

Dr. Shubha.S

Designation :Assistant Professor (Selection Grade)
Qualification :M.Sc. M.Phil, Ph.D
Experience :Teaching 16 years
Research- 1 year
Area of Interest :Physics Education Research, Material
Science, Computational Physics
Date of Joining at RVCE : 02/05/2005
Email ID :shubhas@rvce.edu.in

Project:
Number of Doctorate Students

Completed: 00 Guiding: 02

Publication

National Journals	National Conferences	International Journals	International Conferences	Book/Book Chapter Published	Patent Granted
	15	12	07	01/04	

Journal Publications (indexed in Google Scholar and Web of Science)

1. H.S. Anushree a, N. Sowmya b, H.C Manjunatha c, S. Shubha., "Fusion mechanism involved in the synthesis of superheavy element $Z > 118$ using Mn projectiles" Nuclear Analysis 3 (2024) 100124, pp. 1–7.
<https://doi.org/10.1016/j.nucana.2024.100124>
2. Schiopu, A.-G., Girish, B.M., Satish, B.M., **Shubha, S.**, "Wear and Hardness Characterization of Hot Forged Tungsten Carbide reinforced Aluminium 6061 Composite Materials", Engineering, Technology and Applied Science Research, 2024, 14(1), pp. 12688–12693. (**Q2 Journal**)
3. Geetha, P., Sudarmani, R., Venkataraman, C., Satyam, **S Shubha.**, "Finite Element Analysis of Graphene Based Solar Photonic Battery for Electric Vehicle," SAE Technical Paper 2023-28-0021, 2023, doi:10.4271/2023-28-0021.
4. Geetha, P., Sudarmani, R., Venkataraman, C., Satyam, **S Shubha.**, "Modeling and Verification of 1D Array Methyl Ammonium Lead Halide Perovskite Solar Cells for Electric Vehicles," SAE Technical Paper 2023-28-0026, 2023, doi:10.4271/2023-28-0026.
5. Seerangan, R.N., **Shubha, S.**, Vadivel, M., Kumar, S.P. et al., "Thermomechanical Study on Induction Preheating in Friction Stir Welding of Structural Steel Using COMSOL Software for Automotive Applications," SAE Technical Paper 2023-28-0034, 2023, doi:10.4271/2023-28-0034.
6. Madhura T. K, N Srikantamurthy and B.Sachuthananthan B. M. Rajesh, K. Chandra Kumar, Chandra , **S. Shubha**, "Synthesis, crystal structure, DFT, Hirshfeld Surface and Molecular docking studies of a novel chalcone derivative(E)-3-(2-chlorophenyl)-1-(2-fluoro-4-methoxyphenyl)prop-2-en-1-one", (2023), 12(4), 1451-1471.
7. B.M.Satish, **S. Shubha**, B.M.Girish and MohithKumar. Damping Performance of heat treated Magnesium AZ91 Alloy Hybrid Composites. Computer Integrated Manufacturing Systems, (2022), 28(12), 746–753.
8. **Shubha S**, Rajesh BM, Avadhani DN and Madhura TK, [Innovative Approach for the Study of Tuning Circuit with Open Source Tools](#). ECS Transactions (2022), 107(1), 1497, IOP Publishers. <https://doi.org/10.1149/10701.1497ecst>
9. Madhura TK, Rajesh BM, Chandra Kumar K, **Shubha S** and Chandra, Hirshfeld Surface Analysis, DFT Calculations And Molecular Docking Studies Of 2-Amino-N-(2-Fluorophenyl)-4,5,6,7-Tetrahydro-1-Benzothiophene-3-Carboxamide. ECS Transactions (2022), 107(1), 17113, IOP Publishers.
<https://doi.org/10.1149/10701.17113ecst>
10. **Shubha S** and B N Meera, the Effect of Visual Representation in Developing Conceptual Understanding of Magnetic Force. Springer: Journal of Formative Design in Learning (2019) 3:82–87. <https://doi.org/10.1007/s41686-019-00031-4>.

