

CURRICULAM VITAE

Dr. Shravan Kumar

Assistant Professor,
Department of Bio Chemical Engineering,
Harcourt Butler Technical University,
Nawabganj Kanpur-208002,
Uttar Pradesh, India



Present Designation

Assistant Professor	Department of Bio Chemical Engineering, Harcourt Butler Technical University
Dates from/to	03/08/2022 to present

Education

2014 – 2021	PhD in Chemical Engineering (Awarded on 18th February 2021) Indian Institute of Technology (IIT) Guwahati, India <i>Thesis title:</i> Hexavalent Cr(VI) Removal From Waste Water Using Low Cost Novel Adsorbents <i>Thesis supervisors:</i> Dr R P Venkatesh (main) and Dr. N selvaraju (Co-supervisor)
2012 – 2014	M.Tech in Chemical Engineering (Specialization: Materials Science and Technology) Indian Institute of Technology (IIT) Guwahati, India <i>Thesis title:</i> Study of Gas Adsorption on Carbonaceous material <i>Thesis supervisor:</i> Dr. Amit Kumar
2006 – 2010	B.Tech in Biochemical Engineering Harcourt Butler Technological Institute (HBTI) Kanpur, India
2002 – 2004	Intermediate-12th CBSE Board, S. V. Mandir Ram Bagh Basti (U.P.) India
2000 – 2002	High School-10th CBSE Board, S. V. Mandir Ram Bagh Basti (U.P.) India

Work Experience

- Employer's Name : HPCL Green R&D
Dates from/to : 27/09/2021 to 02/08/2022
Employer's Address : Bangalore, Karnataka, India
- Employer's Name : HPCL BIO FUEL LTD
Dates from/to : 11/01/2011 to 06/08/2012
Employer's Address : Sagauli Bihar, India
- Employer's Name : A2Z GROUP Pvt Ltd.
Dates from/to : 28/06/2010 to 31/12/2010
Employer's Address : Gurgaon India

Teaching Experience

1. Dr. AITH Kanpur from January 2021 to June 2021
2. NIT Andhra from July 2021 to August 2021

Roles and Responsibilities

- Synthesis of novel material using biochar focusing on needs for energy transition related applications to achieve benchmark
- Synthesis and characterization of catalyst for upgrading bio-oil
- Handling & operating of experimental work related to Biochar valorization aspects
- Performing experiment to energy transition via developing process concepts in the area of Bio-circularity, H₂ supply chain and CCUS
- Operation and handling of pilot scale PSA plant for Hydrogen purification,
- Operation and handling of pilot scale absorption and regeneration plant for absorption of CO₂ using solvent
- Hand-on experience of several instrument like GC, furnace, Breakthrough unit, CO₂ adsorption unit by amine
- Commissioning and operation of pilot plant like fermentation batch reactor, DM Plant, RO, UF and ETP Plant.
- Conducting experiment and control plant at specified conditions, shut down and troubleshoot when needed
- Data collection, analysis, interpretation and run preparation of report for Pilot Plant runs
- Worked as a shift incharge in integrated plant of sugar ethanol and co-gen
- Understanding and reviewing of P&ID, HAZOP and HAZARD analysis.
- Maintaining Chemical, Gas, Spares and Consumables inventory for smooth and uninterrupted lab & pilot plant operations
- Calibration check of all critical instruments like MFC, lab scale reactor
- Preparation of Standard Operating Procedure (SOP) and Pre-Startup check list for various lab scale units and Pilot plants
- Hand-on experience of synthesis and characterization of catalyst
- Understanding of Adsorption & Membrane processes
- Understanding of Gas treating technologies including CO₂ capture technologies
- Teaching Assistant for various courses at the Department of Chemical Engineering

Research Interest

- Carbon Capture using adsorbent
- Advance wastewater Treatments
- Bio Resources Technology & Alternative Energy (Pyrolysis, Hydrodeoxygenation of bio-oil)
- Bioprocess Engineering, Environmental Biotechnology

Analytical Instruments Handled and Interpretation of Results

- BET, HPVA, DSC, TGA, Chromatography (GC), Spectrometry (XRD, EDX, FTIR, UV-vis, Atomic Absorption), Microscopy (TEM, FESEM) and Particle size analysis (DLS), Horizontal tubular and Rotating Tubular furnace

Technical/Software Skills

- **Soft skills :** Microsoft Word, Microsoft Excel, Microsoft Power Point, Origin, LIMS.

