

DR. RABIA SHARMA

*Assistant Professor,
Department of Chemistry
Khalsa College, Garhdiwala
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AREAS OF SPECILIAZATION/ RESEARCH:

PHYSICAL CHEMISTRY, SURFACTANT CHEMISTRY, ANALYTICAL CHEMISTRY

Ph.D. THESIS TITLE:

CHARACTERIZATION OF AGGREGATES OF SURFACTANTS IN PRESENCE OF VARIOUS ADDITIVES IN AQUEOUS MEDIUM

M.Sc. THESIS TITLE:

EFFECT OF ORGANIC ADDITIVES ON PHASE TRANSITION PHENOMENON OF NON-IONIC SURFACTANTS

EDUCATIONAL QUALIFICATIONS:

- **Ph.D. Physical Chemistry (2014)** from Guru Nanak Dev University, (Campus) Amritsar (Punjab).
- **M.Sc. Chemistry in Instrumental Analysis (2008)** from Guru Nanak Dev University (Campus), Amritsar (Punjab) with **67.8%**.
- **B.Sc. (Non-Medical) (2006)** from Panjab University, Chandigarh (Punjab) with **74.3%**.
- **12th (Non-Medical) (2003)** from Punjab School Education Board, Mohali with **71.3%**.
- **10th (2001)** from Punjab School Education Board, Mohali with **83.5%**.

OTHER ACHIEVEMENTS:

- **Gold Medalist** in M.Sc. Chemistry (2008).
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- **CSIR- JRF (NET)** Qualified (2009)
- Received **Best Oral Presenter Award** in Tainan, **Taiwan (2011)**
- Awarded with **Travel Grant by DST (2011)**

TEACHING INTERESTS:

- Physical Chemistry
- Engineering Chemistry
- Analytical Chemistry
- Spectroscopy & Stereochemistry
- Inorganic Chemistry

INSTRUMENTS HANDLED:

- Fluorescence Spectrophotometer
- UV-visible Spectrophotometer
- Surface Tensiometer
- NMR

TEACHING EXPERIENCE:

- Currently working as Assistant Professor (Chemistry) at Khalsa College, Garhdiwala. (March 2020- till date).
- Taught Chemistry to M. Sc. (Chemistry) students at B.A.M. Khalsa College, Garhshankar (June 2016-March 2020).
- Taught Chemistry to M. Sc. (Chemistry) students at M.M. University, Ambala (Feb. 2015- June 2016).
- Taught Engineering Chemistry course to B. Tech. students in Chandigarh University, Gharuan. (June 2014-Feb2015).
- Taught Engineering Chemistry course to B. Tech. (Electronics) students at Guru Nanak Dev University, Punjab (July, 2011- November, 2011).
- Taught Engineering Chemistry course to B. Tech. (Computer Science & Engineering) students at Guru Nanak Dev University, Punjab (January, 2012- May, 2012).

OTHER EXPERIENCE:

- In Charge NSS, Khalsa College, Garhdiwala.
- Member of Research and CAS Committee, Khalsa College, Garhdiwala.

- In Charge of Public Relation & PTA/ Women Empowerment & Grievance Redress Cell, Khalsa College, Garhdiwala.
- Member of Happiness Committee, Khalsa College, Garhdiwala.
- Evaluator for Final semester end examination (B.Sc & M.Sc. Classes) of Panjab University, Chandigarh.
- Paper setter for Final Examination of SGTB College (An Autonomous Institute) Sri Anandpur Sahib.
- Worked as Central Superintendent in Final examination of MBBG R.G College, Mansowal, Punjab

RESEARCH PAPERS: 11

1. Cyclic Voltammetry and Viscosity Measurements of Aggregated Assemblies of Anionic Surfactants with Nonionic Surfactants and Triblock Copolymers. **R. Sharma**, A. Shaheen, R. K. Mahajan, *Colloid Polym. Sci.* **2011**, 289, 43-51. (IF-1.906)
2. Analysis of Interfacial and Micellar Behavior of Sodium Dioctylsulphosuccinate Salt (AOT) with Zwitterionic Surfactants in Aqueous Media. R. K. Mahajan, **R. Sharma**, *J. Colloid Interface Sci.* **2011**, 363, 275-283. (IF-6.361)
3. An Investigation of Binding of Ionic Surfactants with Trifluoperazine Dihydrochloride: Insights from Surface Tension, Electronic Absorption and Fluorescence Measurements. **R. Sharma**, R. K. Mahajan, *RSC Adv.* **2012**, 2, 9571-9583. (IF-3.049)
4. An Investigation of Drug Binding Ability of a Surface Active Ionic Liquid: Micellization, Electrochemical, and Spectroscopic Studies. S. Mahajan, **R. Sharma**, R. K. Mahajan, *Langmuir* **2012**, 28, 17238-17246. (IF-3.683)
5. Surface Adsorption and Mixed Micelle Formation of Surface Active Ionic Liquid in Cationic Surfactants: Conductivity, Surface Tension, Fluorescence and NMR Studies. **R. Sharma**, S. Mahajan, R. K. Mahajan, *Colloids Surf. A* **2013**, 427, 62-75. (IF-3.131)
6. Interactions of New 1, 8-Diazabicyclo[5.4.0]undec-7-ene (DBU) Based Surface Active Ionic Liquids with Amitriptyline Hydrochloride: Micellization and Interfacial Studies. S. Mahajan, **R. Sharma**, R. K. Mahajan, *Colloids Surf. A* **2013**, 424, 96-104. (IF-3.131)

