

## **Profile Page**



Name : Dr Shailendra Bajpai  
Designation : Professor  
Department : Chemical Engineering  
Qualification : PHD Chemical Engg (NIT Jalandhar)  
M. tech Chemical Engg. (IIT Kanpur)  
B tech (HBTI Kanpur)  
Address : A 503, NIT Campus  
Jalandhar, Punjab - 144011  
Email : bajpais@nitj.ac.in

### **Research Interests :**

Waste water treatment, Safety in chemical plants, Membrane separation process, Risk assessment of intentional threats

### **Other Profile Links :**

#### **Google Scholar Link :**

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ResearchGate Profile [Click Here](#)

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### **Journal Publications :**

Year	Journal	Publication
2022	Biomass Conversion and Biorefinery,	Bajpai, S., 2022. Biorefining of leather solid waste to harness energy and materials—A review
2021	Environmental Science and Pollution Research, 2021, Vol 28, Page numbers 13886-13899	Robin Marlar Rajendran, Sangeeta Garg, Shailendra Bajpai, Modelling of arsenic (III) removal from aqueous solution using Film Theory Combined Spiegler Kedem model: Pilot scale study
2021	SPE Polymers (Wiley)	N. Sood, M. K. Jha, S. Bajpai, Studies on the effect of Low Density Polyethylene on Ethylene Vinyl Acetate / Styrene Butadiene Styrene Blends for Yoga Mat Applications

2021	Asian Textile Journal	N. Sood, M. K. Jha, S. Bajpai, EVA and SBS Blended Foam for Sports and Yoga Mat Applications: Study the application of Ethylene vinyl acetate (EVA) / Styrene butadiene styrene (SBS) foams for yoga mat textile products, Asian Textile Journal, 2021
2021	Chemical Papers, 2021, Vol 75, Page numbers 4431-4444	Robin Marlar Rajendran, Sangeeta Garg, Shailendra Bajpai, Economic feasibility of arsenic removal using nanofiltration membrane: A review,
2020	Carbohydrate Polymers 240, 116225.	Thermal decomposition kinetics and properties of grafted barley husk reinforced PVA/starch composite films for packaging applications Carbohydrate Polymers 240, 116225
2019	Polymer Testing, 2019, Vol 78, Page numbers 1-10	Mittal, A., Garg S, Bajpai S, The influence of fatty acid chain length on the chemical, physical and morphological properties of the grafted barley husk for application in biocomposites
2019	Iranian Polymer Journal, 2019, Vol 28 (5), Page numbers 379-370	Aanchal Mittal, Sangeeta Garg, Shailendra Bajpai, Lauric acid-grafted barley (Hordeum vulgare L.) husk for application biocomposite films: optimization method in synthesis and characterization,
2019	Korean Journal of Chemical Engineering, 2019, Vol 36 (10), Page numbers 1648-1656	Shailendra Bajpai, Robin Marlar Rajendran, Sanjeevani Hooda, Modeling the performance of HPA membrane for sulfate ion removal from Ternary ion system,
2019	Toxicology and Environmental Chemistry, 2019, Vol 101(1-2), Page numbers 26-44	Kushwaha R., Garg S., Bajpai S, Modelling and Optimization of Nile Blue Sulphate Mineralization by Heterogenous Fenton Oxidation,
2018	Indian Chemical Engineer, 60, 1-13	S. Bajpai, Vidushi Bajpai, Apurba Dey, Subrata Gosh, M K Jha, "Study of adherence kinetics of Escherichia colion cotton knitted fabrics"
2018	Research on Chemical Intermediates, 44, 1-28	Rajkamal Kushwaha, Sangeeta Garg, Shailendra Bajpai, "Degradation of Nile Blue sulphate dye onto iron oxide nanoparticles: Kinetic study, identification of reaction intermediates, and proposed mechanistic pathways"
2018	Asia Pacific Journal of Chemical Engineering, 1, 1-16	Rajkamal Kushwaha, Sangeeta Garg, Shailendra Bajpai, "Modified generalized kinetic model and degradation mechanistic pathways for catalytic oxidation of NBS dye in Fenton-like oxidation process"
2018	Research Journal of Chemistry and Environment, 1-13	Shailendra Bajpai, Apurba Dey, M. K. Jha, Vidushi Bajpai, R R Marlar, "Removal of Cr (VI) from aqueous streams using chemically modified bark of Blackboard Tree: Optimization through Response Surface Methodology"
2018	Recent Advances in Bioenergy Research, 159-179	R R Marlar, V Aiyappan, S S Rao, S Bajpai, "Sequencing Batch Reactor Technique for Municipal Sewage Treatment with Carbon Credits"
2018	Asia Pacific Journal of Chemical Engineering, 2018, Vol 13 (3), Page numbers 1-16	Rajkamal Kushwaha, Sangeeta Garg, Shailendra Bajpai, Degradation of Nile Blue sulphate dye onto iron oxide nanoparticles: Kinetic study, identification of reaction intermediates, and proposed mechanistic pathways
2017	International Journal of Mathematics and Physical Sciences Research, 5, 77-93	R R Marlar, Sanjeevani Hooda, Sangeeta Garg, Vidhusi Bajpai, S Bajpai, "Treatment of Coloured Wastewater by using Spiral Wound Nanofiltration Membrane and Parameter evaluation"
2016	Carbohydrate Polymers, 151, 926-938	Aanchal Mittal, Sangeeta Garg, Deepak Kohli, Mithu Maiti, Asim Kumar Jana, Shailendra Bajpai, "Effect of cross linking of PVA/starch and reinforcement of modified barley husk on the properties of composite films"
2015	International Journal of Engineering Research and Reviews, 3(3), 40-49	Manoj K, S. Bajapi, "Application of Extended Nernst Plank Model in Nanofiltration Process"