Journal Publication

1. Kumar, S., Selvaraju, N., & Prasanna, V. R., 2018. Removal of Cr(VI) from synthetic solutions using water caltrop shell as a low-cost biosorbent. *Separation Science and Technology*, **54(17)** 2783-2799. <https://doi.org/10.1080/01496395.2018.1560333> , IF 2.7
2. Kumar, S., Shahnaz, T., Selvaraju, N., & Prasanna, V. R., 2020. Kinetic and thermodynamic studies on biosorption of Cr(VI) on raw and chemically modified Datura (*Datura Stramonium*) fruit . *Environ Monit Assess.*, **192-248**. <https://doi.org/10.1007/s10661-020-8181-x> , IF-3.3
3. Kumar, S., Patra, C., Selvaraju , N., Prasanna, V. R., 2020. Performance of acid-activated water caltrop (*Trapa natans*) shell in fixed bed column for hexavalent chromium removal from simulated wastewater. *Environmental Science and Pollution Research*, **27**, 28042–28052. <https://doi.org/10.1007/s11356-020-09155-8>, IF-5.19
4. Ajit Kumar, Chandi Patra, Shravan Kumar , Selvaraju Narayanasamy . Effect of magnetization on the adsorptive removal of an emerging contaminant ciprofloxacin by magnetic acid activated carbon. *Environmental Research Volume 206*, 15 April 2022, 112604 DOI: [10.1016/j.envres.2021.112604](https://doi.org/10.1016/j.envres.2021.112604), IF-6.9
5. A Awasthi, V Maheshwari, K Rastogi, K Singh, S Kumar, A Kapoor, Treatment of textile dyes using modified banyan leaf-based biosorbent using batch and intensified batch process: kinetic and isotherm studies, , Biomass Conversion and Biorefinery, 1-16, Biomass Conversion and Biorefinery <https://doi.org/10.1007/s13399-023-05173-x>.
6. Alok Raja, Om Prakash Singh, Abhishek Kumar Lal, Shakti Katiyar, Hemant Kumar Sharma, Shravan Kumar,Rahul. Effect of rice husk ash and ground granulated blast-furnace slag on mechanical properties and resistance to chloride penetration of high strength concrete. *Eur. Chem. Bull.* 2023,12(12), 1883-1893. doi: 10.48047/ecb/2023.12.12.125
7. Dr. Brahmam Pasumarthi¹ , Dr. Shiv Charan Prajapati² , Mr. Alok Raj (Corresponding author)³ , Dr. Reena Saxena⁴ , Dr. Shravan Kumar⁵ , Dr. Rahul. Assessment Of Heavy Metal Contamination In Urban Soil And Its Implications For Human Health. *Migration Letters* Volume: 21, No: S6 (2024), pp. 1671-1692 ISSN: 1741-8984 (Print) ISSN: 1741-8992.

Book

1. Susarla V.A.R. Sastry, Shravan Kumar and Ashish Kapoor. Sustainability in Chemical Processes through Digitalization and Green Chemistry Approaches (2024)
DOI: <https://doi.org/10.52305/HUMP1467>
2. Susarla V.A.R. Sastry, Shravan Kumar, sustainable green chemical technologies challenges and opportunities ,First Published, 2024 ISBN: 978-81-19757-00-8