11. **Shubha S** and B N Meera, Students' Perception of Vector Representation in the Context of Electric Force and the Role of Simulation in Developing an Understanding. World Academy of Science, Engineering and Technology, International Journal of Social, Behavioral, Educational, Economic and Management Engineering, 9(2), 501-509,2015.
12. **Shubha S** and B N Meera, Impact of Visual Representation on the Conceptual Understanding of Abstract Physics Concept-Electric Flux. American Scientific Publishers Advanced Science, Engineering and Medicine, Volume 7, Number 7, July 2015, pp. 533-537(5).

Book Chapter

1. **Dr Shubha S**, Dr Rajesh B M, Dr Niranjana K M, A book on "**Comprehensive Solutions to Engineering Physics Numericals**" published at Amazon Kindle, ISBN 979-8327915947.(2024)
2. Published manual on "Practical Electronics Experiments: A Comprehensive Guide" **For under graduate Physics and Electronics students.**
https://read.amazon.in/kp/embed?asin=B0C5XY4N27&preview=newtab&linkCode=kpe&ref=cm_sw_r_kb_dp_V3XNC5Q9VA38B8PBMETY
3. Contributed chapter on simulation based learning in ebook "Compendium of some of the Innovative Teaching and Learning Practices in Science at the Secondary School Level of the Southern States "Regional Institute of Education (NCERT, New Delhi), Mysuru, 2022-23
4. D.N. Avadhani, B.M. Rajesh, **S. Shubha** and M.K. Sudha Kamath, "Critical Thinking in Model Based Simulation of Simple Harmonic Oscillator Using Scilab: Xcos" Proceedings of CTGZMA-2021, 156-163, Excel Publishers, ISBN: 978-93-91355-21-0 (e-Book)
5. **Shubha S** and B N Meera, "Role of interactive simulation in understanding the electric field", Proceedings of the sixth international conference to review research on Science, Technology and Mathematics Education, (Episteme 6), HBSCE, TIFR, Bombay, Cinnamontal Publishers, ISBN 978-93-85523-48-9, pp 347-355, 2015.

Publications in proceedings with ISBN

1. Rajesh BM, **Shubha S**, Avadhani DN, Satish BM and Madhura TK "study of damped oscillatory motion of spring-mass system using video analysis technique" epiSTEME 9 ,published in the Web Proceedings of epiSTEME 9, International Conference to Review Research in Science, Technology and Mathematics Education, 289-296, July 4—8, 2022.
2. Nikhil Chandra BS, Veeradhi Rohit, Siddarth Sai Amruth Yetikuri, Akshay Narayan Pai, Rajesh BM, **Shubha S**, "Study of sound beats using Expeyes",RAIMS 2019,76-81,2021. ISBN:978-93-89817-45-4

3. Vinay Varma B, Vishnu Sai Reddy, Shubham Jain , Sachin Goyal,Rajesh BM, **Shubha S**, “Study of frequency response of piezo disc by using expEYES”, RAIMS 2019,82-85,2021. ISBN:978-93-89817-45-4
4. Rajesh B M, **Shubha S**, Shashank K Holla and Pratap PV, “Optical fiber communication using an open source expEyes-17 device”, International Conference on Multidisciplinary Technologies & Challenges in Industry- 4.0,ICMTCI- 4.0,22-25, 2020. ISBN: 978-81-947738-3-2.