## Conference Publications :

Year	Conference	Publication
2018	Advances in Chemical Science and Technology (ACST) 2018 held at NIT Jalandhar, 55	Rajkamal Kushwaha, Sangeeta Garg, Shailendra Bajpai, "One pot synthesis and use of silica coated iron oxide nanoparticles as selective adsorbents for heavy metal ions"
2018	Advances in Chemical Science and Technology (ACST) 2018 held at NIT Jalandhar, 56	Monica ranga, N.K. Srivastava, S Bajpai, "A review on the phenol removal by using electrocoagulation and advance oxidation process"
2018	Advances in Chemical Science and Technology (ACST) 2018 held at NIT Jalandhar, 39	Aanchal Mittal, Sangeeta Garg, Shailendra Bajpai, "Chemical modification of cellulose with palmitic acid for application in composite films"
2018	Advances in Chemical Science and Technology (ACST) 2018 held at NIT Jalandhar, 56	R S Yadav, R R Marlar, Neetu Divya, S Bajpai, "A Review on Pesticides Removal by using Nanofiltration Membrane Process"
2018	Advances in Chemical Science and Technology (ACST) 2018 held at NIT Jalandhar, 29	R R Marlar, S Hooda, SGarg, S Bajpai, "A Review on Arsenic Removal by using Pressure driven Nanofiltration Membrane Process"
2018	Advances in Chemical Science and Technology (ACST) 2018 held at NIT Jalandhar, 32	R RMarlar, S Hooda, SGarg, S Bajpai, "Hybrid Membrane System for Arsenic Removal"
2018	Advances in Chemical Science and Technology (ACST) 2018 held at NIT Jalandhar, 30	S Hooda, R RMarlar, N K Srivastava, S Bajpai, "Treatment of wastewater by using Spiral wound Nanofiltration Membrane Validated using Donnan Steric Pore Model"
2018	71st annual session of the Indian institute of Chemical Engineers IICHE, CHEMCON-2018 held at NIT Jalandhar.	R R Marlar, Sangeeta Garg, S Bajpai, "Arsenic removal from drinking water by using pressure driven Nanofiltration process in the past decade: A critical review"
2018	71st annual session of the Indian institute of Chemical Engineers IICHE, CHEMCON-2018 held at NIT Jalandhar, 443	R R Marlar, R S Yadav, Vidhusi Bajpai, Sangeeta Garg, S Bajpai, "Application of Donnan steric pore and dielectric exclusion model: Nanofiltration of Methylene Blue"
2018	71st annual session of the Indian institute of Chemical Engineers IICHE, CHEMCON-2018 held at NIT Jalandhar, 473	R S Yadav, R R Marlar, Vidhusi Bajpai, Neetu Divya, S Bajpai, "Evaluation of membrane parameters by using Donnan Steric Pore Model for ternary ion system"
2018	71st annual session of the Indian institute of Chemical Engineers IICHE, CHEMCON-2018 held at NIT Jalandhar, 481	Aanchal Mittal, Sangeeta Garg, S Bajpai, "Studies on the biodegradability of the PVA/starch composite films reinforced with grafted barley husk"
2018	71st annual session of the Indian institute of Chemical Engineers IICHE, CHEMCON-2018 held at NIT Jalandhar, 488	Rajkamal Kushwaha, Sangeeta Garg, Shailendra Bajpai, "Degradation of Nile Blue Sulphate Dye in Pilot Plant Bubble Column Reactor"
2018	71st annual session of the Indian institute of Chemical Engineers IICHE, CHEMCON-2018 held at NIT Jalandhar, 526	Jaspreet Chawla, S. Bajpai, Gourav Gupta, "Safety Attend Using Fuzzy Analytical Hierarchy Process"
2018	71st annual session of the Indian institute of Chemical Engineers IICHE, CHEMCON-2018 held at NIT Jalandhar, 564	Vikas kumar, N.K.Srivastava, S Bajpai, "Removal of Organophosphate pesticide residues Malathion from aqueous stream using Nano filtration"
2018	71st annual session of the Indian institute of Chemical Engineers IICHE, CHEMCON-2018 held at NIT Jalandhar, 675	V.N.S. Gunasri Appala, Nitin Naresh Pandhare, S. Bajpai, "Assessment of chromium remediation by recent strategies-A review"

