



Centre/School/Special: Centre Physical Sciences

Department: Chemistry

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Qualifications: M. Sc., Ph. D., NET

Area of Interest/Specialization: Environmental Chemistry, Nanomaterials, Natural Product Chemistry

Experience: 20 years

Awards and Honors: Got SERS Fellow Award 2017 for contribution in the field of Bioactive Natural Product (Chemistry) during the International Conference on Innovative Approaches in Applied Sciences and Technologies, organized jointly by Nanyang Technological University, Singapore, Scientific Educational Research Society and National University of Singapore during 19-23 June 2017 at Nanyang Technological University, Singapore.

Got **Gold Medal Award** of Hi-Tech Horticulture Society for outstanding contribution in Chemistry, during Global Agriculture & Innovation Conference (27th-29th Nov 2016) at Noida International University, Noida.

Got **Science Initiator Award** during International Conference on Innovative Approaches in Applied Sciences and Technologies, organized by Faculty of Science, Kasetsart University, Bangkok 10900, Thailand and Scientific Educational Research Society at Faculty of Science, Kasetsart University, Bangkok during 1-5 Feb 2016.

SARC Gold Medal Award 2011 conferred by Scientific and Applied Research Centre, CCS University, Meerut for outstanding contribution in Chemistry Research on 14th Sept 2011

Best Paper Award, 2011 in 5th International Congress of Chemistry and Environment (ICCE 2011) held at Port Dickson, Malaysia on May 27-29, 2011.

Young Scientist Award, 2008 by Society for Recent Development in Agriculture, SVBP University of Agriculture and Technology, Meerut for outstanding contributions in the field of application of Chemistry in Agriculture, conferred during 4th National Symposium on Scenario of Agriculture in Changing Climatic Conditions, held at S.V.B.P. University of Agriculture and Technology, Meerut, 18-19 Oct. 2008.

Best Paper Award, 2009 in 1st Indian Agricultural Scientist and Farmer's Congress on Technological Innovations for Enhancing Agriculture Production, Chaudhary Charan Singh University, Meerut, held on Oct 3-4, 2009.

Research Projects

UGC (Govt. of India) funded major research project entitled “Isolation and Characterization of Bioactive Components from Plants of Northern India” F. No. 34-346\2008 (SR) has been awarded for a period of three years w e f 1-2-2009 As PI

Asian Development Bank-funded project entitled “Developing management option in wheat-rice cropping system” at Soil Chemistry Lab, Project Directorate for Cropping System Research, Modipuram, Meerut-250110, May 2001-Dec 01 as associated Scientist

International Collaboration/Consultancy: Consultancy to farmers for N and P fertilizer

Management for Wheat-Rice Cropping System 2001 at PDCSR, Modipuram

Best Peer Reviewed Publication (up-to 10):

1. A. Patel, SanjuSoni, J. Mittal, Alok Mittal, Charu Arora, Sequestration of crystal violet from aqueous solution using ash of black turmaric rhizome, *Desalination and Water Treatment*, 2021, 220 (2021) 342–352 doi: 10.5004/dwt.2021.26911.
2. N. Tripathi, M K Ghoshisht, S K Sahu, C. Arora, Applications of artificial intelligence to drug design and discovery in the big data era: a comprehensive review, *Molecular Diversity* (2021) 25:1643–1664, <https://doi.org/10.1007/s11030-021-10237-z>,
3. Sanju Soni, P. K. Bajpai, Dipti Bharti, Jyoti Mittal, Charu Arora, Removal of crystal violet from aqueous solution using iron based metal organic framework, *Desalination and Water Treatment*, (2020) 205, 386–399, doi: 10.5004/dwt.2020.26387
4. Sanju Soni, P K Bajpai, Jyoti Mittal and Charu Arora, Utilisation of cobalt doped Iron based MOF for enhanced removal and recovery of methylene blue dye from waste water, *Journal of Molecular Liquids* 314 (2020),doi10.1016/j.molliq.2020.113642.
5. Charu Arora, Pramod Kumar, Sanju Soni, Jyoti Mittal, Alok Mittal and Bhupender Singh, Efficient removal of malachite green dye from aqueous solution using *Curcuma caesia* based activated carbon, *Desalination and Water Treatment*, 195 (2020) 341–352, doi: 10.5004/dwt.2020.25897.
6. C. Arora, D. Sahu, D Bharti, V. Tamrakar, S. Soni, S. Sharma, Adsorption of hazardous dye crystal violet from industrial waste using low-cost adsorbent *Chenopodium album*, *Desalination and Water Treatment*, (2019) vol. 167, pp. 324-332,doi: 10.5004/dwt.2019.24595
7. C. Arora, S. Soni, S. Sahu, J. Mittal, P. Kumar, P K Bajpai, Iron based metal organic framework for efficient removal of methylene blue dye from industrial waste, *Journal of Molecular Liquids* 284 (2019) 343–352,doi.org/10.1016/j.molliq.2019.04.012
8. Charu Arora, Aditi Sharma, Sanju Soni, G A Ramarao and Y NaikApplication of Thermogravimetric Analysis in Study of Solid State Reaction between Strontium Oxalate and Uranyl Oxalate, *Journal of Thermal Analysis and Calorimetry*, (2016) 124:43–49, doi: 10.1007/s10973-015-5103-1.
9. Charu Arora, ShaluChejara, G A Ramarao and Y Naik, Application of Thermogravimetric Analysis in Study of Solid-State Reaction between Barium Oxalate and Uranyl Oxalate, *Journal of Thermal Analysis and Calorimetry*, (2016) 124:51–56, doi:10.1007/s10973-015-5085-z
10. Charu Arora and Dipti Bharti, Chemical characterization of antifungal constituents of *Emblica officinalis*, *Allelopathy Journal*, 2014, 34 (1), 155-178.