Book Chapter

1. Shravan Kumar, Rahul, Apoorva Verma, Ira Singhal, Prateek Mishra, Shubhang Shukla, and Manish Singh Rajput , (2022). Sequestering of Heavy Metal Ions from Aqueous Stream by Raw and Modified Lignocellulosic Materials. *Environmental Science and Engineering*, ISBN 978-3-030-96554-9
2. Shravan Kumar, Prateek Mishra, Shubhavi Mishra, Shubhang Shukla, (2022). Mecanism of Metals Sorption by Biochar-mSynergistic Approaches for Bioremediation of Environmental Pollutants: Recent Advances and Challenge. *Devlopments in Applied Microbiology and Biotechnology Elsevier* , 313-330. DOI : [10.1016/b978-0-323-91860-2.00016-6](https://doi.org/10.1016/b978-0-323-91860-2.00016-6)
3. Shravan Kumar, Rahul, Prateek Mishra, Shubhang Shukla, Shambhavi Mishra & Shreya Tirkey (2023) , Application of Microbial-Based Adsorbent for Removal of Heavy Metal from Aqueous Solution, Recent Technologies for Waste to Clean Energy and its Utilization pp 245–264, DOI: [10.1007/978-981-19-3784-2_12](https://doi.org/10.1007/978-981-19-3784-2_12)
4. Shravan Kumar, Rahul, Manish Singh Rajpoot, Shambhavi Mishra, Harshit Kumar Jaiswal & Prateek Mishra,(2023) Bio-hydrogen Production Using Microbial Electrolysis Cell, Recent Technologies for Waste to Clean Energy and its Utilization pp 21–39, DOI: [10.1007/978-981-19-3784-2_2](https://doi.org/10.1007/978-981-19-3784-2_2)
5. Rahul, Reena Saxena, Shravan Kumar, and Dan Bahadur Pal, (2023) Volatile Organic Compounds Impacts on Environment: Biofiltration as an Effective Control Method, Sustainable Valorization of Agriculture & Food Waste Biomass, Clean Energy Production Technologies, https://doi.org/10.1007/978-981-99-0526-3_3
6. Ashish Kapoor , Shravan Kumar, Adarsh Kumar Arya, Vartika Nishad , Hera Fatma , Anshika Gupta, Sakshi Singh , (2024) Microfluidic biosensors for the detection of foodborne pathogens, Biosensors for Foodborne Pathogens Detection A Rapid Detection Approach 2024, Pages 223-246 <https://doi.org/10.1016/B978-0-323-95586-7.00010-1>
7. Shravan Kumar, Prateek Mishra, Hritik Sachan, Reena Saxena, Rahul & Abhishek Kumar Lal (2024) Biodiesel Production from Agricultural Waste Biomass, From Waste to Wealth pp 205–224 , [10.1007/978-981-99-7552-5](https://doi.org/10.1007/978-981-99-7552-5)
8. [Adarsh Kumar Arya](https://doi.org/10.1002/9781394204533.ch10), [Ashish Kapoor](https://doi.org/10.1002/9781394204533.ch10), [Dan Bahadur Pal](https://doi.org/10.1002/9781394204533.ch10), [Anjali Awasthi](https://doi.org/10.1002/9781394204533.ch10), [SVAR Sastry](https://doi.org/10.1002/9781394204533.ch10), [Shravan Kumar](https://doi.org/10.1002/9781394204533.ch10), (2024) Molten Salt Thermal Storage Systems for Solar Energy Concentrators, <https://doi.org/10.1002/9781394204533.ch10>
9. Shravan et al (2024)., CO2 Sequestering and Its Utilization: for Production of Bio-Energy by Microalgae, Sustainability in Chemical Processes through Digitalization and Green Chemistry Approaches, Nova Science Publishers ISBN 979-8-89113-257-3
10. Shravan et al., (2024), The Effect of Clay Idols and Plaster of Paris (Pop) Immersion on Water Quality, Sustainability in Chemical Processes through Digitalization and Green Chemistry Approaches, Nova Science Publishers ISBN 979-8-89113-257-3

