



Dr. AVINASH V. ROKADE (M.Sc. M.Phil. Ph.D. Post Doc.)

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Google Scholar: <https://scholar.google.com/citations?authuser=1&user=o0G-cGwAAAAJ>

PERSONAL PROFILE

I am currently working as **Assistant Professor** in Department of Physics, at PDEAs Anantrao Pawar College, Pirangut, Pune. Previously I was working as a **post-doctoral fellow** in the **Symbiosis Centre for Nanoscience and Nanotechnology**, Symbiosis International University, Lavale, and **Department of Physics, Savitribai Phule Pune University**, Pune, Maharashtra, India. My research area is interdisciplinary in nature involving physics, chemistry, biology, materials science, energy studies, and more. The field of fabrication of photovoltaic devices such as solar cells, photodetectors using smart nanomaterials for clean, cost effective and renewable energy is an emerging field for future energy applications. The **energy storage** (supercapacitor, battery), **flexible polymer gel separator, and sensors** (gas, humidity & biological signals) is a current research topic of my research work. We work on investigation of physicochemical properties of bioactive, low toxic, biodegradable and biocompatible functional **natural polymers as a bioreceptors** & their addition to **graphene/CNT/Carbon NP/QDs** based composite nanostructures for **flexible electrochemical biosensors** (Potentio/Amperometric/Impedance). Our current work is on development of production of highly soluble and viscous functional natural polymers addition to carbon nanomaterials with the depolymerisation process in the presence of weak acid treatment and ultrasonication method for **flexible & portable medical health care devices**. It is my goal to support societies in their transition from a traditional energy future to a **better human health** with **sustainable** energy one, and provide information and advice on use of renewable energy, best practices, and strengthening green innovative technology for development healthy human environment. As my expertise in the novel nanomaterial synthesis, tuning their properties as per the desired application along with the interpretation of the characterization data will be highly useful for the development of the novel diagnostic tools such as biosensors, routine blood, urine monitoring devices etc.

I strongly believed that **learning without skills, hands-on practical and visualization is not possible**. Use of various tools during education and research can lead to novel development. I am curious about learning new things and teaching is my passion. Teaching is the most joyful, and satisfactory for me. Since my completion of my degree till today I am teaching to school level, diploma, graduate, postgraduate and research students. While teaching I have bridged gaps between theory and practical via hands-on training. I have designed more than **50 projects/experiments** during my college teaching and training workshops. **Over 2500 science graduates and post-graduates** has been trained in total fifteen workshops with practical hands-on training. It is my goal to support societies in their transition from a traditional energy future to a sustainable energy one, and provide information and advice on use of renewable energy, best practices, and strengthening green innovative technology for development healthy human environment.

RESEARCH AREA

- **Ultra-Sensitive Sensors:** Flexible/wearable Biosensors for early-stage detection of various diseases.
- **Nanomaterials Science:** Porous nanomaterials and biopolymers synthesis.
- **Energy Harvesting and Storage:** Solar Cell, Photocatalysis, Fuel Cell, Supercapacitors & Battery.

RESEARCH SKILLS

- **Materials Synthesis Techniques:** Electrochemical Deposition, Hydrothermal, Chemical Bath Deposition, Solution Casting, Hot injection, Sol-Gel, Spin Coating, Thermal Evaporation, Spray Pyrolysis Technique, Doctor Blade Method
- **Characterization Techniques:** UV-Visible Spectroscopy, Raman Spectroscopy, XRD, SEM, TEM, AFM, XPS, PL, FTIR, Cyclic Voltammetry measurement (CV), GCD (Galvanostatic Charge Discharge),

Electrochemical Impedance Spectroscopy(EIS), Mott-Schottky Analysis, Photoelectrochemical (PEC) cell Analysis, Chrono Potentio/Amperometry, Hydrogen Evolution Reaction Activity, Solar Cell Efficiency Measurement, Hall Effect Measurement, Electrochemical analysis methods including Sensors, Photodetectors, Super capacitors, Batteries, Fuel cell and Solar cell. Sensor fabrication, analysis & application measurements. Hands on working experience of electrochemical measurements for 10 years with programmable Potentiostat/Galvanostat with NOVA software using two and three electrode configurations.

RESEARCH EXPERIENCE and EDUCATION

- **2023** | **SPPU-PDF**, Symbiosis Centre for Nanoscience and Nanotechnology, SIU, Lavale, Pune, India.
Mentor – Prof. Atul Kulkarni
Title – Application Synthesis of nanomaterials and Device fabrication for electrochemical and optical Biosensors
- **2021–2023** | **SPPU-PDF**, Department of Physics, Savitribai Phule Pune University, India.
Mentor – Prof. Shrikrishna Sartale
Title –Metal-Chalcogenides Nanostructure Based Electrodes: Synthesis, Modification, and Device Fabrication for Hybrid Supercapacitor Application.
- **2014–2018** | **Ph.D. Physics**, Department of Physics, Savitribai Phule Pune University, India.
Supervisor – Prof. Sandesh R. Jadkar
Title – Synthesis and Opto-Electronic Properties of Metal Oxide Core-Shell Nano-Materials by Electrodeposition Method for Photoelectrochemical Water Splitting
- **2012–2014** | **M.Phil. Physics**, Department of Physics, Savitribai Phule Pune University,
Supervisor – Prof. Sandesh R. Jadkar
Title – Template free ZnO Nano-rods Arrays: Full growth control and optimization by electrodeposition.
- **2009–2011** | **M.Sc. Materials Science**, Department of Physics, Savitribai Phule Pune University, India.
Supervisor – Prof. Nandu B. Chaurse
Title – Electrochemical Deposition & Characterization of In₂Se₃ Thin Films & Nano Wires.
- **2006–2009** | **B.Sc. Physics**, Chandmal Tarachand Bora College, Shirur, Pune, India.

WORK EXPERIENCE

S. N.	Position held	Taught to	Name of the institute	From	To
8	Assistant Professor	B.Sc., M.Sc.	PDEAs, Anantrao Pawar College, Pirangut, Pune	3 Oct 2025	present
7	Assistant Professor	B.Sc., M.Sc.	PDEAs, Annasaheb Waghire College of ACS, Otur, Pune	1 Dec. 2023	3 Oct 2025
6	Post-doctoral Research Fellow	SCNN-SIU-PDF	Symbiosis Centre for Nanoscience and Nanotechnology, Symbiosis International University, Lavale, Pune	15 May 2023	31 July 2023
5	Post-doctoral Research Fellow	SPPU-PDF	Department of Physics, Savitribai Phule Pune University, Pune	18 Oct. 2021	15 May 2023
4	Assistant Professor	M.Tech.	School of Energy Studies, Savitribai Phule Pune University, Pune	11 Aug. 2020	17 Oct 2021
3	HOD & Assistant Professor	B.Voc., B.Sc., M.Sc.	Prof. Ramkrishna More ACS College, Akurdi, Pune	16 July 2018	31 May 2020

2	Visiting Lecturer	B.Sc., M.Sc.	Sir Parashurambhau College, Tilak Road, Pune	Sept. 2013	May 2014
1	HOD & Lecturer	D.Eng., B.Eng.	Sharadchandra Pawar College of Engineering, Otur	July 2012	Dec. 2012

