

Dr. Sagar Ashok Chaudhari (M.Sc., GATE, SET)

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**EDUCATIONAL QUALIFICATION**

2026	Ph.D. University: P. A. H. Solapur University, Solapur (Maharashtra, M.S.), India Ph. D Title: Synthesis of Transition Metal-Based Advanced Materials for Energy and Water Purification Applications Guide: <i>Dr. Mukund G. Mali</i> <i>(Asst. Professor, School of Chemical Sciences, P. A. H. Solapur University, Solapur)</i>
2020	GATE (Chemistry) Conducted by: IIT Delhi
2019	SET in (Chemical Sciences) University: Pune University
2019	M.Sc. in Industrial Chemistry (first class with Distinction), University: School of Chemical Sciences, P. A. H. Solapur University, Solapur (Maharashtra, M.S.), India Project Title: Study on the synthesis of 2,4,5-triaryl-1H-imidazole scaffolds using Iodine as catalyst
2017	B.Sc. in Chemistry (first class with Distinction) College: R. C. Patel Arts, Commerce & Science College, Shirpur (Maharashtra, M.S.), India University: Kavayitri Bahinabai Chaudhari North Maharashtra University, Jalgaon (Maharashtra, M.S.), India

Experience:

Title	Company	From	To
R&D Officer	Unimark Remedies Ltd.	05-01-2021	28-01-2022
Chemist-R&D	Vital Laboratories Pvt. Ltd.	03-02-2022	25-04-2022

Awards:

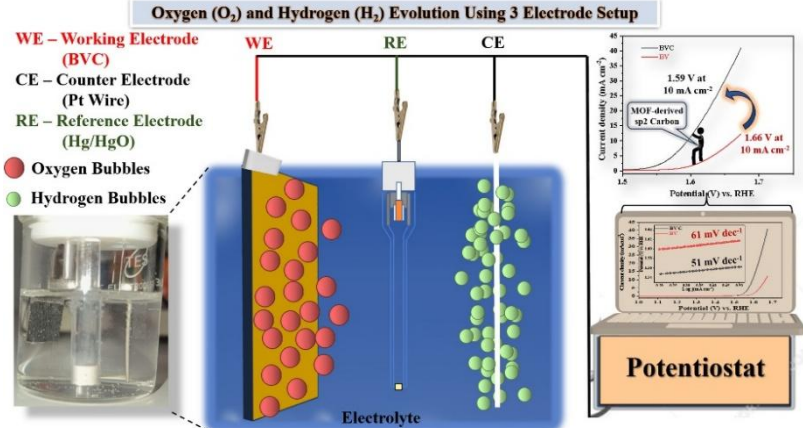
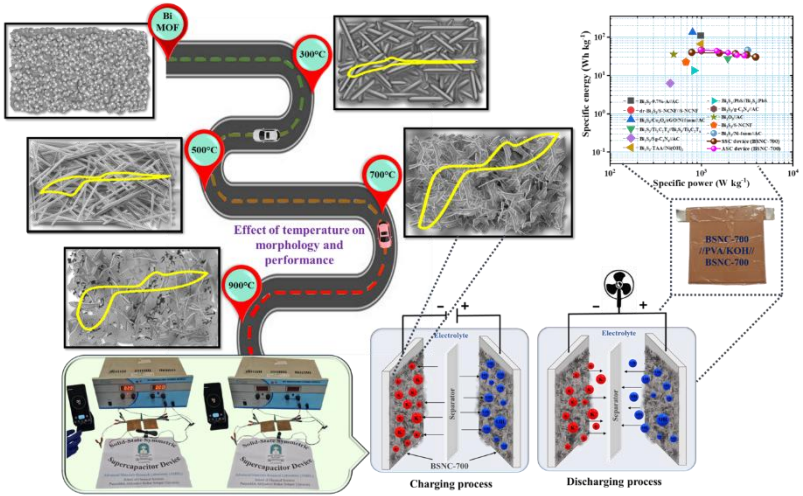
Title	Funding Agency	From	To
Senior Research Fellow- Synthesis of Transition Metal-Based Advanced Materials for Energy and Water Purification Applications	Mahatma Jyotiba Phule Research & Training Institute (MAHAJYOTI) Nagpur, Maharashtra	01-11-2022	08-05-2026
Best Oral Presentation for “Decoding linker contributions in solid state synthesis of MOF-derived NiCo ₂ O ₄ /NiO/C composites for efficient electrocatalytic OER: Machine learning assisted prediction and forecasting of device stability”	National Conference on “Trends in Chemistry and Sustainability” organized by Department of Chemistry at Karmaveer Bhaurao Patil Mahavidyalaya, Pandharpur	26-12-2023 and 27-12-2023	

