**FOOD ENERGY WATER: A sustainable rural framework for the upper Great Plains.**

**WORKSHOP AGENDA**

<table>
<thead>
<tr>
<th>Sunday, October 18th</th>
<th>Vertex Sky Bar, Hotel Alex Johnson</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:00pm – 9:00pm</td>
<td>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.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Monday, October 19th</th>
<th>Surbeck Center Ballroom, SDSM&amp;T</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00am – 8:00am</td>
<td>Registration and networking breakfast.</td>
</tr>
<tr>
<td>8:00am – 8:10am</td>
<td>“Welcome.” Jan Puszynski, Vice President of Research, SD Mines.</td>
</tr>
<tr>
<td>8:10am – 8:20am</td>
<td>“Workshop organization.” Jim Stone, Associate Professor, Civil and Environmental Engineering, SD Mines.</td>
</tr>
<tr>
<td>8:20am – 8:30am</td>
<td>“NSF food-energy-water nexus white paper goals.” Thomas Torgersen, Program Director, Division of Earth Sciences, National Science Foundation.</td>
</tr>
<tr>
<td>8:30am – 9:00am</td>
<td>“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.</td>
</tr>
<tr>
<td>9:00am – 9:20am</td>
<td>“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...</td>
</tr>
<tr>
<td>9:20am – 9:50am</td>
<td>Break.</td>
</tr>
</tbody>
</table>

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

| 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 Leboreiro Hernandez, ADM; and Yuliana Porras-Mendoza, BOR. |

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

| 12:50pm – 1:10pm | “Water: Findings from the 3rd 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. |

**Workshop Sponsors:**

---

October 19-20th 2015

SD Mines, Rapid City, SD
Food Energy Water: A sustainable rural framework for the upper Great Plains.

**Water Session cont’d** — moderated by Eakalak Khan, Professor, NDSU
1:30pm – 2:00pm  
Water panel discussions with Yuliana Porras-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 20th**  
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

Workshop Sponsors: