

## Dr. Radha Sachan

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Research Gate: <https://www.researchgate.net/profile/Radha-Sachan-2>

### Work Experience

#### Academic

14<sup>th</sup> June 2022 till Present as **Assistant Professor** - Paint Technology Department, **HBTU Kanpur**.

#### Industrial

Almost 7 years of experience in Product & Process Improvement, Quality Assurance and Technical Services/Marketing.

**Dec'15-Jul'16** with **Delta Specialties, Delhi**.

**Apr'12- June'15** with **Afcona Additives Pvt. Ltd., Delhi**.

**Mar'11- August'11** with **Srisol India Pvt. Ltd., Noida**.

**Jul'08-Feb'11** with **BASF Coatings India Pvt. Ltd., Mangalore**

**June'07-July'07(5 weeks)** with **AKZONOBEL Coatings India Pvt. Ltd., Bangalore** as Trainee for internship in Marine Coating department.

### Scholastics

- **Ph.D.** in Discipline of Chemical Engineering, Department of Applied Chemistry from DTU Delhi (Former DCE) in 2024.
- **M.Tech. (Polymer Technology)** from DTU Delhi (Former DCE) in 2018 (**Gold Medallist**)
- **B.Tech. (Chemical Technology-Paint Technology)** from H.B.T.I. Kanpur in 2008.

### Publications

#### ❖ Research papers

1. Radha Sachan and Roli Purwar (2024), Effect of PCL Chain Length on Rheological and Mechanical Properties of PCL-PDMS-PCL Triblock Copolymer Films, Journal of Applied Polymer Science, e55542, <https://doi.org/10.1002/app.55542>
2. Mohit Yadav , Ritwik Shekhar , Versha Joshi , Roli Purwar , **Radha Sachan** (2024), Studies on semi-batch emulsion polymerization: Role of surfactant, Journal of Surface Science and Technology, Vol 38(3-4), pp. 1-16, June 2024, <https://doi.org/10.18311/jsst/2019/23508>
3. Priti, **Radha Sachan**, Roli Purwar (2024), Rheological Study on Blend Solutions of Non-mulberry Silk Fibroin and Gelatin Biopolymers, Journal of Polymer Materials, Vol. 40, No. 3-4, 2023, 193-206, DOI: <https://doi.org/10.32381/JPM.2023.40.3-4.6>.
4. **Radha Sachan**, Roli Purwar (2023), Soil burial degradation studies of photo-crosslinked PCL-PDMS-PCL triblock copolymer films, Polymer Engineering & Science, 63(12), 4107-4117. <https://doi.org/10.1002/pen.26511>
5. Kartik Jindal, Chaitnaya Chibber, **Radha Sachan** and Roli Purwar (2022), Antimicrobial adhesive using Arnebina Nobilis into silicone acrylate blend for potential wound care application, Lecture Notes in Mechanical Engineering. ISSN: 2195-4356. DOI: 10.1007/978-981-16-9523-0\_10
6. **Radha Sachan**, Sudhir G. Warkar & Roli Purwar (2023), An overview on synthesis, properties and applications of polycaprolactone copolymers, blends & composites, Polymer-Plastics Technology and Materials, DOI: 10.1080/25740881.2022.2113890

7. **Radha Sachan**, Sudhir G. Warkar, and Roli Purwar (2022), Photocrosslinked Poly( $\epsilon$ -caprolactone) – Polydimethylsiloxane – Poly( $\epsilon$ -caprolactone) Triblock Copolymeric Films: Structural, Thermal and Shape Memory Properties, *ChemistrySelect*, DOI: 10.1002/slct.202201340
8. **Radha Sachan** and Roli Purwar (2021), Silica Modified candelilla wax/thermoplastic polyurethane blend coatings for hydrophobic textiles, *The Journal of The extiles Institute*, DOI: 10.1080/00405000.2021.1926128
9. **Radha Sachan** and Roli Purwar (2021), Water based quad acrylic copolymer/cloisite 30B nanocomposite heat resistant adhesive: thermal and rheological properties, *Journal of Adhesion Science and Technology*, DOI: 10.1080/01694243.2021.1979760
10. Roli Purwar and **Radha Sachan** (2020), Thermoresponsive shape memory polymers for smart textiles, *Advances in functional and protective textiles*, 1st edition, Edited by Shahid ul-Islam and Bhupendra Singh Butola, Elsevier Publications, ISBN: 978-0-12-822676-6.

#### ❖ **Articles**

1. Awanish Singh and Radha Sachan (2023). A review on acrylic emulsion based coatings: synthesis, properties, and applications. *Paint India* Vol. LXXIII-No.8, August 2023, 68-78
2. Priti and Radha Sachan (2015). Architectural coating- review of failures and remedy, *Paint India*, Jul 2015, 53-63
3. Priti and Radha Sachan (2014). Composite materials-categorisation, manufacturing process, mechanism and end uses, *Paint India*, Dec 2014, 63-69

#### ❖ **Conferences/Seminars**

1. Radha Sachan, **Oral presentation**, Isothermal Crystallization Kinetics of Thermoresponsive Shape Memory PCLPDMSPCL Triblock Copolymers, International Conference on Polymer Science and Technology SPSI-MACRO 2023, 10-13 Dec. 2023, IIT Guwahati, India
2. Radha Sachan, **Oral presentation**, Structural and thermal properties of photocrosslinked poly( $\epsilon$ -caprolactone) – polydimethylsiloxane- poly( $\epsilon$ -caprolactone) triblock copolymeric films, International Conference on Sustainability in Chemical Processes through Digitalization, Artificial Intelligence and Green Chemistry, CHEMCON -2022, 27-30 Dec. 2022, Kanpur, Uttar Pradesh, India.
3. Radha Sachan, **Poster presentation**, Studies on high heat resistant acrylic adhesive, International Conference on Polymer Science and Technology SPSI-MACRO 2018, 19-22 Dec. 2018, IISER Pune, India.
4. Radha Sachan, **Poster presentation**, Silica modified candelilla wax/PU coating for hydrophobic textile, Textile Summit 2018, 17 Nov. 2018, TAI Delhi, India.
5. Radha Sachan, **Oral presentation**, Silica modified candelilla wax/PU coating for hydrophobic textile, National Level Technical Paper Presentation Contest (Anrang'18), 7-8 Apr. 2018, IIT Delhi, India. (Won third prize)
6. Completed Executive Management Programme From Shailesh J. Mehta IIT Bombay, with specialisation in Marketing and HRM, Project work : B2B marketing strategy 2013-14

## Projects

### **Ph.D.**

Topic: Studies on Poly(caprolactone-co-dimethylsiloxane) copolymers for thermoresponsive shape memory applications

### **M.Tech.**

#### **1. Minor Project**

Silica modified candelilla wax/thermoplastic polyurethane based hydrophobic coating for textiles

Duration: 1 year

Guide: Dr. Roli Purwar and Dr. Deenan Santhiya, DTU, Delhi

#### **2. Major Project**

Studies on high heat resistant acrylic adhesive

Duration: 1 year

Guide: Dr. Roli Purwar and Dr, Deenan Santhiya, DTU, Delhi

**B.Tech.**

UV Curable Powder Coatings

Duration: 1 year

Guide: Dr. Pramod Kr. Kamani, HBTI, Kanpur

**Membership in Research Organizations and Professional Bodies**

1. Life Member of Indian Institute of Chemical Engineers (IICChE)
2. Life member of Paint and Coating Technologists' Association (PACT)