Patent

- Design to a solar-powered exhaust cooling fan for car , 1. Dr. S.V.A.R. Sastry , 2. Dr. Pankaj Kumar Gupta, 3. Dr. Shravan Kumar, 4. Mr. Gaurav Singh : Application Number : 378426-001, Publication Date : 01/02/2023
- A method of processing an anti GRAFFITI nano coating for walls. 1.Dr.S.V.A.R.Sastry 2. Dr.Adarsh kumar arya 3. Dr. Shravan Kumar , 4. Dr. Rajkamal Kushwaha 5.Mr.Gaurav Singh. Application no. 202311005854, Publication Date : 10/02/2023
- International Patent Grant on “**A Nanoparticle-based Coating for Corrosion Resistance in Industrial Applications**”, No. 202311032905
- Compact Steam Distillation Assembly for Laboratory Use, Dr.S.V.A.R.Sastry 2. Dr.Ashish Kapoor, 3. Dr. Anjali awasthi, 4. Dr. Shravan Kumar, Application no. 377751-001, Date : 20/01/2023
- SYSTEM FOR RAINWATER MANAGEMENT AND PURIFICATION, Design No. : 396742-001, 1.Mr. Alok Raj 2. Dr. Sharvan Kumar 3.Mr. Sushil Kumar Singh 4.Dr. Abhishek Kumar Lal 5.Ms. Shakti Katiyar 6.Ms. Divya Gupta 7.Shreya Tirkey 8.Mr. Prateek Mishra 9.Mr. Shivam Sharma 10.Mr.Hemant Kumar Sharma
- CARBON CAPTURING DEVICE, Design No. : 396970-001, Date : 07/10/2023, 1.Harcourt Butler Technical University 2. Dr.S.V.A.R.Sastry 3.Dr.Rajiv Ganguly 4.Dr.Shravan Kumar

Conferences

1. Kumar, S., Selvaraju, N., & Prasanna, V. R., (2019). Activated carbon derived from water caltrop shell as a potentially low cost biosorbent for sequestration of Cr(VI) from waste water. *Fourth International Conference on Sustainable Energy & Environmental Challenges*, at CSIR NEERI Nagpur 27-29 November.
2. Kumar, S., Selvaraju, N., & Prasanna, V. R., (2020). Biosorption of Cr(VI) from aqueous solutions by Cassia fistula fruit. *3rd International Conference on Waste Management, Recycle* , at IIT Guwahati Assam. 13-14 February.
3. Kumar, S., Selvaraju, N., & Prasanna, V. R., (2020). Biosorption of Cr(VI) from aqueous solution using activated carbon prepared by Cassia fistula fruit using chemical activation with ZnCl₂ . *National Conference on Issue & Challenges in water Treatment & Allied research for Sustainable Environment*, at IIT Guwahati Assam. 23-25 January.
4. Kumar, S., Selvaraju, N., & Prasanna, V. R., (2019) Removal of Cr(VI) from aqueous solution using Cassia fistula fruit biosorbent, *International Conference on environmental pollution and its control*, 18-19 February 2019 Banswara Rajasthan
5. Shravan et al., (2021) , Encapsulation of microorganisms for the use in bioremediation a review, 17-19, international chemical engineering, NIT Jalandhar
6. Shravan et al., Preparation and Efficacy Testing of Bio-fertilizer, CHEMCON 2023, 27th -30th Dec. 2023, IChE HQ, Kolkata,

