



Binitta K

Project Assistant with Expertise in Polymer Chemistry and Nanotechnology

Dynamic M tech graduate in Nano Science and Technology with a strong foundation in polymer engineering seeking to leverage advanced knowledge and skills in nanotechnology to contribute to innovative research and development projects. Dedicated to applying interdisciplinary expertise to address challenges in materials science and engineering

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WORK EXPERIENCE

Project fellow

August 2023 – Present | National Institute of Technology – Calicut

- **Topic:** Carbon-based hybrid nanomaterial in ionic fluids for CO₂ reduction.
- **Synthesis and Characterization:** Synthesized nanomaterials and performed XRD, XPS, SEM, FTIR, PL and UV-visible spectroscopy.
- **Data Analysis:** Analyzed experimental data using statistical and computational tools.

Junior Chemist- R&D

February 2022 – July 2022 | Makeover Paints Pvt. Ltd, Ernakulam, Kerala

Product Development: Assisted in formulating and improving paint products.

Chemical Analysis: Performed chemical tests on raw materials and finished products (pH, viscosity, specific gravity, etc.).

Quality Control: Supported batch testing and ensured adherence to industry standards.

Research & Testing: Researched new raw materials and technologies for the paint industry.

Documentation: Maintained detailed records of experiments and test outcomes.

EDUCATION

- **Master of Technology – Nano Science & Technology**

September 2021 – May 2023 | Pondicherry Central University, Puducherry

CGPA: 8.54

Project: Optimization and investigation on the Photocatalytic activity of Graphitic Carbon Nitride (g-C₃N₄) for the degradation of Methyl Orange (MO) dye.

Laboratory preparation of (g-C₃N₄). Concentration optimization and photocatalytic activity of g-C₃N₄ for the degradation of MO dye.

Done characterizations such as XPS, XRD, UV-visible spectroscopy and PL studies.



PUBLICATIONS

- "Photocatalytic degradation of rhodamine B dye under visible LED light using composites of g-C₃N₄ and activated biochar derived from coconut shells", Journal of Diamond and Related Materials by Elsevier, February 12, 2025.
- "Reaction Parameter Optimization and Photocatalytic Activity of Graphitic Carbon Nitride for the Degradation of Anionic and Cationic Dyes: A Study on Environmental Remediation," Journal of Materials Research, September 6, 2024.



TRAINING& WORKSHOPS

- Attended International Conference MEEHCON'24, NIT Calicut (Dec 20-21, 2024)
- Short-term training on Rubber product testing and manufacturing at Rubber Training Institute, Kottayam, Kerala.
- Internship program at Common Facility Service Centre, Changanassery, Kerala | Jan 20
- IMPLANT TRAINING @Central Institute of Plastics Engineering & Technology Cochin | June 2020- Studied Plastic Processing Techniques and Quality Control

- **Bachelor of Technology – Polymer Engineering**

August 2017 – September 2021 | University College of Engineering,
Thodupuzha.

CGPA: 7.77

Project: Optimization of Surfactants in water-based paints.

Surfactant evaluation by various tests such as pH, Viscosity, Specific Gravity, Resistance and Optical Properties.

- **Plus Two**

2016 | Board of Higher Secondary Kerala

Biology Science

78%,

- **SSLC**

2014 | State Board of Kerala

89%,



REFERENCES

- **Dr. Shijo Thomas**

Associate Professor

MSED, NIT Calicut, Kerala

shijo@nitc.ac.in

- **Dr.P.Thangadurai. M.Sc., M.Phil., Ph.D.**

Professor

Centre for Nano Science and Technology,

Pondicherry University (A Central University) Puducherry –

605 014, India

thangadurai.p@gmail.com

- **Sumit Menon**

Manager

Makeover Paints Kalamassery, Ernakulam, Kerala.

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PERSONAL DETAILS

- Date of Birth: 4 Aug 1998
- Marital Status: Single
- Nationality: Indian

INTERESTS

- Paint and surface coatings
- Blends and composites
- Nano technology
- Polymer technology

LANGUAGE

- English
- Malayalam

ACTIVITIES

- Volunteer at JRC
- Volunteer at ASAP