



Dr. Sandip B. Rathod

(M.Sc. Ph.D.)

Present Designation: Associate Professor

Department of Chemistry, Waghire College of Arts, Commerce and Science, Saswad, Purandar, Pune-412301

Date of Appointment : 22nd November 2011

Date of Approval : CCO/680, 27 February 2012

Contact Details:

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Personal Details

Date of Birth: 21st November 1981

Nationality: Indian

Language Known: Marathi, Hindi, English

Gender: Male

Marital Status: Married

Blood group: AB+

Academic Details

December 2010	Ph.D. Chemistry Awarded	Dr. Babsaheb Ambedkar Marathwada University, Aurangabad, India
June 2005	M.Sc, Physical Chemistry	Dr. Babsaheb Ambedkar Marathwada University, Aurangabad, India
June 2003	B.Sc Chemistry	Dr. Babsaheb Ambedkar Marathwada University, Aurangabad, India

Research Specialization

- Synthesis of metal/mixed metal oxides
 - Photo catalytic degradation studies
 - Material chemistry
 - Heterogeneous catalysis
 - Synthesis of Nano ferrites: Magnetic Materials

Teaching Experience and Research Experience

- **U.G.:** 12 years
- **P.G.:** 05 years
- **Research Experience:**
 - 1. Ph.D.: "Novel Synthesis of Mixed metal oxides and Their Applications" awarded on 18 December 2010.
 - **2. Recognized Research Guide: Chemistry**
 - I: **One** – Candidate Registered for perusing their Ph.D. Degree from SPPU, Pune, under my supervision.
 - **Book Chapter Published: 02**
 - 1. **Photo catalytic Biomass Transformation into Valuable Products** in Handbook of Biomass Valorization for Industrial Applications international online Wiley Publication
 - 2. **Single-Phase Precursor for the Preparation of Spinel Ferrites via Oxalate Route: The Study of Magnesium Ferrite Synthesis** in Conference Proceedings on Advanced Nano Research and Applications)

RESEARCH PROJECTS

Sr. No.	Title of the Projects	Funding Agency	Sanctioned Amount
1	Photo catalytic Treatment of Molasses and Real Waste water using metal doped TiO ₂ and CeO ₂ nanomaterial's under Solar Radiation	ASPIRE, SPPU, Pune	225000/-

Recognition/Awards

- Best Teacher Awards, From PDEA's Waghire College, Saswad (2022-2023)
- Ph.D. Research Guide Recognition in subject of Chemistry of SPPU, Pune (From 2021)
- Recipient of Best Teacher Award for the academic year 2022-2023
- M.Phil. Chemistry, Research Guide Recognition of Savitribai Phule Pune University, Pune in 2018.
- PG Teacher Recognition of SPPU, Pune from 2018.
- BOS member in Chemistry at Abeda Inamdar Senior College, Pune
- Recipient of First Prize and the Young Scientist Prof. A.K. Dey, Memorial Awards for the Presentation of a paper entitled "Synthesis, Characterization and Catalytic Application of mixed metal oxides" in the Inorganic Chemistry Section of the Annual Conventions of Chemists 2009 held at VIT, University, Vellore, Tamilnadu, India during December 02-06, 2009.
- Recipient of First Prize Best Oral Paper Presentation Award for paper entitled "Synthesis of metal/mixed metal oxides and their applications" in National Conference on "Recent Trends in Chemistry" (NCRTC-2012) organized by Shivaji Arts, Commerce and Science college, Kannad, Aurangabad, M.S. India during September- 22-23, 2012.

