Dr. SATHYA SHEELA S.

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Research Experience

Post-Doctoral Researcher Dr. Geun Ho Gu's Meta Lab, KENTECH	11/2022 - Present
Assistant Professor RV Institute of Technology and Management, Bangalore, India	9/2020 - 10/2022
Summer Faculty Research Fellow Indian Institute of Technology, Delhi, India	6/2021 - 8/2021
Assistant Professor Jain University, Bangalore, India	5/2018 - 2/2020
Research Scholar National Institute of Technology, Tiruchirappalli, India	4/2012 - 12/2017
MONBUKAGAKUSHO Researcher JAIST, Ishikawa, Japan	10/2010 - 3/2012
MONBUKAGAKUSHO student Kanazawa University, Kanazawa, Japan	4/2010 - 10/2010
Research Scholar National Institute of Technology, Tiruchirappalli, India	7/2007 - 3/2010

Honors and Awards

Best Oral Presentation Award Int. Conf. on Sus. Mat. & Tech. for Bio & Ene. App., SSNRC, India	2022
Best Oral Presentation Award Int. Conf. on Novel Nano. for Innov. Res., Rathinam College, India	2021
Summer Faculty Research Fellow Indian Institute of Technology, Delhi, India	2021
Japanese Government Scholarship for Research MEXT, Japan & MHRD, India	2010
Best Poster Indo-US Workshop on Advanced Magnetic Materials and their Applications, IITB, India	2009
Graduate Aptitude Test in Engineering (GATE) Ministry of Education, Government of India	2007
Marthu Pandiyar Endowment Scholarship for securing highest marks in B.Sc. MKU, India	2005
Katie Wilcox memorial prize for distinguished leadership Lady Doak College, Madurai India	2005
Certificate of Academic Merit with Distinction Lady Doak College, Madurai, India	2005
Lady Doak prize for the Best Outgoing student Lady Doak College, Madurai, India	2005
P.T.R Palanivel Rajan Prize for outstanding performance in community program LDC, India	2005
Certificate of Merit-Cocurricular in Department Activities Lady Doak College, India	2005
Certificate of Special Honor Participation in various activities of the college LDC, India	2005
International Exchange Program on Service learning International Christian University, Tokyo	2004

External Support

Teachers Associateship for Research Excellence (not accepted)	SERB, India ₹ 17L	2022-2025

Service and Committees

Board of Studies Member	Lady Doak College, Madurai, India	2021- present

Publications

1. **Sathya Sheela S**., S. Anandan and N. Baskaran "Density Functional, Theory Studies of Structural Distortion in Lone Pair Substituted $LuMnO_3$", *Materials Today Communications*, vol. 24, pp 101079, 2020.
2. **Sathya Sheela S**., S. Anandan and N. Baskaran "Stabilization of E-type antiferromagnetic ordering in La and Y substituted orthorhombic $LuMnO_3$: A first-principles study", Physics Letters A, Vol. 383, pp. 125950, September 2019.
3. **Sathya Sheela S.**, Kanagaraj C and Baskaran Natesan, "**Ab initio investigations of A-site doping on the structure and electric polarization of $HoMnO_3$**", *AIP Conference proceedings*, Vol. 1665, pp. 090026-3, June 2015.
4. **Sathya Sheela S.** and N. Baskaran "**Magnetic ground state and electronic structure calculations of $PbMnO_3$ using DFT**", *Advanced Materials Research*, Vol. 895, pp. 420, February 2014.
5. **Sathya Sheela S**., C. Kanagaraj and N. Baskaran, "Theoretical investigations of structural and magnetic ground state stability of $BiMnO_3$." Physics Procedia, Vol. 54, pp. 132-137, November, 2014.
6. **Sathya Sheela, S.**, C. Kanagaraj and N. Baskaran, "**Electric polarization in ferromagnetic $Bi_{1/2}As_{1/2}MnO_3$: A First Principle Study**" *AIP Proceedings*, Vol. 1591, pp. 1663-1665, April 2014.
7. **Sathya Sheela S**., T. Ozaki, K. Yamauchi, T. Oguchi and N. Baskaran "Influence of lone pair doping on the multiferroic property of orthorhombic $HoMnO_3$: *Ab intio* prediction, *Journal of Physics: Condensed Matter*, Vol. 25, pp. 385901-8, August 2013.