SUBJECT TAUGHT DURING TEACHING at UNIVERSITY/COLLEGES/CLASSES

S.N.	Taught to	Name of the Subject
1	M.Sc. Physics	• Methods in Experimental Physics • Physics of Semiconductor Devices • Physics of Nanomaterials • Physics of Thin Films • Electrodynamics
2	M.Tech. Energy Technology	• Practical on Air Conditioner, • Solar Photovoltaic • Energy Storage (Battery) • Solar Thermal (ETC) • Air Conditioner (AC) • AC-DC Inverter Efficiency
3	B.Voc. (Automotive Electronics) B.Sc. (Physics)	• Basic Electronics • Analog Electronics • Digital Electronics • Electronics Instrumentation • Automotive Electronics • Practical on basic physical and optical properties • Electricity and Magnetism • Physics of Nanomaterials • Electronics-I • Electronics-II • Atomic and Molecular Physics • Elements of Material Science
4	Engineering Diploma (D.E.) Engineering Degree (B.E.)	• Basic Physics • Advance Physics • Experiments in Physics laboratory
5	HSC/SSC	• 11-12 State Board Physics; 8-10 ICSE/CBSC board Physics and Mathematics

SCHOLARSHIPS and AWARDS

S.N.	Name of Award	Awarding Agency	Year
8	Young Associate Award, MASc-2024	Maharashtra Academy of Sciences (MASc)	2024
7	Young Researcher of the Year Award-2024	5 th Int. e-Conf. by Prof. CD Lokhande Endowment Charitable Trust	2024

6	Awarded with SCNN-SIU-Post-Doctoral-Fellowship	SCNN, Symbiosis International University, Lavale, Pune	2023
5	Awarded with SPPU-Post-Doctoral-Fellowship	Savitribai Phule Pune University, Pune	2021
4	Dr. Ravikumar Bhalla Prize of Best Researcher	Indian Physics Association (IPA), Pune Chapter	2017
3	Junior Research Fellow (SRF)	NREF under MNRE	2016
2	Senior Research Fellow (JRF)	NREF under MNRE	2014
1	Prize of Lectureship 2009	Indian Physics Association (IPA), Pune Chapter	2009

BOOK CHAPTERS

Sr. No.	Title	Author Name	Publisher	Year
1.	Photoelectrochemical cell: A versatile device for sustainable hydrogen production	Vidhika Sharma, Mohit Prasad, Avinash Rokade , and Sandesh Jadkar	Photoelectrochemical Solar Cells (Vol. II), : WILEY-Scrivener, USA.	2018
2.	Sustainable Energy Harvesting Using Efficient α -Fe ₂ O ₃ Photoanode Through Photocatalytic Water Splitting Using Facile Chemical Route	Avinash Rokade , Vidhika Sharma, Mohit Prasad, and Sandesh Jadkar	Nanotechnology for Energy and Water: Springer Energy Proceedings	2017

LIST OF PUBLICATIONS

Sr. No.	Author	Title of Paper	Name of Journal	Vol.	Page	Year
49.	Avinash Rokade	Synthesis and characterization and functionalization of Hercynite nanoparticles for improved antibacterial activity	Journal of Experimental Nanoscience	19(1)	2416113	2024
48.	Avinash Rokade	Lead-Free Cs ₂ AgBiCl ₆ Double Perovskite: Experimental and Theoretical Insights into the Self-Trapping for Optoelectronic Applications	ACS Physical Chemistry Au	4(5)	476-489	2024
47.	Avinash Rokade	Synthesis and study of nickel sulfide nanoparticles and nanostructures for energy storage device applications	Nanosystems: Physics chemistry, Mathematics	15 (3)	398-409	2024
46.	Avinash Rokade	Fabrication of ZnO Scaffolded CdS Nanostructured Photoanodes with	ACS Langmuir	40 (13)	6884-	2024

		Enhanced Photoelectrochemical Water Splitting Activity under Visible Light				
45.	<u>Avinash Rokade</u>	Synthesis and Interface Engineering in Heterojunctions of Tin-Selenide-Based Nanostructures for Photo-electrochemical Water Splitting	ACS Applied Nano Materials	7 (2)	1986-1999	2024
44.	<u>Avinash Rokade</u>	High-performance CH ₃ NH ₃ PbI ₃ : PbS nanorod-based photodetectors fabricated using a slot die technique	Royal Society of Chemistry	48 (10)	4456-4466	2024
43.	<u>Avinash Rokade</u>	Pioneering method for the synthesis of lead sulfide (PbS) nanoparticles using a surfactant-free microemulsion scheme	RSC advances	14 (7)	4352-4361	2024
42.	<u>Avinash Rokade</u>	Effect of incorporation of SnS nanorods on the growth mechanism, crystallinity, optoelectronic performance, and stability of CH ₃ NH ₃ PbI ₃ perovskite active layer	ES Materials & Manufacturing	22 (2)	937	2024
41.	Ashish Thorat, Sneha Kandare, <u>Avinash Rokade</u> , Vikas Mathe, Vasant Bhorkar, Sanjay Dhole, Shailendra Dahiwal	Effect of low energy Argon Ion Irradiation on Work Function of AISI 304L Stainless Steel	Applied Physics A	129 (6)	417	2023
40.	V Salve, P Agale, <u>Avinash Rokade</u> , M Kamble, S Patange, P More	Zn _{1-x} CoxMn _{1-x} FexCrO ₄ ferrichromate: an efficient material for high performance supercapacitor applications	New Journal of Chemistry	47 (44)	20653	2023
39.	<u>Avinash Rokade</u> , Yogesh Jadhav, Sagar Jathar, Swati Rahane, Ganesh Rahane, Sandesh Jadkar	Realization of Electrochemically Grown α -Fe ₂ O ₃ Thin Films for Photoelectrochemical Water Splitting Application	Engineered Science 10.30919/es8d532 ISSN: 2576-988X	17	242	2022
38.	Gabhale, Bharat; Borate, Haribhau; Bhorde, Ajinkya; <u>Avinash Rokade</u> ; Sandesh Jadkar	Effect of boron doping on structural, optical, and electrical properties of hydrogenated nanocrystalline silicon thin films grown by Cat-CVD method	ES Materials & Manufacturing 10.30919/esmm5f725 ISSN: 2578-0611	18	84	2022
37.	Haribhau Borate, Ajinkya Bhorde, Vidhika Sharma, <u>Avinash Rokade</u> , Sandesh Jadkar	Single-step electrodeposition of CZTS thin film: Influence of complexing agent concentration	ES Materials & Manufacturing 10.30919/esmm5f723 ISSN: 2578-0611	17	34	2022
36.	Yogesh Hase, Yogesh Jadhav, Rahul Aher, Vidhika Sharma, Sachin Rondiya, <u>Avinash Rokade</u> , Sandesh Jadkar	Annealing temperature effect on structural and optoelectronic properties of γ -In ₂ Se ₃ thin films towards highly stable photodetector applications	Journal of Molecular Structure https://doi.org/10.1016/j.molstruc.2022.133336 ISSN 0022-2860	1265	133336	2022