Research articles presented at International Conference

1. Rajesh BM, **Shubha S**, Avadhani DN, Satish BM and Madhura TK “study of damped oscillatory motion of spring-mass system using video analysis technique”, epiSTEME 9 , International Conference to Review Research in Science, Technology and Mathematics Education, July 4—8, 2022, HBSCE, TIFR, Mumbai, India.
2. **Shubha S**, Rajesh B M, Avadhani D N, Madhura T K, “Innovative approach for the study of tuning circuit with open source tools” ICTSGS-1, 29th - 30th November 2021.
3. Rajesh B M, **Shubha S**, Shashank K Holla and Pratap PV, “Optical fiber communication using an open source expEyes-17 device”, International Conference on Multidisciplinary Technologies & Challenges in Industry - 4.0(ICMTCI-4.0), September 18th -19th 2020, EPCET, Bangalore.
4. **Shubha S** and B N Meera, “The effect of visual representation in developing conceptual understanding of magnetic force” “Fifth IEEE International Conference on MOOCs, Innovation and Technology in Education - MITE2017, Oct 27th and 28th 2017, BMSCE, Bangalore.
5. **Shubha S** and B N Meera, “Role of interactive simulation in understanding the electric field”, Sixth International Conference on Science, Technology and Mathematics Education (Episteme 6), Dec 15th to 18th 2015, HBSCE, TIFR, Bombay.
6. **Shubha S** and B N Meera, “Students’ Perception of Vector Representation in the Context of Electric Force and the Role of Simulation in Developing an Understanding”, International Conference on Socio-Cultural Relationship and Education Pedagogy Learning Sciences, 31st Jan and 1st Feb 2015, Bali, Indonesia.
7. **Shubha S** and B N Meera, “Impact of Visual Representation on the Conceptual Understanding of Abstract Physics Concept-Electric Flux”, XIII international conference on Education and Human Development(ICEHD 2015), Jan 7th and Jan 8th 2015, New Delhi, India.

National Conference/Symposium

1. Akshat Jain, Kushagra Srivastava, Keshav Gupta, Rayyan Khan and **Shubha S** presented a paper in IUCEE Mini-Symposium on Effective Practices in Teaching-Learning “Spring Mass Damper System Simulation Using Xcos”, 23rd - 24th April 2022.
2. **Shubha S** presented a paper in AICTE sponsored National Conference in Association with ISTE “Critical Thinking in Model Based Simulation of Simple Harmonic Oscillator using scilab-XCOS” CTGZMA-2021, RVCE, 28th -29th October 2021.
3. “Hirshfeld surface analysis and DFT calculations of 2-amino-N-(2-fluorophenyl)-4,5,6,7-tetrahydro-1-benzothiophene-3-carboxamide” National Conference on Applied Sciences Synergising the Engineering and Technology, EPCET, 18th and 19th January, 2021.
4. **Shubha S**, presented a paper in one day seminar on “Physics Education Research and Outcomes”, 16th Feb 2019, M E S degree college, Bengaluru.
5. **Shubha S** and B N Meera, “Students’ mental models of abstract Physics concepts”, Teaching of the sciences in Higher education, Pedagogy and Research conference, 27th and 28th May 2016, Bangalore University, Bangalore.

Workshop/Seminar conducted /Organised

1. Worked as member of organizing committee in KSTA Sponsored five day workshop on "computational physics for higher education", 09th - 13th August 2021.
2. Dr Avadhani D N, Dr Rajesh B M and **Dr Shubha S**, Faculty Development Programme entitled “Computational Science in Engineering”, 15th -20th July 2019, AICTE sponsored Share and Mentor Institutions (Margadarshan) Scheme, organized by department of Physics, Chemistry and Mathematics, R V College of Engineering, Bengaluru.
3. Dr Rajesh B M and **Dr Shubha S**, Faculty Development Programme entitled “ICT enabled Physics Experiments and Training on Thin Film solar cells”, 22nd -27th October 2018, sponsored by KSTA and CoE- Macroelectronics, Department of Physics, RV College of Engineering, Bengaluru.
4. Worked as member of organizing committee in one week FDP on “RECENT TRENDS IN ENGINEERING PHYSICS”, from 27th Feb – 4th March 2017 at RVCE under TEQIP.

