

Satya Brat Tiwari

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Nanyang Environment & Water Research Institute (NEWRI), Nanyang Technological University Singapore

Education

Year	Degree	Institution	CGPA
2024 (expected)	PhD (Interdisciplinary research)	Nanyang Technological University (NTU) Singapore	4/5
2020	M.Tech. (Environmental Engineering)	IIT Roorkee, India	9.64/10
2013	B.Tech. (Civil Engineering)	Indian Institute of Technology (IIT) Roorkee, India	8.72/10

Research experience

Phosphorus recovery from sewage sludge using thermochemical treatment | NTU Singapore Aug 2020 – Present
PhD thesis: Synergetic application of alum sludge and sequential extraction for phosphorus recovery from the sewage sludge char. Pyrolysis and hydrothermal treatment conducted for obtaining the char.

Thermophilic anaerobic co-digestion of agro-waste: Role of DIET | IIT Roorkee May 2019- Jun 2020
Master's thesis: Study the role of conducting materials in promoting Direct Interspecies Electron Transfer (DIET) during anaerobic co-digestion of agro-waste (wheat husk) with sewage sludge.

The Delhi Air Pollution: Health and Effects (DAPHNE) | IIT Kanpur Dec 2017- Jun 2018
A multi-disciplinary project led by the University of Edinburgh (UK) to study the effect of air pollution in the city of Delhi on the health of pregnant mothers and their new-born children and asthmatic adolescents. Our role (IIT Kanpur team) was to collect, process and interpret air quality parameters like PM2.5, PM10, pollutant gases, etc.

Selected publications

- Tiwari, S.B., Hooper, T.J., Veksha, A., Chan, W.P., Fei, X., Liu, W., Lisak, G. and Lim, T.T., 2023. Sequential wet extraction of phosphorus from sewage sludge using alum sludge: Reassessing the aluminium-phosphorus speciation using experimental and simulation approach. *Chemical Engineering Journal*, 459, p.141569.
- Tiwari, S.B., Dubey, M., Ahmed, B., Gahlot, P., Khan, A.A., Rajpal, A., Kazmi, A.A. and Tyagi, V.K., 2021. Carbon-based conductive materials facilitated anaerobic co-digestion of agro waste under thermophilic conditions. *Waste Management*, 124, pp.17-25.

Notable achievements

- Fellow, Imperial-TUM-NTU Global Fellows Program 2022
- Among the toppers throughout the academic career. All India Topper, NPTEL Online course.

Skills

- Instruments: ICP-OES, ICP-MS, FTIR, XRD, UV-Vis, Bomb calorimetry, TOC analyzer, NMR, XPS
- Softwares: Design Expert, Visual MINTEQ, RStudio
- Languages: English (S/R/W) , Hindi (S/R/W)

References

PhD supervisor:
Dr Teik-Thye (T.T.) Lim
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