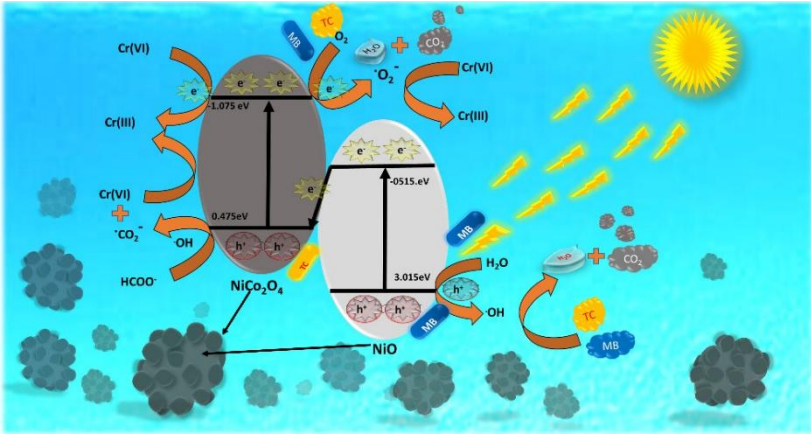
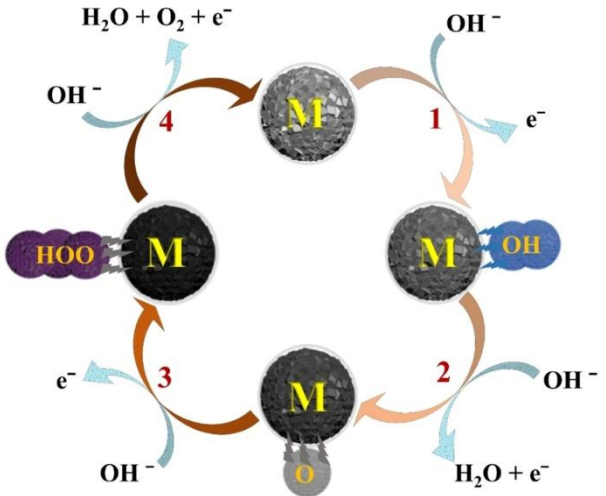
Research Activities:

Publications	Published	Communicated	Citations
14	12	2	55

❖ List of Publications

Sr. No.	Title	Impact Factor
1.	<i>Conductivity boosted BiVO₄ for enhanced OER and supercapacitive performance: stability insights with modeling, predictions, and forecasting using machine learning technique</i> Sagar A. Chaudhari , Vinod V. Patil, Vishal V. Jadhav, Parth Thorat, Santosh S. Sutar, Tukaram D. Dongale, Vinayak Parale, Vaishali Patil, Dattakumar S. Mhamane, Mukund G. Mali, Hyung-Ho Park Journal: <i>Energy Materials</i> https://www.oaepublish.com/articles/energymater.2024.229	11.9

	Oxygen (O₂) and Hydrogen (H₂) Evolution Using 3 Electrode Setup WE – Working Electrode (BVC) CE – Counter Electrode (Pt Wire) RE – Reference Electrode (Hg/HgO) ● Oxygen Bubbles ● Hydrogen Bubbles 	
2.	Temperature Directed Solid-State Sulfidation of MOF-Derived Bi₂S₃/N-Doped Carbon Composites for Enhanced Supercapacitor Performance Sagar A. Chaudhari, Vinod V. Patil, Haryeong Choi, Hyun Kyung Kim, Vaishali Patil, Mohaseen S. Tamboli, Sadaf Jamal Gilani, Dattakumar S. Mhamane, Hyung-Ho Park, Mukund G. Mali Journal: <i>Small</i> https://doi.org/10.1002/sml.74348 	12.1

