Shelly Bogra

Email address: shbogr@gmail.com
Sex: Female
Nationality: Indian
Date of Birth: November 18, 1979

Education:

Ph.D. Energy & Environment, TERI University, New Delhi, India 2017
Thesis title: India's water metabolism analyses: Insights for sustainability assessments from macro-economic-ecological modeling
Thesis Advisor: Prof. Bhavik R. Bakshi, The Ohio State University
M.Sc. Physics, Annamalai University, India 2007
M. Business Economics , Delhi University, India 2003
B.Sc. Physics, Delhi University, India 2001

Current Employment:

Postdoc Fellow, IDP in Climate Studies, Indian Institute of Technology, Bombay, Maharashtra, India (January2018 to January 2020)

Research interests:

Sustainability, Industrial Ecology, Ecological Economics, Sustainable Production and Consumption, Environmental Footprints: Water, Carbon, Land, Ecological, etc., Environmentally-extended input-output models, System dynamics modeling, Network theory, Life cycle assessment (LCA), Complex systems, Accounting for Ecosystems services

Academic and Professional Honors:

- International Institute for Applied Systems Analysis (IIASA) Southern African Young Scientists Summer Program (2014-2015), University of the Free State, South Africa
- Robert S. McNamara Fellowship Program, The World Bank (2013)
- Visiting Scholar, The Ohio State University (2013)
- All India Women Scientist Scholarship Scheme (WOS-C) (2009-2010), Patent Facilitating Center (PFC), TIFAC, Department of Science and Technology (DST), India
- CSIR-UGC NET for Junior Research Fellowship (JRF), subject 'Physical Sciences', under CSIR Fellowship Scheme in June, 2009, All India Rank : 081
- CSIR-UGC NET for Lectureship, subject 'Physical Sciences', under CSIR Fellowship Scheme in June, 2008

Google Scholar page:

https://scholar.google.co.in/citations?user=FC-7Sa8AAAAJ&hl=en

Journal Publications:

Recommended for acceptance:

1. **Shelly Bogra***and Bhavik R. Bakshi. *Direct and indirect vulnerability of economic sectors to water-scarcity: A hot-spot analysis of the Indian economy*. Journal of Industrial Ecology December 2019. Impact factor, 2018: 4.826

Published:

2. Anu Ramaswami*, Dana Boyer, Ajay Singh Nagpure, Andrew Fang, **Shelly Bogra**, Bhavik Bakshi, Elliot Cohen and Ashish Rao-Ghorpade. An urban systems framework to assess the trans-boundary food-energy-water nexus: implementation in Delhi, India. Environmental Research Letters, 12(2), February 2017. http://iopscience.iop.org/article/10.1088/1748-9326/aa5556. Impact factor, 2018: 6.192
3. **Shelly Bogra**, Bhavik R. Bakshi* and Ritu Mathur. A Water-Withdrawal Input-Output Model of the Indian Economy. Environmental Science & Technology, February 2016. DOI: 10.1021/acs.est.5b03492. Impact factor, 2018: 7.149

In preparation:

4. **Shelly Bogra*,** Pradip Kalbar and Subhankar Karmakar. *Drivers, intensity, and inequity of India's consumption carbon-emissions*
5. **Shelly Bogra*,** Yali Woyessa, Sylvia Tramberend and David Wiberg. *Applying system dynamics modeling for sustainable regional agriculture: An assessment of rain-fed, irrigated, and rainwater-harvested systems in the Free State, South Africa*.
6. ***Shelly Bogra****and Bhavik R. Bakshi. A Framework For Supply Chain Vulnerability Assessment Using Environmentally Extended Input-Output Models.*
7. ***Shelly Bogra**** *and Bhavik Bakshi, A dynamic model for sustainability assessment of Punjab's agriculture*
   ** Corresponding Author*

Presentations:

1. **Shelly Bogra**, Pradip Kalbar and Subhankar Karmakar. *Direct carbon-emissions intensity of India's consumption: A rural urban distributional profile*. International Society for Industrial Ecology -Socio Economic Metabolism (ISIE SEM) Conference. Berlin, Germany. May 13-15, 2019.
2. **Shelly Bogra** and Bhavik R. Bakshi. *Vulnerability of the Indian Economy to Water Scarcity: The Role of Food, Forests and Electricity*. The Joint ISIE-ISSST 2017 Conference, Science in Support of Sustainable and Resilient Communities, Chicago Illinois, US, June 25-29, 2017
3. **Shelly Bogra**, Prof. Yali Woyessa, Dr. Sylvia Temberland and Dr. David Wiberg. A systemic analysis of the food-water-energy nexus for Free State, South Africa using dynamic modeling approach. IIASA. SA-YSSP Final presentation, University of the Free State, South Africa. January 29, 2015.

