



# AGENDA

## 13th ANNUAL US - CHINA ECO-ENVIRONMENTAL SYMPOSIUM

“Research and Innovation at the Nexus of Food, Energy, and Water Systems”

October 26-29, 2019  
Seattle, Washington, USA

**Saturday, October 26, 2019**

	Arrival at hotel
6:00-8:00 pm	Social mixer (Room: Alpine)

**Sunday, October 27, 2019**

7:30-8:30 am	Continental Breakfast (Room: Horizon) and Registration	
8:30-9:00 am	<b>WELCOME AND OPENING REMARKS</b> —Moderator: <b>Frank Löffler</b> , University of Tennessee (Room: Alpine)	
	<ul style="list-style-type: none"> <li>• <b>Brad Gaolach</b>, Washington State University</li> <li>• <b>Guibin Jiang</b>, Chinese Academy of Sciences</li> <li>• <b>Mike Wolcott</b>, Washington State University</li> <li>• <b>Tim Rials</b>, University of Tennessee</li> <li>• <b>Zengqian Hou</b>, National Natural Science Foundation of China</li> <li>• <b>Brandi Schottel</b>, National Science Foundation (US)</li> </ul>	
9:00 am-12:00	<b>KEYNOTE SESSION</b> (Room: Alpine) Moderators: <b>Jan Boll</b> (Washington State University) and <b>Cheng Gu</b> (Nanjing University)	
	9:00-9:30am	<b>Keynote:</b> Sustainable Supply Chains for Aviation Biofuels <b>Mike Wolcott</b> , Washington State University
	9:30-10:00am	<b>Keynote:</b> Holistic and Nexus Thinking to Address Complex Issues <b>Rattan Lal</b> , Ohio State University (video presentation)
	10:00-10:30am	Coffee Break and Group Picture
	10:30-11:00am	<b>Keynote:</b> Soil and Human Health <b>Fangjie Zhao</b> , Nanjing Agricultural University
	11:00-11:30am	<b>Keynote:</b> Recycled Water: New Water, New Solutions for Agriculture <b>Jacque Klug</b> , King County’s Wastewater Treatment Division, Oregon
	11:30am-12:00	<b>Keynote:</b> Sustainability Across the Supply Chain <b>Wendy Tate</b> , University of Tennessee
12:00-1:00 pm	<b>Lunch</b> provided at the hotel (Room: Horizon)	

**Sunday, October 27, 2019 (continued)**

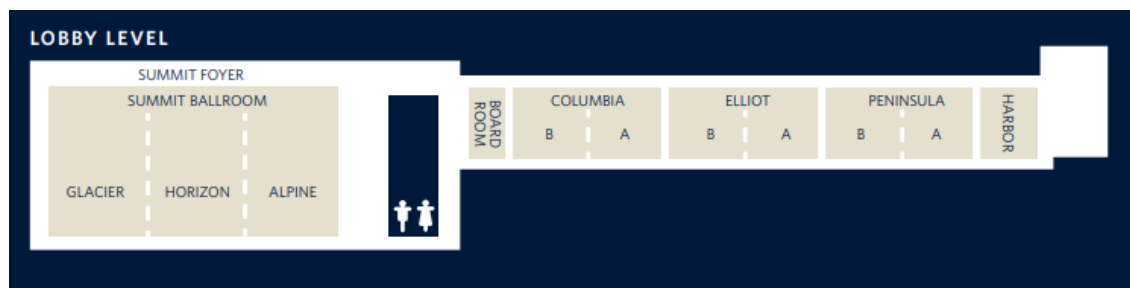
1:30-5:00 pm	<b>OPPORTUNITIES AND RESOURCES</b> —Moderator: <b>Jie Zhuang</b> , University of Tennessee (Room: Alpine)
1:30-2:00 pm	<p><b>Funding Opportunities Overview</b></p> <ul style="list-style-type: none"> <li>• US National Science Foundation—<b>Brandi Schottel</b></li> <li>• National Natural Science Foundation of China—<b>Jing Chen</b></li> </ul>
2:00-3:00 pm	<p><b>3-Minute Presentations by Participants</b>  <b>Moderators: Sarah Ryan</b> (Iowa State University), <b>Zhigang Sun</b> (Chinese Academy of Sciences)</p> <ul style="list-style-type: none"> <li>• <b>Tim Rials</b>, University of Tennessee FEWSTERN at the University of Tennessee Institute of Agriculture</li> <li>• <b>Jim Thebaut</b>, Chronicles Group Global Crisis: Beyond the Brink</li> <li>• <b>Fengwu Bai</b>, Shanghai Jiaotong University Dilemma over Biofuels and The Sustainable Supply of Food and Water</li> <li>• <b>Brad Gaolach</b>, Washington State University Urban Engagement and the FEWS Nexus</li> <li>• <b>Yan Zhu</b>, Nanjing Agricultural University System Coupling for Sustainability of Global Crop Supply Chain</li> <li>• <b>Daniel Cronan</b>, University of Idaho From Uncertainties to Scenarios: GeoDesign for FEWS Collaborations in Magic Valley, Idaho</li> <li>• <b>Zhigang Sun</b>, Chinese Academy of Sciences Remote Sensing, Systemic Agriculture, and Regional Agriculture</li> <li>• <b>Meiling Li</b>, Chinese Academy of Sciences US-China Program in the Institute of Geographic Science and Natural Resources Research</li> <li>• <b>Mengqi Zhao</b>, Washington State University Finding Appropriate Complexity for Model Structure to Coordinate Water Storage at the Food-Energy-Water Nexus</li> <li>• <b>Jenna Tilt</b>, Oregon State University Why are YOU here? A Social Scientist’s Perspective on Interdisciplinary Research</li> <li>• <b>Meghna Babbar-Sebens</b>, Oregon State University Hydroinformatics for Stakeholder-Driven Watershed Management</li> <li>• <b>Matthew Yourek</b>, Washington State University Land-use and land-cover change and the food-energy</li> <li>• <b>Kat McDearis</b>, Kat McDearis Multimedia A new FEWS Information Platform</li> <li>• <b>Melissa Demmitt</b>, University of Tennessee Understanding How Climate Changes will Impact Agriculture in the US</li> </ul>
3:00-3:30 pm	<b>Group Discussion</b>