3.	Linker Encouraged Solid State Synthesis of MOF Derived Z-Scheme $\text{NiCo}_2\text{O}_4/\text{NiO}/\text{C}$ toward Efficient Removal of Organic and Inorganic Pollutants from Water Sagar Chaudhari, Vinod Patil, Vishal Jadhav, Laxman Walekar, Abhijit Nanaso Kadam, Vaishali Patil, Raisuddin Ali, Mohaseen S. Tamboli, Hyun-Kyung Kim, Dattakumar S. Mhamane, Mukund G. Mali Journal: <i>ACS Langmuir</i> https://doi.org/10.1021/acs.langmuir.4c02616 	4.4
4.	Decoding linker contributions in solid state synthesis of MOF-derived $\text{NiCo}_2\text{O}_4/\text{NiO}/\text{C}$ composites for efficient electrocatalytic OER: Machine learning assisted prediction and forecasting of device stability Sagar A. Chaudhari, Santosh S. Sutar, Parth S. Thorat, Vinod V. Patil, Vishal A. Jadhav, Umakant M. Patil, Hyun-Kyung Kim, Vaishali Patil, Mohaseen S. Tamboli, Sadaf Jamal Gilani, Nguyen Tam Nguyen Truong, Dattakumar S. Mhamane, Rajkumar Patel, Mukund G. Mali Journal: <i>Journal of the Taiwan Institute of Chemical Engineers</i> https://doi.org/10.1016/j.jtice.2025.106477 	6.9
5.	MOF derived ZnO nanostructures modified with CoW_{12}-polyoxometalates for enhanced sunlight driven degradation of methylene blue, ofloxacin and their mixtures	6.6

	Nitin A. Tupsamindar, Arun S. Chopade, Sagar A. Chaudhari, Abhijit N. Kadam, Sandip R. Sabale, Vaishali Patil, Mohaseen S. Tamboli, Raisuddin Ali, Nguyen Tam Nguyen Truong, Vashishtha M. Gurame, Dattakumar S. Mhamane, Vijaykumar P. Ubale, Rajkumar Patel, Mukund G. Mali Journal: <i>Journal of Water Process Engineering</i> https://doi.org/10.1016/j.jwpe.2025.108959	
6.	<i>In-situ construction of BiVO₄/N-Doped carbon composite for visible-light-driven degradation of methylene blue and Tetracycline hydrochloride</i> Nitin A. Tupsamindar, Arun S. Chopade, Sagar A. Chaudhari, Abhijit N. Kadam, Samadhan P. Pawar, Sandip R. Sabale, Avinash A. Kadam, Mohaseen S. Tamboli, Sadaf Jamal Gilani, Vaishali Patil, Dattakumar S. Mhamane, Vijaykumar P. Ubale, Mukund Mali Journal: <i>Emergent Materials</i> https://doi.org/10.1007/s42247-025-01184-8	4.0
7.	<i>Water-mediated one-pot synthesis of novel trifluoromethyl isoxazolones: Anticancer activity and redox behavior</i> Pushpa Hadimani, Dnyandev Bhosale, Dattatraya Raut, Makarand Kulkarni, Prafulla Choudhari, Sagar Chaudhari, Vinod Patil, Mukund Mali, Tajashri Raut, Dnyaneshwari Waghmode, Anjana Sanjay Lawand Journal: <i>Journal of Molecular Structure</i> https://doi.org/10.1016/j.molstruc.2025.144051	4.9
8.	<i>In-situ fabrication of magnetic nanoparticle-decorated rGO/TiO₂@MXene aerogels for enhanced visible-light-driven degradation of organic pollutants</i> Rushikesh P. Dhavale, Varsha D. Phadtare, Sagar A. Chaudhari, Mukund G. Mali, Vinayak G. Parale, Santosh V. Mohite, Donghwa Lee, Haryeong Choi, Akshay A. Ransing, Jiseung Kim, Sun Hee Kim, Prashant B. Patil, Jae-Chul Pyun, Jae-Chul Pyun, Hyung-Ho Park Journal: <i>Journal of Water Process Engineering</i> https://doi.org/10.1016/j.jwpe.2026.109591	6.6
9.	<i>Synergistic engineering of carbon incorporated α-Fe₂O₃ nanostructures achieving enhanced degradation of tetracycline via photo-Fenton process</i> Vishal A. Jadhav, Chang-Hun Lim, Sagar A. Chaudhari, Vinod V. Patil, Vaishali A. Patil, Pratapsinha B. Gorepatil, Mohaseen S. Tamboli, Young Gyu Jeon, Hyung-Ho Park, Mukund G. Mali, Hyun-Kyung Kim, Dattakumar S. Mhamane Journal: <i>Inorganic Chemistry Communications</i> https://doi.org/10.1016/j.inoche.2026.116151	5.9
10.	HETEROJUNCTION PHOTOCATALYSTS FOR ENVIRONMENTAL REMEDIATION (Book Chapter)	-

