

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 Thesis title: Hexavalent Cr(VI) Removal From Waste Water Using Low Cost Novel Adsorbents Thesis supervisors: 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 Thesis title: Study of Gas Adsorption on Carbonaceous material Thesis supervisor: 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

1. Employer's Name : HPCL Green R&D
Dates from/to : 27/09/2021 to 02/08/2022
Employer's Address : Bangalore, Karnataka, India
2. Employer's Name : HPCL BIO FUEL LTD
Dates from/to : 11/01/2011 to 06/08/2012
Employer's Address : Sagauli Bihar, India
3. 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 novel of material using biochar focusing on needs for energy transition related applications to achieve benchmark
- 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 RO, UF ETP.
- 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 and absorbent
- Advanced Separation Technology (Wastewater Treatment)
- Bio Resources Technology & Alternative Energy (Pyrolysis, Hydrodeoxygenation and Biofuels)

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 1.7
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-2.5
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-4
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

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. *Devolpoment in Applied Microbilogy and Biotechnology Elsevier* , 313-330.

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

Seminar/ Workshops

- 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

Invited Lectures

Talk delivered on “Heavy Metals Removals from waste water using adsorption” at Jaipur National University, Jaipur.

Campus Activities

- **Member of an organizing committee**, CHEMCON-2015 Conference at Indian Institute of Technology Guwahati.

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

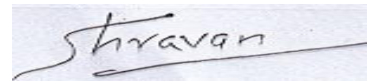
1. Dr. R P Venkatesh , Associate professor in the department of chemical engineering IIT Guwahati ,
Email id : rprasanna@iitg.ernet.in, ☎ +91 361 258 2280
2. Dr. N. Selvaraju , Assistant professor in the department of BSBE at IIT Guwahati ,
Email id : selva@iitg.ac.in, ☎ +91(361) 2583210
3. Dr. G. Pugazhenthir,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

A handwritten signature in black ink, appearing to read 'Shravan', is written over a light blue horizontal line.

(Shravan Kumar)