35.	Yogesh Hase, Vidhika Sharma, Ashish Waghmare, Ashvini Punde, Sachin Rondiya, Avinash Rokade , Sandesh Jadkar	Humidity sensor properties of hydrothermally grown rutile-TiO ₂ microspheres on interdigital electrodes (IDEs)	J Mater Sci: Mater Electron https://doi.org/10.1007/s10854-022-08146-4 ISSN: 0957-4522	33 (15)	11825	2022
34.	Sachin Rondiya, Yogesh Jadhav, Sagar Jathar, Ganesh Rahane, Russell Cross, Avinash Rokade , Sandesh Jadkar	Solution-processed Cd-substituted CZTS nanocrystals for sensitized liquid junction solar cells	Journal of Alloys and Compounds https://doi.org/10.1016/j.jallcom.2021.161575 ISSN:0925-8388	890	161575	2021
33.	Mamta Nasane, Sachin Rondiya, Ganesh Rahane, Sunil Barma, Avinash Rokade , Nelson Dzade, Sandesh Jadkar	An Interlinked Computational-Experimental Investigation into SnS Nano-Flakes for Field Emission Application	New Journal of Chemistry https://doi.org/10.1039/D1NJ00902H ISSN: 1144-0546	45	11768	2021
32.	Punam Wani, Abhra Ray, Avinash Rokade , Sandesh Jadkar, Pandit Shelke, Pravin More, Alok Verma, and Yogesh Kholam	N719 Sensitized Solar Cell Features of Photoanodes Prepared with CDS Coated Hydrothermally Derived Anatase TiO ₂ Nanobelts	Journal of Physics: Conference Series DOI:10.1088/1742-6596/1916/1/012231 ISSN: 1742-6588	1916 (1)	012231	2021
31.	Jathar, S.; Rondiya, S.; Nasane, M.; Barma, S.; Jadhav, Y.; Rokade, A. ; Kore, K.; Jadkar, S.; Funde, A.	Facile Method for Synthesis of CsPbBr ₃ Perovskite at Room Temperature for Solar Cell Applications	ES Materials & Manufacturing 10.30919/esmm5f1036 ISSN: 2578-0611	12	72	2021
30.	Rahane, G.; Jathar, S.; Rondiya, S.; Jadhav, Y.; Barma, S.; Rokade, A. ; Cross, R.; Nasane, M.; Jadkar, V.; Dzade, N.;	Photoelectrochemical Investigation on the Cadmium Sulfide (CdS) Thin Films Prepared using Spin Coating Technique	ES Materials & Manufacturing http://dx.doi.org/10.30919/esmm5f1041 ISSN: 2578-0611	11	57	2020
29.	Barma, S.; Rondiya, S.; Jadhav, Y.; Jathar, S.; Rahane, G.; Rokade, A. ; Cross, R.; Dzade, N.; Jadkar, S.;	Structural, Optoelectronic, and Photoelectrochemical Investigation of CdSe NC's Prepared by Hot Injection Method	ES Materials & Manufacturing 10.30919/esmm5f1040 ISSN: 2578-0611	11	50	2020
28.	Sharma, V.; Prasad, M.; Rokade, A.V. ; Ilaiyaraja, P.; Sudakar, C.; Jadkar, S.R.	Ag-Au-Bimetal incorporated ZnO-nanorods photo-anodes for efficient photoelectrochemical splitting of water	Energy Technology https://doi.org/10.1002/ente.201800581 ISSN: 2194-4296	7(2)	233	2019
27.	Bade, B.R.; Rondiya S.R.; Dzade, N.Y.; Kamble, M.M.; Rokade, A.V. ; More, M.A.; Jadkar, S.R.; Funde, A.M.	Investigation of Growth Mechanism for Highly Oriented TiO ₂ Nanorods: The Role of Reaction Time and Annealing Temperature	Springer Nature Applied Sciences DOI:10.1007/S42452-019-0978-2 ISSN:2523-3971	1	1073	2019

26.	Borate, H.; Rokade, A. ; Subhash, P.; Waykar, R.; Gabhale, B.; Aher, R.; Jadkar, S.	Optimization of DC-magnetron sputtered molybdenum (Mo) thin film electrodes for electrodeposited CZTS solar cells	ES Materials & Manufacturing DOI:10.30919/esmm5f202 ISSN: 2578-0611	3(2)	22	2018
25.	Kiran Diwate, Sachin Rondiya, Azam Mayabadi, Avinash Rokade, Ravindra Waykar, Mohit Prasad, Habib Pathan, Sandesh Jadkar	Chemical spray pyrolysis synthesis of covellite copper sulphide (CuS) thin films for economical counter electrode for DSSCs	J Mater Sci: Mater Electron https://doi.org/10.1007/s10854-017-8453-6 ISSN: 0957-4522	29(6)	4940	2018
24.	Subhash Pandharkar, Sachin Rondiya, Avinash Rokade , Bharat Gabhale, Habib Pathan, Sandesh Jadkar	Synthesis and characterization of molybdenum back contact using direct current-magnetron sputtering for thin film solar cells	Frontiers in Materials /doi.org/10.3389/fmats.2018.00013 2296-8016	5	13	2018
23.	Rondiya S.R.; Rokade, A.V. ; Sharma, P.; Funde, A.; Jadhav, Y.; Haram, S.; Pathan, H.M.; S.R.; Jadkar	CZTS/CdS: Interface properties and band alignment study towards photovoltaic applications.	J Mater Sci: Mater Electron https://doi.org/10.1007/s10854-017-8365-5 ISSN: 0957-4522	29(5)	4201	2018
22.	Avinash Rokade , Sachin Rondiya, Vidhika Sharma, Mohit Prasad, Habib Pathan, and Sandesh Jadkar	Electrochemical synthesis of 1D ZnO nanoarchitectures and their role in efficient photoelectrochemical splitting of water	Journal of Solid State Electrochemistry https://doi.org/10.1007/s10008-016-3427-9 ISSN: 1432-8488	21 (9)	2639	2017
21.	Avinash Rokade , Sachin Rondiya, Abhijit Date, Vidhika Sharma, Mohit Prasad, Habib Pathan, and Sandesh Jadkar	Electrochemical Synthesis of Core-shell ZnO/CdS Nanostructure for Photocatalytic Water Splitting Application	Energy Procedia https://doi.org/10.1016/j.egypro.2017.03.116 ISSN: 1876-6102	110	121	2017
20.	Mohit Prasad, Vidhika Sharma, Azam Mayabadi, Avinash Rokade , Amit Pawbake, Sachin Rondiya, and Sandesh Jadkar	Chlorophyll-a/ZnO Nanorod Based Hybrid Photoanodes for Enhanced Photoelectrochemical Splitting of Water	Chemistry Select https://doi.org/10.1002/slct.201601814 ISSN: 2365-6549	2 (5)	1911	2017
19.	Sachin Rondiya, Avinash Rokade , Adinath Funde, Moses Kartha, Habib Pathan, and Sandesh Jadkar	Synthesis of CdS thin films at room temperature by RF-magnetron sputtering and study of its structural, electrical, optical and morphology properties	Thin Solid Films https://doi.org/10.1016/j.tsf.2017.04.006 ISSN: 0040-6090	631	41	2017
18.	Mohit Prasad, Vidhika Sharma, Avinash Rokade , Sudakar Chandran, and Sandesh Jadkar	Enhanced photosplitting of water using ultrathin cobalt sulfide nanoflakes-sensitized zinc oxide nanorods array	Ionics https://doi.org/10.1007/s11581-017-2131-9 ISSN: 0947-7047	23 (12)	3401	2017
17.	Mohit Prasad, Vidhika Sharma, Rahul Aher, Avinash Rokade , Perumal Ilaiyaraja, Chandran Sudakar, and Sandesh Jadkar	Synergistic effect of Ag plasmon and reduced graphene oxide-embedded ZnO nanorod-based photoanodes for enhanced photoelectrochemical activity	Journal of Materials Science https://doi.org/10.1007/s10853-017-1436-4 ISSN: 0022-2461	52 (23)	13572	2017