International Research Publications

1	An eco-friendly synthesis of polyhydroquinoline derivatives using MoO ₃ promoted CeO ₂ -ZrO ₂ solid heterogeneous catalyst, Sandip Rathod, Vinod Dhage, Machhindra Lande, <i>Materials Today: Proceedings</i> , 47, 1736- 1740, (2021) (Elsevier)	IF-1.46
2	Electric, dielectric and AC electrical conductivity study of Al ³⁺ substituted barium hexaferrite nanoparticles synthesized by Sol-gel auto-combustion technique, V N Dhage, M L Mane and K M Jadhav <i>Materials Today: Proceedings</i> , 47, 1982-1987, (2021) (Elsevier)	IF-1.46
3	Structural Analysis of Calcium Oxide Derived from Waste Egg's Shells and their Application for Knoevenagel Condensation Reactions, S.B. RATHOD ,* N.M. PAWAR1, P.M. SHIRKE, B.L. SHINDE, and V.N. DHAGE <i>Asian Journal of Chemistry</i> , 35, 3 655-662, (2023)	IF-0.45
4	An Efficient One-Pot Synthesis of Octahydroquinazolinone Derivatives Using Magnetic Cobalt Ferrite as Catalyst, U.M. Mandle, , S.B.Rathod , N.S. Kolate, P.A.. Nanaware, V.S. Rane,P.A. Amble, K.S. Lohar, and B.L. shinde,, 35, 9 2181-2188, (2023).	IF-0.45
5	Solvent free synthesis of 3, 4-dihydropyrimidine-(1h)-one via Bigenilli reaction S. B. Rathod and M. K. Lande <i>Rasayan Journal of Chemistry</i> 14 ,1, 368-373 (2021)	-
6	Synthesis and characterization of FeTiO ₃ ceramics. A.B. Gambhire, M.K.Lande, S.B. Rathod , B.R.Arbad, K.N.Vidhate, R.S. Gholap, <i>Arabian Journal of Chemistry</i> ., 9, 429-432, (2016) (Elsevier)	IF-4.553
7	Preparation Characterization and catalytic Application of MoO ₃ /CeO ₂ -ZrO ₂ as a heterogeneous catalyst for synthesis of β-Enaminones. S.B. Rathod , M.K. Lande, B.R.Arbad, <i>Arabian Journal of Chemistry</i> ., 7, 253-260, (2014) (Elsevier)	IF-4.553
8	Preparation, characterization and catalytic application of Nanosized Ce ₁ Mg _x Zr _{1-x} O ₂ solid catalyst for the synthesis of Tetrahydrobenzo[b]pyran derivatives. Sandip Rathod , Balasaheb Arbad, Machhindra lande, <i>Chinese Journal of Catalysis</i> ., 31 (1) (2010) 631-636. (Elsevier)	IF-16.5
9	Degradation of Methylene Blue via Photocatalysis of transition metal loaded sulfated TiO ₂ . Anil Gambhire, Balasaheb Arbad, Sandip Rathod , M.E. Navgire, Machhindra Lande, <i>Materials Chemistry and Physic</i> ., 125 (2011) 807-512. (Elsevier)	IF-4.6
10	Effect of Polyethylene Glycol-400 and Carbon on MoO ₃ Nanocomposite Materials and its catalytic activity for Biginelli reactions. Madukar Navgire, Machhindra Lande, Balasaheb Arbad Sandip Rathod , Ajit Yelwande, <i>Bulletin of Material Science</i> ., 34 (3) (2011) 535. (Sprinzer)	IF- 1.80