Invited talk

1. **Dr Shubha S**, Delivered a talk on “Model based simulation of Harmonic Oscillator using Sci lab XCOS” on 8th February 2024, at Government First Grade College, Chikkaballapura.

2. **Dr Shubha S**, conducted a session on “Harmonic Oscillation using Tracker” during two weeks internship programme from 21st June 2023 to 05th July 2023 organized by Department of Mathematics and IQAC, R V College of Engineering, Bengaluru-59.
3. **Dr Shubha S**, Delivered a talk in the 5 day workshop under PAC titled “Development of a compendium of some of the innovative teaching and learning practices in science at the secondary level of the southern states” 3rd December 2022 and 4th February 2023, RIE(NCERT), Mysuru.
4. **Dr Shubha S**, Conducted a online session on “Modeling tool for Physics Education using Easy Java Simulation” in KSTA Sponsored five day workshop on "computational physics for higher education", 13th August 2021.
5. **Dr Shubha S**, Delivered a talk on “Concept learning and visualization through Simulation” in one day seminar on “Physics Education Research and Outcomes”, 16th Feb 2019, M E S degree college, Bengaluru.
6. Dr Rajesh B M and **Dr Shubha S**, conducted a session on Computer Interface Experiments using expEyes in DST INSPIRE BOOT CAMP, 28th December 2019, R V College of Engineering, Bengaluru.
7. Dr Rajesh B M and **Dr Shubha S**, conducted Hands-on Computer Interface Experiments using expEyes in Faculty Development Programme entitled “Computational Science in Engineering”, 15th -20th July 2019, AICTE sponsored Share and Mentor Institutions (Margadarshan) Scheme, organized by Department of Physics, Chemistry and Mathematics, R V College of Engineering, Bengaluru.

Session Chair

1. Session Chair on **19th September 2020** for the International Conference on Multidisciplinary Technologies & Challenges in Industry - 4.0(ICMTCI-4.0), EPCET, Bangalore.

Certificate Courses

1. Completed NPTEL online certification four week course on “Introduction to Quantum Computing: Quantum Algorithms and Qiskit” during July-Aug 2024.
2. Completed NPTEL online certification twelve week course on “Scientific computing using Python” during July-Oct 2023.
3. Completed NPTEL online certification eight week course on “Electronic properties of the Materials: Computational Approach” during Aug-Oct 2022.
4. Completed Coursera online certification five week course on “Linear Circuits 2 - AC Analysis” authorized by Georgia Institute of Technology, during January 2022.

5. Completed online certification five week course on "Introduction to Basic Vibrations" authorized by Korea Advanced Institute of Science and Technology (KAIST), during September 2020.
6. Completed Coursera online certification three week course on "Quantum Mechanics" authorized by University of Colorado Boulder, during June 2020.
7. Completed Coursera online certification five week course on "Learning to Teach Online" authorized by UNSW Sydney (The University of New South Wales), during June 2020.
8. Completed a course on "Effective and Efficient Online Teaching in the Age of Corona -A Hands On Workshop" by Teaching Learning Center (ICT) at IIT Bombay Funded by Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching on May 17th 2020.
9. Completed Coursera online certification seven week course on "Python Data Structures" authorized by University of Michigan during May 2020.
10. Completed Coursera online certification seven week course on "Programming for Everybody (Getting Started with Python)" authorized by University of Michigan during April-May 2020.
11. Completed TEQIP online certification (Funded by the Ministry of HRD, Govt. of India) two week course on "Digital Transformation in Teaching –Learning Process" during 06th April - 22nd April 2020.
12. Completed NPTEL four week course on "Designing learner centric e-learning in STEM disciplines" during July- Aug 2019.
13. Completed NPTEL 12 week course on "Semiconductor Optoelectronics" during Jan-Apr 2018.