16.	Azam Mayabadi, K Mirabbaszadeh, Amit Pawbake, Sachin Rondiya, Avinash Rokade and Sandesh Jadkar	Electrochemical deposition of p-CdTe nanoparticle thin films for solar cell applications	Journal of Materials Science:Materials in Electronics https://doi.org/10.1007/s10854-017-7823-4 ISSN: 0957-4522	28 (24)	18745	2017
15.	Azam Mayabadi, Amit Pawbake, Sachin Rondiya, Avinash Rokade , Vidhika Sharma, Mmot Prasad, Habib Pathan, and Sandesh Jadkar	Synthesis, characterization, and photovoltaic properties of TiO ₂ /CdTe core-shell heterostructure for semiconductor-sensitized solar cells (SSSCs)	Journal of Solid State Electrochemistry https://doi.org/10.1007/s10008-016-3473-3 ISSN: 1432-8488	21 (9)	2665	2017
14.	Sachin Rondiya, Avinash Rokade , Ashok Jadhavar, Shruti Nair, Habib Pathan and Sandesh Jadkar	Effect of calcination temperature on the properties of CZTS absorber layer prepared by RF sputtering for solar cell applications	Materials for Renewable and Sustainable Energy ISSN: 2194-1467	6 (2)	8	2017
13.	Sachin Rondiya, Avinash Rokade , Bharat Gabhale, and Sandesh Jadkar	Effect of bath temperature on optical and morphology properties of CdS thin films grown by CBD	Energy Procedia ISSN: 1876-6102	110	202	2017
12.	Kiran Diwate, Amit Pawbake, Sachin Rondiya, Avinash Rokade , Adinath Funde, Kakasaheb Mohite, and Sandesh Jadkar	Substrate temperature dependent studies on properties of chemical spray pyrolysis deposited CdS thin films for solar cell applications	Journal of Semiconductors ISSN: 1674-4926	38 (2)	023001	2017
11.	Avinash Rokade , Sachin Rondiya, Bharat Gabhale, Kiran Diwate, Smita Karpe, Azam Mayabadi, Vidhika Sharma, and Sandesh Jadkar	Electrodeposition of template free hierarchical ZnO nanorod arrays via a chloride medium	Journal of Materials Science:Materials in Electronics 10.1007/s10854-016-5447-8 ISSN: 0957-4522	27 (12)	12357	2016
10.	AV Rokade , SR Rondiya, AA Jadhavar, SM Pandharkar, SD Karpe, and SR Jadkar	Electrochemical synthesis of p-Cu ₂ O/n-ZnO nanorods hetero-junction for photovoltaic application	AIP Conference Proceedings ISSN: 0094-243X	1724 (1)	020009	2016
9.	Rupali Kulkarni, Amit Pawbake, Ashok Jadhavar, Avinash Rokade , Sachin Rondiya, Vidhika Sharma, Sandesh Jadkar.	Substrate temperature dependent structural, optical, morphology and electrical properties of RF sputtered CdTe thin films for solar cell application	Journal of Materials Science:Materials in Electronics ISSN: 0957-4522	27 (12)	12405	2016
8.	Ashok Jadhavar, Amit Pawbake, Sachin Rondiya, Avinash Rokade , Adinath Funde, and Sandesh Jadkar.	Influence of RF power on structural optical and electrical properties of hydrogenated nano-crystalline silicon (nc-Si: H) thin films deposited by PE-CVD	Journal of Materials Science:Materials in Electronics ISSN: 0957-4522	27 (12)	12365	2016
7.	SR Rondiya, AV Rokade , AA Jadhavar, SM Pandharkar, and SR Jadkar	Synthesis and characterization of DC magnetron sputtered nano structured molybdenum thin films	AIP Conference Proceedings ISSN: 0094-243X	1724 (1)	020089	2016

6.	SR Rondiya, VS Waman, AV Rokade , AH Mayabadi, and SR Jadkar	Film Thickness Effects on Morphology, Optical and Structural Properties of Chemical Bath Deposition Grown CdS Thin Films for Solar Cell Applications	Advanced Science Letters https://doi.org/10.1166/asl.2016.6981 ISSN: 1936-6612	22 (4)	854	2016
5.	Azam Mayabadi, Amit Pawbake, Sachin Rondiya, Avinash Rokade , Ravindra Waykar, Rupali Kulkarni, and Sandesh Jadkar	Effect of calcination on structural, morphological and photoelectrochemical performance of SnO ₂ /TiO ₂ nanostructure films	Thin Solid Films https://doi.org/10.1016/j.tsf.2015.06.020 ISSN: 0040-6090	589	493	2015
4.	AH Mayabadi, VS Waman, MM Kamble, SS Ghosh, BB Gabhale, AV Rokade , HM Pathan, SW Gosavi, and SR Jadkar	Evolution of structural and optical properties of rutile TiO ₂ thin films synthesized at room temperature by chemical bath deposition method	Journal of Physics and Chemistry of Solids ISSN: 0022-3697	75 (2)	182	2014
3.	VS Waman, MM Kamble, BB Gabhale, SR Rondiya, AV Rokade , SW Gosavi, and S.R. Jadkar	Evolution of microstructure and opto-electrical properties in boron doped nc-Si: H films deposited by HW-CVD method	Journal of Alloys and Compounds ISSN: 0925-8388	585	523	2014
2.	MM Kamble, VS Waman, AH Mayabadi, BB Gabhale, SR Rondiya, AV Rokade , SW Gosavi, and SR Jadkar	Hot wire chemical vapor deposition of low temperature high deposition rate a-SiC:H film using ethane carbon source without hydrogen dilution	Bulletin of Materials Science DOI:10.1007/s12034-013-0604-7 ISSN: 0250-4707	36 (7)	1177	2014
1.	Kamble, M.M., Waman, V.S., Mayabadi, Rokade, A.V. , Pathan, H.M. and Jadkar, S.R.	Hydrogenated silicon-carbide (SiC:H) thin films prepared with high deposition rate by hot wire chemical vapor deposition (HW-CVD) method.	Journal of Coatings DOI:10.1155/2014/905903 ISSN: 1547-0091	2014 (9059 03)	11	2014

MANUSCRIPT COMMUNICATED

1. Synthesis of LaMnO₃-reduced graphene oxide (LMO/rGO) composite and their application in electrochemical properties
2. Electrochemically Grown ZnO/ α -Fe₂O₃ Hetero-nanostructures Photoanode for Effective Photoelectrochemical Water Splitting

MANUSCRIPT to be COMMUNICATED

1. Hydrothermal synthesis, characterization, and fabrication of cobalt nickel selenide hollow nanospheres as cathode materials for hybrid supercapacitors
2. Synergetic Effects on Structure and Morphology in Hydrothermal Synthesis of Co_xNi_{1-x}Se₂ as a Cathode for High Performance Hybrid Supercapacitor
3. Fabrication of a High-Performance Hybrid Supercapacitor Based on Hydrothermally Synthesized Cobalt Nickel Selenide Nanostructures Anchored on CNTs
4. Hydrothermal synthesis, characterization, and fabrication of cobalt nickel selenide nanostructures as cathode materials for hybrid supercapacitors