11	Indium Modified Mesoporous Zeolite Al/MCM-41 as a Heterogenous Catalyst for the Knoevengel Condensation reaction .Santosh S. Katkar, Machhindra K.Lande, Sandip B. Rathod , Balasaheb R. Arbad <i>Bull.Kor.Chem.Soc.</i> 31 (1) (2010) 5.	IF-1.241
12	An Efficient Green Synthesis of Quinoxaline Derivatives using Carbon doped MoO ₃ -TiO ₂ as a Heterogeneous Catalyst. Madukar Navgire, Machhindra Lande, Balasaheb Arbad, Sandip Rathod , Ajit Yelwande, <i>Journal of Industrial and Engineering Chemistry.</i> , 18, 277-282, (2012) (Elsevier)	IF-6.10
13	Synthesis, Characterization and Catalytic Application of MoO ₃ /CeO ₂ -ZrO ₂ Solid Heterogeneous Catalyst for the Synthesis of Benzimidazole Derivatives. Sandip Rathod , Machhindra Lande, Balasaheb Arbad, <i>Bull.Kor.Chem.Soc.</i> 31,(2) (2010),339-343.	IF-1.241
14	Synthesis, Characterization and catalytic activity of Ce ₁ Mg _x Zr _{1-x} O ₂ (CMZO) solid heterogeneous catalyst for the synthesis of 5-arylidene barbituric acid derivatives. Sandip Rathod , Anil Gambhire Machhindra Lande, Balasaheb Arbad, <i>Bull. Kor.Chem. Soc.</i> 31, (10) (2010), 2835-2840.	IF-1.241
15	Preparation of Mg doped CeO ₂ -ZrO ₂ solid catalyst for the synthesis of 5-arylidene- 2,4-thiazolidinedione Sandip Rathod , M.Navgire, B.Arbad, Machhindra Lande, <i>S.Afr.J.Chem.</i> (2012), 65,196-201.	IF-0.672
16	Ce ₁ Mg _x Zr _{1-x} O ₂ (CMZO): An efficient and eco-friendly solid heterogeneous catalyst for the synthesis of 5-arylidene malononitrile derivatives. Sandip B.Rathod , Machhindra Lande, Balasaheb R.Arbad, <i>Org.Chem.Ind.J.</i> (2009),5(4)	-

PG Projects: M.Sc. Organic and Analytical Chemistry = 13

Sr. No.	Name of the students	Title of the Projects	Submitted/ Awarded (Pls. Specify)	Name of the University	Month and Year
1	Namrata Pawar	Calcium Oxide (CaO) derived from Waste Egg's Cells: An Efficient and Ecofriendly catalyst for synthesis of 5-arylidene Barbituric acid derivatives.	Awarded	SPPU	June 2022
2	Amit Suresh Gonjari	Synthesis of 2-amino-3-cynopyridenes derivatives using Magnetically separable Nickel Ferrite catalyst	Awarded	SPPU	June 2022
3	Priyanka Anand Shirke	Synthesis of 5-arylidene malononitrile derivatives using calcium oxide (CaO) derived from waste Egg's Cells: An efficient and Green catalys.	Awarded	SPPU	June 2022
4	Omkar Sanjay Jagtap	Synthesis of terahydrobenzo[b]pyran derivatives using nickel ferrite (NiFe ₂ O ₄)catalyst	Awarded	SPPU	June 2022
5	Yogita Arun Ranaware	Synthesis of 2- Amino-4h-Chromene derivatives using magnetically seperable MnFe ₂ O ₄ ferrite catalyst	Awarded	SPPU	June 2023
6	Anjali Ashok Liman	Synthesis of Quinoxaline Derivatives using Titanium Dioxide (TiO ₂) As an efficient and Green Catalyst.	Awarded	SPPU	June 2023
7	Neha Bhagwat Kasurde	An Efficient one pot Synthesis of 2-Amino-4-Arylquinoline-3-Carbonitriles Derivatives using MnFe ₂ O ₄ as a Green Catalyst.	Awarded	SPPU	June 2023
8	Asmita Jagtap	Synthesis of 5-arylidene malononitrile derivatives under	Awarded	SPPU	June 2023