2018	Environmental Geotechnology, Recycled Waste Materials and Sustainable Engineering March 9-31, 2018 which is held at NIT Jalandhar, 17	Mittal A., Garg S., Bajpai S, "Application of response surface methodology to optimize the reaction parameters for grafting of cellulosic"
2018	6th International conference on Advancements in Engineering and Technology, 2018 held at BhaiGurdas Institute of Engineering and Technology, Sangrur Punjab, 508	Robin Marlar Rajendran, S Hooda, S Garg, S Bajpai, "Treatment of wastewater using Spiral wound Nanofiltration Membrane validated using Solution-Diffusion Model combined with film theory"
2018	6th International conference on Advancements in Engineering and Technology, 2018 held at BhaiGurdas Institute of Engineering and Technology, Sangrur Punjab, 508	R RMarlar, S Hooda, S Garg, S Bajpai, "Treatment of Arsenic by using Thin Film Composite spiral wound Nanofiltration Membrane"
2018	Advances in Chemical Science and Technology (ACST) 2018 held at NIT Jalandhar, 55	Rajkamal Kushwaha, Sangeeta Garg, Shailendra Bajpai, "Application of artificial neural network for the removal of toxic metal ions from aqueous solution"
2016	National Conference on Application of Biotechnology in Industry and Society, NIT Jalandhar, 37	A. Mittal, S. Garg, M. Maiti, S. Bajpai, "Evaluation of properties of barley husk fiber after grafting with palmitic acid"
2016	Advances in Chemical and Environment Engineering (ACEE) held at NIT Jalandhar, 30	Rajkamal Kushwaha, DrSangeeta Garg, Dr. Shailendra Bajpai, "Synthesis and Characterization of iron oxide nanoparticles: application in adsorptive removal of nile blue sulphate Dye"
2016	Advances in Chemical and Environment Engineering (ACEE) 2016 held at NIT Jalandhar, 38	R Marlar, VigneswaranAiyappan, SS Rao, S. Bajpai, "Recent advances in Membrane synthesis technique, structure, properties and performance of pressure driven membrane process: A review"
2016	Advances in Chemical and Environment Engineering (ACEE) 2016 held at NIT Jalandhar, 106	A. Mittal, S. Garg, S. Bajpai, "Bio-nanocomposite films for the packaging applications. Advances in Chemical and Environment Engineering (ACEE) 2016 held at NIT Jalandhar"
2016	Advances in Chemical and Environment Engineering (ACEE) 2016 held at NIT Jalandhar, 39	A.Vigneshwaran, R RMarlar, S. Bajpai, "Recent advances in modelling of Nano filtration: A critical review"
2016	Advances in Chemical and Environment Engineering (ACEE) 2016 held at NIT Jalandhar, 349	AvinashPlaha, S. Bajpai, "Tyre designing and development"
2016	69th annual session of the Indian institute of Chemical Engineers IICHE, CHEMCON-2016 held at Anna University, Chennai, 55	Rajkamal Kushwaha, Sangeeta Garg, Shailendra Bajpai, "Synthesis and characterization of Mesoporous Silica coated Iron Oxide Nanoparticles: Application in Adsorptive Removal of Niler Blue Sulphate"
2016	69th annual session of the Indian institute of Chemical Engineers IICHE, CHEMCON-2016 held at Anna University, Chennai, 694	S. Bajpai, R R Marlar, S S Rao, Dr Vidhusi Bajpai, Dr Sangeeta Garg, "An unified model for spiral wound nanofiltration system"
2016	69th annual session of the Indian institute of Chemical Engineers IICHE, CHEMCON-2016 held at Anna University, Chennai, 562	S S Rao, R R Marlar, Dr Vidhusi Bajpai, S. Bajpai, "Coloured wastewater treatment using photochemical reactor"
2016	69th annual session of the Indian institute of Chemical Engineers IICHE, CHEMCON-2016 held at Anna University, Chennai, 894	S. Bajpai, R R Marlar, S S Rao, Dr Vidhusi Bajpai, Dr Sangeeta Garg, "Coloured wastewater treatment using spiral wound nanofiltration membrane"
2016	69th annual session of the Indian institute of Chemical Engineers IICHE, CHEMCON-2016 held at Anna University, Chennai, 1110	A. Mittal, S. Garg, M. Maiti, S. Bajpai, "Bio-composite films reinforced with modified cellulosic fibre and nanofibrils"

