Shweta Singh, PhD

PhD 2012, The Ohio State University, Chemical Engineering. Thesis: Incorporating Biogeochemical Cycles and Utilizing Complexity Theory for Improving Sustainability Analysis Methodology

Masters of Applied Statistics, 2011, The Ohio State University, Statistics

Bachelor of Technology 2006, Indian Institute of Technology, Varanasi, India, Chemical Engineering

Academic Experience: Purdue University

- Assistant Professor, Agricultural and Biological Engineering, 2014 – present. Full time.

Other Universities:

- Postdoctoral Associate, University of Toronto, 2013 – 2014. Full time.
- National Research Council Postdoctoral Fellow, In residence with Western Ecology Division, US Environmental Protection Agency, 2012-2013
- Graduate Research Assistant, The Ohio State University. 2007 – 2012. Full time.

Certifications:

Professional Organizations: American Institute of Chemical Engineers (AIChE), International Society of Industrial Ecology (ISIE), American Statistical Association (ASA)

Honors and Awards:

- **Finalist - Johnson & Johnson Women in Science, Technology, Engineering, Manufacturing, Math and Design (WiSTEM2D) Scholar Award, 2017** - Among top 40 from about 500 applicants worldwide.
- **Best Student Paper**, 2014, American Institute of Chemical Engineers (AIChE), Sustainable Engineering Forum
- **National Research Council Award under the Research Associateship Program of National Academy of Sciences** to conduct independent research at US-EPA. April 2012. (Competitive research grant awarded after proposal review for by NRC-RAP Committee)
- **Outstanding Graduate Award** for Academic Achievement, Spring 2011, Department of Chemical and Biomolecular Engineering, The Ohio State University. May 2011.
- **Awarded a Scholarship** by **Santa Fe Institute**, New Mexico, to attend a summer school on Complex Systems, 8 June – 1 July 2011 organized by Santa Fe Institute
- **Best Student Paper at 2010***,* IEEE International Symposium on Sustainable Systems and Technology for the paper: *Enhancing the reliability of C and N accounting in economic activities: Integration of bio-geochemical cycle with Eco-LCA.*
- **Best Student Poster at 2010**, IEEE International Symposium on Sustainable Systems and Technology.
- **Nanoscale Science and Engineering Center (NSEC) Fellow** at The Ohio State University*, 2009-2010.*

Service Activities (past five years):

Internal: Graduate committee; ABET committee; College Marshal, spring 2015 commencement

External : Managing Guest Editor for Special Issue on "Advances in Circular Economy" in Resources, Conservation and Recycling, Elsevier, Guest Editor for Special Issue on EcoSummit 2016 in Ecological Modeling, Elsevier , Served on panels for National Science Foundation, Research Foundation - Flanders (Fonds Wetenschappelijk Onderzoek - Vlaanderen, FWO, Reviewers for journals – E.S&T, Resources Conservation and Recycling, Journal of Industrial Ecology and several others.

Peer Reviewed Journal Publications (past five years):

- Wachs, L. and **Singh S**., A modular bottom-up approach for constructing physical input-output tables (PIOTs) based on process engineering models, ***Journal of Economic Structures***, 7:26 (2018)
- Gotham D., McClain W., Mukherjee S., Nateghi R., Preckel, P.V., Schubert P., **Singh S**., Wachs E. and Raymond L., Projected Climate Change Impacts on Indiana's Energy Demand and Supply, ***Climatic Change*** (Accepted 2018)
- Liu, X., **Singh S.**, Gibbemeyer, E.L., Tam, B., Urban, R.A., Bakshi, B. R., The Carbon-Nitrogen Nexus of Transportation Fuels. ***Journal of Cleaner Production***, (2018)
- Liu Y., Engel B.A., Flanagan D.C., Gitau M. W., McMillan, S. K., Chaubey I., **Singh S**., Modeling framework for representing long-term effectiveness of best management practices in addressing hydrology and water quality problems: Framework development and demonstration using a Bayesian method., ***Journal of Hydrology***, Vol. 560, Pages 530-545, (2018)
- **Singh S.,** Compton J.E., Hawkins, Troy R., Sobota, D. J., Cooter, E.J., A Nitrogen Physical Input-Output Table (PIOT) model for Illinois. ***Ecological Modelling***, 360 (2017) 194-203
- **Singh S.** and C. Kennedy**,** Identifying the scale and nexus of Carbon, Nitrogen and Biodiversity Impacts from Urban Metabolism**.** ***Journal of Industrial Ecology*** (2017) doi:10.1111/jiec.12611
- Sobota D., Compton J., McCrackin M., **Singh S.,** Cost of reactive nitrogen release from human activities to the environment in the United States**.,** ***Environ Research Letters***, 10 (2), 025006, 2015
- **Singh S.** and Bakshi B.R., Footprints of Carbon and Nitrogen: Revisiting the Paradigm and Exploring their Nexus for Decision Making., ***Ecological Indicators***. 53, June 2015, 49-60
- **Singh S.** and C. Kennedy., Estimating Future Energy Use and CO_2 Emissions of the World's Cities., ***Environmental Pollution***, Vol 203, August 2015, Pages 271-278
- **Singh S.** and Bakshi B.R. Accounting for Emissions and Sinks from the Biogeochemical Cycle of Carbon in the US Economic Input-Output Model., ***Journal of Industrial Ecology***, *18 (6), 818-828, 2014*
- **Singh S.** and Bakshi B.R. Accounting for the Biogeochemical Cycle of Nitrogen in Input-Output Life Cycle Assessment., ***Environmental Science & Technology***, 47 (16), pp 9388-9396, 2013 (**DOI:** 10.1021/es4009757)

Professional Development Activities:

- Attended "Effective Teaching Workshop" by Rebecca Brent & Richard Felder SP 2015
- Attended National Effective Teaching Institute (NETI), 3 day workshop in San Diego, CA, Jan 2016