



Assistant Professor

## Dr. Shehnaz Solanki

School of Science

### Qualifications

Shehnaz Solanki has completed Ph.D., School of Science, Navrachana University, Vadodara under the Guidance of Dr. Sandeep R. Patil. Her thesis is titled "Non-ionic Surfactant/Ionic Liquid/Water Microemulsions: Phase Behavior, Microstructure and Solubilization."

Shehnaz Solanki has completed M.Sc. (Inorganic Chemistry) with Distinction in 2014 and B.Sc. (Chemistry) with First Class, The Maharaja Sayajirao University of Baroda, Vadodara.

### Profile

She worked as QC Officer at GIRDA (Gujarat Industrial Research and Development Agency), Faculty of Science, The Maharaja Sayajirao University of Baroda. She joined Navrachana University in October 2014, as Project Research Fellow in a project entitled, "Microemulsions with Ionic Liquids: Phase Behavior, Microstructure and Solubilization", funded by Department of Science and Technology (DST), Government of India, under supervision of Dr. Sandeep Patil. Enrolled in Ph.D. Program at Navrachana University in 2015. She also worked as Visiting Faculty in BSc program (Chemistry), School of Science, Navrachana University, Vadodara. Presently, working as Academic Associate, School of Science (Chemistry), Navrachana University since July, 2017.

### Teaching Experience

She handles Chemistry Laboratory and is an instructor to students pursuing B.Sc. and M.Sc. disciplines. Apart from this, also helps in Chemistry Tutorial sessions, Journal evaluation and carrying out expert readings of the experiments during each Lab session. Moreover, conducts Chemistry Laboratory Practical exams and Viva for BSc and MSc disciplines. She helps M.Sc. students in their dissertation work and handle sophisticated instruments of Chemistry Research Laboratory. She has chosen teaching as a way to conduct research in education and to explore her area of research among students to encourage them for research. She is greatly enthused by the teaching-learning process and highly inspired by work of students of Navrachana University.

### Research Experience

- Project Research Fellow: Project entitled Microemulsions with Ionic Liquids: Phase Behavior, Microstructure and Solubilization, funded by Department of Science and Technology (DST), Government of India, under the guidance of Dr. Sandeep R. Patil, School of Engineering and Technology, Navrachana University, Vadodara.
- Ph.D. Scholar: Pursuing Ph.D. with the topic entitled Non-ionic Surfactant/Ionic Liquid/Water Microemulsions: Phase Behavior, Microstructure and Solubilization. Research work has been carried out

- under the guidance of Dr. Sandeep R. Patil, School of Science, Navrachana University, Vadodara.
- Submitted Dissertation thesis entitled Studies on Transition metal complexes with N, S, O donor ligand to The Maharaja Sayajirao University of Baroda under the guidance of Dr. Sujit Baran Kumar, Assistant Professor, Department of Chemistry, Faculty of Science, The Maharaja Sayajirao University of Baroda, Vadodara.

### **Achievements**

- Awarded a Research Fellowship of Science and Engineering Research Board, Department of Science and Technology, Government of India, w. e. f. 18th October 2014 to 9th June 2017.
- Certificate course on, 'COMPREHENSIVE ONLINE INTELLECTUAL PROPERTY RIGHTS (IPR)' conducted by Gujarat Start-up and Innovation Hub (i-Hub), Student Start-up and Innovation Policy (SSIP) at the Education Department, Government of Gujarat along with National Research Development Corporation (NRDC), Cell for IPR Promotion and Management (CIPAM) under Department for Promotion Industry and Internal Trade (DPIIT), Government of India and AICTE Training and Learning (ATAL) Academy Cell & MHRD Innovation Cell (MIC), July 6- September 14, 2020.

### **Research and Publications**

- Solanki, S. H., Patil, S. R. (2020). Phase Behaviour and Microstructure of Sugar Surfactant – Ionic Liquid Microemulsions. *Journal of Dispersion Science and Technology*, 42 (8), 1174- 1183.
- Solanki, S. H., Patil, S. R. (2021) Phase studies and efficient recovery of Inorganic metal salts from the microemulsion system using a Sugar-based non-ionic surfactant. *Tenside Surfactants Detergents*, 58 (4).
- Solanki, S. H., Patil, S. R. (2021). Phase behaviour of Ethyl Ammonium Nitrate (EAN)/ Sugar Surfactant microemulsions: Effect of chain length of alkanes and length of the hydrophobic chain of the non-ionic surfactant. *Tenside Surfactants Detergents*, Accepted (in press).
- Solanki, S. H., Patil, S. R. (2020). Hydrophobic Ionic Liquid/Sugar Surfactant (Plantacare K55)/Water Micromulsions: Phase studies and Effect of Co-surfactants. *Interwoven – an Interdisciplinary Journal of Navrachana University*, 2 (2).
- Sumit Bhawal\*, Puthusserickal A. Hassan\*, Santosh L. Gawali, Sandeep R. Patil, Suvashis Sarkar, Shehnaz H. Solanki, and Dharmesh Varade., Synthesis and Aggregation behavior of Biocompatible Ionic Salts: Choline Cholate and Choline Deoxycholate. *Journal of Molecular Liquids*.

### **Research Paper Presented in National/International Conference:**

- Solanki, S. H., Patil, S. R., Microemulsions with Ionic Liquids: Phase Behaviour, Microstructure, Solubilization and Template for Synthesis of Nanomaterials, International Conference on Materials Science & Technology (ICMTech-2016), International Association of Advanced Materials (IAAM) and University of Delhi, India, March 1-4, 2016.
- Solanki, S. H., Patil, S. R., Study on phase behavior and recovery efficiency of Inorganic metal salts from the microemulsion system, Virtual International Conference on Chemical Sciences in Technology and Development (IC2S2TD-2020), Applied Chemistry Department, SVNIT, Surat, Gujarat, India in Association with Chung-Ang University, South Korea. December 1-3, 2020.
- Solanki, S. H., Patil, S. R., Polar Ionic Liquid (EAN)/ n-alkanes/ Sugar Surfactant Microemulsion, National Conference on Surfactants & Colloids (NCSC-2K17), Society for Industrial Chemistry, Indian Society for Surface Science & Technology (Western India Chapter) and Institute of Chemical Technology, Mumbai, February 10-11, 2017.
- Solanki, S. H., Patil, S. R. & Bhawal, S., Solubilization of Hydrophobic Dye (Sudan Red G) in Bile Salt-based Surface Active Agents, International Conference on Eco health and Environmental Sustainability, Navrachana University, Vadodara, India in association with the University of Calgary, Canada. February 24-26, 2020.
- Solanki, S. H., Patil, S. R., Effect of Co-surfactants on Ionic Liquid (IL)/Sugar Surfactant/Water Microemulsion, National Conference on Recent Trends in Science of Materials (NSCM-2K15), Faculty of Science, The Maharaja Sayajirao University of Baroda, Vadodara, December 28-30, 2015.

- Solanki, S. H., Patil, S. R., Phase Studies of Sugar Surfactant Ionic Liquid Microemulsions: A Green Chemistry Approach, National Conference on Innovating for Development and Sustainability, Navrachana University, Vadodara, October 30-31, 2015.

**Articles as a Book Chapter**

- Solanki, S. H. & Patil, S. R. (2017). Phase Studies of Sugar Surfactant Ionic Liquid Microemulsions: A Green Chemistry Approach. In N. Gandhi (Ed.), 'Innovating for Development and Sustainability'.

