



## **Dr. Obaid Ur Rahman,**

**Current Position: Assistant Professor, Since July 2018 to till date**

**Affiliation: Department of Chemistry, Shibli National College,**

**MSD State University Azamgarh U.P. India.**

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### **Education:**

<b>Course</b>	<b>Major Subject</b>	<b>University</b>	<b>Year</b>
PhD	Chemistry	Jamia Millia Islamia, New Delhi, India	2014
<b>PhD Advisor: Prof. Sharif Ahmad</b>	<b>PhD Title:</b>	“Studies on the development, characterization and application of nanocomposite anticorrosive coatings”	
M.Sc.	Chemistry	Jamia Millia Islamia, New Delhi, India	2008
B.Sc. (Hons.)	Chemistry	Jamia Millia Islamia, New Delhi, India	2006
SSSC (XII)	PCM	10+2, Aligarh Muslim University, Aligarh, India	2002
SSC (X)	--	S.T. High School, Aligarh Muslim University, Aligarh, India	1999

### **Work Experience:**

**Teaching Experience (4+ years of teaching experience at graduate and post graduate level)**

**My Teaching Skills:** I can teach following subjects to the undergraduate and post graduate students:

- Physical Chemistry
- Polymer Chemistry
- Spectroscopy, Group theory and its chemical application
- Beside the theory classes I also take practical classes at under graduate as well as post graduate level.

Before joining my postdoctoral fellowship in March 2016, I worked as an assistant professor at Department of Chemistry, Basic and Applied Sciences, Galgotia's University, Greater Noida, India.

I taught following subjects to the Engineering students:

- Engineering chemistry
- Environmental science and green chemistry
- Chemistry Practical classes

**Research Experience:** I have 10+ years of research experience including my doctoral, postdoctoral as well as my academic research at my institute.

**My research Skills:**

- I can draft, perform and can successfully complete a research problem with its significant outcome
- Currently, I am supervising one PhD student for his PhD thesis.
- I am well expert in writing and reviewing the research article

**Postdoctoral-Research Experience: (2.5 years of postdoctoral experience)**

1. Post-doctoral fellow at Corrosion Centre and Protection, **University of Science and Technology, Beijing, China** from March 2018 to June 2018 .
2. Post-doctoral fellow at Department of Surface Technology, Ningbo Institute of Materials Technology and Engineering, **Chinese Academy of Sciences, Ningbo, China**. From March 2016 to February 2018.
3. During my post-doctoral research, I have synthesised bio-nanoparticles, bio-nanoparticles dispersed graphene/polymer nanocomposites, and metal/metal oxide clusters with these bio nanoparticles.
4. Application of these nanoparticles, nanocomposites, and nanoclusters as anticorrosive nanofillers in epoxy coatings.

**PhD Thesis Research work:**

- During my thesis work I have synthesised different metal oxide nanoparticles and vegetable seed oil based polymer matrix (alkyd, epoxies, polyol, polyurethanes, and polyester-urethanes) were synthesized. Synthesised metal oxides were dispersed in the polymer matrix to synthesized polymer nanocomposites coatings to investigate their anticorrosive behaviour on carbon steel substrate along with other physico-chemical performance.

**Instrumental Skill:**

- Analysis and interpretation of UV-Vis., FT-IR, and NMR spectroscopic data.
- Skilled in performing and analysing XRD, TEM, SEM and EDX, electrochemical impedance spectroscopy (EIS), Potentio-dynamic polarization (PDP), thermogravimetric analysis (TGA), differential scanning calorimetry (DSC) and contact angle measurement.

**Software Skill:**

- Familiar with common operating system packages, MS Office packages, graphical packages (ChemDraw, ChemUltra, Chems sketch, Origin etc.).

**Awards:**

- **Conference registration grant from IUPAC** to attend **“POLYCHAR 20”** World Forum on Advanced Materials, 26-30 March 2012 at Dubrovnik, Croatia.
- **Paper awarded entitled** “Nanocomposite coatings and their anticorrosive behavior” in Recent Advances in Chemistry (RAC) 2014, Jamia Millia Islamia, New Delhi, India.
- **Best Poster Award:** Paper awarded entitled “Single-Step Synthesis and Characterization of Super Paramagnetic Fe<sub>3</sub>O<sub>4</sub> Nanoparticles” in Recent Advances in Chemistry (RAC) 2011, Jamia Millia Islamia, New Delhi, India.
- Work as a volunteer in 7th National Symposium and Conference on Solid State Chemistry & Allied Areas (ISCAS -2011) 2011 at Jamia Millia Islamia, New Delhi India.

