

## Curriculum Vitae

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**Dr. Sunil Rajoriya**  
(Ph.D. in Chemical Engineering)

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**Objective:**

To obtain a challenging position with a growing university/institute where i can utilize my skills and knowledge for the development of organization

**Major Areas of Research Interests:**

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

**Personal profile:**

<b>Father's name</b>	Sh. Ramesh Chandra Rajoriya
<b>Date of Birth</b>	1 <sup>st</sup> May 1987
<b>Marital Status</b>	Married
<b>Hobbies</b>	Reading Books, Listening Music, Playing Cricket

**Educational Qualifications:**

S.No.	Degree	Year of passing	Name of Institute/University	% / CGPA
1.	Ph.D. (Chemical)	2018	MNIT Jaipur	9.0
2.	M.Tech (Chemical)	2013	SBSSTC, Ferozepur (Punjab)	72.86%
3.	B.Tech (Chemical)	2007	SDCET, MZN (UP)	70.62%
4.	Intermediate (12 <sup>th</sup> )	2002	GIC, Agra	63.60 %
5.	High school (10 <sup>th</sup> )	2000	GIC, Agra	62.00 %

**Employment details:**

S.No.	Name of organization	Position/Department	Duration	Nature of work
1.	Meerut Institute of Engineering and Technology, Meerut	Associate Professor/Chemical Engineering	1 <sup>st</sup> Jan, 2021 to till now	Teaching and Research
2.	Meerut Institute of Engineering and Technology, Meerut	Assistant Professor/Chemical Engineering	8 <sup>th</sup> Sep, 2018 to 31 <sup>st</sup> Dec, 2020	Teaching and Research
3.	Raja Balwant Singh Engineering Technical Campus, Agra	Guest Faculty/Chemical Engineering	3 <sup>rd</sup> Feb, 2018 to 15 <sup>th</sup> June, 2018	Teaching
4.	Doon College of Engineering and Technology, Dehradun	Lecturer/Chemical Engineering	16 <sup>th</sup> Aug, 2011 to 30 <sup>th</sup> Dec, 2013	Teaching
5.	Raja Balwant Singh Engineering Technical Campus, Agra	Guest Lecturer/Chemical Engineering	3 <sup>rd</sup> Oct, 2008 to 15 <sup>th</sup> June, 2011	Teaching
6.	Maharani Paints India (P) Ltd. Faridabad	Quality Control Executive	1 <sup>st</sup> May, 2008 to 14 <sup>th</sup> Aug, 2008	Testing

**Title of PhD Thesis:** Study of Advanced Oxidation Processes (AOPs) based on Hydrodynamic Cavitation for the degradation of Bio-refractory Pollutants

**Ph.D. Supervisor:** Dr. Virendra Kumar Saharan, Assistant Professor, Department of Chemical Engineering, MNIT, Jaipur

**Analytical Instruments Handled:** HPLC (High Pressure Liquid Chromatography), UV/Vis-Spectrophotometer, TOC (Total Organic Carbon) Analyzer, GC (Gas Chromatography).

**Industrial Training:**

- One month industrial training in IOCL, Mathura.
- One month industrial training in IFFCO AONLA, Bareilly.

### **Details of Publications in Peer Reviewed International Journal (SCI/SCIE/Scopus):**

1. Mohit Nigam, Pradeep Kumar, **Sunil Rajoriya**, Virendra Kumar Saharan, Shraddha Rani Singh, Catalytic thermal treatment (Thermolysis) process of tannery wastewater for the removal of COD and color, Desalination and Water treatment, 218 (2021) 372-380.
2. **Sunil Rajoriya**, Ahlaam Haquiqi, Bhawna Chauhan, Girish Tyagi, Avdesh Singh Pundir, Ajay Kumar Jain, Divya Agarwal, Adsorption Studies on the Removal of Hexavalent Chromium (Cr (VI)) from Aqueous Solution using Black Gram Husk, **Journal of Environmental Treatment Techniques**, 8 (3) (2020) 1144-1150.
3. **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.
4. **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**, 24 (7) (2020) 70-80.
5. Avdesh Singh Pundir, Kailash Singh, Varshika Singhal, Mayank Pandey, Garvit Gupta, Moh. Rohaan, **Sunil Rajoriya** and Girish Tyagi, RTD Modeling of a Non-Ideal Coiled-Tube Reactor through Experimental Investigation for Pulse Input Using Methylene Blue Dye, **Journal of Environmental Treatment Techniques**, 8 (3) (2020) 1220-1231.
6. Mohit Nigam, **Sunil Rajoriya**, Shraddha Rani Singh, Pradeep Kumar, Thermal Catalytic Treatment (Thermolysis): An Effective Process for the Removal of COD and Color from Industrial Wastewater, **Journal of Environmental Treatment Techniques**, 8 (2) (2020) 818-826.
7. 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. **Impact factor –4.300.**
8. **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 –5.774.**
9. 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 – 6.513.**
10. **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 – 6.513.**

