

Dr. Miss. Ashwini Baburao Rohom

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**Professional Objective:**

To work in a competitive environment, where I can contribute best of my knowledge, experience, and skills to achieve organizational and personal excellence. To undertake interesting and challenging tasks in administration, academics, and research.

Academic Details:

- Doctorate in Physics from Savitribai Phule Pune University, Pune
- Master of Philosophy Physics from Savitribai Phule Pune University, Pune
- Master of Science in Physics (Nanotechnology) from Savitribai Phule Pune University, Pune
- Bachelor of Science in Physics from Bhonsala Military College, Nashik

Employment Details:

Teaching Experience	6.6 Years
Current Designation	Assistant Professor (Department of Engineering Sciences)
Name of Employer:	Matoshri College of Engineering and Research Center, Nashik
Date of Joining: (current institute)	1 st August 2021
Earlier Employment Record	<ul style="list-style-type: none"> • 3 years of approved teaching experience as an Assistant Professor and Head at Department of Physics, Pravara Rural Education Society's ACS & CS College, Ashvi KD from 1st August 2018 to 31st July 2021. • 6 months teaching experience as an Assistant Professor at Department of Physics, Pravara Rural Education Society's PVP College, Loni from 1st February 2018 to 31st July 2018.
Research Interest	Nanotechnology, Solar cells, Material Science, Supercapacitor, Li ion Battery
PhD Work Title	"Development of multilayer CuInSe ₂ (CuInGaSe ₂) thin film solar cell and their nanoparticles for photovoltaic application"
Doctoral Advisor	Dr. N. B. Chaurse, Department of Physics, Savitribai Phule Pune University, Pune. Dr. J. I. Han, Department of Chemical and Biochemical Engineering, Dongguk University, Seoul, South Korea.
Awards/Achievements:	<ul style="list-style-type: none"> • Recipient of "Best Oral Presentation Award", in International Conference on Recent trends in 2D Nanomaterial: Amity University, Mumbai, Feb 2021. • Recipient of South Korea Research Internship award, DST, New Delhi & NRF South Korea, April 2017 • Recipient of Best Poster Presentation award in International Conference on Advanced Nanomaterials and its Emerging Engineering technologies, SRM University, Chennai, Feb 2016. • Recipient of CSIR-SRF Award, CSIR, New Delhi, April 2015. • Served as a Co-treasurer in Raman Memorial conference held at Savitribai Phule Pune University, Pune • Recipient of Best Oral Presentation award in International Conference on Advanced Nanomaterials and its Emerging Engineering technologies, SRM University, Chennai, July 2013.