Recent Books/Book Chapters/Monographs etc.

1. **Charu Arora** and Sumantra Bhattacharya, Advanced Physical Chemistry Practical Guide, Bentham Books, 2022 DOI: [10.2174/97816810891021220101](https://doi.org/10.2174/97816810891021220101), ISBN: 9781681089102
2. J. Mittal, C. Arora, A. Mittal, Application of Biochar for the Removal of Methylene Blue from Aquatic Environment” in ‘Biomass-Derived Materials for Environmental Applications’, (Ioannis Anastopoulos Eder Claudio Lima, Dimitrios A. Giannakoudakis and Lucas Meili, (Editors), 2022, DOI 10.1016/B978-0-323-91914-2.00010-6, 00010-ELSST158-9780323919142
3. Iqbal Ansari, Marlia Mohd Hanafiah, Maha M. El-Kady and Charu Arora*, Interactions of Microplastics Towards an Ecological Risk in Soil Diversity: An Appraisal, in Book Plastic and Microplastic in the Environment (Eds. A. Ahamad, P. Singh, D. Tiwari), Wiley Publication, 2022, DOI: [10.1002/9781119800897.ch5](https://doi.org/10.1002/9781119800897.ch5)
4. Dipti Bharti, Rahul Singh, Dhruv Arora, Charu Arora*, Role of phytopesticides in sustainable agriculture in Global Climate Change (Eds. Suruchi Singh, Pardeep Singh, S. Rangabhashiyam, K.K. Srivastava), Elsevier publishers, 2021, p341-360, <https://doi.org/10.1016/B978-0-12-822928-6.00011-3>.
5. I. Ansari, Maha M. El-Kady, Charu Arora, Muniyan Sundararajan, Deblina Maiti, Aarif Khan, A review on the fatal impact of pesticide toxicity on environment and human health, in Global Climate Change (Eds. Suruchi Singh, Pardeep Singh, S. Rangabhashiyam, K.K. Srivastava), Elsevier publishers, 2021, p361. <https://doi.org/10.1016/B978-0-12-822928-6.00017-4>
6. C. Arora, S. Soni, P.K. Bajpai, J. Mittal and A. Mariyam, Dye Removal From Waste Water Using Metal Organic Frameworks, in Management of Contaminants of Emerging Concern (CEC) in Environment (Eds. P. Singh, C.M. Hussain, S. Rajkhowa), Elsevier publishers, 2021, pp 377-394. doi.org/10.1016/B978-0-12-822263-8.00014-2.
7. Arora C., Arora D., Chatterjee S. and Tamrakar V. (2020) Phenolic content and antioxidant activity of *Chenopodium album* Linn. and *Curcuma caesia* Roxb., in Chemistry Research and Applications: Natural Products and their Utilization Pattern (Eds. G. Tewari, A. Tewari, L. M. Tewari and C. Pandey), Nova Science Publishers, Inc, New York, USA, 2020, pp 23-42, ISBN 978-1-53618-140-1.
8. Charu Arora, Sumantra Bhattacharya, Sanju Soni, Pathik Maji, [Scanning Electron Microscopy: Theory and Applications](#) in Essential Techniques for Medical and Life Scientists: A guide to contemporary methods and current applications with the protocols: Part 2 (Ed. Prof Y. Tutar), Bentham Science Publishers, 2020, p 117, DOI: [10.2174/9789811464867120010009](https://doi.org/10.2174/9789811464867120010009)
9. C. Arora, S. Soni, P. Maji, [Transmission Electron Microscopy: Theory and Applications](#), in - Essential Techniques for Medical and Life Scientists: A guide to contemporary methods and current applications with the protocols: Part 2 (Ed. Prof Y. Tutar), Bentham Science Publishers, 2020, p 96. Doi [10.2174/9789811464867120010008](https://doi.org/10.2174/9789811464867120010008)
10. C. Arora, P. Maji and P. K. Bajpai, [Raman Spectroscopy and Its Biomedical Applications](#), in Essential Techniques for Medical and Life Scientists: A guide to contemporary methods and current applications with the protocols: Part 2 (Ed. Prof Y. Tutar), Bentham Science Publishers, 2020, p 62. DOI: [10.2174/9789811464867120010006](https://doi.org/10.2174/9789811464867120010006), ISBN

11. I Ansari, M Sundarrajan, R Kumar, S Sharma and **C Arora**, SEM-EDX: A Potential Tool for Studies of Medicinal Plants in Essential Techniques for Medical and Life Scientists: A guide to contemporary methods and current applications with the protocols: Part 2 (Ed. Prof Y. Tutar), Bentham Science Publishers, UAE, 2020, p124-141.

Research Supervision: Three students have been awarded Ph D degree under my supervision.

Administrative Responsibilities: Member Secretary Apex Complaint Committee (2016-2019), Centre Superintendent End Sem Exam (2017-18), Centre Superintendent VET Exam (2018), Member Media Cell (2016-continue), Head Department of Chemistry (2017-2019), Member Central Purchase Committee, Member Academic Council (2017-2019), Chairman Board of Studies (2017-2019), Member Board of Studies, Member, DRC, Member School Board (2017-2019)

Additional Information: Member Board of Studies OP Jindal University, Raigarh (2018-2020), Member DRC, OP Jindal University, Raigarh (2018-2020), Member Board of Studies, Pt. Sundar Lal Sharma Open University, Member Board of Studies, Galgotias University, Member DRC, Galgotias University