CURRICULUM VITAE

Dr. Khan Mujahid Sabir

Ph.D. in Chemistry

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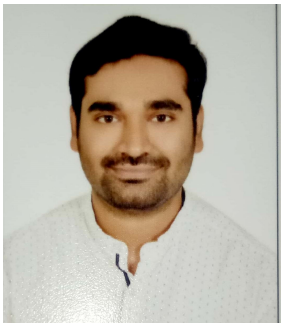

Career Objective

Willing to work for a goal oriented organization where I can fully utilize my expertise, skills and experience that offer professional growth being innovative in the field of chemistry.

Educational Qualification

Qualification	Discipline	Year	Institution	%	Class
Ph.D.	Chemistry	January 2022	Dept. of Chemistry, University of Mumbai	NA	NA
M. Sc.	Physical Chemistry	April 2015	Dept. of Chemistry, University of Mumbai	5.7	Higher Second
B.Sc.	Chemistry	April 2015	B. N. N. College, Bhiwandi	64	First
H.S.C	Science	March 2010	Samadiya Junior College, Bhiwandi	56.67	Second
S.S.C	NA	March 2008	Samadiya School, Bhiwandi	66.15	First

Ph.D. research work

- Thesis entitled “Fabrication of smart nanostructures and their effect on degradation of polymers”.
- My research includes the synthesis of the nanomaterials, metal oxide, metal decorated metal oxide and core-shell nonmaterial structure using various methods such as

ultrasound cavitation, microemulsion method, co-precipitate, sol-gel, green synthesis etc. with detail study of formation of nanostructures and investigation of its properties.

- The modified nanostructure was used to enhance the degradation of polymer nanocomposites. Further, the novel microorganism was isolated from the dumping yard which is capable for the degradation of polymer nanocomposites.
- Some novel nanofiller were synthesized which improves the thermo, mechanical properties of commercial polymer.
- Green technology was used for the preparation of metal decorated and metal oxide nanomaterials for the remediation of hazardous organic dyes effluent from the industry.
- Nanofiber was fabricated using electrospinning technique, and modified by introducing the nanomaterials inside the polymer nanofiber to improve the thermo-mechanical and photocatalytic properties of nanofiber which is used for the water purification, hazardous dye treatment, and in the biomedical field as tissue engineering scaffold.

Research fellow

UGC major research fellow (01/02/2016 to 30/06/2018)

UGC non net fellow (01/09/2018 to 31/03/2020)

M. Sc. Project

Project titled “Effect of reaction parameter on the particle size of nanomaterials and its impact on dye degradation” as a part of M.Sc. final year curriculum, which involved synthesis of nanomaterials and its application for the dye degradation. The calibration of analytical balance, pH meter, melting point apparatus and spectroscopic techniques were explored.

Broad area of interest

Material Science, functional nanomaterials, microencapsulation techniques, polymer technology, degradation of plastic and waste water, novel additives, resins and filler, nanofiber fabrication and its application.

Laboratory skill

Hands-on experience

- Fourier transform infrared spectroscopy
- HAAKE minilab extruder, twin extruder (polymer melt processing)

- Universal testing machine
- Compression moulding machine
- Twin roll processing for rubber
- Hardness tester
- Electrospinning (nanofiber preparation)
- UV-visible spectroscopy
- Differential scanning calorimetry
- Thermogravimetric analysis
- X-ray diffraction
- Dynamic light scattering
- Gel permeation chromatography
- Chemical vapour deposition
- Photoluminescence

Technical Skill

- Well-versed with ChemDraw Ultra 12.0, SciFinder, Origin 8.5 pro and MestreNova
- Proficient in MS-Word, PowerPoint and other MS office computer applications

Publications

1. **Mujahid Khan**, Pratik Dhavan, Debdatta Ratna, Shriram Sonawane, Navinchandra Shimpi, LDPE:PLA and LDPE:PLA:OMMT polymer composites: Preparation, characterization, and its biodegradation using Bacillus species isolated from dumping yard, ***Polymer for Advanced Technology***, 32 (2021) 3724-3739.

2. **Mujahid Khan**, Satyendra Mishra, Debdatta Ratna, Shriram Sonawane, Navinchandra Shimpi, Investigation of thermal and mechanical properties of styrene–butadiene rubber nanocomposites filled with SiO_2-polystyrene core-shell nanoparticles, ***Journal of Composite Materials***, 54(14) (2020) 1785-1795.

3. **Mujahid Khan**, Pratik Dhavan, Bhaskar Jadhav, Navinchandra Shimpi, Ultrasound-assisted green synthesis of Ag-decorated ZnO nanoparticles using *Excoecaria agallocha* leaf extract and evaluation of their photocatalytic and biological activity, ***Chemistry Select***, 5 (2020) 12660-12671.

4. **Mujahid Khan**, Pratik Dhavan, Debdatta Ratna, Navinchandra Shimpi, Ultrasonic-assisted biosynthesis of ZnO nanoparticles using *Sonneratia alba* leaf extract and investigation of its photocatalytic and biological activities, ***Journal of Cluster Science***, (2021) 1-17.

5. **Mujahid Khan**, P. Ware, Navinchandra Shimpi, Synthesis of ZnO nanoparticles using peels of passiflora foetida and study of its activity as an efficient catalyst for the degradation of hazardous organic dye, ***Springer Nature Applied Science***, 3 (2021) 1-17.

6. Navinchandra Shimpi, **Mujahid Khan**, Sharda Shirole, Shriram Sonawane, Process optimization for the synthesis of silver (Ag NPs), iron oxide (α-Fe_2O_3 NPs) and core-shell (Ag-Fe_2O_3 CSNPs) nanoparticles using the aqueous extract of a Alstoniascholaris: A greener approach, ***The Open Material Science Journal***, 2 (2018) 29-39.

7. Navinchandra Shimpi, Pratab Ware, **Mujahid Khan**, Extraction of starch from potato and vedarikand and its potential application in bioplastic. ***Current Applied Polymer Science*** (Accepted 30th November 2021)

8. Aruna Sudapalli, **Mujahid Khan**, Navinchandra Shimpi, Solvothermal synthesis of 0D/2D Crossandra flower shape β-Bi_2O_3 and its investigation as a photocatalyst for the degradation of phenolic dyes. (Communicated)

Paper presented in International/National Conferences

1. International Conference on New Horizons in synthetic and Material Chemistry (ICSMC-2015) organized by Department of Chemistry University of Mumbai.

2. National Conference an Advance and Innovations in Chemical Sciences. (NCAICS-2016) organized by Department of Chemistry University of Mumbai.

3. Recent advance in polymer technology (RAPT 2017), organized by UICT, University, North Maharashtra University, Jalgaon.

4. Recent advance in polymer technology (RAPT 2018), organized by UICT, University, North Maharashtra University, Jalgaon.

5. International conference on study of nanomaterials and scientific development in 21st century (ICSNDC), organized by Jiwaji University, Gwalior.

Personal details

Date of birth: 10th June, 1993

Blood group: O+

Marital status: Unmarried

Nationality: Indian

References

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Declaration

I hereby declare that all the information mentioned above is complete and correct to the best of my knowledge and belief.

Dated:

Place: Mumbai

(Dr. Khan Mujahid Sabir)