2016	International Conference on Redefining Textiles: Cutting Edge Technology of the Future 2016 held at NIT Jalandhar, 694	A. Mittal, S. Garg, M. Maiti, S. Bajpai, A. S. Giri, "Synthesis and characterisation of iron oxide nanoparticles: application in removal of cadmium and lead metal ions from wastewater. Textiles: cutting edge technology of the future"
2016	2nd International Conference on Recent Advancements in Bioenergy Research (ICRABR – 2016) held at SardarSwaran Singh National Institute of Bio Energy, Kapurthala, Punjab, 209	R R Marlar, Vigneswaran Aiyappan, S S Rao, S. Bajpai, "Sequencing batch reactor techniques for Municipal sewage with carbon credits"
2016	2nd International Conference on Recent Advancements in Bioenergy Research (ICRABR – 2016) held at SardarSwaran Singh National Institute of Bio Energy, Kapurthala, Punjab, 47	Shailendra Bajpai, "Pressure driven membrane separation process: Principle, preparation and selected applications"
2016	International Conference on Redefining Textiles: Cutting Edge Technology of the Future 2016 held at NIT Jalandhar, 473	A. Mittal, S. Garg, M. Maiti, S. Bajpai, A. S. Giri, "Evaluation of the mechanical properties, water resistant and biodegradability of crosslinked PVA/starch composite films reinforced with fiber"
2015	68th annual session of the Indian institute of Chemical Engineers IICHE, CHEMCON-2015 held at Indian Institute of Technology, Guwhati, 73	Avinash Plaha, S. Bajpai, "Doraha Ammonia gas leakage: An Incident investigation"

### Book/Chapter Publications :

Type	Title	Publisher	Authors	ISBN/ISS N No.	Year
	Security Risk Assessment: Some Techniques,	De Gruyter, Germany	S Bajpai, J P Gupta		2017
	Advances in Fertilizer Technology I	Studium Press L, U.S.A.	S Sinha, K K Pant, S Bajpai		2015
	Advances in Fertilizer Technology II	Studium Press L, U.S.A.	S Sinha, K K Pant, S Bajpai		2015
	Advances in Petroleum Engineering I Petrochemical	Studium Press L, U.S.A.	S Sinha, K K Pant, S Bajpai		2015
	Advances in Petroleum Engineering II Refining	Studium Press L, U.S.A.	S Sinha, K K Pant, S Bajpai		2015

