



## FACULTY PROFILE



**NAME** : Dr. VRUSHALI SAKHARAM RAUT  
**QUALIFICATION** : M.sc. Chemistry, Ph.D.  
**Email ID** : vru4raut@gmail.com  
**DEPARTMENT** : Chemistry  
**DESIGNATION** : Assistant professor  
**EXPERIENCE(Yrs.)** : 2 yrs  
**SPECIALIZATION** : Chemistry

### **PUBLICATIONS :**

**Books Publications-** NIL

**Research Publications in Journals** : 02

1. "Solvent-free one-pot synthesis of 1, 2-Dihydroquinolines from Anilines and Acetone catalyzed by MOF-199" Vrushali Raut, Rucha R Wani, Hemchandra K Chaudhari and Dipanwita Das (Results in Chemistry 2021, 3, 1000972, DOI- 10.1016/j.rechem.2021.100097).

2. "Metal-Organic Framework and Carbon Black supported MOFs as dynamic electrocatalyst for oxygen reduction reaction in an alkaline electrolyte" Vrushali Raut, Bapi Bera, Manoj Neergat and Dipanwita Das (Journal of Chemical Sciences 2021, 133(2), 34).

**Papers Published in conference proceedings** : 04

"Metal-organic framework (MOF) modified with carbon black for boosting the ORR activity in alkaline electrolyte" Vrushali Raut and Dipanwita Das (AIP Conference Proceedings 2020, 2265, 030605).

4. "Hydrogen Peroxide (H<sub>2</sub>O<sub>2</sub>) production in Oxygen Reduction Reaction (ORR) proceeding in alkaline medium employing Zinc based metal-organic framework" Vrushali Raut and Dipanwita Das (AIP Conference Proceedings 2019, 2115, 030546).

5. "Non-platinum metal-organic framework based electro-catalyst for promoting oxygen reduction reaction" Dipanwita Das, Vrushali Raut, Kota V. M. K. Kireeti and Neetu Jha (AIP Conference Proceedings 2018, 1942, 1400491).

6. "Metal-Organic Framework [Zn<sup>2</sup>(1,4-bdc)<sub>2</sub>(dabco)]<sub>n</sub> as an efficient Electrocatalyst for H<sub>2</sub>O<sub>2</sub> Production in Oxygen Reduction Reactions" Vrushali Raut and Dipanwita Das, accepted in AIP Conference Proceedings (2021).



## **FACULTY PROFILE**

### **PAPERS PRESENTED:**

**Research Papers presented in international conferences- : 07**

1. Paper presentation- "Metal-Organic Framework  $[Zn^2(1,4-bdc)^2(dabco)]^n$  as an efficient Electrocatalyst for  $H_2O_2$  Production in Oxygen Reduction Reactions" in "65<sup>th</sup> DAE Solid State Physics Symposium (DAE-SSPS 2021)" (December 15 to 19, 2021) at Bhabha Atomic Research Centre, Mumbai.
2. Paper presentation- "Metal-organic framework (MOF) modified with carbon black for boosting the ORR activity in alkaline electrolyte" in "64<sup>th</sup> DAE Solid State Physics Symposium (DAE-SSPS 2019)" (December 18 to 22, 2019) at Indian Institute of Technology Jodhpur, Rajasthan.  
Curriculum Vitae
3. Paper presentation- "Hydrogen Peroxide production in Oxygen Reduction Reaction (ORR) proceeding in alkaline medium employing Zinc based metal-organic framework" in "63<sup>rd</sup> DAE Solid State Physics Symposium" (December 2018) at Guru Jambheshwar University of Sci. & Tech., Hisar, Haryana.
4. Paper presentation- "Non-platinum metal-organic framework based electro-catalyst for promoting oxygen reduction reaction" in "DAE Solid State Physics Symposium 2017" (December 2017) at Bhabha Atomic Research Centre, Anushaktinagar, Mumbai.
5. Poster presentation-"An Efficient Metal-Organic Framework (MOF) based Electrocatalyst for Effective Oxygen Reduction Reaction (ORR)" in "19<sup>th</sup> CRSI National Symposium in Chemistry" (July 2016) at University of North Bengal, Darjeeling, West Bengal.
6. International Conference on "Global Opportunities for Latest Developments in Chemistry and Technology"-2014 organized by School of Chemical Sciences, North Maharashtra University, Jalgaon.

**Research Papers presented in national conferences- : 01**

Poster presentation-"Non-Platinum Metal-Organic Framework based Electrocatalyst for Promoting Oxygen Reduction Reaction" in 19<sup>th</sup> Tetrahedron Symposium (June 2018) at Riva del Garda, Italy.

### **CONFERENCES/SEMINARS/WORKSHOPS ATTENDED:**

**Conferences- : 10**

**Seminars : 05**

**Workshops Attended : 03**

1. Workshop- "Theory and Applications of Single Crystal X-Ray Diffraction" held in November 2017 at Indian Institute of Technology Madras.
2. Workshop- "Laboratory Safety Workshop" held on 1-2 September 2016 organized by Department of Chemistry, Institute of Chemical Technology, Mumbai.



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3. Workshop- "Application of Electrochemistry in PhotoVoltaic Devices, Nanotechnology and energy Research" held on 16, March 2015 jointly organized by Metrohm India Limited and Institute of Chemical Technology, Mumbai.

**Training Program** : 01

**Activities Organized:**

**FDP/TRAINING Courses Completed** : 01

**Research Projects:** : 09

**Memberships/Affiliations:** : NIL

**Awards and Achievements** : **Best Poster Award** in 65th DAE Solid State Symposium held at Bhabha Atomic Research Centre, Mumbai, during 15-19 December 2021.

**Research Area** : **Metal-Organic Framework (MOF)**  
**Oxygen reduction reaction**  
**Nanoparticles**  
**Catalysis**  
**Synthesis of heterocyclic compounds**