7. Physicochemical Studies of Morpholinium Based Ionic Liquid Crystals and Their Interaction with Cyclodextrins. **R. Sharma**, S. Mahajan, R. K. Mahajan, *Fluid Phase Equilibr.* **2014**, *361*, 104-115. (IF-2.514)
8. Interaction of an Amphiphilic Drug Trifluoperazine Dihydrochloride with Pluronic Triblock Copolymers: A Physicochemical Study. R. K. Mahajan, S. Chabba, **R. Sharma**, *Ind. Eng. Chem. Res.* **2014**, *53,12*, 4669-4678. (IF-3.375)
9. Chemical Composition and Antibacterial Activity of Essential Oil of *Nepeta graciliflora* Benth (Lamiaceae), P. Sharma*, G. C. Shah, **R. Sharma**, P. Dhyani, *Natural Product Research*, **2016**, *30*, 11, 1332–1334, (IF-2.862)
10. Comparative Study of Phytochemical and Antioxidant Activities of Two Endangered Medicinal Plants of Western Himalayas, Surbhi Soni, **Rabia Sharma**, P. K. Chauhan and Pankaj Sharma, *International Journal of Green and Herbal Chemistry*, *7*, 1, 012-019. (2018).
11. Chemical Composition and Antimicrobial properties of *Anaphalis triplinervis* (Sims) Sims ex C.B. Clarke (Asteraceae) essential oil from Western Himalaya, R. K. Sharma, H. Kaur, M. Singh, M. Kumar, **R. Sharma**, G.C. Shah and Pankaj Sharma, *Chemistry of Natural Compounds* **2019**, *55*, 751-753. (IF-0.809)

REVIEW ARTICLE: 1

- Influence of Various Additives on the Physicochemical Properties of Imidazolium Based Ionic Liquids: A Comprehensive Review. **R. Sharma**, R. K. Mahajan, *RSC Adv.* **2014**, *4*, 748-774. (IF-3.049)

CONFERENCES/SEMINARS ATTENDED: 8

1. **Poster Presentation** in “National Symposium on Recent Trends in Chemistry” at Guru Nanak Dev University, Amritsar, India, March 28, **2013**.
2. **Poster Presentation** in “19th ISCB International Conference on Recent Advances and Current Trends in Chemical and Biological Sciences” at Mohanlal Sukhadia University, Udaipur, Rajasthan, from March 2-5, **2013**.
3. **Poster Presentation** in “National Symposium on Chemistry in 21st Century” at Guru Nanak Dev University, Amritsar, India, from December 23-24, **2011**.

4. **Oral Presentation** in “The 4th Asian Conference on Colloid and Interface Science (ACCIS 2011)” at National Cheng Kung University, Tainan, Taiwan, from November 23-26, **2011**.
5. **Poster Presentation** in “Chemical Research Society of India, North Zone Meeting” at Jammu University, Jammu, India, from September 22-24, **2011**.
6. **Oral Presentation** in “Professor Ram Chand Paul International Conference on Emerging Trends in Chemistry” at Panjab University, Chandigarh, India, from February 11-12, **2011**.
7. **Paper Presentation** in “UGC Sponsored National Seminar” at Pt. Mohan Lal S. D. College for Women, Gurdaspur, India, August 28, **2010**.

WORKSHOP/CONFERENCE/SEMINAR ORGANIZED:

- Organizing Secretary in College Development Council (Panjab University) sponsored National Conference on “Innovations in Chemical and Environmental Sciences” (ICES – 2023), at Khalsa College, Garhdiwala. (Feb. 17th 2023).

BOOKS/CHAPTERS: 2

Sr. No	Author (s)	Name of Book	Title of Chapter	Publisher/Edition
1	Pankaj Sharma & Rabia Sharma	Methods and Challenges to harvest Water for Sustainable Development	Use of Green Nanomaterials for the Treatment of Wastewater	Saptrishi Publication, Chandigarh/2023 (ISBN: 978-81-19011-69-8)
2	Pankaj Sharma & Rabia Sharma	Methods and Challenges to harvest Water for Sustainable Development	Waste Water Treatment by Employing Membrane Microfiltration & UV Spectroscopic Techniques	Saptrishi Publication, Chandigarh/2023 (ISBN: 978-81-19011-69-8)

MEMBERSHIP:

- Life membership of Asia-Pacific Chemical, Biological & Environmental Engineering Society (APCBEES), Hong Kong, China.
- Life membership of International Association of Engineers (IAENG), Hong Kong, China.

PERSONAL DETAILS:

- Father’s Name : Sh. Mool Raj Sharma
- Mother’s Name : Smt. Kusam Sharma

- Date of Birth : 25-03-1986
- Marital Status : Married
- Nationality : Indian

(Rabia Sharma)