Book Chapters

1. **Sathya Sheela S**., Aparna S and A. Supriya, "Electronic structure studies of $PbFeO_3$ using Density Functional theory calculations", Advances in Mechanical Engineering, Lecture Notes in Mechanical Engineering. Springer, pp 213-223, June, 2021.

Physics Education

A. Vijayakumar, **Sathya Sheela** and Israel Stalin, "Study of motion with linear time dependent variation of acceleration," *Bulletin of IAPT*, Feb 2007.

Presentations and Posters

1. **Sathya Sheela S.**, "Computational Design and Density functional theory studies of a new multiferroic: $Bi_{1/2}Sb_{1/2}FeO_3$", Three day International Conference on "Sustainable Materials and Technologies for Bio and Energy Applications (SMTBEA-2022)" organised by SSNRC, Chennai from 13th July to 15th July, 2022 (Oral Presentation).
2. **Sathya Sheela S.** ,"Electronic Structure studies of a probable multiferroic:$Bi_{1/2}Sn_{1/2}FeO_3$", Three day International Conference on "Sustainable Materials and Technologies for Bio and Energy Applications (SMTBEA-2022)" organised by SSNRC, Chennai from 13th July to 15th July, 2022 (Oral Presentation).
3. **Sathya Sheela S.** "Relationship: Respect and Reverence-Universal Human Values" at the Students Induction Program (Phase II) at RVITM, Bangalore, India on 9th June, 2022 (Invited Talk).
4. **Sathya Sheela S.** "Relationship: Respect and Reverence-Universal Human Values" at the Students Induction Program (Phase II) at RVITM, Bangalore, India on 08th June, 2022 (Invited Talk).
5. **Sathya Sheela S** "Activities for Active Teaching Learning Process" at the Online Faculty Development Program on ICT Tools for Effective Teaching & Learning Process on 1st April, 2022, RVITM, Bangalore, India (Invited Talk).
6. **Sathya Sheela S.** "Universal Human Values: Basic Human Aspiration" at the Students Induction Program (Phase I) at RVITM, Bangalore, India on 21st December, 2021 (Invited Talk).
7. **Sathya Sheela S.** "Introduction to Universal Human Values" at the Students Induction Program (Phase I) at RVITM, Bangalore, India on 20th December, 2021 (Invited Talk).
8. **Sathya Sheela S.** "Emergence of biaxial polarisation in lone pair substituted $HoMnO_3$: A DFT study, International Scientific Conference "ACTUAL PROBLEMS OF SOLID STATE PHYSICS" held at Scientific-Practical Materials Research Centre of National Academy of Sciences of Belarus (Minsk 220072, Brovki str. 19, Belarus) from November 22- 26, 2021 (Oral Presentation).
9. **Sathya Sheela S.** and N. Baskaran "Effect of lone pair doping on the multiferroic properties of orthorhombic $LuMnO_3$: A first Principle study", International Virtual Conference on Materials Research (IVCMR-21) held at Easwari Engineering College(Autonomous), Ramapuram, Chennai, Tamilnadu, India during 26th-27th August 2021 (Oral Presentation).
10. **Sathya Sheela S.** and N. Baskaran "Theoretical explorations of the electronic structure of $Lu_{0.5}Sb_{0.5}MnO_3$: A DFT study", International Virtual Conference on Novel Nanomaterials for Innovative Research (ICNNIR-2021) organized by Department of Physics, Rathinam College of Arts and Science, Coimbatore, Tamil Nadu from 29th to 30th April, 2021 (Oral Presentation).
11. **Sathya Sheela S.** "Life Skill Education and its implications" at Sri Krishna College of Arts and Science, Coimbatore, India on 27th February, 2021 (Invited Talk).
12. Sathya Sheela S. "DFT of Multiferroics" at Lady Doak College, Madurai, India on 25th January, 2021 (Invited Talk).
13. **Sathya Sheela S.** "Electronic structure studies of $PbFeO_3$ using Density functional theory calculations", International conference - CAMSE-2020 organized by Shobhit University, Gangoh and STEM-Research Society, and Dr. Ambedkar National Institute of Technology, Punjab from 28th-30th December, 2020 (Oral Presentation).

