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NATIONALITY
Indian

LANGUAGE
Hindi, English

EDUCATION

B. Tech	Dr. AITH, UPTU, Kanpur, Uttar Pradesh, India	2013
M. Tech	RGPV, Bhopal, Madhya Pradesh, India	2015
Ph.D.	National Institute of Technology Raipur (NITRR), Chhattisgarh, India	2021

RESEARCH INTEREST

Development of sensing/Biosensing tools for point of care diagnosis, Nanomaterial/ Biomaterial synthesis and characterization, Chromatin biology, Epigenetics

EXPERIENCE

IISER Bhopal	**Institute Post-Doctoral Fellow**	Feb 2022-Present
CSIR - Indian Institute of Toxicology Research	**Senior Project Associate**	Aug 2021-Jan 2022
National Institute of Technology Raipur (NITRR), Chhattisgarh, India	**Research Scholar**	Aug 2016- May 2021

RESEARCH PROJECTS ONGOING/ COMPLETED

1. Architecting of Cys@IOX-DNA/Apt based screen-printed electrochemical biosensor for identification of *Salmonella enteritis* in real sample (Post-doctoral research)
And
Stress induce toxicity in *Saccharomyces cerevisiae* (Post-doctoral research)
2.Phytochemical based degradation of biofilm forming bacteria (Post-doctoral research) and
Mitigation of tannery effluent with simultaneous generation of bioenergy using dual chambered microbial fuel cell: a sustainable green approach (Post-doctoral research)
3. Development of Biosensing tool for arsenic detection (Ph.D. research)
4. Eradication of heavy metal from contaminated tannery soil through *Gossypiyum Hirsutum* induced phytoremediation (during M. Tech)
5. Isolation of alpha amylase producing bacteria and production and purification of alpha amylase (during B. Tech)

KEY SKILLS

- Electrochemical techniques (CV, LSV)
- Arduino microcontroller based circuit design
- Nanoparticle synthesis and characterization
- SEM, TEM, XRD, FTIR
- Silica Gel Chromatography
- Immobilization techniques
- Process optimization (RSM)
- Enzyme kinetics study
- Electrophoresis: AGE, SDS-PAGE and native-PAGE
- DNA, RNA, Plasmid isolation
- Polymerase chain reaction (PCR)
- Phylogenetic analysis
- Protein purification techniques (Chromatography)
- Microbial culturing and maintenance
- Metabolic Profiling
- Chromatin IP
- Scientific writing

AWARDS & SCHOLARSHIPS/ MEMBERSHIPS

- **Junior Research Fellowship** (2016-18) and **Senior Research Fellowship** (2018-21) from the Ministry of Human Recourse Development, Govt. of India for perusing PhD at NITRR, Chhattisgarh, India.
- **Institute Post Doctoral Fellowship** (2022) at IISER Bhopal
- Best oral Presentation in BRSI BREEECH 2021
- 2nd prize in oral presentation (CSIR-IITR) 2021
- **Young scientist award 2019 (17 Chhattisgarh young scientist congress)**
- Best oral presentation (BESCON IITB 2018)
- Won 2nd prize in oral presentation (Biogenics 2013)
- Best poster presentation (ICGSE2 2013)
- 3rd prize for poster presentation (RGPV 2015)
- 1 st prize in debate competition (RGPV 2015)
- 1st position in table tennis (2010)
- 2nd Prize in Hindi poetry writing (NITRR-2021)
- Post-graduate member of IEEE nanotechnology council

LIST OF PUBLICATIONS

Chauhan, S., Sharma, V., Varjani, S., Raveendran, S., Chaturvedi, P., 2022. Mitigation of tannery effluent with simultaneous generation of bioenergy using dual chambered microbial fuel cell. Bioresource Technology, 127084.

Zhou, Y., Li, W.B., Kumar, V., Necibi, M.C., Mu, Y.J., Shi, C.Z., Chaurasia, D., **Chauhan, S.,** Chaturvedi, P., Sillanpää, M. and Zhang, Z., 2022. Synthetic organic antibiotics residues as emerging contaminants waste-to-

resources processing for a circular economy in China: Challenges and perspective. Environmental Research, 113075.