4. **Shelly Bogra**, Bhavik R. Bakshi and Ritu Mathur. *A fresh water withdrawal assessment for India using an Environmentally Extended Input Output (EEIO) Model* .ISSST Conference, Oral presentation, Cincinnati, Ohio, USA, 2013
5. **Bhavik R. Bakshi** and Shelly Bogra. *A Life Cycle Model of Water Use in India with Implications to Manufacturing*. AIChE, Annual Meeting, Conference Proceedings, Pittsburgh, PA, October 28 - November 2, 2012

Accepted:

Presentations:

1. **Shelly Bogra**, Pradip Kalbar and Subhankar Karmakar. *A regional assessment of India's consumption carbon-emissions*. The ISSST 2019 Conference, International Symposium on Sustainable Systems and Technology. Portland, Oregon, USA, June 25-27, 2019
2. **Shelly Bogra**, Bhavik R. Bakshi and Ritu Mathur. *Estimating Water Withdrawal of Indian Economy via EEIO: A sectoral water footprint and national water footprint assessment*. Oral Presentation, International Society for Industrial Ecology (ISIE) Conference, Ulsan, South Korea, June 25-28, 2013
3. **Shelly Bogra**, Bhavik R. Bakshi and Ritu Mathur. *An Environmentally Extended Input-Output Model of India's Water Metabolism* . Poster presentation. Industrial Ecology Gordon Research Conference, "The Role of Industrial Ecology in Addressing Sustainability Imperatives", Les Diablerets Switzerland, June 17-22, 2012

Posters:

4. Shelly Bogra, **Pradip Kalbar** and Subhankar Karmakar. *Assessment of India's carbon-emissions intensity: A consumption perspective*. The 10th International Conference on Industrial Ecology. July 07-11, 2019. Beijing, China.

Other academic assignments:

Reviewer:

Conference: The ISSST 2019 Conference, International Symposium on Sustainable Systems and Technology. Portland, Oregon, USA, June 25-27, 2019

Conference: The Joint ISIE-ISSST 2017 Conference, Science in Support of Sustainable and Resilient Communities, Chicago Illinois, USA, June 25-29, 2017

Journal: Economic Systems Research

Computers Skills:

- Windows OS, Ubuntu
- MS-Word, Powerpoint and Excel
- Open Office
- Statistical software learning/using - R
- Publishing & other software - TexStudio (LateX)
- Programming language learning/using - Python

Languages known:

English and Hindi

Courses:

The Ohio State University (OSU)

- Agrosystems with focus on Emergy analysis - Prof. Jay F. Martin
- Sustainable Engineering - Prof. Bhavik R. Bakshi
- Sustainable Economics - Prof. Elena Irvin

TERI University:

- Statistics
- Advanced Statistics
- Econometrics
- Research Methodology

Online:

- Introduction to Complexity; MOOC by Santa Fe Institute; December, 2013
- NGI101x: Next Generation Infrastructures: Complexity, Governance and Regulation of Infrastructure Systems; DelftX - Delft University of Technology through edX; July, 2014
- How Green Is That Product? An Introduction to Life Cycle Environmental Assessment, Northwestern University, Coursera.org, 2015
- The Data Scientist's Toolbox, Johns Hopkins University, Coursera.org, 2015
- Fundamentals of GIS (ongoing -Coursera.org)

Other experience:

- Worked as a JRF (Junior Research Fellow) Scholar at National Physical Laboratory, New Delhi, India, May-October, 2010.
- Worked with a private firm dealing in patents under All India Women Scientist Scholarship Scheme (WOS-C), Patent Facilitating Center (PFC), TIFAC, Department of Science and Technology (DST), India, June, 2009 - May, 2010.
- Taught Physics to undergraduate students from 2006 - 2009.
- Worked in financial sector in India from 2003 – 2005.

References:

- Bhavik R. Bakshi, Professor, The Ohio State University. Thesis Adviser and co-author. bakshi.2@osu.edu
- Anu Ramaswami, Professor, University of Minnesota. Co-author. anu@umn.edu
- Klaus Hubacek, Professor, University of Maryland. Thesis examiner. hubacek@umd.edu
- Ritu Mathur, TERI, New Delhi, India. Thesis Co-adviser and co-author. ritum@teri.res.in
- Subhankar Karmakar, Professor, Indian Institute of Technology, Bombay. Co-author: Carbon-emissions intensity of India's consumption. skarmakar@iitb.ac.in
- Pradip Kalbar, Assistant Professor, Indian Institute of Technology, Bombay. Co-author: Carbon-emissions intensity of India's consumption. kalbar@iitb.ac.in

Updated: December 13, 2019