## Fellowships:

Fellowships/Awards	Funding Body	Period	Affiliation
Post-doctoral Fellowship	Chinese Academy of Sciences, Beijing, China	1 <sup>st</sup> March to 28 <sup>th</sup> February 2018	Ningbo Institute of Materials Technology and Engineering, Ningbo, China.
Senior Research Fellowship (SRF)	Council of Scientific and Industrial Research, New Delhi, India	1 <sup>st</sup> April 2013 to 4 <sup>th</sup> June 2014	Department of Chemistry, Jamia Millia Islamia, New Delhi, India
UGC-BSR Meritorious (SRF)	University Grants Commission, New Delhi India	25 <sup>th</sup> October 2012 to 31 <sup>st</sup> March 2013	Department of Chemistry, Jamia Millia Islamia, New Delhi, India
UGC-BSR Meritorious Junior Research Fellowship	University Grants Commission, New Delhi India	25 <sup>th</sup> October 2010 to 24 <sup>th</sup> October 2012	Department of Chemistry, Jamia Millia Islamia, New Delhi, India
UGC Fellowship for PhD students	University Grants Commission, New Delhi India	05 <sup>th</sup> November 2008 to 24 <sup>th</sup> October 2010	Department of Chemistry, Jamia Millia Islamia, New Delhi, India

## Editorial Services:

Reviewer of the following journals:

- i. ACS Sustainable Chemistry and Engineering
- ii. Industrial & Engineering Chemistry Research
- iii. ACS Applied Material & Interface
- iv. Progress in organic coatings
- v. Corrosion Science
- vi. Composites Part B Engineering
- vii. RSC Advances
- viii. Oriental journal of chemistry
- ix. New Journal of Chemistry
- x. Journal of Chemistry

## Peer-Reviewed Publications:

1. **O. U. Rahman**, S. Shi, J. Ding, W. Donglin, S. Ahmad and H. Yu, *Lignin based bi and ternary nanocomposite synthesis, characterization and their application as anticorrosive nanofillers for epoxy coatings* **New J Chem.** **2022, in review.**
2. H. Qian, J. Yang, Y. Lou, **O. U. Rahman**, Z. Li, X. Ding, J. Gao, C. Du, D. Zhang, *Mussel-inspired superhydrophilic surface with enhanced antimicrobial properties under immersed and atmospheric conditions*, **Appl. Surf. Sci.**, 465 (2019) 267–278.
3. **O. U. Rahman**, S. Shi, J. Ding, W. Donglin, S. Ahmad and H. Yu, *Lignin nanoparticles: Synthesis, characterization and their corrosion protection performance*, **New J Chem.**, 42 (2018) 3415–3425.

