

## Swamini Khurana

Position: PhD Student  
Project: B04  
Address: Geomicrobial Reactive Transport Modeling Group  
Department of Environmental Microbiology - UMB  
Helmholtz Center for Environmental Research - UFZ  
Permoserstr. 15  
04315, Leipzig



E-Mail: swamini.khurana@ufz.de  
Tel: +49 (0) 341 235 1317



### Research Interests

- Impacts of weather events on microbial mediated reactions in the subsurface
- Interactions of microbial mediated reactions in the subsurface with above ground processes
- Contribution of microbial mediated reactions to catchment scale, ecosystem scale and global scale C-N turnovers

### Current Project

#### Exploring Biogeochemical Dynamics in the Earth's Critical Zone

I am modeling microbial mediated reactions and the environmental factors affecting biogeochemical dynamics in the subsurface at the small scale (sub-meter). This knowledge can be applied at the catchment scale by using appropriate upscaling methodologies and coupling the up-scaled biogeochemical model with robust surface water and groundwater flow models. I shall employ this flow and reactive transport model to predict solute discharge in the catchment.

This project contributes substantially to identification of environmental drivers and relevant parameters influencing biogeochemical dynamics in the critical zone. This will result in focused parameterization of models in regions where one might not have access to resources to conduct detailed studies using state-of-the-art equipment.

### Curriculum Vitae

01/2018 – now	Doctoral Researcher at Helmholtz Center for Environmental Research, Leipzig and Doctoral Candidate at Institute of Geosciences, Faculty of Chemical and Earth Sciences, Friedrich-Schiller-University, Jena
08/2014 – 12/2017	Consultant at Contaminated Site Management (CSM), Environmental Resources Management India (ERM India), New Delhi, India

04/2014 – 07/2014	Consultant at Distributed Renewable Energy Systems, cKinetics, New Delhi, India
05/2013 – 09/2013	Intern at Proteus Consulting, San Diego, USA
11/2011 – 02/2013	Research Student at Georgia Institute of Technology, Atlanta, USA
08/2011 – 12/2012	Masters Student in Environmental Engineering at School of Civil and Environmental Engineering, Georgia Institute of Technology, Atlanta, USA
08/2007 – 06/2011	Bachelors Student in Environmental Engineering, Delhi College of Engineering, University of Delhi, New Delhi, India
12/2010 – 05/2011	Research Student at Delhi College of Engineering, University of Delhi, New Delhi, India
12/2010 – 02/2011	Intern at Rural Water Program, Centre for Science and Environment, New Delhi, India
06/2010 – 08/2010	Intern at International Environmental Technology Centre, United Nations Environment Program (IETC, UNEP), Osaka, Japan
07/2009 – 08/2009	Intern at Ahmadabad Textile Industries' Research Association (ATIRA), Ahmadabad, India

### **Publications**

Haritash, A.K., Mittal, N., Aggarwal, R., and **Khurana, S.** (2017) Stabilisation of wastewater by *Lemna minor*: A microcosm study. *Indian Journal of Waste Management* **1**: 35-38.

### **Conference contributions**

Bhatia, A., Agarwal, S., and **Khurana, S.** (2010) Optimal use of waste heat of condenser of thermal power plant. *International conference on fluid dynamics and thermodynamics technologies (FDTT)*; 02/2010, Singapore (oral presentation)

Bhatia, A., Agarwal, S., and **Khurana, S.** (2010) Optimal use of waste heat of condenser of thermal power plant. *IEEE Proceedings International conference on fluid dynamics and thermodynamics technologies (FDTT)*, Singapore. **5**: 330:333. (ISBN: 978-1-4244-5585-0)