



School: Engineering and Technology

Department: Chemical Engineering

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Dr. Raghwendra Singh Thakur

Qualifications

Ph.D. , Chemical Engg.	Indian Institute of Technology, Kanpur	2012
M. Tech. , Chemical Engg.	Institute of Technology, Banaras Hindu University	2001
B.E. , Chemical Engg.	Govt. Engg. College Raipur (Now, National Institute of Technology, Raipur)	1998

Area of Interest

- CO₂ Capture, Adsorptive Gas Separation, Process Intensification, Water treatment, Renewable Energy.

Work Experience

- **Assistant professor**, Department of Chemical Engineering, Institute of Technology, Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh, India. **30- Nov-2011 to Present.**
- **Lecturer**, Raipur Institute of Technology, Raipur, C.G., India, **Mar 2004 - Oct 2006**
- **Marketing executive**, Protocol Solutions Pvt. Ltd. Delhi, India, **May 2003-Feb 2004**
- **Visiting lecturer**, Institute of Technology, Guru Ghasidas University, Bilaspur, C.G., India, **July 2001- Jan 2002.**

Award

- Best speaker award at NCNE-2020, national conference, organized by NIT Raipur.

Projects

Ph.D. : Process intensification in Pressure Swing Adsorption (PSA).

M. Tech.: Studies on optimal design of baffled agitated vessel for improved mass transfer.

Selected Publications

1. Neeraj Chandraker, Parmesh Kumar Chaudhari, Ghoshna Jyoti, Raghwendra Singh Thakur, (2022), Defluoridation of water by electrocoagulation using aluminium electrode, Indian Journal of Chemical Technology, 29, (2022), 554-559.
2. Saurabh Meshram, **Raghwendra Singh Thakur**, Ghoshna Jyoti, Chandrakant Thakur, Anupam B. Soni, (2022), Optimization of lead adsorption from lead-acid battery recycling unit wastewater using H₂SO₄ modified activated carbon, J. Indian Chem. Soc. 99 (2022) 100469 <https://doi.org/10.1016/j.jics.2022.100469>
3. Neeraj Chandraker, Parmesh Kumar Chaudhari, Ghoshna Jyoti, Abhinesh Prajapati, **Raghwendra Singh Thakur**, (2021), Removal of fluoride from water by electrocoagulation using Mild Steel electrode, J. Indian Chem. Soc. 98(2021) 100026.
4. Anuradha N. Joshi, Anil K. Chandrakar, Kailash L. Wasewar, **Raghwendra S. Thakur**, Amit Jain, (2020), Extractive recovery of p-coumeric acid using natural and conventional organic solvents. J. Indian Chem. Soc., NCNE -2020 special issue 97, 148-151.
5. Vibha Verma, **Raghwendra Singh Thakur**, Akanksha Agrawal, Parmesh Kumar Chaudhari, (2020), Wet oxidation of coking wastewater: Optimization of degradation parameters through RSM. J. Indian Chem. Soc., NCNE -2020 special issue, 97, 29-33.
6. S. Meshram, D. Katiyar, T. Asha, G.P. Dewangan, A.N. Joshi, **R.S. Thakur**, (2020), Preparation and characterization of activated carbon from spent coffee grounds using NaOH and KCl as activating agent. J. Indian Chem. Soc., NCNE -2020 special issue, 97, 160-163.
7. Saurabh Meshram, Anuradha Nanewar Joshi, Sandeep Dharmadhikari, **Raghwendra Singh Thakur**, (2020), Adsorption of cadmium from water using activated carbon derived from Ipomoea Carnea using chemical impregnation, IOP, conf. Series: Earth and Environmental Science 597, 012005.
8. Neeraj Chandraker, **Raghwendra Singh Thakur**, Saurabh Meshram, Parmesh Kumar Chaudhari, (2020), Removal of fluoride using bagasse adsorbent: Process optimization using response surface methodology. IOP, conf. Series: Earth and Environmental Science 597, 012016.
9. Neeraj Chandraker, Ghoshana Jyoti, **Raghwendra Singh Thakur**, Parmesh Kumar Chaudhari, (2020), Removal of fluoride using flyash adsorbent. IOP, conf. Series: Earth and Environmental Science 597, 012009.

10. Shreyas Gondudey, Parmesh Kumar Chaudhari, Sandeep Dharmadhikari, **Raghwendra Singh Thakur**, (2020), Treatment of sugar industry effluent using electrocoagulation process: Process optimization using response surface methodology. *J. Serb. Chem. Soc.* 85 (0), 1-14.
11. **R.S. Thakur**, Nitin Kaistha, and D.P. Rao, (2015), Novel single-bed and twin-bed pressure swing adsorption systems. **Chemical Engineering and Processing: Process Intensification**. 95, 165–174.
12. **R.S. Thakur**, Nitin Kaistha, Nishith Verma and D.P. Rao, (2011), Process Intensification in Duplex Pressure Swing Adsorption. **Computers and Chemical Engineering** 35,973-983.
13. S. Gadde, **R.S.Thakur**, Nitin Kaistha and D.P. Rao, (2011), Process Intensification in PSA Processes for Upgrading Synthetic Landfill and Lean Natural Gases. **Adsorption** 17, 121-133.
14. **R.S. Thakur**, Nitin Kaistha, Nishith Verma and D.P. Rao, (2010), Process Intensification in Duplex PSA. **Computers Aided Chemical Engineering** 28,1865-1870.

