

SIDDHESH S. REGE

Email: msp202049@iitd.ac.in, siddheshrege2506@gmail.com

DOB: 25th June 1998; Contact No: 8108394956

Residential Address: 3/5, Dwarkanath Bhavan, Katrak Road, Wadala, Mumbai- 400031

LinkedIn : <https://www.linkedin.com/in/siddhesh-rege-b37534149>

PROFESSIONAL SUMMARY

A focused and ambitious graduate with a passion for research. Proactive and meticulous. Effectively able to communicate and work in a team-based setup. Possesses knowledge of various aspects in the field of Textiles and Polymers. Experienced in working in academic and industrial research setups. Interested in conducting research in the field of nanocomposites, specifically for high-end applications. Proposed research topic: Investigation of montmorillonite nanoclay/graphene hybrid nanofiller system for the development of EMI shielding polymer nanocomposite foams

EDUCATION

DEGREE	INSTITUTION	YEAR OF PASSING	CGPA
M.TECH: POLYMER SCIENCE AND TECHNOLOGY	INDIAN INSTITUTE OF TECHNOLOGY, DELHI	2022	9.268/10.00
B.TECH: FIBRES AND TEXTILE PROCESSING TECHNOLOGY	INSTITUTE OF CHEMICAL TECHNOLOGY, MUMBAI	2020	8.77/10.00
HIGHER SECONDARY CERTIFICATE (HSC)	MAHARASHTRA STATE BOARD OF SECONDARY AND HIGHER SECONDARY EDUCATION	2016	90.31%
STATE SECONDARY CERTIFICATE (SSC)	MAHARASHTRA STATE BOARD OF SECONDARY AND HIGHER SECONDARY EDUCATION	2014	94.6%

PROJECTS

M.Tech Project (2021-2022)

Topic: **Intercalation and exfoliation of clay using quaternary ammonium polymerizable surfactants to enhance dispersion in waterborne adhesives**

Guides: **Dr Leena Nebhani (IIT Delhi) and Dr Anubhav Saxena (Pidilite Industries Ltd)**

- The aim of the project was to prepare a waterborne poly(vinyl acetate) nanocomposite adhesive containing montmorillonite nanoclay as a filler and to track the microscopic and macroscopic properties of the adhesive.
- As part of the project, we synthesized quaternary ammonium monomers for enhancing the dispersion of clay and achieved the intercalation and exfoliation of clay in the adhesive
- Gained experience of organic synthesis as well as surface modification of nanoclay by high-speed stirring and ultrasonication. Made waterborne adhesives by emulsion polymerization
- Assessed the properties of adhesives by FT-IR, TGA, DSC, XRD and macroscopic adhesive property testing using lap shear strength test for wooden substrates

B.Tech Project (2019-2020)

Topic: **Preparation of nanoclay dispersions in water and its application on fabric**

Guide: **Dr R.D Kale (ICT Mumbai)**

- The aim of the project was to prepare nanoclay-water dispersions and to apply these dispersions on fabric using conventional padding method as a functional finish.
- As part of the project, we prepared dispersions of nanoclay for finishing of polyester, nylon, polypropylene and polyacrylonitrile fabrics and carried out finishing of above-mentioned fabrics using padding method.
- Carried out dispersion of nanoclay using high-speed stirring and ultrasonication. Carried out an assessment of dispersion stability

EXAMINATION SCORES

GATE 2020

Score: 855/1000, AIR 10

INTERNSHIPS

Summer Research Internship- Institute of Chemical Technology, Mumbai (2018)

Topic: Synthesis of melamine-based dyes

- Acquired skills for setting up reactions and handling laboratory equipments as well as various separation methods like filtration, solvent extraction, TLC, etc

INDUSTRIAL TRAINING

Industrial Internship- Evonik India Pvt Ltd, Mumbai (2019)

Topic: Comparative performance testing of defoamers, softeners and water repellents

- Gained experience of working in an industrial setup.
- Assessed and compared the performance of silicone-based softener blends and individual softeners of Evonik.
- Assessed and compared the performance of defoamers from Evonik with those from other companies on the basis of formulation stability and defoaming action for scouring of cotton fabrics
- Tested and compared the performance of a newly-developed water repellent from Evonik with performance of commercial water-repellents on P/C blend cotton fabrics