Workshop/Seminar participated

1. Participated in Physics Teachers Training Programme jointly organized by Azim Premji University and Physics Training and Talent Search organization held from 28th June to 2nd July 2024, at Azim Premji University, Bangalore campus.
2. Participated in 5 Day Faculty Development Program on **Integrating Technology for Enhanced Learning** for I year course handling faculty, organised by Centre for Education & Digital Learning Research (CEDLR) in association with IUCCE-SPARK and IQAC, RV College Engineering, Bengaluru.
3. Participated in Physics Teachers Training Programme jointly organized by Azim Premji University and Physics Training and Talent Search organization held from 17th July to 21st July 2023, at Azim Premji University, Bangalore campus.

4. Participated in a five day workshop on “Augmented and virtual reality” from 17th to 21st April 2023, from organized by MCA, RVCE, Bengaluru.
5. Participated in a two day online workshop on “**Games for Classroom Teaching**”, 1st and 2nd June 2022 organized by the PMMMNMTT Teaching Learning Centre at the Centre for Science and Society(CS²), IISER, Bhopal.
6. Participated & completed successfully AICTE Training and Learning (ATAL) Academy Online Elementary FDP on "**Photonics**" from 19/07/2021 to 23/07/2021 at IIT Bhilai.
7. Participated in a one week workshop on “**Quantum Physics Simulations Using Gnumeric Worksheets**” organized by the Department of Physics and Astronomical Sciences Central University of Himachal Pradesh (CUHP) and Indian Association of Physics Teachers–Regional Council3 (IAPT-RC3), during 1 - 7 August, 2021.
8. Participated in a one day workshop on “**online Pilot workshop on Gnuplot** “was organised by the Teaching Learning Centre (ICT) at IIT Bombay,funded by the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT), MHRD, Govt. of India, on 22 May 2021
9. Participated in a online workshop on Universal Human Value on the theme “Inculcating Universal Human Values in Technical Education” organized by All India Council for Technical Education(AICTE), during 14-18 December, 2020.
10. Participated in a one day workshop on “ An introductory work shop on virtual lab” organized by Department of Physics, NIE, Mysuru,8th Dec 2020.
11. Participated in a one week online Faculty Development Program on “Recent Trends in Advanced Materials and Applications” organized by Department of Physics, NIE, Mysuru, during 19th - 23rd Oct 2020.
12. Participated in a five day online Faculty Development Program on "Thin Film Technologies: Fabrication, Characterization and Simulation", jointly organized by Interdisciplinary Research Centre (IDRC), Dept. of Physics, Chemistry, ECE, ME, Chemical Engineering and COE-Macroelectronics , R V College of Engineering, Bengaluru, during Aug 3-7, 2020.
13. Participated in a Hands-On Workshop” Moodle & its Features for Teaching – Learning and Evaluation Process”, RVCE, 27th – 31st July, 2020.
14. Participated in a Hands-On Workshop “The BodhiTree and SAFE Tools for Effective Online Teaching” training was organised by the Teaching Learning Centre (ICT) at IIT Bombay,funded by the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT), MHRD, Govt. of India, held from 18th to 24th June 2020.

