Asma Khan, Ph.D.

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PROFILE

Ph.D. in Chemistry with 4+ years' research experience in polymer chemistry, sustainable materials, and analytical characterization. Skilled in formulation development, experimental design, and lab-to-scale product translation. Hands-on expertise with microstructural analysis, thermal/mechanical evaluation, and polymer material optimization. Strong track record of cross-functional collaboration, safety compliance, and technology evaluation, with publications and patents bridging academic innovation to industry solutions.

EDUCATION

- **Ph.D. Chemistry** – K.C. College, University of Mumbai (2024)
- **MSc, Inorganic Chemistry** – K.C. College, University of Mumbai (2019)
- **BSc, Chemistry Major** – K.C. College, University of Mumbai (2015) – Ranked 1st

SKILLS AND TECHNICAL TRAINING

- **Polymer Chemistry**: Nanofiber formulation and coatings, polymer–surface interactions.
- **Analytical & Surface Characterization**: SEM, TEM, AFM, BET, FTIR, UV-Vis, AAS, HPLC, Gamma-ray spectrometry.
- **Material Evaluation**: Mechanical, thermal, adsorption–desorption, and stability testing.
- **Process & Product Development**: Electrospinning/electrospraying, experimental design, optimization, scale-up feasibility.
- **Lab Operations & Safety**: GLP, QMS (ISO 9001/14001), equipment calibration, incident-free compliance.
- **Technology & Market Awareness**: Patent/literature research, technology roadmap inputs, sustainability benchmarking.

RELEVANT EXPERIENCE

Research Associate & Assistant Professor, Dept. of Chemistry, K.C. College | Aug 2022 – Jun 2024

- Developed and optimized polymer-based nanofiber and coating materials using electrospinning/electrospraying, tailoring surface properties for functional applications.
- Conducted literature and patent searches to identify technology gaps and novel approaches, feeding into active research projects.
- Prepared technical reports, publications, and patent documentation; delivered presentations to R&D, academic, and industry audiences.
- Led training in analytical instrumentation and lab safety for graduate students and junior researchers.

Executive Research and Technical Assistant, Dept. of Chemistry, K.C. College | Nov 2020 – Jul 2022

- Designed and executed experiments in material remediation**;** maintained isotope and lab inventories.
- Operated, calibrated, and maintained analytical instruments.
- Trained B.Sc. and M.Sc. students in instrumentation, GLP, and product testing protocols.
- Prepared and validated technical reports.

PATENT & SELECTED PUBLICATIONS

- **Patent:** *A system for remediation of Sr(II) from simulated low-level radioactive waste* – German Patent (2022).

- **Elsevier, Springer publications** on adsorption, surface interactions, and remediation chemistry.

  Full list of publications available on ORCID: https://orcid.org/0000-0002-9994-4815

AWARDS AND PRESENTATIONS

- Poster Prize (2024): International Topical Meeting (IAEA & Jefferson Lab, USA) – innovative process optimization.
- 1st Prize (2020): National Patent Data Research – recognized for chemical process trend analysis with commercial potential.
- Best Presenter (2018): ARCEBS International Conference.
- Presented at **15+ national and international conferences**, including IAEA, AOCRP, and Elsevier symposia.