भारतीय प्रौद्योगिकी संस्थान रूड़की
Indian Institute of Technology Roorkee

Amit Kumar Chaurasia (he/his/him)
Address: Subji Mandi Gate,
Rudrapur Deoria, UP 274204, India
+91-9415853361, +91-7500012557
akcnitj@gmail.com, achaurasia@ch.iitr.ac.in
https://orcid.org/0000-0003-1786-3745
https://www.linkedin.com/in/amit-kumar-chaurasia-7786ba18/
https://scholar.google.com/citations?user=zQl_3b8AAAAJ&hl=en
https://www.ncbi.nlm.nih.gov/myncbi/amit%20kumar.chaurasia.1/bibliography/public/
Scopus Author ID: 57203407272
Web of Science ResearcherID: M-3446-2016

Gender: Male
Nationality: Indian
Date of Birth: 10 June, 1987

EDUCATION

Doctor of Philosophy (Chemical Engineering), 2021 from Indian Institute of Technology Roorkee, Roorkee, India.

- Topic: "Biohydrogen Production Using Electrodeposited Cathodes in Microbial Electrolysis Cells". Supervisor: Prof. P. Mondal
- Worked on conversion of waste & wastewater into energy/biohydrogen, chemicals and pharmaceuticals production. Microbiological and biochemical characterization of the waste and wastewater, waste treatment and their disposal.
- Experienced on Culturing of microorganism, Enzyme Production, Fermentation, Ni, Ni-Co, Ni-Co-P cathode nano-catalyst preparation, Bio-electrochemical process such as Fuel Cells, Microbial Electrolysis Cells.
- Have hands on experienced on GC, ions Meter, UV-spectrophotometer, COD/BOD BET, XPS, XRD, SEM/EDX, AAS, and ICPMS and LSV.
- Grade A in PhD Theis by examiners (France) & 7/10 CGPA in course work.

Master of Technology (Chemical Engineering), 2015 from Dr. B. R. Ambedkar National Institute of Technology Jalandhar, India.

- Topic: "Production of Laccase enzymes and immobilization on nano-metal oxide for the removal of Alizarin Red S dyes". Advisor: Dr. Uma Shanker
- Produced Laccase enzyme from the fungus Trimates Versicolor (MTCC 143) on the orange peelings. Green synthesis of nano-metals oxides (Zno, MgO etc.). The laccase enzyme is immobilized on the nano-catalysts for the removal of toxic Alizarin Red S dyes.
- 7.75/10 CGPA.

Bachelor of Technology (Biotechnology Engineering), 2011 from UPTU (IMSEC Ghaziabad) Lucknow, UP India

- UG Project on Production & Process Optimization for α- Amylases Enzyme Production by Filamentous Fungi" and summer training on isolation & quantification of plasmid DNA from E. COLI STRAIN JM107
- Percentage: 63.41.

Intermediate in Science, 2005 from CBSE Board (SSM Gorakhpur, UP) New Delhi India

- Percentage 58.4

Matriculation, 2003 from UP Board (J Inter College Deoria, UP)

- Percentage 63.5

RESEARCH INTERESTS

My research interests lie in the conversion of waste materials into useful products such as energy/biohydrogen generation, valuable chemicals and pharmaceuticals production. Waste and wastewater analysis, treatment and their disposal. Explore the waste materials for the production of food, chemicals and energy-carriers. Discover how to use microorganisms and catalysts to create biobased products. My aims are to discover new materials (nano-catalyst) with potentially useful physical and chemical properties that improve resource recovery efficiency and ensure that materials are used efficiently at all stages of their lifecycle (extraction, transport, manufacturing, consumption, recovery and disposal).