4. **O. U. Rahman**, S. I. Bhat, H. Yu and S. Ahmad, Hyperbranched Soya Alkyd Nanocomposite A Sustainable Feedstock Based Nanocomposite Anticorrosive Coatings, **ACS Sustainable Chem. Eng.**, 5 (2017) 9725–9734.
5. J. Ding, **O. U. Rahman**, W. Peng, H. Dou and H. Yu, A Novel Hydroxyl Epoxy Phosphate Monomer Enhancing the Anticorrosion Performance of Waterborne G/Epoxy Coatings, **Appl. Surf. Sci.** 427 (2018) 981–991.
6. J. Ding, **O. U. Rahman**, Q. Wang, W. Peng, and H. Yu, Sustainable graphene suspensions: A reactive diluent for epoxy composite valorization, **ACS Sustainable Chem. Eng.**, 5 (2017), 7792–7799
7. J. Ding, **O. U. Rahman**, H. Zhao, W. Peng, H. Dou, H. Chen and H. Yu, Ultrahigh electrical and thermal conductive hydroxylated graphene based flexible carbon film, **Nanotechnology**, 28 (2017), 39LT01.
8. **O. U. Rahman**, and S. Ahmad, Soy Oil Polyester Urethane/TiO<sub>2</sub> and Ce-TiO<sub>2</sub> Nanocomposites Coatings: Preparation, Characterization and Electrochemical Corrosion Resistance Performance, **RSC Advances**, 6 (2016) 10584-10596.
9. A. Ghosal, **O. U. Rahman** and S. Ahmad, High performance anticorrosive organo-siloxane hybrid nano-composite coatings, **Ind. Eng. Chem. Res.**, 54 (2015), 12770–12787.
10. E. Sharmin, **O. U. Rahman**, F. Zafar, D. Akram, M. Alam, and S. Ahmad, Linseed oil polyol/ZnO bionanocomposites towards mechanically robust, thermally stable, hydrophobic coatings: a novel synergistic approach utilizing a sustainable resource, **RSC Advances**, 5 (2015) 47928–47944.
11. **O. U. Rahman**, M. Kashif, S. Ahmad, Nanoferrite dispersed waterborne epoxy-acrylate: Anticorrosive nanocomposite coatings, **Prog. Org. Coat.**, 80 (2015) 77-86.
12. **O. U. Rahman** and S. Ahmad, Physico-mechanical and electrochemical behavior of soy alkyd/Fe<sub>3</sub>O<sub>4</sub> nanocomposite coatings, **RSC Advances**, 4 (2014) 14936–14947.
13. **O. U. Rahman**, S. C. Mohapatra, and S. Ahmad, Fe<sub>3</sub>O<sub>4</sub> inverse spinal super paramagnetic nanoparticles, **Mater. Chem. Phys.**, 132 (2012) 196–202.
14. E. Sharmin, D. Akram, A. Ghosal, **O. U. Rahman**, F. Zafar, S. Ahmad, Preparation and characterization of nanostructured biohybrid, **Prog. Org. Coat.**, 72 (2011) 469–472.
15. F. Zafar, E. Sharmin, M. Kashif, **O. U. Rahman**, S. Pathan, M. S. Khan and S. Ahmad, Organic Solvent Free Microwave Synthesis of PongamiaGlabra Oil Based Polyester amide, **BharatiyaVaigyanikEvamAudyogikAnusandhanPatrika (BVAAP) NISCAIR**, 18 (2010) 38-42.

### **Book chapters:**

16. F. Zafar, E. Sharmin, D. Akram, M. Alam, **O. U. Rahman** and S. Ahmad. Renewable Resource-Based Advanced Functional Composites and Nanocomposites., Nova Science Publishers. **2** (2013)231-250, **ISBN: 978-1-62948-056-5**.
17. **O. U. Rahman**. Biopolymer Nanocomposites as Biosensor. Biopolymers and nanocomposites for biomedical and pharmaceutical applications. Nova Science Publishers, Inc., USA. **ISBN: 978-1-53610-635-0**.

### **Participation in conferences/workshop (Only selected)**

18. **O. U. Rahman** and S. Ahmad, Renewable Resource based Organic-inorganic Hybrid Coatings and their Corrosion Protective Performance, presented in international conferences on corrosion “**CORCON-2013**” at The Lalit, New Delhi, India on 30<sup>th</sup> Sep - 3<sup>rd</sup> Oct, 2013.
19. **O. U. Rahman** and S. Ahmad, Ferrite dispersed hyperbranched alkyd nanocomposite and their corrosion protective performance, paper presented in “**POLYCHAR 20**” World Forum on Advanced Materials, 26-30 March 2012 at Dubrovnik, Croatia.
20. **O. U. Rahman** and S. Ahmad, Corrosion protective performance of nano Fe<sub>3</sub>O<sub>4</sub> dispersed soya alkyd based nanocomposite, Paper presented in international conferences on corrosion “**CORCON-2011**” at The Lalit, Mumbai, India on 29<sup>th</sup> Sep -1<sup>st</sup> Oct, 2011.
21. **O. U. Rahman** and S. Ahmad, Corrosion protective performance of Nano-Ferrite (NF) dispersed butylated melamine formaldehyde (BMF) modified waterborne epoxy-acrylate (EpAc) Coatings, Paper presented in “**Aligarh Nano-I Workshop on Nanoscience and Nanotechnology**” on March 26-27, 2011.
22. **Workshops on Experimental Techniques for Corrosion Research** organized by the Department of Metallurgical Engineering and Materials Science Indian Institute of Technology, Bombay and Student Chapter, NACE International Gateway India Section at Indian Institute of Technology, Powai, Mumbai, India on Sept 27-28, 2011.

**Name and address of Referees available on request.**

### **Declaration:**

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

Place: Azamgarh, India

Date: 03.08.2022

  
(Obaid ur Rahman)