11. **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 – 9.038.***
12. **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 – 6.513.***
13. 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 – 5.315.***
14. **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 – 5.315.***

#### **Details of Publication/Presentation in Conferences (National/International):**

- A.S. Pundir, K. Singh, G. Tyagi, **S. Rajoriya**, V. Singhal, M. Pandey, Investigation of vapor-liquid-equilibrium for an ethanol-butyl methyl ether system using ASPEN and MATLAB, in: Int. Conf. Chem. Bio Environ. Eng. (CHEMBIOEN-2020), Feb. 13-14, **2020** NIT Jalandhar.
- A.S. Pundir, K. Singh, G. Tyagi, **S. Rajoriya**, M. Rohaan, G. Gupta, Selection of a Company for Jobs-offered using TOPSIS, in: Int. Conf. Chem. Bio Environ. Eng. (CHEMBIOEN-2020), Febr. 13-14, **2020** NIT Jalandhar.
- A.S. Pundir, K. Singh, G. Tyagi, **S. Rajoriya**, V. Singhal, M. Pandey, Experimental and theoretical investigation of Txy data for the methanol-water system at ambient pressure, in: Int. Conf. Chem. Bio Environ. Eng. (CHEMBIOEN-2020), Feb. 13-14, **2020** NIT Jalandhar.
- A. S. Pundir, Kailash Singh, Girish Tyagi, **Sunil Rajoriya**, Ajay Kumar Jain, Mayank Aggarwal and Abhishek Malik. Reaction Modeling of CO<sub>2</sub> in a Liquid Column of NaOH using Method of Lines, in: Int. Conf. Chem. Bio Environ. Eng. (CHEMBIOEN-2020), Febr. 13-14, **2020** NIT Jalandhar.
- Anjali Ghildiyal, Garvita Gupta, Bhawana Chauhan, **Sunil Rajoriya**, Girish Tyagi, Avdesh Singh Pundir, Ajay Kumar Jain, Treatment of dye wastewater using Fenton oxidation process: Influence of various process parameters, Advances in Chemical and Environmental Engineering (ACEE'19) under TEQIP-III organized by Department of Chemical Engineering, NIT, Jalandhar, **2019**.
- Avdesh Singh Pundir, Kailash Singh, Girish Tyagi, **Sunil Rajoriya**, “Optimal Weight Sensitivity based Temperature Control for a Real-time Identified Fixed Bed Reactor” Advances in Chemical and Environmental Engineering (ACEE'19) under TEQIP-III organized by Department of Chemical Engineering, NIT, Jalandhar, **2019**.

- Avdesh Singh Pundir, Kailash Singh, Girish Tyagi, **Sunil Rajoriya**, “Optimal Temperature Control for a Real-time Identified Fixed Bed Reactor” Advances in Chemical and Environmental Engineering (ACEE'19) under TEQIP-III organized by Department of Chemical Engineering, NIT, Jalandhar, **2019**.
- **S. Rajoriya**, V. K. Saharan, Degradation of diclofenac sodium salt using hydrodynamic cavitation, Energy technology and ecological concerns: a contemporary approach., Jawaharlal Nehru University, New Delhi, 1 (**2014**) 82-86.

**Total citations: 393, h-index: 8; i10-index: 8**

**Reviewer of various international Journals (SCI/Scopus):**

- Journal of Water Process Engineering (Elsevier)
- Chemical Engineering and Processing: Process Intensification (Elsevier)
- Journal of Environmental Treatment techniques (Dorma Publisher)
- Materials today: Proceedings (Elsevier)
- Groundwater for Sustainable Development (Elsevier)
- International Journal of Environmental research (Springer)
- Journal of Environmental Chemical Engineering (Elsevier)

**Workshops/Short-Term Courses/Seminars/FDP/Trainings attended:**

- Attended 3 days faculty Development Programme (E-FDP) on “National Education Policy for Holistic Education and Institutional Ranking” during 10<sup>th</sup> December to 12<sup>th</sup> December -2020 organized by the Department of Civil Engineering, MIET, Meerut.
- Attended 3 days faculty Development Programme (E-FDP) on “Build Prospective Academic career” during 3<sup>rd</sup> September to 5<sup>th</sup> September -2020 organized by the Department of Civil Engineering, MIET, Meerut.
- Attended 5 days hands on workshop on “Patent Searching, Drafting and Filling” during 29<sup>th</sup> May to 02<sup>nd</sup> June-2020 organized by the Department of Computer Science and Engineering, PIT, Chennai, India.
- Attended 5 days online FDP on “Latex Programming” during 18<sup>th</sup> May to 22<sup>nd</sup> May 2020 organized by the Department of Information Technology, MIET, Meerut.
- Attended 5 days online FDP on “Water and Sanitation” during 24<sup>th</sup> August to 28<sup>th</sup> August-2020 organized by IIMT Engineering college Meerut.
- Attended 5 days online FDP on “Industrial Automation and robotics” during 3<sup>rd</sup> August to 7<sup>th</sup> August-2020 organized by the Department of Mechanical Engineering, DIT University Dehradun.
- Attended one week online FDP on “Next generation of chemical manufacturing & waste management” during 29<sup>th</sup> July-2020 to 2<sup>nd</sup> August-2020 organized by Department of Chemical Engineering, Institute of Engineering & Technology, Lucknow, Uttar Pradesh.