PROFESSIONAL EXPERIENCE

- **3+ year industrial experience**: Working as Research Associate with AlchemiCarbons Noida, India since 10th December, 2018 to 25th March, 2022: Industrial wastewater treatment and analysis as well as industrial wastewater treatment plant designing.
- Teaching assistant at online certification courses **NPTEL** "Technologies for Clean and Renewable Energy" 2019.
- Teaching assistant (two times) at online certification courses **NPTEL** "Waste to Energy Conversions" 2017 & 2018.
- Worked as Lab Processing Executive with Thyrocare Technologies Limited Navi Mumbai from 24 December 2012 to 30 July 2013.
- Worked as science communicator on mobile exhibition train science express biodiversity special 2012 at VASCSC Ahmadabad Gujarat 27th may 2012 to 22nd December 2012 (DST and MoEF Govt. of India).
- Worked as Lab Processing Executive with Thyrocare Technologies Limited Navi Mumbai from 01 July 2011 to 30 April 2012.
- Teaching Assistant in Energy Engineering, Environmental impact assessment, Waste to Energy Conversion, Technologies for Clean and Renewable Energy, Mechanical operation, Fluid mechanic, Heat transfer and Mass transfer, C++, MATLAB subject/Lab at Indian Institute of Technology Roorkee, India (PhD TA program).
- **Software**: C^{++}, MATLAB, GaBi (Life Cycle Assessment), Design-Expert (DOE), Linux, Origin, Chemdraw.

AWARDS / SCHOLARSHIPS

- Session Chair, Scientific and organizing committee member at **9th International Conference on Chemical and Biological Sciences (ICCBS 2022) Tokyo, Japan.** (http://www.iccbs.org/committee.html)
- Scientific and organizing committee member at International Current Research Symposium (ICRS,22), Istanbul, Turkey. (https://ugasempozyum.org/kurullar%2Fcommittiees)

- **A Grade in PhD Thesis** from Examiner (France), 2021
- **Amit Kumar Chaurasia**, P. Mondal, **Best Oral Awards** on "Simultaneous removal of organic load and hydrogen gas production using Ni, Ni-Co and Ni-Co-P electrodeposits cathodes in MEC", Chemical Constellation Cheminar, 12-13 October 2019, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar Indian**.**
- Got financial support from **SERB-DST Govt. of India**, to participate in "3rd International Symposium on Sustainable Hydrogen, **Algiers Algeria** (27-28 November, 2019).
- Got financial support from **IIT Roorkee India-Alumni**, to participate in International Conference (SEGT-2019) in Bangkok, Thailand in 2019.
- Received Institute Fellowship by Ministry of Human Resource Development (Government of India) for pursuing Doctorate of Philosophy (July 2015 to June 2020).
- Received GATE Fellowship by Ministry of Human Resource Development (Government of India) for pursuing Master of Technology (July 2013 to June 2015).
- Qualified **GATE 2013** in Biotechnology with Gate Score 343.
- Senior Member of **Hong Kong Chemical, Biological & Environmental Engineering Society** (HKCBEES: 101865).

PUBLICATIONS

Publications

1. Rani, M., Shanker, U. and **Chaurasia, A.K**., 2017. Catalytic potential of laccase immobilized on transition metal oxides nanomaterials: degradation of alizarin red S dye. **Journal of environmental chemical engineering**, 5(3), pp.2730-2739.

https://doi.org/10.1016/j.jece.2017.05.026

2. **Chaurasia, A.K**., Goyal, H. and Mondal, P., 2020. Hydrogen gas production with Ni, Ni–Co and Ni–Co–P electrodeposits as potential cathode catalyst by microbial electrolysis cells. **International Journal of Hydrogen Energy**, 45(36), pp.18250-18265.

https://doi.org/10.1016/j.ijhydene.2019.07.175

3. **Chaurasia, A.K**. and Mondal, P., 2021. Enhancing biohydrogen production from sugar industry wastewater using Ni, Ni–Co and Ni–Co–P electrodeposits as cathodes in microbial electrolysis cells. **Chemosphere**, 286(3), pp.131728.

https://doi.org/10.1016/j.chemosphere.2021.131728

4. **Chaurasia, A.K**., Ravi Shankar and P. Mondal, 2021. Effects of Ni, Ni-Co and Ni-Co-P electrodeposits as cathodes for enhancing hydrogen production in MEC using real paper industry effluent. **Journal of Environmental Management,** (298) 113542.

https://doi.org/10.1016/j.jenvman.2021.113542

5. **Chaurasia, A.K**., Puneet Siwach, Ravi Shankar, and Prasenjit Mondal. 2021. Effect of pre-treatment on mesophilic anaerobic co-digestion of fruit, food and vegetable waste. **Clean Technologies and Environmental Policy**, 1-14.

https://doi.org/10.1007/s10098-021-02218-5

6. **Chaurasia, A.K**., Puneet Siwach, and Prasenjit Mondal. 2021. Effectiveness of the pretreatment methods on mesophilic anaerobic co-digestion of fruit, food and vegetable waste.

https://doi.org/10.21203/rs.3.rs-157978/v1

Books/Chapters/ Articles etc.