WORKSHOP CONDUCTED/INTERNATIONAL CONFERENCE/SERMINAR PRESENTATIONS

70. **Delivered Guest Lecture:** Delivered guest organized by the Pirangut English Medium School and Junior College, Pirangut on “**Semiconductor**” on Saturday, **06/12/2025** 1.00 pm to 3.00 pm and Thursday, **11/12/2025** at 8.00 am to 10.00 am.
69. **Completed Online Third Faculty Induction Programme (FIP)** organized by UGC-Malaviya Mission Teacher Training Centre (UGC-MMTTC), The Gandhigram Rural Institute (GRI)-DTBU, Gandhigram, Dindigul, Tamil Nadu during **15th May 2025– 13th June 2025**.
68. **Conducted Two-days Lecture Series** conducted for **120 students** organized by the Samarth Engineering College, Belhe on “**Semiconductor, Ultrasonic, Nanotechnology and Superconductivity**” on Wednesday, **16/04/2025** and Thursday, **16/04/2025** at 9.30 am to 4.30 pm.
67. **Conducted One-day workshop during -2025** conducted for **50 students** organized by the Annasaheb Magar College Hadapsar, Pune on “**LED Bulb Making and Repairing**” on Saturday, **22/03/2025** at 10 am to 5 pm.
66. **Conducted One-day workshop during -2025** conducted for **50 students** organized by the Haribhai V. Desai College of Arts, Science and Commerce, Pune on “**Rechargeable LED Bulb Making and Repairing**” on Saturday, **01/03/2025** at 10 am to 5 pm.
65. **Organized Series of Activities (Photonics-2025)** on 27/02/2025 on the occasion of Science Day. B.Sc. and M.Sc. Students actively participated in Rangoli, Sketching, Quiz, Poster, Puzzle and Model making Competition.
64. Online Webinar during -2025 **given for School teachers and students behalf of Science Day organized on topic, “Energy Conversion” Event was organized by** ” Pradeshik Vidya Pradhikaran, Government Cell, Aurangabad on Friday, **28/02/2025** at 2:00 to 3:00 pm.
63. **Organized Science Exhibition** of Basic Science Experiments on Friday, 28/02/2025 for Science student’s behalf of Science Day at PDEA’s Annasaheb Waghire College of Arts, Science and Commerce, Otur-412409 for **H.S.C. and B.Sc. Students**.
62. **Organized Poster Making Competition** at PDEA’s Annasaheb Waghire College of Arts, Science and Commerce, Otur-412409 for B.Sc. Students on 25/02/2025 for B.Sc. Students.
61. **Conducted One-day workshop during -2025** conducted for **70 students** organized by the Mahatma Gandhi Vidyamandir’s Maharaja Sayajirao Gaikwad Arts Science & Commerce College Malegaon Camp, Malegaon District Nashik on “**LED Bulb Manufacturing**” on Wed, **03/02/2025** at 10 am to 5 pm.
60. **Oral Presentation at 5th International e-Conference-2024** organized by Prof. C.D. Lokhande Endowment Charitable Trust on Thin-Film Deposition, Characterization and Applications (**TDCA-2024**) (**5th -6th Dec. 2024**). **Topic of Oral Presentation:** Hydrothermal Synthesis and characterization of cobalt nickel selenide nanostructures as cathode materials for hybrid supercapacitors.
59. **Conducted One-day workshop during -2024** conducted for **70 students** organized by the PDEA’s Annasaheb Waghire College of Arts, Science and Commerce, Otur-412409 on “**LED Bulb Manufacturing**” on Wed, **26/09/2024** at 10 am to 5 pm.
58. **Completed Training Program** on “**NEP Orientation & Sensitization**” organized by JNTU, Hyderabad under MMTTC during **03rd – 12th June 2024**.
57. **Completed Faculty Development Program (FDP)** on “**Quantum Enabled Science and Technology**” (QUEST-2024) organized by Centre for Training and Learning, National Institute of Technology (NIT), Warangal under PMMMNMTT during **20th – 24th May 2024**.

56. **Conducted One-day workshop during Inter-School Summer Camp-2024** conducted for **150 students** organized by the Khadki Education Society's, Tikaram Jagannath College of Arts, Science and Commerce, Khadki-411003 on "**LED Bulb Manufacturing**" on Monday, **29/04/2024** at 10 am to 5 pm.
55. **Oral Presentation** at Savitribai Phule Pune University, **30th Raman Memorial Conference-2024** on Smart Materials for Science and Technology, Dept. Physics, S.P. P.U., Pune, India (**1st -2nd March 2024**). **Topic of Oral Presentation:** Fabrication of ZnO NRs/ CdS NSs heterostructures Photoanode for Hydrogen Production via Photoelectrochemical Water Splitting (Abstract ID. 2402000175).
54. **Short Term Course in LED Product Designing:** Conducted Short term course for FY/SY/TY B.Sc. Students during **Feb/March 2024**. This course was aimed to understand basics in Optoelectronics, Ideas for various product designing, **Practical hands-on training** for commercial product designing and Business startup skills.
53. Attended conference at SPPU **One day Seminar:** Attended one day International seminar on the **Energy Storage Materials -2024** held at Dept. Physics, S.P. P.U., Pune, India (**24 February 2024**)
52. **Conducted one day hands on training Workshop** on "AC LED Light Bulb Manufacturing and Entrepreneurship Development" held under Student Development Board, SPPU held at Annasaheb Waghire ACS College, Otur, (412409) India. (**17 February 2024**, for 70 students)
51. **Two days Science Exhibition** Organized two days **Science Exhibition** at Annasaheb Waghire ACS College, Otur (412409) India. (**12-13 Dec 2023**).
50. Participated in three days **Faculty Development Program (FDP)** with hands on training on "3D printing Technology for Innovation and Technology Transfer" held at Symbiosis Centre for Innovation and Incubation, SIU, Lavale Campus, Pune, India. (**5-7 July 2023**)
49. **Conducted one day hands on training Workshop** on "AC-DC Rechargeable LED Light Bulb Manufacturing" held at HV Desai College, Pune, India. (**27 May 2023, for 50 students**)
48. **Conducted one day hands on training Workshop** on "AC-DC Rechargeable LED Light Bulb Manufacturing" held at BJS College, Wagholi, India. (**3 May 2023, for 140 students**)
47. **Conducted one day hands on training Workshop** on "AC-DC Rechargeable LED Light Bulb Manufacturing" held at Annasaheb Waghire College, Otur, India. (**21 March 2023, for 50 students**)
46. **Oral Presentation** on in RMC Conf.-2023, Dept. Physics, S. P. Pune University, Pune, India (**17-18 March 2023**) Synergetic Effects on Structure and Morphology in Hydrothermal Synthesis of $\text{Co}_x\text{Ni}_{1-x}\text{Se}_2$ as a Cathode for High Performance Hybrid Supercapacitor Avinash Rokade, Sandesh Jadkar, and Shrikrishna Sartale
45. **Conducted one day hands on training Workshop** on "AC-DC Rechargeable LED Light Bulb Manufacturing" held at MIT-World Peace University, Kothrud, Pune, India. (**12 March 2023, for 50 students**)
44. **Poster Presentation** on in International Materials Conclave (IMC)-2023, C-MET, Pune, India (**9-11 March 2023**) Hydrothermal synthesis, characterization, and fabrication of cobalt nickel selenide nanostructures as cathode materials for hybrid supercapacitors
Avinash Rokade, Sandesh Jadkar, and Shrikrishna Sartale
43. **Conducted one day hands on training Workshop** on "LED Light Bulb Making" held at SPM's, Sir Parshurambhau College, Tilak Road, Pune (411044) India. (**8-9 February 2023, for 120 students**)
42. **Conducted one day hands on training Workshop** on "Rechargeable LED Lights" held at PES's, Modern College, Shivajinagar, Pune (411005) India. (**18 January 2023, for 60 students**)
43. **Poster Presentation** on in AMSC Conference, Dept. Physics, S. P. P. U., Pune, India (**18-21 Oct 2022**) Fabrication of a high-performance hybrid supercapacitor based on hydrothermally synthesized cobalt nickel selenide nanostructures anchored on CNTs
Avinash Rokade, Sandesh Jadkar, and Shrikrishna Sartale
40. **Conducted one day hands on training Workshop** on "LED String Light Designing" held at Prof. Ramkrishna