- Attended a workshop on “Case Writing” organized by All India management Association held on 29 to 30 March-2019 at MIET, Meerut.
- Attended the ICT based 5-days STC on “Technical Teachers self-esteem, Motivation and Professionalism development through ICT” conducted by NITTTR Chandigarh during 14 – 18 Jan 2019 at MIET, Meerut.
- Attended the workshop on 8-days FDP on “Universal Human Value & Professional Ethics” organized by value education cell, AKTU Lucknow during 26<sup>th</sup> Dec-2018 to 02 Jan-2019 at MIET, Meerut.
- Completed training on “MS-Excel” by Nurture Tech Academy at MIET, Meerut.
- Attended the ICT based 5-days STC on “Students Centered Instructional Strategies” organized by Education and Educational Management Department, NITTTR Chandigarh during 03 - 07 Dec 2018 at MIET, Meerut.
- Attended the workshop on Fuel Cells organized by Department of Chemical Engineering, MNIT, Jaipur during April 11<sup>th</sup>-12<sup>th</sup>, 2016.
- 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.
- As a volunteer in the seminar “Atomic Energy for Robust National Development & Exhibition on BARC Technologies” organized by BARC and MNIT Jaipur from 5<sup>th</sup> to 6<sup>th</sup> September-2014.
- Attended 3<sup>rd</sup> 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.
- 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).

**Webinar (National/International) attended:**

- A national webinar on “ Role of Chemical Engineering in Industrial Safety” on 7<sup>th</sup> June-2020 organized by Department of Chemical Engineering, Saveetha Engineering College, Chennai, India.
- A national webinar on “ Waste to Energy” on 5<sup>th</sup> June-2020 by Dr. Sachin Kumar, organized by Department of Agricultural Engineering and Civil Engineering, Maharashtra Institute of Technology, Aurangabad.
- One day International Webinar on “Advanced Separation Processes: Extraction of Micro Pollutants by Supported Ionic Liquid Membranes” on 1 July, 2020 organized by the Department of Chemical Engineering, Raja Balwant Singh Engineering Technical Campus, Bichpuri, Agra.
- A national Webinar on “Pollution Prevention for Sustainable Industrial Development” on July 04, 2020 organized by Department of Environmental Science & Technology, SRICT, Gujarat.

- A national Webinar on “Mass transfer Operations and Trouble Shooting” on 5 July, 2020 organized by the Department of Chemical Engineering, Raja Balwant Singh Engineering Technical Campus, Bichpuri, Agra.
- A TEQIP-III sponsored national webinar “Heavy Crude Oil Production Technologies- Practical Approach” held on August 08, 2020 organized by Department of Chemical Engineering, NIT, Jalandhar.
- A national Webinar on “Green Fuels: Novel Catalytic Synthesis” on 18 July, 2020 organized by the Department of Chemical Engineering, Raja Balwant Singh Engineering Technical Campus, Bichpuri, Agra.
- An International Webinar on “Chemical Process Industrial Safety in India: A big Concern” on 20 June-2020 by the Department of Chemical Engineering, MNIT Jaipur.
- A TEQIP-III sponsored national webinar “Why a Manuscript is rejected” held on August 27, 2020 organized by Department of Chemical Engineering, NIT, Jalandhar.
- A national Webinar on “Analytical Techniques for Composition Measurement” on 22 June, 2020 organized by the Department of Chemical Engineering, Raja Balwant Singh Engineering Technical Campus, Bichpuri, Agra.

#### **Webinar Organized (National/International):**

- A national webinar organized **as a convener** on the topic of “Scope of Chemical Engineering in various sectors and its future aspects” on 25 July 2020, organized by Department of Chemical Engineering, MIET, Meerut.
- A national webinar organized **as a convener** on the topic of “Recent Innovations in the field of Chemical Engineering” on 20 October 2020, organized by Department of Chemical Engineering, MIET, Meerut.

#### **Awards/Achievements:**

- **Session Chair**, technical paper presentations in an International conference on “Advanced Materials Behaviour and Characterization (ICAMBC\_2020)” organized by Mattest research Academy, Chennai during 18-23 July, 2020.

#### **Professional Memberships**

- Member, International Association of Engineers (IAENG)

#### **Extra-Curricular Activities:**

- Worked as a student counselor, Class teacher, Departmental C.O.E., Time-Table in-charge in Doon College of Engineering & Technology, Dehradun.
- Worked as a DPGC member in Chemical Engineering Department, MNIT, Jaipur.

**Name of Three References:**

**1. Dr. Virendra Kumar Saharan**

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**Certificate:** I hereby certify that the information given is true to the best of my knowledge.

**Date:**

**Place:** (Sunil Rajoriya)