15. Participated in one day workshop on “Scilab” , organized by Teaching learning centre,IIT Bombay, funded by PMMMNTT, 4th May 2019, Regional Center: K S School Of Engineering and Management, Bengaluru.
16. Participated in one day outreach programme on “Nano-Science and Technology : Trends and challenges” conducted by Centre for Nano and Soft Matter Sciences(CeNS) and organized by department of Chemistry and RVCE-Science Forum, 8th March 2019,R V college of Engineering, Bengaluru.
17. Participated in workshop on MOODLE (Modular Object – Oriented Dynamic Learning Environment), 24th and 25th April 2018, HKBK college of Engineering, Bengaluru.
18. Participated workshop on “Counselling the Counsellors”, 10th Feb 2018, Wonderla Resorts, organized by RVCE, Bengaluru.
19. Participated in one week FDP "Recent Advances in Engineering Physics" organized under TEQIP during 27th Feb to 4th March 2017, RVCE, Bangalore.
20. Participated in one week workshop on “Polymer and Polymer Nano Composites” organized under TEQIP during June 27- July 01, 2016, RVCE, Bangalore.
21. Participated in First International Conference on Large Area and Flexible Microelectronics (ILAFM 2014) organized under Centre of Excellence (TEQIP) Microelectronics during Dec 18-20, 2014, RVCE, Bangalore.
22. Participated in FDP on “RENEWABLE & HYBRID ENERGY TECHNOLOGIES” organized at RVCE during 18th to 22nd March 2013 under TEQIP.
23. Participated in the Teachers Training Programme “PEDAGOGY” organized by R V C E, during 20-25Aug 2012.
24. Participated in XXII REFRESHER COURSE IN EXPERIMENTAL PHYSICS during July 15th to 31st, 2010, organized by Indian Academy of Sciences and Department of Physics, Bangalore University, Bangalore-56.
25. Participated in two day workshop on “Python for scientific computing” during 30th April and 1st may 2010 conducted by FOSSEE and Ministry of HRD, held at Sir MVIT, Bangalore.
26. Participated in AICTE sponsored 12 days Staff development program on Sampling, Testing, Analysis and Interpretation of Water Quality Data (STAIWQ'09). Dec. 07-18, 2009 held at Civil Engineering Department, RVCE, Bangalore.
27. Participated in the Quality Improvement and Training programme on “Instructional Design and Delivery” conducted by National Institute of Technical

Teachers Training and Research, Chennai, organized by RVCE during 19th Jan – 24th Jan 2009 Bangalore – 59.

28. Participated in the AICTE sponsored QIP-STTP “Recent Trends in Atmospheric Sciences” at Dept of Physics, IIT Madras, Chennai during 16-22, August 2008.
29. Participated in a two day Outward Bound Learning program on “Counseling” at Pegasus Institute for Excellence, Bangalore centre during 12th and 13th April, 2008.
30. Participated in the AICTE sponsored training programme for faculty of Engineering Colleges and Managements Institutes conducted by Indian Heritage Academy, Bangalore during 18th-20th December 2007.
31. Participated in “Faculty Induction Training Programme” organized by RVCE, during March – April 2007.

Awards

1. Certificate of Honor Best Paper Gold for the paper entitled “Hirshfeld surface analysis and DFT calculations of 2-amino-N-(2-fluorophenyl)-4,5,6,7-tetrahydro-1-benzothiophene-3-carboxamide” National Conference on Applied Sciences Synergising the Engineering and Technology, 18th and 19th January 2021, EPCET, Bangalore.
2. Certificate of Honor Best Paper Gold for the paper entitled “Optical fiber communication using an open source expEyes-17 device”, International Conference on Multidisciplinary Technologies & Challenges in Industry - 4.0(ICMTCI-4.0), September 18th -19th 2020, EPCET, Bangalore.
3. Certificate of Honor for achieving academic excellence through M.Phil degree from ISTE- RVCE CHAPTER, academic year 2008-09.
4. Certificate of Honor for achieving academic excellence through doctoral degree from RSST and ISTE- RVCE CHAPTER, academic year 2017-18.

Ph.D Guiding: 02

SI No	USN	Name	Guiding	Title
1	1RV22PPY02	SUSHEELA R S	Ph.D. - Part Time	THEORETICAL INVESTIGATIONS ON EXPLORING NEW ISOTOPES FOR AMERICIUM, CURIUM, BERKELIUM, CALIFORNIUM AND EINSTEINIUM
2	1RV21PPY01	ANUSHREE H A	Ph.D. - Part Time	INVESTIGATIONS ON SYSTEMATICS OF THE FUSION REACTIONS INDUCED BY Se-80, Gd -158,U-238 AND Mn 55 BEAMS LEADING TO THE SYNTHESIS OF SUPER HEAVY ELEMENTS.

