Shweta Singh

Ph.D. The Ohio State University - 2012

Assistant Professor

Best Student Paper, American Institute of Chemical Engineers (AIChE), Sustainable Engineering Forum – 2014

National Research Council Award under the Research Associateship Program of National Academy of Sciences (at US EPA) - 2012

Research Areas:

Life-cycle analysis, sustainable engineering, complex systems modeling.

Selected Publications:

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*, Accepted, 2015

Singh S. and Bakshi B.R., *Footprints of Carbon and Nitrogen: Revisiting the Paradigm and Exploring their Nexus for Decision Making.* Accepted, *Ecological Indicators*. 2015

Singh S. and C. Kennedy., *Estimating Future Energy Use and CO2 Emissions of the World's Cities.*, In Review, Environmental Pollution, 2014

Singh S. and Bakshi B.R. *Accounting for Emissions and Sinks from the Biogeochemical Cycle of Carbon in the US Economic Input-Output Model.* Accepted. *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)

Zhang Y, **Singh S.** and Bakshi B.R. *Accounting for Ecosystem Services in Life Cycle Assessment Part I: A Critical Review*, *Environmental Science and Technology, 44, 7, 2232-2242, 2010*

Peer-Reviewed Conference Proceedings:

Singh S. and Bakshi B.R. *Insights into Sustainability from complexity analysis of Life Cycle Networks: A case study on Gasoline and Bio-Fuel Networks.* Proceedings of the 2011, IEEE International Symposium on Sustainable Systems and Technology (ISSST)

Singh S. and Bakshi B.R. *Enhancing the reliability of C and N accounting in economic activities: Integration of bio-geochemical cycle with Eco-LCA.* Proceedings of the 2010, IEEE International Symposium on Sustainable Systems and Technology (ISSST).

Urban R., **Singh S.,** Grubb G. and Bakshi B.R. *Establishing Synergies Between Technological and Ecological Systems for Sustainable Products and Process.* Sustainable Chemical Product and Process Engineering (SCPPE) Conference, Hangzhou, *China*, May 9-13, 2010

Singh S. and Bakshi B.R. *Eco-LCA: A tool for quantifying the role of ecological resources in LCA.* Proceedings of the 2009 IEEE International Symposium on Sustainable Systems and Technology (ISSST).

Selected Presentations:

C. Kennedy and **S. Singh,** *Estimating the Energy Use and CO2 Emissions of the World's Cities, Urban Environmental Pollution***,** 12th June-15th June, 2014, Toronto, ON, Canada (Keynote talk)

Singh S. and C. Kennedy**,** *Identifying the scale and nexus of Carbon, Nitrogen and Biodiversity Impacts of Urban Systems***,** Gordon Research Conference on Industrial Ecology, 2nd June-6th June, 2014, Lucca, Barga, Italy.

Singh S. and C. Kennedy, *Identifying the scale and nexus of Carbon, Nitrogen and Biodiversity Impacts of Urban Systems***,** ISSST 2014, May 2014, Oakland, CA, USA

Singh S., J. Compton, T. Hawkins, D. Sobota. *Utilizing a Physical Input-Output Model to Inform Nitrogen related Ecosystem services.* ISSST 2013, May 2013, Cincinnati, OH

A. Fajardo, Z.A. Hamstead, N. Kunz, M. Sachs, **Singh S**. *Using insights from statistical physics to model common pool resource management*, EcoSummit 2012 – Ecological Sustainability – Restoring the Planet's Ecosystem Services. (Talk – Independent Research Collaboration at Santa Fe Institute Summer School)

Singh S. and Bakshi B.R. *Towards Improved C and N Footprints and Understanding Their Nexus.* AICHE Annual Meeting, November 2011, Minneapolis, Minnesota.

Singh S. and Bakshi B.R. *Understanding the Evolution of By-Product Synergy Networks by Network Analysis*. AICHE Annual Meeting, 2011, Minneapolis, Minnesota.

Bakshi B.R and **Singh S**. *In Saving the Carbon Cycle Are We Ruining the Nitrogen Cycle? Understanding the Carbon-Nitrogen Nexus via Ecologically-Based Life Cycle Assessment*, International Congress on Sustainability Science and Engineering, January 9-12, 2011, Tucson, Arizona

Singh S. and Bakshi B.R. *Understanding the C-N-Water-Energy Nexus in US Economy via Eco-LCA*. AICHE Annual Meeting, November 7-12,2010, Salt Lake City, Utah

Singh S. and Bakshi B.R. *Complexity Analysis of Gasoline and Corn-Ethanol Networks*. AICHE Annual Meeting, November 7-12, 2010, Salt Lake City, Utah

Singh S. and Bakshi B.R. *Enhancing the reliability of C and N accounting in economic activities : Integration of bio-geochemical cycle with Eco-LCA*, IEEE International Symposium on Sustainable Systems and Technology, May 17-19, 2010

Singh S. and Bakshi B.R. *Accounting for Ecosystem Services in Eco-LCA: Combining Quantitative & Qualitative Information*. AICHE Annual Meeting, November 8-13, 2009, Nashville, TN.

Singh S. and Bakshi B.R. *Accounting for Ecosystem Services in Eco-LCA by combining quantitative and qualitative information*, Life Cycle Assessment IX,(toward the global life cycle economy), Sep 29- Oct 2, 2009, Boston, MA.

Singh S. and Bakshi B.R. *Eco-LCA: A tool for quantifying the role of ecological resources in LCA.* IEEE International Symposium on Sustainable Systems and Technology, May 18-20, 2009, Phoenix, AZ