



## WORKSHOP AGENDA

### **Sunday, October 18<sup>th</sup> Vertex Sky Bar, Hotel Alex Johnson**

6:00pm – 9:00pm Early-bird reception at Vertex Sky Bar (located on the top floor of the Alex Johnson Hotel, downtown at 523 Sixth Street) sponsored by *RESPEC Engineering*  
*Cash-bar, hors d'oeuvres provided*

### **Monday, October 19<sup>th</sup> Surbeck Center Ballroom, SDSM&T**

7:00am – 8:00am Registration and networking breakfast

8:00am – 8:10am “Welcome.” *Jan Puszynski, Vice President of Research, SD Mines*

8:10am – 8:20am “Workshop organization.” *Jim Stone, Associate Professor, Civil and Environmental Engineering, SD Mines*

8:20am – 8:30am “NSF food-energy-water nexus white paper goals.” *Thomas Torgersen, Program Director, Division of Earth Sciences, National Science Foundation*

8:30am – 9:00am “Synergies in FEW in the Northern Great Plains: a North Dakota Perspective.” *Chris Zygarlicke, Associate Vice President for Strategic Projects and University Relations, University of North Dakota, Energy and Environmental Research Center*

9:00am – 9:20am “University Introductions.” *University representatives: Jim Stone, SD Mines; Eakalak Khan, NDSU; David Clay, SDSU; Chris Zygarlicke, UND; Ranjit Koodali, USD; Mafany Mongoh, Sitting Bull College; Mahesh Pattabiraman, University of Nebraska-Kearney...*

9:20am – 9:50am *Break*

#### **Energy Session – moderated by Robb Winter, Head and Professor, SD Mines**

9:50am – 10:20am “The Successful Development of Shale Energy Resources in the United States.” *Daniel Soeder, Research Scientist, National Energy Technology Laboratory, Department of Energy*

10:20am – 10:40am “The Role of Sustainable Oilseeds in Renewable Energy Policy.” *Michael Lindenbaum, Vice President of Technology, Agrisoma Biosciences Inc.*

10:40am – 11:00am “Biomass Collection: A Challenge for Cellulosic Ethanol Production.” *Jose Leboeiro Hernandez, Research Division, Archer Daniels Midland*

11:00am – 11:30am Energy panel discussions with *Daniel Soeder, NETL, DOE; Michael Lindenbaum, Agrisoma Biosciences Inc.; Hank Kohlbrand, HL Consulting; Chris Zygarlicke, UND, EERC; Jose Leboeiro Hernandez, ADM; and Yuliana Porras-Mendoza, BOR.*

11:30am – 12:20pm Buffet lunch – with keynote address “The Evolution of the Energy-Water Nexus.” *Henry Kohlbrand, retired Global R&D Director, Process & Manufacturing Technology R&D for Dow Chemical Company and President of the American Institute of Chemical Engineers (AIChE)*

#### **Water Session – moderated by Eakalak Khan, Professor, NDSU**

12:20pm – 12:50pm “Regional Water Resource Challenges.” *Col. John Henderson, Commander, Omaha District, United State Army Corps of Engineers*

12:50pm – 1:10pm “Water: Findings from the 3<sup>rd</sup> National Climate Assessment.” *T.M. ‘Bull’ Bennett, President and CEO of Kiksapa Consulting*

1:10pm – 1:30pm “Implications of Regional Land Use Change on Water Resources.” *Thomas Loveland, Chief Scientist, USGS EROS Center and Gregory ‘Greg’ Delzer, Supervisory Hydrologist, USGS South Dakota Water Science Center*

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**Water Session cont'd – moderated by Eakalak Khan, Professor, NDSU**

- 1:30pm – 2:00pm Water panel discussions with Yuliana Porrás-Mendoza, Director of Advanced Water Treatment, Bureau of Reclamation; Nirmala Khandan, Chair and Professor, New Mexico State University; Jay Gilbertson, Director, East River Water District; Col. John Henderson, US ACE; Thomas Loveland, USGS EROS; Bull Bennett, Kiksapa Consulting; and Greg Delzer, USGS-SDWSC.
- 2:00pm – 2:20pm Break

**White Paper Breakout Groups – moderated by Jim Stone, Associate Professor, SD Mines**

- 2:20pm – 3:00pm White paper breakout groups
- 3:00pm – 3:30pm Breakout group reporting
- 3:30pm – 5:00pm Poster session and networking, *hors d'oeuvres* provided

**Tuesday, October 20<sup>th</sup> Surbeck Center Ballroom, SDSM&T**

- 7:00am – 8:00am Networking breakfast
- 8:00am – 8:10am “Today’s goal: identifying fundamental problems.” Jim Stone, Associate Professor, Civil and Environmental Engineering, SD Mines

**Food Session – moderated by David Clay, Professor, SDSU**

- 8:10am – 8:40am “Food Security and Sustainable Resource Management.” Dennis McLaughlin, H.M. King Bhumibol Professor, Civil and Environmental Engineering, MIT
- 8:40am – 9:00am “Land Use Change and Biofuel Life Cycle Analysis.” Zhangcai Qin, Postdoctoral Appointee, Argonne National Laboratory
- 9:00am – 9:20am “High-Value Bioproducts.” Dean Webster, Professor and Chair, Coatings and Polymeric Materials, North Dakota State University
- 9:20am – 9:40am “Green Chemistry.” Mukund Sibi, University Distinguished and James A. Meir Professor, Chemistry and Biochemistry, North Dakota State University
- 9:40am – 10:00am Break
- 10:00am – 10:30am Food panel discussions with Dennis McLaughlin, MIT; Dean Webster, NDSU; Mukund Sibi, NDSU; David Clay, Professor, Plant Science, SDSU; Kevin Kephart, SDSU; and Barry Dunn, SDSU.

**Nexus Session – moderated by Sivaguru Jayaraman, Professor, NDSU**

- 10:30am – 11:00am “Agriculture and its Externalities: Irony and Paradox.” Barry Dunn, Dean, College of Agriculture and Biological Sciences, South Dakota State University
- 11:00am – 11:30am “Food Energy Water Nexus: Approaches and Tools.” Virginia Dale, ORNL Corporate Fellow, Environmental Sciences Division, Oak Ridge National Laboratory
- 11:30am – 12:00pm Nexus panel discussion with Barry Dunn, SDSU; Virginia Dale, ORNL; Dennis McLaughlin, MIT; Chris Zygarlicke, UND-EERC; Dan Soeder, NETL-DOE; and Hank Kohlbrand, HL Consulting.

**White Paper Breakout Groups – moderated by Jim Stone, Associate Professor, SD Mines**

- 12:00pm – 1:20pm Breakout groups and working lunch
- 1:20pm – 1:40pm Breakout group reporting
- 1:40pm – 2:20pm Bringing-it-all-together discussion
- 2:20pm – 2:40pm Break
- 2:40pm – 3:30pm Continued discussions and networking

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