Fellowships	<ul style="list-style-type: none"> • Indo-Korea Research Intern Fellowship-Dongguk University, South Korea, 2017. • Senior Research Fellowship (CSIR-SRF), New Delhi 2015-2017. • Senior Research Fellowship (SRF), DRDO, New Delhi, 2014-2015. • Junior Research Fellowship (JRF), DRDO, New Delhi 2012-2015. • Project Assistant Fellowship, ISRO, SPPU, 2010-2012.
International Assignments	<ul style="list-style-type: none"> • South Korea- Selected as a Research Interns through IKRI, DST, New Delhi(2017) • Paris, France- Selected to give Oral Presentation in International Conference, (ANNIC 2015)
Grants Received for Foreign trips	<ul style="list-style-type: none"> • Travel Grant received for the Research Internship to South Korea byDST, NewDelhi 2017 (70,000 Rs.). • Travel Grant received for the International conference presentation to Paris,France by BCUD, SPPU, Pune (Euro 225 + 35,187 Rs.).
Association with Research labs/Conferences and Journals	<ul style="list-style-type: none"> • Served as Engineering Science Track Coordinator for conference “ICCCC-2022” held on 26th -27th February 2022 at MCOERC, Nashik • Served as a Co-treasurer in Raman Memorial conference held at Savitribai Phule Pune University, Pune Feb 2015.
Worked in various committees (academic/curricular/co-curricular)	<ul style="list-style-type: none"> • Member Secretary – Anti Ragging Cell, College Grievance Redressal Cell (2021 to till date) • Chairman - NAAC Criteria VII (2019) • Chairman – Research (ARC) 2018-2021 • Member - Pravara Samajik Probhodhan Mahotstava (2019) • Member - Code of Conduct/Core Values (2018-2021) • Member - NAAC Steering (2018-2021)
MOOC/ AICTE FDPs/ Certificate Courses	<ul style="list-style-type: none"> • Successfully completed online FDP sponsored by SWAYAM on Accreditation of Undergraduate Engineering Programme, July to December 2023. • Successfully completed online FDP on International One week Faculty Development Program on Research Methodology, 02/05/2022 to 07/02/2022 organized by Kamla Nehru Mahavidyalaya, Nagpur. • Online Faculty Development Program on Green Technology & Sustainability engineering, 18/01/2022 to 22/01/2022 organized by AICTE (ATAL). • Refresher course on Advances in Physical and Mathematical Sciences, 16/11/2021 to 30/11/2021, UGC, HRDC. • Successfully completed online FDP on Recent advances in material characterization techniques, 15/02/2021 to 19/02/2021 organized by Vivekananda Institute of Technology, Jaipur. • Successfully completed online 3rd Faculty Induction Program, 25/11/2020 to 31/12/2020 organized by UGC-HRDC. • Successfully completed online teacher training program on Application of ICT tools for enhancement of E-learning & teacher pedagogy in schools, 08/07/2020 to 14/07/2020 organized by Integral University, Lucknow. • Successfully completed online FDP on MOOCs and MOODLE based learning management system, 15/06/2020 to 22/06/2020 organized by IGU, Meerapur. • Successfully completed online FDP Hybrid Classroom: ICT Tools for Teaching and learning, 29/05/2020 to 31/05/2020 organized by Research Culture Society. • Successfully completed Online Refresher Course by SWAYAM on “Physics of Semiconductors”, 01/11/2018 to 28/02/2019 organized by IITKanpur.
<ul style="list-style-type: none"> • Conferences/Workshop/Seminars/ STTP attended : 58 • Conferences/Workshops Organized : 03 	
Publications:	
Books: 01: Engineering Physics for SPPU First Year Engineering, Tech-Neo Publication	
Research Papers (33)	<ul style="list-style-type: none"> • International Journal = 27 • Conference Proceeding = 07
Journal	Conducting polymer wrapped SnO ₂ /RGO nanocomposite: An efficient high-performance supercapacitor material, Surfaces and Interfaces, 44, 103605, 2024

Oxidative Polymerization of Polyaniline Colloids with Different Oxidizing Agents, ECS J. Solid State Sci. Technol,10, 081013, 2021

Effect of deposition time on growth of cadmium sulfide (CdS) thin film for photovoltaic application, Research Journey, 218, 47, 2020

The Wet Chemical Synthesis of Silver Nanostructures with Controllable Aspect Ratio, Research Journey, 218, 72, 2020

Solar cell studies on $\text{CuIn}_{1-x}\text{Ga}_x\text{Se}_2$ NPs derived from chemical process, Solar Energy, 206, 18-26, 2020

Hopping conductivity- mediated O-shaped memory behavior in gelatin-graphene oxide composite films , Applied Physics A, 124(9), 2019

Selenization of electrochemically synthesized copper- indium layers from non-aqueous solution for solar cell application Journal of Alloys and Compounds 771 , 246e253, 2019

Development of graded band-gap copper indium diselenide thin films using electrochemical route, Applied Surface Science, 2019

Study of photoelectrochemical conductivity mechanism and electrochemical impedance spectroscopy of bulk CuInTe_2 / electrolyte interface , Surfaces and Interfaces, DOI 10.1016/j.surfin.2018.05.012, 2018

Development of superstrate CuInGaSe_2 thin film solar cells with low-cost electrochemical route from non-aqueous bath ACS Sustainable Chemistry and Engineering, 2018, 6 (4), pp, 4987–4995, 2018