		ultrasonic irradiation method catalysed by Ruthenium Oxide (RuO ₂) as ecofriendly catalyst.			
9	Chamwad Bhagyashri Jaychand	Photocatalytic Degradation of Titan Yellow using Cd doped Cerium Oxide (CeO ₂) as a Photocatalyst under Sun Light Irradiation.	Awarded	SPPU	June 2023
10	Dhiraj Dhanraj Hambir	Study on Photocatalytic Degradation of Methylene Violet using Nickel (Ni ²⁺) doped Cerium Oxide (CeO ₂) as a Photocatalyst under Solar Radiation.	Awarded	SPPU	June 2023
11	Akshay Bajirao Gaikwad	Photocatalytic Treatment of Phenol Red using Mn doped Titanium Oxide (TiO ₂) as a Photocatalyst under Solar Radiation.	Awarded	SPPU	June 2023
12	Kalane Aniket Suresh	Assessment of Water Quality Parameters of Borewell and Well Water of Panvadi, Sonori and Mavdi pimri villages Purandar Tehsil	Awarded	SPPU	June 2023
13	Chaudhari Santosh Ankush	Examination of Water Quality Parameters of Borewell and Well Water of Sonori and Mavdi pimri villages Purandar Tehsil	Awarded	SPPU	June 2023

Orientation / Refresher Course / Short Term / Faculty Development Programme attended:

Sr. No.	Name of the Course	Place	Dates		Duration in Weeks	Sponsoring Agency
			From	To		
1	Orientation Course	UGC HRDC Savitribai Phule Pune University, Pune.	03/11/2014	30/11/2014	04	UGC
2	Refresher Course in Chemical Sciences	UGC HRDC Central University of Hyderabad.	10/07/2015	30/07/2015	03	UGC
3	Refresher Course in Environmental Science	UGC HRDC Savitribai Phule Pune University, Pune.	09/12/2019	22/12/2019	03	UGC
4	Online Refresher Course in Chemistry for Higher Educations	Swayam Arpit online course conducted by Sri Guru Tegh Bahadur Khalsa College, University of Delhi	01/09/2020	30/11/2020	3 month	Arpit-Swayam
5	Online FDP on Enriching Online Teaching and Learning	PDEA'S Waghire College of Arts, Commerce and Science, Saswad	07/10/2021	13/10/2021	7 days	HRDC, SPPU, Pune (self –financed)
6	Online Refresher Course in Chemistry for Higher Educations	UGC HRDC Central University of Hyderabad.	8/11/2021	20/11/2021	02	UGC

Responsibilities and other Activities

- ARC-Coordinator (From 2022-2023 to till date)
- Co-ordinator, College Level AVISHKAR Competition (From 2022-2023 to till date)
- Head, NAAC Criterion-III (Research, Innovations and Extensions)
- Co-ordinator, 7 days online FDP on “ Characterization Techniques used in Chemical and Biological Sciences” 10 th Feb 2022 to 16 Feb 2022 in collaboration with HRDC, SPPU, Pune
- BOS member in Chemistry at Abeda Inamdar Senior College , Pune
- Working as NSS Programme Officer from (2016-17, 2017-18, and 2018-2019).
- Participation in extra co-curricular activities such as working as Programme Officer, organizing University Level Camp on “Role of Youth for Water Conservation” at Ketkawale, Tal: Purandar, Dist:Pune during 29th April to 2017 to 03rd May 2017.
- Head, Criterion-I (Curricular Aspects) Chairman for the year (2013-14, 2014-15, and 2015-16).
- Head, Result Analysis Committee ,
- As a Research Advisory Committee member.
- Working as Organizing Committee Member of National conference (RTCBS-2018).
- As a Chairperson, of chairing the session of Ms. Princy Achankunju, Lupin Pharma Ltd. as a resource person delivered lecture on “Project Management” in national conference 6th to 8th Feb-2018,(RTCBS-2018) organized by Department of Chemistry, Waghire College, Saswad.
- As an Editorial Member of WCS Multidisciplinary Research Journal.
- Working as External Senior Supervisor (Oct/Nov-2017) for University Examination at S.P.College, Jejuri, Purandar, Pune.
- Working as External Senior Supervisor for University Examination at Ananatrao Thopate College, Bhor, Pune.

“All the information provided above are true and correct”

Dr. Sandip Rathod