7. Kachroo, H., **Chaurasia, A. K**., Chaurasia, S. K. & Yadav, V. K. 2021. Application of nanomaterials in the clean energy generation from waste and renewable resources. Handbook of Green and Sustainable Nanotechnology, **Springer**. (Accepted)
8. **Chaurasia, A.K**. and Mondal, P. 2021. Advances in waste to clean energy conversion technologies for the sustainable environment. Clean Technologies and Sustainable Development in Civil Engineering. **IGI Global**. (Accepted)
9. **Chaurasia, A.K**. and Mondal, P. 2021. Hydrogen production from waste and renewable resources." In Hydrogen Fuel Cell Technology for Stationary Applications, 22-46. **IGI Global**.

https://doi.org/10.4018/978-1-7998-4945-2.ch002

10. **Chaurasia, A.K**. and Mondal, P. 2020. Simultaneous Removal of Organic Load and Hydrogen Gas Production Using Electrodeposits Cathodes in MEC. In Advances in Renewable Hydrogen and Other Sustainable Energy Carriers, pp. 263-269. **Springer**, Singapore.

https://doi.org/10.1007/978-981-15-6595-3_34

11. A. Kadier, **Chaurasia, A.K**., S.M. Sapuan, R.A. I, Jayesh M. Sonawane, M. S Kalil, P. K. Rai, W. Logroño, H. A. Hasan and A. A. Hamid. 2020. Essential Factors for Performance Improvement and the Implementation of Microbial Electrolysis Cells (MECs), **Springer**, Singapore, pp. 139-168.

https://doi.org/10.1007/978-981-15-6872-5_7

12. Shankar, R., Pathak, N., **Chaurasia, A. K**., Mondal, P., & Chand, S. 2017. Energy Production through Microbial Fuel Cells. Sustainable Utilization of Natural Resources, 353.

https://doi.org/10.1201/9781315153292

13. Mondal, P., Kumari, P., Singh, J., Verma, S., **Chaurasia, A. K**., & Singh, R. P. 2017. Oil from Algae. Sustainable Utilization of Natural Resources, 213.

https://doi.org/10.1201/9781315153292

International conference

1. **Amit Kumar Chaurasia**, P. Mondal, **Oral** presentation on "Simultaneous removal of organic load and hydrogen gas production from paper-pulp industry wastewater by electrodeposits cathodes in MEC", at International Conference on Sustainable Energy and Green Technology (**SEGT 2019**), December 11-14, 2019, **Bangkok, Thailand.**
2. **Amit Kumar Chaurasia,** P. Mondal, Oral presentation on "Hydrogen Gas Production from Paper–Pulp Industry Wastewater by Electrodeposited Cathodes in MECs", XXXXIII National Systems Conference (**NSC-2019**) on Innovative and Emerging Trends in Engineering Systems December 6-8, 2019, organized by Department of Mechanical & Industrial Engineering, **IIT Roorkee.**
3. **Amit Kumar Chaurasia**, Puneet Siwach, P. Mondal, **Oral** presentation on "Biogas production through anaerobic digestion of fruit food and vegetable waste (FFVW) using mesophilic microorganism", at International Conference on Energy, Environment & Material Sciences (**ICE2M 2019**), December 1-3, 2019, **MMMUT, Gorakhpur UP India.**
4. **Amit Kumar Chaurasia**, P. Mondal, **Oral** presentation on "Simultaneous removal of organic load and hydrogen gas production using electrodeposits cathodes in MEC", at

3rd International Symposium on Sustainable Hydrogen (**ISSH2**) **Algiers, Algeria**, 27-28, November, 2019.