More ACS College, Akurdi, Pune (411044) India. **(15 October 2022, for 120 students)**

39. **Conducted one day hands on training Workshop** on “Rechargeable LED Bulbs Manufacturing” held at Prof. Ramkrishna More College, Akurdi, Pune (411044) India. **(14 October 2022, for 120 students)**
38. **Conducted one-day training Workshop** on “ACDC LED Lamp Manufacturing” held at Tuljaram Chaturchand College, Baramati, India. **(28 September 2022, for 100 students)**
37. **Conducted one-day training Workshop** on “Solar Photovoltaic and practical on Installation” held at Bharatiy Jain Sanghatana’s ASC College, Wagholi, India. **(10 May 2022, for 100 students)**
36. **Conducted one-day training Workshop** on “Solar Photovoltaic and practical on Installation” held at PVG Engineering College, Parvati, Pune, India. **(12 May 2022, for 100 students)**
35. **Conducted one day training Workshop** on “AC DC LED Bulbs Manufacturing” held at Vidya Pratishtans ACS College, Baramati, Pune, India. **(30 April 2022, for 150 students)**
34. **Conducted one-day training Workshop** on “Rechargeable LED Manufacturing” held at Chandmal Tarachand Bora ACS College, Shirur, Pune (412210) India. **(28 March 2022, for 100 students)**
33. **Conducted one-day training Workshop** on “LED Bulb Manufacturing” held at Tuljaram Chaturchand College, Baramati, India. **(16 March 2022, for 100 students)**
32. **Conducted one day hands on training Workshop** on “Rechargeable Lamps Manufacturing” held at Prof. Ramkrishna More ACS College, Akurdi, Pune (411044) India. **(9 March 2022, for 30 students)**
31. **Conducted one-day training Workshop** on “LED & Circuit Designing” held at Prof. Ramkrishna More ACS College, Akurdi, Pune (411044) India. **(29 Feb 2020)**
30. **Conducted one-day Workshop** on “Entrepreneurship & Startups in Basic Science” held at Jointly Organized by B.Voc. And Employment Cell Department, Prof. Ramkrishna More ACS College, Akurdi, Pune (411044) India. **(4 Feb 2020)**
29. **Conducted Business Stalls** Activity for students to demonstrate their innovative business ideas & Projects on “Skill Development” held at Jointly Organized by all B.Voc. Department, Prof. Ramkrishna More ACS College, Akurdi, Pune (411044) India. **(4 Feb 2020)**
28. **Organized “Business training & Seminar”** of Business Speaker Dr. S.R. Rondiya, from Cardiff University, London, UK at Prof. Ramkrishna More College, Akurdi, Pune (411044) India. **(13 Dec 2019)**
27. **Organized and participated in Demonstation of Models of Electronic Circuit Designing in “Science Exhibition-2019”** held at Prof. Ramkrishna More College, Akurdi, Pune (411044) India. **(12 Dec 2019)**
26. **Conducted training Workshop** on “Mobile Repairing” held at Jointly Organized by B.Voc. and Physics Department, Prof. Ramkrishna More ACS College, Akurdi, Pune (411044) India. **(22 Feb 2019)**
25. **Participated & Organized International Conference** on “New Frontiers in Environmental and Allied Sciences” held at Yashada (Pune), organized by Prof. Ramkrishna More College, Akurdi (411044) India. **(15-16 Feb 2019)**
24. **Conducted training Workshop** on “Electronic Circuit Designing for Household Applications” held at Department of Physics, Prof. Ramkrishna More ACS College, Akurdi (411044) India. **(14 Dec 2018)**
23. **Organized State Level Seminar** on “Advancing Entrepreneurship: Inspiring Young People (AEIYP- 2018)” held at Prof. Ramkrishna More ACS College, Akurdi, Pune (411044) India. **(21-22 Dec 2018)**
22. **Participated in Science Exhibition-2018** held at Prof. Ramkrishna More ACS College, Akurdi, Pune (411044) India. **(12 Dec 2018)**
21. **Ph. D. Thesis Presentation** on in RMC Conference, Dept. Physics, S. P. P.U., Pune, India. **(22-23 Feb 2018)**
 Synthesis and opto-electronic properties of metal oxide core-shell nano-materials by electrodeposition method for Photoelectrochemical water splitting
Avinash Rokade and Sandesh Jadkar
20. **Oral Presentation** on in International Conference on Natural Resources, Green Technology and Sustainable

Development", C.T. Bora College Shirur, Pune, India (**Jan 2018**)

Sustainable Energy Harvesting Using Chlorophyll-a/ZnO Nanorod Hybrid Photoelectrodes for Photocatalytic Water Splitting via Chemical Route

Avinash Rokade, Vidhika Sharma, Mohit Prasad, Sandesh Jadkar

- 19. Oral Presentation** on in International Conference on Functional Materials and Devices 2017 (ICFMD - 2017) University of Malaya, Malaka, Malaysia (**15-18 August 2017**)

Controlled Fabrication of nanostructured ZnO/CdS core-shell photoanode with enhanced photoelectrochemical activity under visible light

Avinash Rokade, Vidhika Sharma, Mohit Prasad, Sandesh Jadkar

- 18. Poster Presentation** on in AMDP Conference, Dept. Physics, S. P. P. U., Pune, India (**11-15 July 2017**)

Electrochemical Synthesis of ZnO nanostructured photoanode and their application for photocatalytic water splitting

Avinash Rokade, Vidhika Sharma, Mohit Prasad, Sandesh Jadkar

- 17. Oral Presentation** on in RMC Conference, Dept. Physics, S.P. P.U., Pune, India (**3-4 March 2017**)

The Study of Opto-electronic Properties of ZnO Nanostructures Synthesized by Chemical Technique for Photo Electrochemical Water Splitting

Avinash Rokade, Vidhika Sharma, Mohit Prasad, Sandesh Jadkar

- 16. Oral Presentation** on in International Conference on NEW, UPES, Dehradun, India (**22-24 Feb 2017**)