14. **Sathya Sheela S.** and N. Baskaran "A First Principle density functional theory study of monoclinic $BiMnO_3$", The 6th International Conference on Chemical and Environmental Research (ICCER) – 2020 organized by PG & Research Department of Chemistry, Jamal Mohamed College, Tiruchirappalli, India on November 12th, 2020 (Oral Presentation).
15. **Sathya Sheela S.** and N. Baskaran "Electronic structure studies of Lu0.5As0.5MnO3 using first principle density functional theory", One Day International Conference on Recent Trends in Materials Science, PG and Research Department of Physics, Jamal Mohamed College, Tiruchirappalli, India on November 10th, 2020 (Oral Presentation).
16. Aparna S., A. Supriya, **Sathya Sheela S**., "First Principles Density Functional theory studies of the electronic structure of $PbFeO_3$", 11th Annual KSTA Conference, Bangalore, India, 1st- 2nd February, 2019 (POSTER).
17. **Sathya Sheela S**., Kanagaraj C. and Baskaran Natesan, "Ab initio Investigations of A-site Doping on the Structure and Electric Polarization of HoMnO3", DAE Solid State Physics Symposium, VIT University, Vellore, India, December 16-20, 2014 (POSTER).
18. **Sathya Sheela S**., Kanagaraj C. and Baskaran Natesan, "Theoretical investigations of structural and magnetic ground state stability of BiMnO3", International Conference on Magnetic Materials and Applications, IIT Guwahati, Assam, India, 05th – 07th December, 2013 (POSTER).
19. **Sathya Sheela S**., Kanagaraj C. and Baskaran Natesan, "Electric polarization in ferromagnetic $Bi_{1/2}As_{1/2}MnO_3$: A first principle study", DAE Solid State Physics Symposium, Thapar University, Patiala, India, December 17-21, 2013 (POSTER).
20. **Sathya Sheela S.** and Baskaran Natesan, "Magnetic Ground State and Electronic Structure Calculations of $PbMnO_3$ using DFT", 4th International Conference on Solid State Science and Technology, Malacca, Malaysia, December 18-20, 2012 (POSTER).
21. **Sathya Sheela. S**., T. Ozaki, K. Yamauchi, T. Oguchi and N. Baskaran "A First Principle exploration of A site ordered $Ho_{0.5}A_{0.5}MnO_3$ (A=Ge, Sn, Pb, As, Sb, Bi, Se, Te)", APS March meeting, Boston, USA, March 2012 (POSTER).
22. **Sathya Sheela S**., T. Ozaki, K. Yamauchi, T. Oguchi and N. Baskaran "A First principle structure dynamics study of doping lone pair cations to HoMnO3", Fundamental Physics of Ferroelectrics and Related Materials 2012, Argonne, IL USA, February, 2012 (POSTER).
23. **Sathya Sheela S** and N. Baskaran "First Principles study of Hexagonal and Orthorhombic $YMnO_3$", 2011 MRS Fall Meeting and Exhibit, Boston, MA, December, 2011(POSTER).
24. **Sathya Sheela S**., T. Ozaki, K. Yamauchi, T. Oguchi and N. Baskaran "A first principle study of A site ordered $Ho_{0.5}A_{0.5}MnO_3$ (A = Ge, Sn, Pb, As, Sb, Bi, Se, Te)", 14th Asian Workshop on First Principle Electronic structure calculations, Tokyo, Japan, 31st October - 2nd November, 2011(POSTER).
25. **Sathya Sheela S**., T. Ozaki and N. Baskaran "An ab initio study of the thermodynamical properties of the tetragonal 3C perovskite phase of PbMnO3", The fifth symposium on the next generation supercomputers, Kobe, Japan, 22nd - 23rd February, 2011(POSTER).
26. **Sathya Sheela S.**, T. Ozaki and N. Baskaran "A First Principle study of the multiferroic properties of the 3C perovskite of PbMnO3", 3rd APCTP workshop on multiferroics, Waseda University, Tokyo, Japan, 17th - 19th January, 2011 (POSTER).

27. **Sathya Sheela S.** and N. Baskaran "Ab-initio electronic structure studies of 3C perovskite phase of PbMnO3", International Conference on Nanoscience and Nanotechnology (ICONSAT-2010), Mumbai, India, 17th-20th February, 2010 (POSTER).
28. **Sathya Sheela S**. and N. Baskaran "First Principle studies of structure and spin ordering in BiMnO3", Indo-Us Workshop on Advanced Magnetic Materials and their Applications, Mumbai, India, 1st - 4th March, 2009 (POSTER).
29. Skorlans K. M., **Sathya Sheela S**. and N. Baskaran "Structural stabilization studies of YMnO3 by collinear magnetic ordering using ab-intio DFT calculations", Indo-Us Workshop on Advanced Magnetic Materials and their Applications, Mumbai, India, 1st - 4th March, 2009 (POSTER).