7. Shravan et al., Utilization of chemically synthesized activated carbon from Watermelon rinds based agro waste for removal of synthetic dye , CHEMCON 2023, 27th -30th Dec. 2023, IChE HQ, Kolkata
8. Shravan et al., Iron Nanoparticles Derived from Plants Extracts for the Removal of Heavy Metals, CHEMCON 2023, 27th -30th Dec. 2023, IChE HQ, Kolkata
9. Shravan et al., Process for synthesis of in situ Biodiesel from Mahua Oil Seeds, CHEMCON 2023, 27th -30th Dec. 2023, IChE HQ, Kolkata
10. Shravan kumar, Sustainable approach for sequestration of heavy metal ions from aqueous solution, International conference on multidisciplinary Innovative research in Technology and management 2023 , 30th to 31st Oct 2023, SIDVI Foundation
11. Shravan et al., Valorization of Agro-Industrial Waste as Potential Adsorbents for sequestration of heavy metals from aqueous solution, International conference on recent advances in biofuels and biomaterials, October 13-14, 2023, Dr B R Ambedkar National Institute Of Technology, Jalandhar (Punjab), India
12. Shravan et al., A review: Agro-waste valorization and its utilization for the removal of toxic metals from wastewater, International conference on recent advances in biofuels and biomaterials, October 13-14, 2023, Dr B R Ambedkar National Institute Of Technology, Jalandhar (Punjab), India.
13. Shravan et al., Characterization and Production of Single Cell Protein From Microalgae, Sustainable Green Chemical Technologies: Challenges & Opportunities, ISBN: 978-81-19757-00-8,
14. Shravan et al., Catalytic Co-pyrolysis of Biomass and Plastics for Sustainable Biofuels Production: 21 A Comprehensive Review, Sustainable Green Chemical Technologies: Challenges & Opportunities, ISBN: 978-81-19757-00-8,
15. Shravan et al., Study Application and Characteristics of Organic Colloids Materials Sustainable Green Chemical Technologies: Challenges & Opportunities, ISBN: 978-81-19757-00-8
16. Shravan et al., Production of Biodegradable Plastic (PHA) Using Cyanobacteria, Sustainable Green Chemical Technologies: Challenges & Opportunities, ISBN: 978-81-19757-00-8
17. Shravan et al., Conversion of Lignocellulosic Residues into Hydrogen through Biochemical Processes. Sustainable Green Chemical Technologies: Challenges & Opportunities ISBN: 978-81-19757-00-8
18. Shravan Kumar, Recent development in carbon capturing and storage technology, International conferences on climate change and environmental protection Sidvi Foundation, Cert No: ICCEP2024028

Awards section

- Young Scientist awards at International Conference on multidisciplinary innovative research technology and management, October 2023, Sidvi Foundation , Certi No. : ICMIRTM2023034

Invited Lectures and Chairmanships at National or International Conference/ Seminar

- Talk delivered on “Recent advancement and applications of biochar technology for removing emerging contamination in the environment” at School of Applied Sciences Suresh Gyan Vihar University, Rajasthan, India.
- Talk delivered on “Heavy Metals Removals from waste water using adsorption” at Jaipur National University, Jaipur, India.
- Talk delivered on “Bio-economical And Sustainable Approaches For The Sequestration Of Toxic Heavy Metals From Water Systems” in the Bioeconomy 2023 Conference” at IIT Guwahati from 11th October to 12th October, 2023.
- Chairmanships, International Workshop on “Advances in Water Purification & Waste Water Treatment”, 18th - 19th November, 2022, HBTU Kanpur, International
- Chairmanships, CHEMCON Session : water and waste watertreatment, December 27 - 30, Kolkata
- Chairmanships, CHEMCON Session : Biochemical and Bioscience Engineering, December 27 - 30, Kolkata
- Chairmanships, CHEMCON Session: Waste water treatment, 27th – 30th December 2023, HBTU KANPUR, International
- Chairmanships, CHEMCON Session: Waste water treatment, 27th – 30th December 2022, HBTU KANPUR, International
- Chairmanships, CHEMCON Session : Biomass Utilization, 27th – 30th December 2022, HBTU KANPUR, International
- Chairmanships, CHEMCON Session: Energy Conversion and storage, 27th – 30th December 2022, HBTU KANPUR, International.
- Chairmanships, CHEMCON Session : Modelling & Simulation, 27th – 30th December 2022, HBTU KANPUR, International.
- Chairmanships, CHEM-TECHNOVA 2023, 26th - 27th May, 2023, HBTU KANPUR, International.
- Chairmanships, CHEM-TECHNOVA 2023, 26th - 27th May, 2024, HBTU KANPUR, International.