Conference Presentations

1. **R.S.Thakur**, A.N.Joshi, Saurabh Meshram, Ghoshna Jyoti, Amit Jain, “ Understanding pressure swing adsorption based oxygen concentrator”, **CCEEMSGPI**, 10-11th Septemeber, 2021, at Dept of Chemical Engg. SoS, E&T, GGV Bilaspur, India.
2. S. Meshram, D. Katiyar, T. Asha, G.P. Dewangan, A.N. Joshi, **R.S. Thakur**, Preparation and Characterisation of activated carbon from spent coffee grounds using NaOH and KCl as activating agent., **NCNE-2020**, 13-14th February 2020, NIT, Raipur, India.
3. Anuradha Nanewar Joshi, Anil Kumar Chandrakar, **Raghwendra Singh Thakur**, Kinetics studies on adsorption of formic acid using bio-sorbent, Recent advances in biotechnology & biofuels, 12-13 September, 2016, Dept. of microbiology & bioinformatics, Bilaspur University,
4. **Raghwendra S. Thakur**, Mayank Gupta, Saikat Sen, CO_2 capture Using Ionic Liquid Impregnated Zeolite Adsorbent in a 4-bed PSA Process, **CHEMCON 2015** IIT, Guwahati, **India**.
5. **R.S.Thakur**, Mayank Gupta, Priyanuj Bhuyan, Mayank Gupta. Separation of CH_4 - N_2 Mixture Using Pressure Swing Adsorption Process, **CHEMCON 2014**, 27-30 Dec, Punjab University, Chandigarh, **India**.

6. **R.S.Thakur**, R.K.Gupta, D.P. Rao, N. Kaistha. Annular Moving Bed Adsorber for Upgrading Natural Gas, 13 AIChE Annual Meeting, 3-8 Nov, **2013, San Fransico, USA**
7. Vikash Dhanuka, **R.S. Thakur**, A. Chakravarty. Pressure Swing Adsorption: A Promising Technology for CO₂/H₂ Gas Mixture Separation, **CHEMCON 2013**, 27-30 December, ICT Mumbai **India**.
8. **R.S. Thakur**, A. Chakravarty. Separation of CO₂/H₂ Gas mixture using Pressure Swing Adsorption, 8-9 March, **2013 NIT Raipur, India**.
9. **R.S.Thakur**, Nitin Kaistha, and D.P.Rao. Hybrid duplex and molecular gate PSA. **AIChE** annual meeting, 16-21 October, **2011, Minneapolis, USA**.
10. S. Gadde, A. Issac, **R.S.Thakur**, N. Kaistha and D.P. Rao. Process Intensification in PSA Processes. Fundamentals of adsorption10(**FOA10**), 23-28 May, **2010 Awaji, Hyogo, Japan**.
11. **R.S.Thakur**, Nitin Kaistha, Nishith Verma and D.P. Rao. Process Intensification in Duplex Pressure Swing Adsorption. 20th European Symposium on Computer Aided Process Engineering – **ESCAPE20**, 6-9 June, **2010, Ischia, Italy**.
12. A.Issac, **R.S.Thakur**, N.Verma, N.Kaistha, D.P.Rao. Process Intensification in 4-bed PSA, GPE-EPIC ,14-17 June, **2009, Venice, Italy**.
13. **R.S. Thakur**, A. Issac, N. Kaistha, N. Verma, D.P. Rao. Pressure Swing Adsorption for CO₂ Capture from Flue Gas. **Chemcon**, 27-30 Dec, **2008, Chandigarh, India**.

Invited Lectures / Session Chair

- **Session Co-Chair** at international conference **CCEEMSGPI-2021**, Guru Ghasidas Vishwavidyalaya Bilaspur, Chhattisgarh, India.
- **Session Chair** for **CHEMCON-2018**, at NIT Jalandhar, **India**.
- **Delivered lecture** on CO₂ Capture: Adsorption Process, Workshop on Advances in non-conventional energy sources, **2015** Rungta College of Engineering, Chhattisgarh, **India**.
- **Delivered lecture** Modeling and Simulation of Pressure Swing Adsorption Process. Chemical Process Modeling & Simulation (CPMS-14) **2014**, NIT Raipur, **India**.

Administrative Post/Responsibility in the University

- **Coordinator** B.Tech. admission committee for the sessions **2015-16, 2016-17**.
- **Convener** Anti Ragging cum Discipline committee, School of Studies of Engineering & Technology, GGV **2017-18**.
- **Coordinator** Techfest School of Studies of Engineering & Technology, GGV 2017-18.
- **Warden**, Swami Vivekanand Boys Hostel, GGV, Since **March 2018 to November 2022**

- **(I/c) Head Department of Law, GGV, May 2018 to Nov. 2019.**Member Academic Council, GGV, Since Oct, 2021.
- **Coordinator,** Institution of Engineers India Activity Committee, School of Studies of Engg. & Tech. GGV., **Since Nov, 2021.**
- **Co-Coordinator,** ISO Certification committee **2021-23.**
- **Coordinator,** Liquid Waste Management Committee **2021-22.**
- **(I/c) Head** Chemical Engineering, Since **Aug, 2022.**
- **Assistant Director UGC-HRDC, GGV, Since Nov. 2022**