Singh A., **Chauhan, S.,** Varjani, S., Pandey, A., & Chaturvedi, P. (2022) Integrated approaches to mitigate threats from emerging potentially toxic elements: a way forward for sustainable environmental management. *Environmental Research*, 209, 112844.

Neogi, S., Sharma, V., Khan, N., Chaurasia, D., **Chauhan, S**., Ahmad, A., Singh, A., You, S., Pandey, A. & Chaturvedi, P. (2022) Sustainable biochar: A facile strategy for soil and environmental restoration, energy generation, mitigation of global climate change and circular bioeconomy. *Chemosphere*., 293, 133474.

Chauhan, S., & Upadhyay, L. S. B. (2022). A sensitive conductivity sensor for arsenic detection in environmental samples. *Microelectronic Engineering*, *253*, 111674.

Chauhan, S., & Upadhyay, L. S. (2021). The quest for reusability: The facile and stable immobilization of papain on cysteine functionalized iron oxide nanoparticles activated glass surface. *Indian Journal of Biochemistry and Biophysics (IJBB)*, *58*(2), 141-147.

Chauhan, S., & Upadhyay, L. S. B. (2020). Biosensor: A Boon for Heavy Metals Detection in Natural Water Reservoirs at Higher Altitudes. *Microbiological Advancements for Higher Altitude Agro-Ecosystems & Sustainability*, 393-410.

Chauhan, S., Kumar, D. N., & Upadhyay, L. S. (2019). Facile synthesis of iron oxide nanoparticles using Lawsonia inermis extract and its application in decolorization of dye. *BioNanoScience*, *9*(4), 789-798.

Chauhan, S., & Upadhyay, L. S. B. (2019). Biosynthesis of iron oxide nanoparticles using plant derivatives of Lawsonia inermis (Henna) and its surface modification for biomedical application. *Nanotechnology for Environmental Engineering*, *4*(1), 8.

Chauhan, S., Sahu, R., & Upadhyay, L. S. (2019). Medicinal Plants: A Potent Antimicrobial Source and An Alternative to Combat Antibiotic Resistance. In *Ethnopharmacology and Biodiversity of Medicinal Plants* (pp. 239-264). Apple Academic Press.

Upadhyay, L. S. B., Kumar, N., & **Chauhan, S.** (2018). Minireview: whole-cell, nucleotide, and enzyme inhibition-based biosensors for the determination of arsenic. *Analytical Letters*, *51*(9), 1265-1279.

Chauhan, S., & Upadhyay, L. S. B. (2018). An efficient protocol to use iron oxide nanoparticles in microfluidic paper device for arsenic detection. *MethodsX*, *5*, 1528-1533.

PRESENTATION OF RESEARCH WORK

1st annual conference of society of professional biotechnology	Lajpat Bhawan	Transgenic Bt cotton
Biogenics 2019	Dept. of Biotechnology, A.I.T.H Kanpur	Artificial Seeds
World Biotechnology Congress (WBC 2017)	JNU, New Delhi	Biosensor an emerging technology for rapid identification of therapeutic agents
Biological Engineering society Conference and Annual meeting (BESCON 2018)	IIT Bombay, supported by CSIR	Paper based analytical device: a sustainable and instrument free approach for colorimetric detection of arsenic

Application of Biotechnology in Industry and Society (ABIS – 2019)	NIT Jalandhar in collaboration with University of Florence, Italy	Electrochemical sensing of arsenic using iron oxide nanoparticle implanted screen printed carbon electrode
International Conference on Recent Advances in Biotechnology and Biochemistry (ICRABB 2020)	NIT Raipur	The quest for reusability: The facile and stable immobilization of papain on cysteine functionalized iron oxide nanoparticles activated glass surface
BREEECH 2021	IIP Dehradun	Sustainable and "environment friendly" approach for harvesting bioenergy with simultaneous remedial of tannery effluent

TRAININGS & WORKSHOPS

- Mass spectroscopy-based proteomics
- Basics of electron microscopy
- Manufacturing technologies for tissue enhineering and drug delivery system
- Elctrochemical analysis
- Arduino prohramming
- 3D printing and design in engineering applications (3DPDEA-2019)
- Workshop on electrochemical techniques for energy, sensor, and corrosion applications
- Enzymology
- Business skill development programme
- Basic molecular biology and biotechnology

REFERENCES

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