Seminar/ Workshops/FDP/Outreach Activities

- Organized a two day international INDA workshop on RECENT ADVANCES IN WATER PURIFICATION & WASTE WATER TREATMENT, 29th - 30th November, 2023 at HBTU Kanpur as a **convener**
- Organized a two day international conference CHEM-TECHNOVA as a **convener** on “Sustainable Green Chemical Technologies: Challenges & Opportunities” 21 - 23 March, 2024
- Organized a two day international conference CHEM-TECHNOVA on 26 – 28 May 2023 at HBTU Kanpur as a **convener**
- Organized an international conference CHEMCON 2022 at HBTU Kanpur as a **coordinator** in transportation and accommodation committee
- Organized a two day international INDA workshop ‘advance in water purification and waste water treatment’ at HBTU Kanpur, 18th - 19th November 2022, as a **coordinator**
- Organized a national workshop on Modern Analytical Techniques and Their Application for Bio-Chemical, Food Technology, Oil Technology and Related Industries” September 23, 2022 at HBTU Kanpur as a **coordinator**
- Organized a FDP on utilization of microbial potential at HBTU Kanpur as a **coordinator**, 15th 20th December 2022
- Organized a FDP on Sustainable green Chemical Technologies , 21st —25th August, 2023 at HBTU Kanpur as a **coordinator**
- ***Participated in Seminar/ Workshops/FDP and Outreach Activities***
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- Recent innovation in green and sustainable energy, Dayanand Sagar College of Engineering , Bengaluru 23-29 February 2024
- Challenges and recent trends in mathematical modelling and scientific computing, Department of Mathematics, School of Basic and Applied Sciences, HBTU, Kanpur
- *One Week Faculty Development Programme (FDP) on “Advance Pedagogical Learning and University Administration” from 27.05.2024 to 01.06.2024.*
- Attended the “Recent Advance on Bio-inspired Nanoparticle for Environmental Application”, IIT Guwahati, India, 18th December 2020.
- Attended the several Faculty development Programme like at
 - ✓ NIFTEM from 13/09/2021 to 17/09/2021
 - ✓ Siddaganga Institute of Technology from 16/08/2021 to 20/08/2021
 - ✓ Dr. Ambedkar Institute of Technology for Handicapped, from 23/08/2021 to 27/08/2021
 - ✓ National Institute of Technology Raipur, from 13/09/2021 to 17/09/2021
 - ✓
- **Member of transportation committee as a volunteer**, CHEMCON-2015 Conference at Indian Institute of Technology Guwahati.

Work Responsibility at University Level

- *Convener of Hobby Subcouncil under USAC from March 2023 to Present*
- *Traning and Placement incharge at Department level from September 2022 to present*

Membership in Professional body

- Lifetime Associate member of Indian Institute of Chemical Engineer (IChE)
- Membership of Indian Desalination Association

Languages

- English: Fluent (speaking, reading, writing)
- Hindi: Fluent (speaking, reading, writing)

References

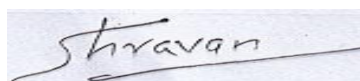
1. Dr. R P Venkatesh , Associate professor in the department of chemical engineering IIT Guwahati ,
Email id : rprasanna@iitg.ernet.in, ☎ + 91 361 258 2280
2. Dr. N. Selvaraju , Assistant professor in the department of BSBE at IIT Guwahati ,
Email id : selva@iitg.ac.in, ☎ +91(361) 2583210
3. Dr. G. Pugazhenth, Professor in the department of chemical engineering IIT Guwahati,
pugal@iitg.ac.in, ☎ +91 (361) 258 2264

Personal Dossier

Name : Shravan Kumar
Father's Name : Jagannath
Date of Birth : 16th April 1986
Gender : Male
Marital Status : Married
Nationality : Indian
Permanent Address : Village Post Nokta Distric Sant Kabir Nagar, Uttar Pradesh, India

Declaration

I hereby declare that the information furnished above is true to the best of my knowledge and belief.



(Shravan Kumar)