

**Soft Skills** Excellent

## **Specialization**

**M.Tech:** Environmental Engineering

**Ph.D:** Wastewater Treatment

**Other:**

## **Area of Interest**

**Research:** Environmental Engineering, Wastewater Treatment, Hydrodynamic cavitation, Advanced Oxidation processes (AOPs), Process Intensification, Photocatalytic Oxidation, Synthesis and Characterization of Photocatalysts, Heavy metals removal, Adsorption

**Technology Development:**

**Innovation:**

**Technology Transfer:**

**Other:**

## **Participated - In Specialized Training / Certified Courses:**

1. Attended the workshop on 8-days FDP on "Universal Human Value & Professional Ethics" organized by value education cell, AKTU Lucknow during 26th Dec-2018 to 02 Jan-2019 at MIET, Meerut.
2. Attended the ICT based 5-days STC on "Students Centered Instructional Strategies" organized by Education and Educational Management Department, NITTTTR Chandigarh during 03 to 07 Dec-2018 at MIET, Meerut.
2. Attended the workshop on Fuel Cells organized by Department of Chemical Engineering, MNIT, Jaipur during April 11th-12th, 2016.
3. Attended a short term course on "Mathematical Modeling, MATLAB Programming and their Applications in Engineering and sciences" held during Jan, 19-23, 2015 at MNIT Jaipur.
4. As a volunteer in the seminar "Atomic Energy for Robust National Development & Exhibition on BARC Technologies" organized by BARC and MNIT Jaipur from 5th to 6th September-2014.
5. Attended 3rd National conference on "Recent Advances in Bio-energy Research" in Sardar Swaran Singh-National Institute of Renewable Energy, during November 22-24, 2013, Kapurthala, Punjab.
6. Attended the Staff Development Programme on "Innovative Teaching Techniques for Transport Phenomena" from July 12-17, 2010 in I.T.M. University, Gwalior (M.P).

## **Publication - Books / Chapters / Papers / Articles / Blogs:**

1. M. Nigam, S. Rajoriya, S. R. Singh, P. Kumar, Thermal Catalytic treatment (thermolysis): an effective process for the removal of COD and color from industrial wastewater, Journal of Environmental Treatment Techniques (Accepted), 2020.
2. Sunil Rajoriya, Ahlaam Haquiqi, Bhawna Chauhan, Girish Tyagi, Avdesh Singh Pundir, Ajay Kumar Jain, Influence of Adsorption Process Parameters on the Removal of Hexavalent Chromium (Cr(VI)) from Wastewater: A Review, Journal of Environmental Treatment Techniques, 8 (2) (2020) 597-603.
3. Sunil Rajoriya, Anjali Ghildiyal, Garvita Gupta, Bhawana Chauhan, Girish Tyagi, Avdesh Singh Pundir,

- Ajay Kumar Jain, Fenton oxidation process for the treatment of artificial binary dye mixture in aqueous solution, *Research Journal of Chemistry and Environment*, (Accepted), 2019.
4. M. Nigam, S. Rajoriya, S. R. Singh, P. Kumar, Adsorption of Cr (VI) Ion from Tannery Wastewater on Tea Waste: Kinetics, Equilibrium and Thermodynamics Studies, *Journal of Environmental Chemical Engineering* 7 (2019) 103188. Citations - 1
  5. S. Rajoriya, S. Bargole, S. George, V. K. Saharan, P. R. Gogate, A. B. Pandit, Synthesis and characterization of Samarium and Nitrogen doped TiO<sub>2</sub> photocatalysts for photo-degradation of 4-Acetamidophenol in combination with hydrodynamic and acoustic cavitation, *Separation and Purification Technology*, 209 (2019) 254–269. Impact factor – 5.107. Citations - 22.
  6. S. Saxena, S. Rajoriya, V. K. Saharan, S. George, An advanced pretreatment strategy involving hydrodynamic and acoustic cavitation along with alum coagulation for the mineralization and biodegradability enhancement of tannery waste effluent, *Ultrasonics Sonochemistry*, 44 (2018) 299–309. Impact factor – 7.279. Citations - 5.
  7. S. Rajoriya, S. Bargole, V. K. Saharan, Degradation of a cationic dye (Rhodamine 6G) using hydrodynamic cavitation coupled with other oxidative agents: reaction mechanism and pathway, *Ultrasonics Sonochemistry*, 34 (2017) 183–194. Impact factor – 7.279. Citations -60.
  8. S. Rajoriya, S. Bargole, S. George, V. K. Saharan, Treatment of textile dyeing industry effluent using hydrodynamic cavitation in combination with advanced oxidation reagents, *Journal of Hazardous Materials*, 344 (2017) 1109-1115. Impact factor – 7.336. Citations - 34.
  9. S. Rajoriya, S. Bargole, V.K. Saharan, Degradation of reactive blue 13 using hydrodynamic cavitation: Effect of geometrical parameters and different oxidizing additives, *Ultrasonics Sonochemistry*, 37 (2017) 192–202. Impact factor – 7.279. Citations - 28.
  10. J. Carpenter, M. Badve, S. Rajoriya, S. George, V. K. Saharan, A. B. Pandit, Hydrodynamic cavitation: An emerging technology for the intensification of various chemical and physical processes in a chemical process industry, *Reviews in Chemical Engineering*, 33 (5) (2016), 433-468. Impact factor - 4.200. Citations - 42.
  11. S. Rajoriya, J. Carpenter, V. K. Saharan, A. B. Pandit, Hydrodynamic cavitation: An advanced oxidation process for the degradation of bio-refractory pollutants, *Reviews in Chemical Engineering*, 32 (4) (2016) 379–411. Impact factor - 4.200. Citations - 38.

**Funded Projects Undertaken:** Project submitted under SERB (As a co-PI)

**Any other information:**