaic characteristics	AIP Conference proceedings	2265	030654	2020
14	<b>K.R.S.Preethi Meher</b> , V Caignaert, MM Seikh, B Raveau, A Maignan	Magnetoelectric coupling in ceramic of the Zn-doped CaBaCo4O7 pyroelectric ferrimagnet	Ceramics International	43	208	2017
13	J. Raj, G. Paramesh, Shri Prakash B., <b>K.R.S. Preethi Meher</b> and K.B.R. Varma	Origin of giant dielectric constant and conductivity behavior in Zn1-xMgxO (0≤ x≤ 0.1) ceramics	Materials Research Bulletin	74	1	2016

8. Publications before joining Central University of Tamil nadu (List of papers published in SCI journals yearwise)

S.No	Author(s)	Title	Name of journal	Vol	Page	Year
12	Seikh, Md.Motin , Caignaert, V. ; Suard, E. ; <b>Preethi Meher, K.R.S.</b> ; Maignan, A. ; Raveau, B.,	Closely related magnetic and dielectric transitions in the “114” magnetoelectric Zn-doped CaBaCo4O7	Journal of Applied Physics	116	244106	2014
11	Berthebaud, David ; <b>Meher, K. R. S. Preethi</b> ; Pelloquin, Denis, Maignan, A.	Synthesis, crystal structure and electronic properties of the new iron selenide Ba9Fe4Se16	Journal of Solid State Chemistry	211	184	2014
10	<b>K.R.S. Preethi Meher</b> , A. Wahl, Antoine Maignan,C. Martin,	Observation of electric polarization reversal and magnetodielectric	Physics Review B	89	144401	2014

	O.I.Lebedev	effect in orthochromites: A comparison between $\text{LuCrO}_3$ and $\text{ErCrO}_3$				
9	<b>K.R.S. Preethi Meher</b> , C. Martin, V. Caignart, F. Damay, Antoine Maignan	Multiferroics and Magnetolectrics: A Comparison between some Chromites and Cobaltites	Chemistry of Materials	26	830	2013
8	<b>K.R.S. Preethi Meher</b> , Rahul Vaish, J. Hou, Dalibor Krsmanovic, R.V. Kumar, K.B.R. Varma	Ferroelectric relaxor properties of $\text{Ca}_{0.18}\text{Sr}_{0.226}\text{Ba}_{0.574}\text{Nb}_2\text{O}_6$	Inter. Journal of Materials Research	104	168	2013
7	<b>K.R.S. Preethi Meher</b> , Christine B., Pierre-Eymeric Janolin and K.B.R. Varma	Synthesis dependent characteristics of $\text{Sr}_{1-x}\text{Mn}_x\text{TiO}_3$ ( $x=0.03, 0.05, 0.07$ and $0.09$ )	Journal of Solid State Chemistry	19	296	2012
6	<b>K.R.S. Preethi Meher</b> , Pierre-Eymeric Janolin, Nicolas Guiblin and K.B.R. Varma	High temperature phase transition studies and dielectric properties of $\text{Sr}_2\text{SbMnO}_6$	AIP Conf. Proceedings	1447	137	2012
5	Antara Baral, <b>K.R.S. Preethi Meher</b> and K.B.R. Varma	Improved Colossal dielectric behavior of $\text{Sr}_2\text{SbMnO}_6$ fabricated from powders obtained by Molten Salt Synthesis	Bulletin of Materials Science	34	53	2011
4	G. Paramesh, <b>K.R.S. Preethi Meher</b> , M. Niyaz Ahmad and K.B.R. Varma	Dielectric and impedance properties of $0.5\text{Li}_2\text{O}-0.5\text{K}_2\text{O}-2\text{B}_2\text{O}_3$ glasses	Integrated Ferroelectrics	118	95	2010
3	<b>K.R.S. Preethi Meher</b> and K.B.R. Varma	Structure dielectric and magnetic properties of $\text{Sr}_2\text{TiMnO}_6$	Journal of Applied Physics	108	094108	2010
2	<b>K.R.S. Preethi Meher</b> and K.B.R. Varma	$\text{Bi}_4\text{Ti}_3\text{O}_{12}-5\text{BiFeO}_3$ Aurivillius intergrowth: structural and ferroelectric properties	Journal of Applied Physics	106	124103	2009
1	<b>K.R.S. Preethi Meher</b> and K.B.R. Varma	Colossal dielectric behavior of semiconducting $\text{Sr}_2\text{TiMnO}_6$ ceramics	Journal of Applied Physics	105	034113	2009