### Professional Affiliations :

Designation	Organization
Honorary Secretary since 2012 to till date	Indian Institute of Chemical engineers , Doaba regional center, Kolkata
Life Member LM-33859	Indian Institute of Chemical engineers , Doaba regional center, Kolkata
Fellow F -1235067	Fellow of Institution of Engineers (India), Kolkatta

### PhD Supervised :

Scholar Name	Research Topic	Status	Year	Co-Supervisor
Surendar V	Security risk assessment using baysian network	Ongoing	2021	
Mohd. Murtaja	Application of mathematical tools in energy sector in India	Ongoing	2021	
Guna Sri Appala	Reutilization of solid waste from leather industry	Ongoing	2018	Dr. Nitin Pandhare
Robin Marlar R	Study on arsenic Removal from aqueous solution by using spiral wound Nanofiltration Membrane	Awarded	2016	Dr S Garg

Aanchal Mittal	Synthesis and Characterization and studies on the properties of PVA/Starch composite film reinforced with grafted barley Husk	Awarded	2016	Dr S Garg
Navneet Sood	Study on Blending of LDPE-TPR-EVA Blends for Yoga Mat	Awarded	2015	Dr. M. K. Jha
Rajkamal Kushwaha	Degradation of dye from aqueous solution using heterogeneous centralized oxidation process and ozonation based processes	Awarded	2014	Dr S Garg

### PG Dissertation Guided :

Student Name	Dissertation Title	Status	Year	Co-Supervisor
Mohammad Basit (19201103)	Re-functionalization of Aged Polyamide NF Membrane: Comparative Study of the Effects of Chemical Cleaning Methods on Sulfate Removal Performance.	Awarded	2021	Sole
R S Yadav	Studies of lead removal from aqueous solution using polyamide Nanofiltration membrane	Awarded	2019	Dr. N. Divya
S Hooda	Modeling of ternary ion system for aqueous solution by using HPA NF membrane	Awarded	2018	Dr. N. K. Srivastava
S S Rao	Coloured wastewater treatment using Photochemical Reactor using different catalysis	Awarded	2017	Sole
Avinash Plaha	Failure mode identification and prioritisation using RPN, WRPN and AHP-Promethee-II Approach in chemical facilities	Awarded	2016	Sole

### Patents :

Name	Reg./Ref. No.	Date of Award/Filling	Organization	Status
Shoe sole sanitizer with contact time alert	202011028336	03/07/2020	Dr B R Ambedkar National Institute of Technology, Jalandhar	Published
Wheel sanitization system for light weight vehicle	202011033070	01/08/2020	Dr B R Ambedkar National Institute of Technology, Jalandhar	Published
Biodegradable packaging films from modified barley husk and method of synthesis thereof	416366	02/01/2023	Dr. B. R. Ambedkar national institute of technology, jalandhar	Awarded

### Admin. Responsibilities :

Position Held	Organization	From	To
Head, Deptt of Chemical Engineering	NIT Jalandhar	Feb 2015	Jan, 2017
Chief Warden	Dr B R Ambedkar National Institute of Technology, Jalandhar	Feb 2020	till date

Coordinator Yoga	Dr B R Ambedkar National Institute of Technology, Jalandhar	Feb 2020	till date
Local Coordinator, GIAN	Dr B R Ambedkar National Institute of Technology, Jalandhar	Jan 2018	Feb 2020
Associate Dean (Faculty welfare)	Dr B R Ambedkar National Institute of Technology, Jalandhar	2017	2019
Warden, Boys Hostel no 4	Dr B R Ambedkar National Institute of Technology, Jalandhar	2006	2010
Coordinator, Har ghar Dhyaan	Dr. B. R. Ambedkar national institute of technology, Jalandhar	December 2022	till date

### **Award and Honours :**

<b>Title</b>	<b>Activity</b>	<b>Given by</b>	<b>Year</b>
Best Paper award	For the session "Membrane Separation Process and allied areas"	IMRSE 2021	2021
Best Paper award	Biopolymers, Materials, Synthesis & Characterization, polymers and composites	IMRSE 2021	2021
Best Paper award	Sustainable development/E-Waste Management	IMRSE 2021	2021
Best Teacher Award	For the Department of chemical Engineering for the session 2016-2017	Dr B R Ambedkar National Institute of Technology, Jalandhar	2017