



Designation: Assistant Professor Chemistry

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Qualification with specialization (if any): BSc.honors Chemistry, M.Sc. Chemistry, NET-JRF, GATE, Ph.D. Chemistry (Pursuing)

Teaching experience: Joined as Assistant Professor (College Cadre) from 7th July 2023 to till date.

Additional Charge (NCC/NSS/R&R/others): Member Anti-Drug Addiction Cell, Member Bus Pass Committee, Member Research and Development & Incubation Cell, Member Career Counselling Cell, Member CSCA Advisory Committee, Member HPU/SPU Youth Festivals Cultural Committee (Group I)

Detail of research publications: (Research experience/Symposium/ Research articles/ Book chapters/ Books published/research papers etc.)

1. **Sharma, R., Sharma, A., & Thakur, R. C. (2026).** Understanding Solvation Dynamics and Electrochemical Behaviour of Zinc based Deep Eutectic Solvents through Experimental and Computational Methods for Energy Storage Applications. *Industrial & Engineering Chemistry Research*, 65(17), 9051-9066. American Chemical Society.
2. **Sharma, R., Sharma, A., & Thakur, R. C. (2025).** Analyzing the Solvation and Electrochemical Behavior of Triethylmethylammonium Tetrafluoroborate in Pure and Aqueous Ethaline Deep Eutectic Solvent: Experimental and Computational Approaches. *The Journal of Physical Chemistry B*, 129(41), 10873-10890. American Chemical Society.
3. **Sharma, Akshay, Sharma, R., & Thakur, R. C. (2025).** Intermolecular dynamics and quantum insight of lithium perchlorate in the deep eutectic solvent (DES) solutions with nitriles for energy storage applications. *Journal of the Taiwan Institute of Chemical Engineers*, 171, 106041. Elsevier.
4. **Sharma, A., Sharma, R., Thakur, R., Thakur, A., Shivani, & Nidhi. (2025).** Unraveling the Prospects of Nano Hybrid Electrolytes for Lithium-Ion Batteries: Review and Outlook. *Energy & Fuels*, 39(35), 16595–16627. ACS Publications.
5. **Shivani, Thakur, R. C., Thakur, A., Sharma, Akshay, & Sharma, R. (2025).** Unravelling the prospects of electrolytes containing ionic liquids and deep eutectic solvents for next generation lithium batteries. *Journal of Energy Chemistry*. Elsevier.
6. **Sharma, A., Sharma, R., Thakur, A., & Thakur, R. C. (2025).** Physicochemical Properties of Deep Eutectic Solvents. In *Deep Eutectic Solvents* (pp. 111–133). ACS Publications.

7. **Sharma, R.,** Sharma, A., Shivani, Sharma, Y., & Thakur, R. C. (2025). DESs Based Electrolytes for Zn Batteries. In *Deep Eutectic Solvents* (pp. 229-247). ACS Publications.
8. **Sharma, Akshay, Sharma, R., & Thakur, R. C. (2025).** Intermolecular dynamics and quantum insight of lithium perchlorate in the deep eutectic solvent (DES) solutions with nitriles for energy storage applications. *Journal of the Taiwan Institute of Chemical Engineers*, 171, 106041. Elsevier.
9. **Sharma, R., Sharma, Akshay, & Thakur, R. C. (2024).** Effect of Deep Eutectic Solvent (DES) on physicochemical and electrochemical properties of triethylmethylammonium tetrafluoroborate in propylene carbonate and aqueous propylene carbonate solvent systems for energy storage applications: A comparative analysis. *Journal of Molecular Liquids*, 416, 126494. Elsevier.
10. **Sharma, Akshay, Sharma, R., Thakur, R., & Nidhi. (2024).** Investigating the physicochemical properties and interactions behavior of lithium perchlorate in ternary solutions of ethaline DES and bio-additives. *Biomass Conversion and Biorefinery*, 1–14. Springer.
11. **Sharma, Akshay, Sharma, R., & Thakur, R. C. (2024).** Vitamins fortification and its consequences on food production and quality. In *Microbial Vitamins and Carotenoids in Food Biotechnology* (pp. 179–203). Elsevier.
12. **Nidhi, Thakur, R. C., Kumar, A., Sharma, P. K., Sharma, Akshay, Sharma, R., George, N., & Singh, J. (2024).** Effect of Pyrrolidinium Based Ionic Liquid on Thermo Physical and Electrochemical Properties of Binary Aqueous Solutions of Benzylamine and Benzamide at Different Equidistant Temperatures (288.15–318.15 K). *Chemistry Africa*, 7, 5641–5658. Springer Nature.
13. **Thakur, R. C., Sharma, Akshay, & Sharma, R. (2024).** Recent advances in the discovery of drug molecules: trends, scope, and relevance. In *Bioinformatics: Drug Discovery* (p. 83). Walter de Gruyter GmbH & Co KG.
14. **Sharma, Akshay, Sharma, R., Thakur, R. C., & Singh, L. (2023).** An overview of deep eutectic solvents: Alternative for organic electrolytes, aqueous systems & ionic liquids for electrochemical energy storage. *Journal of Energy Chemistry*, 82, 592–626. Elsevier.
15. **Sharma, Akshay, Thakur, R. C., & Sharma, R. (2023).** Biomedical Applications of Ferrites. In *Engineered Ferrites and Their Applications* (pp. 241–256). Springer.
16. **Rana, S., Thakur, R. C., Kaur, H., Sharma, Akshay, Sharma, R., Thakur, V., Singh, H., & Fatma, I. (2023).** Investigating the solvation behavior of some lithium salts in binary aqueous mixtures of [EMIM][BF₄] at equidistant temperatures. *Journal of Chemical & Engineering Data*, 68(6), 1291–1304. ACS Publications.
17. **Thakur, R. C., Sharma, Akshay, Sharma, R., & Kaur, H. (2023).** A comparative analysis of volumetric, viscometric and conductometric properties of Triethylmethylammonium Tetrafluoroborate (TEMABF₄) and Tetraethylammonium Tetrafluoroborate (TEABF₄) in pure propylene carbonate (PC) and binary aqueous propylene carbonate solvents. *Journal of Molecular Liquids*, 374, 121244. Elsevier

Conferences and Seminars Attended:

1. Poster Presentation on “Comparative study of physicochemical and electrochemical properties of quaternary ammonium salts” in “Emerging Trends and Innovations in Basic Sciences (ETIBS -2024) at Career Point University Hamirpur”.

2. Presented oral paper at International Conference on "Recent Advances on Green and Sustainable Developments (ICRAGSD-2023) at Akal University Campus."
3. Presented Oral paper at National Conference on "Novel Progressions in Science and Technology-2022" organized at St. Bede's College, Shimla. (December 2019)