9. Invited talks/Oral presentations (National and International)

a. Resource Person, <i>Two-Day workshop on Materials Preparation and Characteriation Techniques</i> organized by Department of Materials Science, CUTN on 23- 24 March 2023
b. Resource Person, <i>DST-SERB sponsored Webinar series</i> organized by MKM College of Arts and

Science, Coimbatore on 3rd March 2023
c. Resource Person, I-STEM conclave on technology management for women researchers, organized by I-STEM at Indian Institute of Science on 21-22 <sup>nd</sup> February 2023
d. Resource Person for Faculty development program <i>exploring fabrication techniques, characterization and applications of functional materials</i> organized by Government College of Engineering and Technology, Coimbatore from 13 <sup>th</sup> June 2022 to 26 <sup>th</sup> June.2022
e. Resource person for <i>Faculty development program on Nanomaterials : experimental design and theoretical methods</i> organized by IIITDM Kurnool and NIT Warangal from 15-21 <sup>st</sup> February 2021
f. K.R.S. Preethi Meher, <i>Clinching experimental evidence for room temperature ferromagnetism in 5mol% Mn doped SrTiO<sub>3</sub></i> , orally presented in Magnetism and Magnetic materials 2020 organized by IEEE USA from 3 <sup>rd</sup> Nov 2020 to 7 <sup>th</sup> Nov 2020
g. Invited Speaker "Multiferroic to multicaloric – a new paradigm in energy harvesting" presented as distinguished invited participant at <i>Indo-French Seminar on "Nanoscaled energy harvesting systems"</i> organized by Indo-French collaboration network CEFIPRA, CIMAP and VIT Chennai from 2 <sup>nd</sup> Feb to 4 <sup>th</sup> Feb 2016

#### 10. Conferences, meetings and workshops organized

<ul style="list-style-type: none"> <li>Coordinator of the <i>UGC-DAE-CSR Indore Awareness meeting on Ion beam accelerator facilities</i> held on 19<sup>th</sup> July 2022</li> </ul>
<ul style="list-style-type: none"> <li>Organizer of the <i>National Science Day Celebration</i> by Department of Materials Science CUTN on 7<sup>th</sup> March 2022</li> </ul>
<ul style="list-style-type: none"> <li>Organizing secretary, <i>National symposium on advanced functional materials (NSAFM) 2022</i> on 21<sup>st</sup> March 2022</li> </ul>
<ul style="list-style-type: none"> <li>Coordinator of the <i>UGC-DAE-CSR Indore Awareness meeting</i> for Southern India on 3<sup>rd</sup> Aug 2021</li> </ul>
<ul style="list-style-type: none"> <li>Organizer, <i>International Webinar on Recent advances in Materials Science</i>, 18<sup>th</sup> to 22<sup>nd</sup> June 2020</li> </ul>
<ul style="list-style-type: none"> <li>Organizer, <i>International conference on Recent advances in Materials science</i> held on 25<sup>th</sup> Feb 2020</li> </ul>
<ul style="list-style-type: none"> <li>Organizer, <i>National symposium on Advanced Functional Materials (NASAFM 2017)</i></li> </ul>