Rapid Thermal Processed CuInSe_2 Layers Prepared by Electrochemical Route for Photovoltaic Applications, Journal of Electrochemical Society, 165, H3051-H3060 (2018)

The effect of citric acid and selenization onto electrochemically deposited Copper-Indium thin films for solar cell applications, Thin Solid Films, 642, 303-310, (2017)

Studies on chemically synthesized PbS thin films for IR detector application, Journal of Materials Science Materials in Electronics, 28, 17107-17113, (2017)

Effect of complexing agent on the chemically deposited ZnS thin film, Journal of Materials Science Materials in Electronics, 28, 5209-5214, 2017

Synthesis and characterization of controlled size CdSe quantum dots by colloidal method, Journal of Nanoscience and Nanotechnology, 17, 1-7, 2017

Optical, structural, and morphological properties of PANI/CdSe (TPs) nanocomposite thin films, Journal of Materials Science Materials in Electronics, 28, 12255-12563 (2017)

Agitation dependent properties of copper indium diselenide thin films prepared electrochemical route, Thin Solid Films 615 (2016) 366–373, 2016

Study of electrochemically grown copper indium diselenide (CIS) thin films for photovoltaic applications, Journal of Materials Science Materials in Electronics, 27, 12374-12384. , 2016

Enhancement of Optical Absorption by Incorporation of Plasmonic Nanoparticles in PANI Films, Nanoscience and Nanotechnology 6, 83-87, 2016

Improvement in the CIGS Solar Cell Parameters by Using Plasmonic (Au) Nanoparticle, Nanoscience and Nanotechnology 6(1A): 43-46, 2016

Electrochemically synthesized CuInSe_2 thin films from non-aqueous electrolyte for solar cell applications, Semicond. Sci. Technol. 31, 125009 (11pp). 2016

Electrochemical synthesis and characterization $\text{Cu}_2\text{ZnSnS}_4$ thin films, Materials Science and Engineering 5 100261, 2016

The effect of pH and selenization on the properties of CuInSe_2 films prepared electrodeposition technique for device applications, Journal of Solid State Electrochemistry, 19, 201-210 , 2015

CuInSe_2 thin film solar cells prepared by low- cost electrodeposition techniques from a non- aqueous bath, RSC Adv., 5, 89635, 2015

Electropolymerization of PANI thin films, High Performance Polymers, 26, 641, 2014

Selenization of electrodeposited copper- indium alloy thin films for solar cell applications, Journal of Materials Science Materials in Electronics, 25:4643, 2014

Controlled Growth of ZnO QDs by Wet Chemical Technique, Advanced Science Letters, 20, 2014, 1112-1115, 2014

Conf. Proc.	<p>Effect of dopant acid concentration on the Properties of Polyaniline Thin Films, SSRN 4043264, 2022.</p> <p>Resistive switching Memory Effect and conduction in Nano- Silver Incorporated Type-A Gelatin Films, IEEE Conference Proceeding, 2019.</p> <p>Bistable resistive memory behavior in gelatin-CdTe quantum dot composite film, AIP.Conf.Proc.1953, 2018.</p> <p>Effect of oxidizing agent on the properties of polyaniline thin films, AIP Conference Proceedings, DOI: 0.1063/1.4980478, 2017.</p> <p>One Step Colloidal Route for the Preparation of Lead Sulfide Nanoparticles Using Thiol, IEEE Conference Proceeding, 978-1- 4799-1379-4/13/\$31.00©2013IEEE.</p> <p>Effect of ultrasonication on properties of sequential layer deposited nanocrystalline silver thin films, AIP Conf. Proc. 1447, 695, doi: 10.1063/1.4710193, 2012</p> <p>Deposition and Characterization of Nanocrystalline silver thin films by using SILAR method AIP Conf. Proc. 1349, 397, doi: 10.1063/1.3605902, 2011</p>
Publications Indexed at:	SCI, Scopus, Web of Science, Publons
Web links:	
Website	https://engg.matoshri.edu.in/academics/science
Orchid ID	https://orcid.org/0000-0001-9873-0084
LinkedIn	https://in.linkedin.com/in/ashwini-rohom-a9995610b
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