

Profile

Asit Mandal



Designation: Scientist
Division of Soil Biology

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Research specialization:

- Exploring endophytic microbes for Bioremediation and biodegradation of soil pollutants
- Assessment of soil health and microbial biodiversity for improving nutrient use efficiency
- Impact of climate change on soil health and rhizosphere biology

Professional Experience:

I have over ten years of research experience in the research area related to soil microbial biodiversity and bioremediation of soil contaminants. I have developed expertise in the area of soil microbiology especially soil enzymes affecting nutrient availability and soil health and I have also extensively studied on the bio/phyto-remediation of heavy metal contaminated site.

Awards and Honours:

2018	Received early carrier research award funded by DST-SERB, New Delhi.
2017	Received recognition of certificate of outstanding contribution in reviewing and reviewer recognition for the journal Chemosphere, Elsevier Journal
2015	Received Best Oral Presentation Award in the Second International Conference on Bio-resource and Stress Management, Hyderabad, India
2014	Received international travel support by SERB-DST for participation in the 20 th World Congress of Soil Science (20WCSS) at ICC Jeju, Korea
2013	Received international training fellowship sponsored by ICAR- NAIP conducting research at University of South Australia, Adelaide, Australia
2013	Received Bharat Jyoti Award of India International Friendship Society held at New Delhi on June 10, 2013

- 2010 Received **ISSS Best Doctoral Research Presentation Award** during 75th Annual Convention of Indian Society of Soil Science held at IISS, Bhopal on 14-17th November, 2010
- 2010 Received **Dr. S. P. Raychaudhuri Gold Medal Award**, 2010 (for Ph.D. thesis) by the Delhi Chapter, Indian Society of Soil Science

Top Ten publications:

- i. **Asit Mandal**, B Sarkar, G Owens, JK Thakur, MC Manna, NK Niazi, J Somasundaram, AK Patra (2020). Impact of genetically modified crops on rhizosphere microorganisms and processes. *Applied Soil Ecology* 148, p.103492
- ii. MC Manna, A Sahu, N De, JK Thakur, **Asit Mandal**, S Bhattacharjya, A Ghosh, MM Rahman, R Naidu, UB Singh, R Dakhli, MP Sharma, S Misra (2020). Novel bio-filtration method for the removal of heavy metals from municipal solid waste. *Environmental Technology & Innovation*. 18. 100619
- iii. V Baghel, JK Thakur, SS Yadav, MC Manna, **Asit Mandal**, AO Shirale, P Sharma, NK Sinha, M. Mohanty, AB Singh, AK Patra (2020). Phosphorus and potassium solubilization from rock minerals by endophytic Burkholderia sp. strain FDN2-1 in soil and shift in diversity of bacterial endophytes of corn root tissue with crop growth stage *Geomicrobiology Journal*. doi.org/10.1080/01490451.2020.1734691
- iv. **Asit Mandal**, JK Thakur, A Sahu, MC Manna, AS Rao, B Sarkar, AK Patra (2019). Effect of Bt-cotton on biological properties of vertisols in central India. *Archives of Agronomy and Soil Science*.65(5):670-685
- v. A Sahu, MC Manna, S Bhattacharjya, JK Thakur, **A Mandal**, MM Rahman, UB Singh, VK Bhargav, S Srivastava, AK Patra, SK Chaudhari, SS Khanna (2019). Thermophilic Ligno-Cellulolytic Fungi: The future of Efficient and Rapid Bio-Waste Management. *Journal of Environmental Management*. 244:144-153
- vi. **Asit Mandal**, TJ Purakayastha, AK Patra, B Sarkar (2018). Arsenic phytoextraction by *Pteris vittata* improves microbial properties in contaminated soil under various phosphate fertilizations. *Applied Geochemistry* 88:258-266.
- vii. **Asit Mandal**, B Biswas, B Sarkar, AK Patra, R Naidu (2016) Surface tailored organobentonite enhances bacterial proliferation and phenanthrene biodegradation under cadmium co-contamination. *Science of the Total Environment*. 550:611-618.
- viii. B Biswas, B Sarkar, **Asit Mandal**, R Naidu (2016). Specific adsorption of cadmium on surface-engineered biocompatible organoclay under metal-phenanthrene mixed-contamination. *Water Research*.104:119-127.
- ix. B Biswas, B Sarkar, **Asit Mandal**, R Naidu (2015). Heavy metal-immobilising organoclay facilitates polycyclic aromatic hydrocarbon biodegradation in mixed-contaminated soil. *Journal of Hazardous Material*. 298:129-137.
- x. **Asit Mandal**, TJ Purakayastha, AK Patra (2014). Phytoextraction of arsenic contaminated soil by Chinese brake fern (*Pteris vittata*): Effect on soil microbiological activities. *Biology and Fertility of Soils*. 50: 1247-1252.