#### 11. Papers presented in conferences, workshops by students

a. Niloy Basu, A. Sathya and K.R.S. Preethi Meher, <i>Exploring CsPbI<sub>3</sub>–RbCl alloys: Stabilizing absorber for efficient and stable Perovskite Solar cells at ambient conditions</i> , SERB Sponsored 5th International Workshop on Advanced Functional Nanomaterials (IWAN-2023), 3-4 March 2023, Organized by Centre for Nanoscience and Technology (CNST) and Centre for Energy Storage Technologies (CEST), Anna University, Chennai-600025, Tamil Nadu
b. <u>A.Roweena Agnes</u> <sup>1</sup> , Ayyappan Sathya <sup>2</sup> , K.R.S. Preethi Meher <sup>*1</sup> , Vasant G. Sathe <sup>3</sup> and Rajamani Raghunathan <sup>3</sup> “Systematic modification of vibrational modes due to anion mixing in double perovskite halides Cs <sub>2</sub> AgBiBr <sub>6-x</sub> Cl <sub>x</sub> ” International conference on vibrational spectroscopy organized by UGC-DAE CSR Indore, December 2022
c. T. Kayalvizhi, A. Sathya and K.R.S. Preethi Meher, <i>Synthesis of pure and Na doped CsPbBr<sub>3</sub> and their optical properties</i> presented in National symposium on advanced functional materials NSAFM 2022” on 21 <sup>st</sup> March 2022
d. T. Kayalvizhi, A. Sathya and K.R.S. Preethi Meher, <i>Hydrothermal synthesis of monoclinic CsPbBr<sub>3</sub> – for promising photovoltaic characteristics</i> presented in “International conference on ” Recent advances in materials science organized by CUTN on 25 <sup>th</sup> Feb 2020
e. Roweena Agnes, A. Sathya and K.R.S. Preethi Meher, <i>Mechanochemical synthesis of lead free double perovskite elpasolite semiconductor nanocrystals and their optical properties</i> presented in “International conference on Recent advances in materials science” organized by CUTN on 25 <sup>th</sup> Feb 2020
f. T. Kayalvizhi, A. Sathya and K.R.S. Preethi Meher, <i>Facile synthesis of monoclinic CsPbBr<sub>3</sub> – for promising photovoltaic characteristics</i> presented in “DAE-SSPS symposium 2019” organized by BARC Mumbai and IIT Rajasthan on 20 <sup>th</sup> Dec 2019

#### B. Academic and Outreach Activities

1. Courses taught at **M.Tech Core courses:** MST2115 Quantum Mechanics and Electromagnetic

CUTN

theory

MST2122 Ceramics and Composite materials

MST2125 Properties of Materials laboratory

MST21E32 Crystallography and Materials design

<b>Elective course</b>		
2. Outreach activities	Reaching out to schools children	Organizer of Science day celebrations for school children – marked with experimental demonstrations, quiz and lab visits on March 2022
	Reaching out to Teachers	Resource person for Awareness and Oreintation program for high secondary school teachers under Rashtriya Avishkar Abhiyan on 28 <sup>th</sup> Feb 2017

1. Orientation and Refresher Courses attended
- 21-day Orientation course conducted by HRDC, Bangalore University from 1<sup>st</sup> June to 21<sup>st</sup> June 2017
- One-week Workshop conducted on Python programming by HRDC, Hyderabad Central University from
- 15-day Refresher course sponsored by STRIDE and conducted by Mizoram University
- 17 days Refresher course on Theoretical Physics sponsored by National Science Academies at Bishop Moore College, Mavelikara, Kerala

**C. Institutional Activities**

- Hostel Warden, Reasearch Scholar's Hostel, CUTN (April 2022 to now)
- Member of Day care committee which runs the Day care cum kindergarten school in the campus
- Department NAAC Coordinator
- Member of purchase committees for procurement of instrument/synthesis facilities

**D. Personal Information**

My husband Dr. Ayyappan is an Assistant Professor at the Department of Physics, SASTRA Deemed to be University Thanjavur

Hobbies: Reading Books and Classical dancer - Bharathanatyam