Sustainable energy harvesting using efficient α -Fe₂O₃ photo anode through photo catalytic water splitting employing facile chemical technique

Avinash Rokade, Vidhika Sharma, Mohit Prasad, Sandesh Jadkar

- 15. Oral Presentation** on in Int.Conf. on Go Green, C.T. Bora College, Pune, India. (**10-11 Jan 2017**)

The study of opto-electronic properties of ZnO nanostructures synthesized by electro deposition for photo electrochemical water splitting

Avinash Rokade, Sachin Rondiya, Vidhika Sharma, Sandesh Jadkar

- 14. Poster Presentation** on in International Conference on ICEP conference, RMIT University, Melbourne, Australia (**15-16 December 2016**)

Electrochemical synthesis of core-shell ZnO/CdS nanostructure for photocatalytic water splitting application

Avinash Rokade, Sachin Rondiya, Abhijit Date, Vidhika Sharma, and Sandesh Jadkar

- 13. Attended training workshop** on "Nova Software: Operation, Method creation, Diagnostics and Data Analysis" held at Department of Physics, University of Pune, Pune, India. (**15 July 2016**)

- 12. Attended workshop** on "Vacuum Technology" held at Department of Chemistry, University of Pune, Pune (**1 August 2016**)

- 11. Participated in Raman Memorial Conference-2016** held at Department of Physics, University of Pune, Pune (**12-13 February 2016**)

- 10. Poster Presentation** on Emerging Technologies: Micro-to-Nano (ETMN-2015) held at Manipal University, Jaipur, India. (**24-25 October 2015**)

Electrochemically constructed Cu₂O/ZnO core-shell nanorods arrays prepared for photovoltaic heterojunction solar cell device.

Avinash Rokade and Sandesh Jadkar

- 9. Attended workshop** on Understanding of Origin and EndNote Software at Center for Sensor Studies, Savitribai Phule Pune University, Pune, India. (**17 October 2015**)

- 8. Attended National Symposium on Medical Biophysics** Department of Physics, University of Pune, Pune, India. (**25-26 September 2015**)

- 7. Poster Presentation** on in International Photovoltaic Solar Energy Conference (IPSEC-2015) held at Department of Physics, S. P. Pune University, Pune, India (**30 July-1 August 2015**)

Synthesis and characterization of ZnO nano-arrays on Au coated Si by electrochemical deposition.

Avinash Rokade and Sandesh Jadkar

6. **Poster Presentation** on in Raman Memorial Conference-2015 held at Department of Physics, S. P. University of Pune, Pune (13-14 February 2015)
5. **Poster Presentation** on in International Conference on Recent Advances in Nanoscience and Nanotechnology (ICRANN 2014) held at Special Centre for Nanoscience, Jawaharlal Nehru University, New Delhi, India (15-16 December 2014)
4. **Poster Presentation** on in National Conference on Energy and Environment (NC2E-2014) held at Department of Environmental Science, University of Pune, Pune, India (20-22 February 2014)
3. **Poster Presentation** on in Raman Memorial Conference-2014 held at Department of Physics, University of Pune, Pune, India (7-8 February 2014)
2. Completed two-week **Refresher Course** on “Experimental Physics” at the Indian Institute of Science Education and Research (IISER), Pune, India (9-24 December 2013)
1. Attended International **Workshop** on Nanotechnology and Advanced Functional Materials (NTAFM) at National Chemical Laboratory, Pune, India (24-25 July 2013)

MASTER'S STUDENTS SUPERVISION: PROJECT ONGOING/COMPLETED (STUDENTS)

31. **Supervisor:** Dipak Fulmali, B.Sc. Physics Candidate, Department of Physics, Annasaheb Waghire College, Otur, working on, working on “Smart blind stick for road safety and security application” (Six-month project: July 2023 to Dec 2024).
30. **Supervisor:** Shubham Nimse, B.Sc. Physics Candidate, Department of Physics, Annasaheb Waghire College, Otur, working on, working on on “Hydrothermal of Synthesis and morphological Characterization of ZnO nanomaterials” (Six-month project: July 2023 to Dec 2024).
29. **Supervisor:** Dipanjali Mali, B.Sc. Physics Candidate, Department of Physics, Annasaheb Waghire College, Otur, working on, working on “Hydrothermal of Synthesis and structural Characterization of ZnO nanomaterials” (Six-month project: July 2023 to Dec 2024).
28. **Supervisor:** Shreyas Kulkarni, M.Sc. Physics Candidate, Department of Physics, Annasaheb Waghire College, Otur, Working on “Synthesis and Structural Characterization of CoMn₂O₄ Nanowires for Asymmetric Supercapacitor Application” (Six-month project: December 2023 to May 2024).
27. **Supervisor:** Dhanashree Shinde, M.Sc. Physics Candidate, Department of Physics, Annasaheb Waghire College, Otur, working on, working on “Hydrothermal of Synthesis and Characterization of CoMn₂O₄ Based Cathode Material for Supercapacitor Application” (Six-month project: Dec 2023 to May 2024).
26. **Co-Supervisor:** Swapnali Rabade, Ph. D. Scholar, SCNN, SIU, Pune, working on “Synthesis and characterization of Metal ferrites and their composites for energy storage and generation applications.” (15 May 2023).
25. **Supervisor:** Sayali Somadale, M.Sc Candidate, Department of Physics, Prof. Ramkrishna More College, Pune, working on “Synthesis and characterization of highly ionic conductivity and mechanical strength flexible polymer gel membranes by solution casting method for energy storage devices.” (Six-month project- Dec-May 2023).
24. **Supervisor:** Rahul Kumar, M.Sc Candidate, Department of Physics, Prof. Ramkrishna More College, Pune, worked on “Synthesis and characterization of CoNiSe₂ by hydrothermal technique as a cathode material for hybrid supercapacitor application.” (Six-month project- Dec-May 2023).
23. **Supervisor:** Yugandhar Aher, M.Sc Candidate, Department of Physics, Savitribai Phule Pune Pune University, Pune, worked on “Effect of temperature on growth of CoMn₂O₄ nanostructures during hydrothermal synthesis and its effect on storage efficiency.” (Six-month project- Dec-May 2023).
22. **Supervisor:** Dipanjali Kadam, M.Sc Candidate, Department of Physics, Prof. Ramkrishna More College, Pune,

worked on “One pot Hydrothermal synthesis of Nickel Oxide Nano flowers for asymmetric supercapacitor storage.” (Six-month project- Dec-May 2023).

