

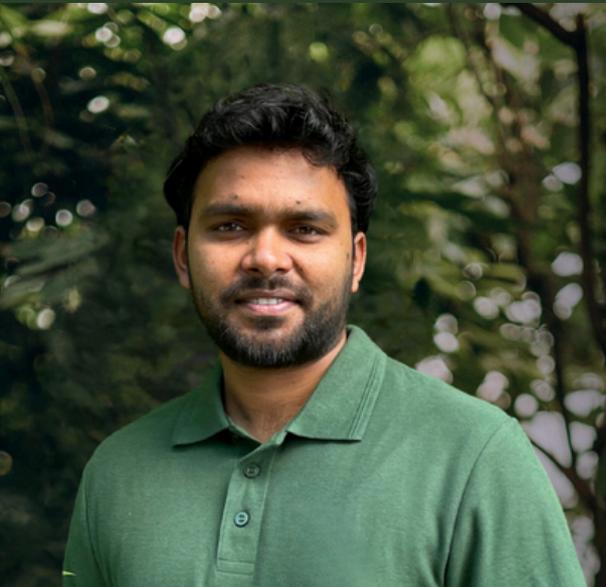
## CONTACT ME



 [kumarm@ftz.czu.cz](mailto:kumarm@ftz.czu.cz)

 +420 728860039

 [Manvendra Kumar](#)



## HIGHLIGHTS

- PhD research focused on Intensification of Anaerobic Digestion using multi-waste co-digestion, thermal and alkali pretreatment strategies
- Hands-on experience with CSTR bioreactors and batch anaerobic digestion systems
- Two years industrial experience in full-scale Wastewater Treatment Plant (WWTP) operations
- Published first peer-reviewed journal article (2025)
- Contributed book chapter with Elsevier publication
- Oral presentations at international multidisciplinary research conferences (2024, 2025)

# Manvendra Kumar

PhD Student & Junior Researcher



## RESEARCH & PROFESSIONAL EXPERIENCE

### BRT Junior Researcher & PhD Student

BioResources & Technology Division at FTZ/ČZU v Praze

- Research on co-digestion, thermal & alkali pretreatment
- Operation of CSTR bioreactors
- Batch biomethane potential (BMP) assays
- Substrate characterization & digestion kinetics
- Experimental design & research framework development

### Wastewater Treatment Plant Engineer

(2020–2022) Baddi, Himachal Pradesh, India

- Two years of hands-on experience in WWTP operations
- Deep knowledge of nitrification–denitrification processes
- Anaerobic digestion process control
- Sludge management & biogas optimization

### Intern – Wastewater Treatment Plant (2025)

Varanasi, India

- Large-scale anaerobic digestion operations
- Bioreactor design and optimization
- Maximization of biogas production

### Junior Research Scholar (2015)

Innovation Project DBC 305

- “Recycling of Organic Matter from Religious Activities to Save Water Bodies of Delhi”

### INSPIRE Intern (2015–2016)

- Ministry of Science & Technology, Government of India

## CONTACT ME

 kumarm@ftz.czu.cz

 +420 728860039

 <https://bit.ly/3Us85il>

## TEACHING EXPERIENCE

- **Teaching Assistant**

(Part-Time) (2014–2017)

Private Coaching Institutes

Subjects: Environmental Science & Biology

Level: Secondary & Undergraduate



## EDUCATION HISTORY

### Ph.D. in Anaerobic Digestion Specialization

Department of Food and BioResource Technology,

Czech University of Life Sciences, Prague

Ongoing

- Prague, Czech Republic
- Dissertation research on “Intensification of anaerobic digestion of combined different wastes”

### Masters in Environmental Sciences

Himachal Pradesh University, Shimla

Year of Graduation: 2020

- *Himachal Pradesh, India*
- Dissertation research on “Photocatalytic degradation of organic pollutant (Thiamethoxam Insecticide) in water using Tio<sub>2</sub> and doped Tio<sub>2</sub>”

### Bachelors in Zoology (Hons)

University of Delhi

Year of Graduation: 2017

- Delhi, India
- Degree in Bsc (Hons) Zoology



## LANGUAGE SKILLS

- **English** - Advance level
- **Hindi** - Native speaker

# TECHNICAL & RESEARCH SKILLS

## Core Research Skills

- Anaerobic Digestion Intensification
- Co-Digestion Strategies
- Thermal & Alkali Pretreatment
- CSTR Bioreactor Operation
- Batch Biomethane Potential (BMP) Assays
- Nitrification & Wastewater Treatment Processes
- Experimental Design & Research Methodology
- Data Interpretation & Scientific Reporting

## Laboratory & Analytical Skills

- Substrate characterization
- Process monitoring & kinetic analysis
- Field and lab experiment management

## Software & Tools

- MS Excel (Data analysis)
- MS Office Suite
- Scientific data processing tools
- Research documentation & reporting

## Additional Skills

- Scientific presentation design
- Website development (WordPress)
- Film making and video editing
- Public speaking & team management

# CONFERENCE PRESENTATIONS

## Oral Presentation – MCYR 2025

- Theme: Plants & Agriculture
- Title: Intensification of Anaerobic Digestion of Indian Jujube Waste through Co-Digestion, Thermal and Alkali Pretreatment Strategies

## Oral Presentation – MCYR 2024

- Theme: Resilience in the Face of Global Challenges

## Poster Presentation – Himachal Science Congress (2018)

### IIT Mandi

- Topic: Vulnerable Tropical Rainforest: Amazon

## National Symposium – University of Delhi (2016)

- Third Prize
- Topic: Arctic Ice Amplification

## CONTACT ME

 kumarm@ftz.czu.cz

 +420 728860039

 <https://bit.ly/3Us85il>



## LIST OF SCIENTIFIC PUBLICATIONS

### Peer-Reviewed Journal Article

Kumar, M. (Last Author). (2025).

Zinc contamination in soils and its implications on plant phytoalexins

International Journal of Environmental Science and Technology, 22(9).

DOI: 10.1007/s13762-025-06437-x

### Book Chapter

Kumar, M. (2024).

Bio-Based Fertilizers from Food and Agro-Industrial Wastes  
In: Food and Agro-Industrial Wastes: Sustainable Impacts, Transformation and Added Value of By-Products (Elsevier), Chapter 18.

### Conference Proceedings

- Groundwater Modifications in Shimla – IGWC, IIT Roorkee (2019)
  - Future of Himalayan Cryosphere Using Remote Sensing Techniques – NIBS (2019)
  - Green Chemistry in Environmental Sustainability – University of Delhi (2016)
- . Research proceedings in conference MCYR 2024 and 2025

## CONTACT ME



kumarm@ftz.czu.cz



+420 728860039



<https://bit.ly/3Us85il>