5. **Amit Kumar Chaurasia,** P. Mondal, **Best Oral Presentation Awards** on "Simultaneous removal of organic load and hydrogen gas production using Ni, Ni-Co and Ni-Co-P electrodeposits cathodes in MEC", Chemical Constellation Cheminar, 12-13 October 2019, Dr. B. R. Ambedkar National Institute of Technology, Jalandhar India.
6. **Amit Kumar Chaurasia**, P. Mondal. Oral presentation on "Hydrogen production in microbial electrolysis cells using non-precious metal electrodeposit as cathode" in **Newton Bhabha Fund Researcher Links Workshop**, 30th November – 5th December 2018, Howard Plaza: The Fern, Agra, India.
7. Attained **MHRD-GIAN** course on "Membrane separations for the desalination of water: Materials, processes, applications and transport theory" in October 29-November 02, 2018 organized by Department of Chemical Engineering IIT Roorkee.
8. Attained "**COP XI**" Convention on Biological Diversity Hyderabad INDIA 2012 as "**OBSERVER STATUS**" in 08-19 October 2012 organizes by Ministry of Environment & Forest Govt. of India.

National Conference/Seminar/Workshop

9. Worked as **Volunteer** in MHRD-TEQIP sponsored course on "System Thinking and Environmental Engineering for Sustainable Decision Making" in June 03 – June 07, 2019 organized by Department of Chemical Engineering IIT Roorkee.
10. Attained Two days dedicated workshop on "Research Fundamentals: Innovation and Entrepreneurship" on 13-14 October, 2018 organized by Sponsored Research and industrial Consultancy, Indian Institute of Technology Roorkee, Roorkee, India.
11. Attained Indo-French Thematic School on the theme "Water treatment technologies for water challenged sites in India: Opportunity for research-based solutions" on 25-02-2017 organized by Department of Chemical Engineering IIT Roorkee.
12. Attained ISTE Engineering Education Congress & National Seminar on sustainability of Engineering Education in 26-27, March, 2015 at NIT Jalandhar PUNJAB.
13. Attained one-day workshop on" Filter Media Characterization &Technology Transfer Event" in 15 December 2014 at NIT Jalandhar PUNJAB.
14. Attained Short Term Course on" Frontier in Chemical Science and Technology" in 08-14 December 2014 at NIT Jalandhar PUNJAB.
15. Attained one-week training program on" Emerging Trends of Research in Electronics and Communication" in 01-05 December 2014 at NIT Jalandhar PUNJAB.
16. Attained one-week ISTE-SRM Short term training program on" Recent Advances in Hydrocarbon Engineering" in 11-15 September 2014 at NIT Jalandhar PUNJAB.
17. Attained short term training program on" Recent Advanced in Energy Technology" in 02-06 June 2014 at NIT Jalandhar PUNJAB.

REFERENCES

- **Prof. Shri Chand**

Ret. Professor
Dept. of Chemical Engineering, Indian Institute of Technology Roorkee, Roorkee, 247667, India

M +91-9897119834, **E: schanfch@gmail.com**

- **Prof. Swati Mohapatra,**
  Research Professor

Zoonosis Research Centre, Dept. of Infection Biology, School of Medicine, Wonkwang University, Iksan-daero, Iksan-si, Jeollabuk-do Republic of Korea-54538
M +91-8447545514, +91-8755919925, +91-7978901692
E:swatimohapatraiitr@gmail.com, smohapatra@amity.edu

- **Prof. Partha Roy**

Professor
Dept. of Biotechnology Engineering, Indian Institute of Technology Roorkee, Roorkee, 247667 India
Tel: +91-1332-285686, M +91-9760421411
E: partha.roy@bt.iitr.ac.in

- **Prof. C. B. Majumder**

Professor
Dept. of Chemical Engineering, Indian Institute of Technology Roorkee, Roorkee, 247667, India
Tel: +91-1332-285321, M +91-9412074970
E: chandrajit.balomajumder@ch.iitr.ac.in, chandfch@gmail.com

- **Mr. Bhola Mishra**

Director,
Alchemi Carbons,
G-499, Sector Alpha Rd, Block E, 2, Greater Noida, Uttar Pradesh 201308, India
M +91-9646732706, **E:** bholamishra@alchemicarbons.com

- **Sunil Kumar Sharma**

Assistant Professor
National Academy of Indian Railways (NAIR) Campus Lalbaug, Vadodara – 390 004, Gujarat, India, M +91-8265800900, **E:** sk.sharma@nrti.edu.in

DECLRATION

I confirm that the information provided by me is true to the best of my knowledge and belief

Amit Kumar

Place: Deoria

Date: *30/03/2022* (AMIT KUMAR CHAURASIA)