21. **Supervisor:** Sayali Satpute, M.Sc Candidate, Department of Physics, Prof. Ramkrishna More College, Pune, worked on “Synthesis and characterization of Co_3Se_4 by electrodeposition & Hot injection method for hydrogen gas generation.” (Six-month project- May 2020).
20. **Supervisor:** Supriya S. Koyale, M.Sc Candidate, Department of Physics, Prof. Ramkrishna More College, Pune, worked on “Synthesis of Incorporation of Chemically Synthesized Cadmium Sulfide nanoparticles on ZnO nanorods for to fabricate ” (Six-month project- May 2019).
19. **Supervisor:** Mayur G. Sonawane, M.Sc Candidate, Department of Physics, Prof. Ramkrishna More College, Pune, worked on “Effect of Concentration of Capping on Properties of QD’S Synthesized by Hot Injection Method” (Six-month project- May 2019).
18. **Supervisor:** Nikita R. Godase, M.Sc Candidate, Department of Physics, Prof. Ramkrishna More College, Pune, worked on “ Electrochemical Deposition & Characterization of ZnO & CO_3Se_4 photoelectrode for enhanced photocatalytic water splitting ” (Six-month project- May 2019).
17. **Supervisor:** Pooja D. Galande, M.Sc Candidate, Department of Physics, Prof. Ramkrishna More College, Pune, worked on “Study of ZnO Nanorods Synthesis by Electrochemical Deposition Method for Photoelectrochemical Water Splitting.” (Six-month project- May 2019).
16. **Supervisor:** Jayashree C. Dawange, M.Sc Candidate, Department of Physics, Prof. Ramkrishna More College, Pune, worked on “Optical & Morphological Characterization of Cu_2O Thin films Synthesized by using Electro Chemical deposition Technique for Harvesting Solar Light” (Six-month project- May 2019).
15. **Supervisor:** Poonam N. Lavand, M.Sc Candidate, Department of Physics, Prof. Ramkrishna More College, Pune, worked on “Chemical Route Synthesis and Characterization of Cadmium Sulfide Thin Film by Hot Injection Method” (Six-month project- May 2019).
14. **Supervisor:** Nilam V. Jagtap, M.Sc Candidate, Dept. of Physics, Prof. Ramkrishna More College, Pune, worked on “Synthesis and Characterization of CdS Thin Film By Hot Injecton Method” (Six-month project- May 2019).
13. **Supervisor:** Maya V. Dangat, M.Sc Candidate, Department of Physics, Prof. Ramkrishna More College, Pune, worked on “Electrochemical Synthesis and Structural Analysis of Cu_2O Thin Film For Solar Cell Application” (Six-month project- May 2019).
12. **Supervisor:** Akshay A. Bagal, M.Sc Candidate, Department of Physics, Prof. Ramkrishna More College, Pune, worked on “Experimental Setup Designing & Synthesis Of CdSe QDs By Colloidal Route For Photovoltaic Application” (Six-month project- May 2019).
11. **Supervisor:** Pradnya Nikam, M.Sc Candidate, Department of Physics, Prof. Ramkrishna More College, Pune, worked on “Synthesis and opto-eletronic properties of metal oxide core-shell nano marerial by eletrodeposition water splitting ” (Six-month project- May 2019).
10. **Supervisor:** Kiran D. Shinde, M.Sc Candidate, Department of Physics, Prof. Ramkrishna More College, Pune, worked on “Synthesis of Nano-Crystalline CdS thin films by using Hot Injection method For Harvesting Solar Radiation” (Six-month project- May 2019).
9. **Co-supervisor:** Sonali Mulik, M.Sc Candidate, Department of Physics, Prof. Ramkrishna More College, Pune, worked on “Synthesis And Characterization Of ZnO Nanoparticles Film On FTO By Spin Coating Method” (Six-month project- May 2019).
8. **Co-supervisor:** Sushmita Kaware, M.Sc Candidate, Department of Physics, Savitribai Phule Pune University, worked on “Electrodeposition of Ag sensitized ZnO NRs Photoelectrode and their Application for Photoelectrochemical Water Splitting.” (Six-month project- May 2018).
7. **Co-supervisor:** Suraj Gaikwad, M.Sc Candidate, Department of Physics, Savitribai Phule Pune University,

worked on “Electrochemical deposition of ZnO/Fe₂O₃ core-shell photoanode for enhanced photocatalytic water splitting.” (Six-month project- May 2018).

6. **Co-supervisor:** Nisha Gaikwad, M.Sc Candidate, Department of Physics, Savitribai Phule Pune University, worked on “Electrochemical Synthesis & Characterization of ZnO Nanorods for Photoelectrochemical Water Splitting.” (Six-month project- May 2017).
5. **Co-supervisor:** Aniket V. Chavan, M.Sc Candidate, Department of Physics, Savitribai Phule Pune University, worked on “Electrochemical Synthesis & Characterization of α -Fe₂O₃ Thin Films as Photoanode in water splitting.” (Six-month project- May 2016).
4. **Co-supervisor:** Siddhita S. Jadhav, M.Sc Candidate, Department of Physics, Savitribai Phule Pune University, worked on “Potential synthesis & characterization on ZnO Nanorods for photocatalytic applications by using electrodeposition method.” (Six-month project - April 2016)
3. **Co-supervisor:** Smita Karpe, M.Phil. Candidate, Department of Physics, Savitribai Phule Pune University, worked on “Synthesis and Characterization of Indium Selenide by Electrochemical deposition Method.” (Two-years research work- June 2015)
2. **Co-supervisor:** Kiran Shingade, B.Sc Candidate, Department of Physics, Savitribai Phule Pune University, worked on “Synthesis and Morphological studies of the electrodeposited Cu₂O semiconductor structures.” (Six-month project- May 2015).
1. **Co-supervisor:** Vaishali H. Wayal, M.Sc Candidate, Department of Physics, Savitribai Phule Pune University, worked on “Effect of concentration & pH value with different temperatures of the electrolytic bath on the growth of ZnO nanorod arrays.” (Six-month project- May 2014).

EXTRA- CURRICULAR ACTIVITIES

- Founder of Avience scientific for **promotion of education/Fundamental Science and research by demonstrations and training program** to graduate and postgraduates (**trained around 2500 students** till today).
- **Member of a popularizing Science Club “Wonders in Physics”** aimed at initiating science awareness, especially amongst school, college students & rural people for the year 2008-09.
- **Member of Electronic Hobby Club** & designed multipurpose electronic circuits useful at home.
- Visited Modern Technical Park, Kanhe, near Lonavala & Vidnyan Ashram, Pabal, working for inventions of non-conventional energy sources and during that I have designed a paddle power generator.
- **Toys Demonstrations on colleges & schools** for science education & popularization from 2009.
- I am a good Carpenter, electrician, welder, knowing cutting, drilling, turning, soldering, and designing etc. tools very well and use it frequently during my educational and research work.

COMPUTER PROFICIENCY

- | | |
|--|---|
| • Language: C Programming, FORTRAN 77 | • Tools: Origin, Latex, Image J, XPS Peak, Express |
| • Courses: DOA, MS-Office | PCB, Proteus, METROHM NOVA, 3D CAD Print |

PERSONAL INFORMATION

- | | |
|-------------------------------------|--|
| • Gender: Male | • Hobbies: Photography, Designing, Drawing, Music |
| • Nationality: INDIAN | Project Modeling etc. |
| • Date of Birth: 15- 08-1988 | • Languages known: English, Marathi and Hindi |

REFERENCES

1. Prof. Sandesh R. Jadkar

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Principal, Prof. R. More ACS College,

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2. Dr. Nelson Y. Dzade

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E-mail id: nxd5313@psu.edu

4. Dr. Sachin R. Rondiya

Assistant Professor

Department of Materials Engineering

Indian Institute of Science

Bangalore, 560012 (India)

E-mail id: rondiya@iisc.ac.in

DECLARATION:

I hereby declare that the above written particulars are true to the best of my knowledge and belief.

Place: Pune

Date: 12/12/2025

Sign:



Name: Dr. Avinash V. Rokade