	Sagar A. Chaudhari, Maruti S. Gund, Arun S. Chopade, Dattakumar S. Mhamane and Mukund G. Mali Book: <i>Research and Reviews in Material and Chemical Science</i> ISBN: 978-93-47587-21-4 https://doi.org/10.5281/zenodo.18109019	
11.	<i>Recycling of spent Zn-C batteries into solar active Z-scheme ZnO@g-C₃N₄ photocatalyst for removal of Cr (VI), methyl orange and tetracycline hydrochloride</i> Bhakti D Sindhav, Mukund G Mali, Sagar A. Chaudhari, Bhimarao M Patil, Dattakumar S Mhaman, Dattatraya K Pawar, Abhijit N Kadam, Harichandra A Parbat Journal: <i>Ceramics International</i> https://doi.org/10.1016/j.ceramint.2026.05.334	6.0
12.	<i>Engineering Hierarchical Nickel Cobalt Metal-Organic Frameworks through Metal Ion Modulation for High-Performance Hybrid Aqueous Supercapacitor Devices</i> Swapnil S. Pujari, Sandip S. Katte, Vinod V. Patil, Sagar A. Chaudhari, Akshay Ransing, Vaishali Patil, Mohaseen S. Tamboli, Mukund G. Mali, Hyun Kyung Kim, Hyung-Ho Park, Dattakumar S. Mhamane Journal: <i>ChemSusChem</i> https://doi.org/10.1002/cssc.70825	5.9
13.	<i>Rational Design of CuS Microflowers Anchored on Mo,W-Codoped BiVO₄ Fern-Leaf Dendritic Architectures for High-Efficiency Photocatalytic Treatment of Organic Pollutants</i> Nagesh D. Kolhe, Sagar A. Chaudhari, Maruti S. Gund, Akshay A. Ransing, Abhijit N. Kadam, Vaishali Patil, Mohaseen S. Tamboli, Sadaf Jamal Gilani, Dattakumar S. Mhamane, Mukund G. Mali Journal: <i>ACS Langmuir</i> (Major revision received)	4.4
14.	<i>MOF-Templated ZnO/CuO p-n Heterojunction Photocatalyst with Improved Charge Separation for Water Purification Under Visible-Light</i> Nitin A. Tupsamindar, Sagar A. Chaudhari, Maruti S. Gund, Arun S. Chopade, Abhijit N. Kadam, Akshay A. Ransing, Vaishali Patil, Mohaseen S. Tamboli, Vikas D. Kadu, Sadaf Jamal Gilani, Vijaykumar P. Ubale, Dattakumar S. Mhamane, Mukund G. Mali Journal: <i>Optical Materials</i> (Under review)	4.3

Area of Specialization/ Research Interest:

- ❖ **Material Science** - MOF and MOF-derived materials Synthesis.
- ❖ **Energy storage Devices** - Supercapacitor and Battery
- ❖ **Photocatalysis** - Photocatalytic degradation of Dyes, Drugs and photocatalytic reduction of heavy metals
- ❖ **Electrolysis** - Oxygen Evolution Reaction (OER) and Hydrogen Evolution Reaction (HER)

Technical Skills

- **Synthesis techniques**
 - ❖ Solid State synthesis, Solvothermal/Hydrothermal, Electrodeposition, Microwave CBD, SILAR etc.
- **Equipment handled**
 - ❖ Field Emission Scanning Electron Microscope (FESEM) (TESCAN)
 - ❖ X-Ray Diffraction (XRD)(Rigaku)
 - ❖ Electrochemical Workstation (Origalys, Versa-STAT-4)
 - ❖ UV-Visible spectrophotometer (JASCO V-750)
- **Research Software Proficiency**
 - ❖ Origin
 - ❖ X`Pert HighScore Plus
 - ❖ XPS peak41
 - ❖ FullProf_ Suite
 - ❖ VESTA
 - ❖ ImageJ

I hereby declare that all the information given above is correct to the best of my Knowledge.

REFERENCES:**Dr. Mukund G. Mali**

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