**Sunday, October 27, 2019 (continued)**

3:30-4:00 pm	<b>Coffee Break</b>
4:00-5:00 pm	<p><b>3-Minute Presentations by Participants</b> (continued)  <b>Moderators: Markus Flury</b> (Washington State University), <b>Ziqian (Cecilia) Dong</b> (New York Institute of Technology)</p> <ul style="list-style-type: none"> <li>• <b>Markus Flury</b>, Washington State University Biodegradable Plastic Mulch in Agriculture: Opportunities for US-China Collaborations</li> <li>• <b>Cheng Gu</b>, Nanjing University Treatment of and Health Effect of Perfluorinated Compounds</li> <li>• <b>Liang Zhu</b>, Zhejiang University Role of functional microorganisms in wastewater treatment and recycle for the FEWS Nexus</li> <li>• <b>Qiufeng Wang</b>, Chinese Academy of Sciences Atmospheric Deposition of N, P And Acid in Chinese Ecosystems: Dynamics, Patterns, And Influencing Factors</li> <li>• <b>Bing Wu</b>, Nanjing University Health Effect of Combined Pollution</li> <li>• <b>Mingzhou Jin</b>, University of Tennessee Data Revolution to Fill The Global-Global FEWS Gap</li> <li>• <b>Jan Boll</b>, Washington State University Conceptual Modeling of Complex Systems</li> <li>• <b>David Griffith</b>, University of Idaho INFEWS/T3—EngageINFEWS RCN: Developing Best Practices for Community Engagement at the Nexus of Food, Energy, and Water Systems</li> <li>• <b>Cecilia Dong</b>, New York Institute of Technology IN-SOURCE: Integrated Analysis and Modeling for The Management of Sustainable Urban FEW Resources</li> <li>• <b>Keith Kline</b>, Oak Ridge National Laboratory FEWS Issues from an International Development Perspective</li> <li>• <b>Steven Ripp</b>, University of Tennessee Biosensing of the contaminated environment</li> <li>• <b>Kellie May</b>, University of Tennessee Communicating FEWS Research</li> <li>• <b>Soomin Chen</b>, Washington State University FEWS for the Great Lakes Region</li> </ul>
5:00-5:30 pm	<b>Group Discussion</b>
6:00-8:00 pm	<b>Dinner</b> provided at the hotel (Room: Horizon)

**Monday, October 28, 2019**

7:30-8:30am	<b>Continental Breakfast</b> (Room: Horizon )		
8:30-10:00am	<b>Concurrent Breakout Sessions for Keynote Presentations</b>		
<p align="center"><b>Breakout 1—(Room: Alpine) Challenges of Water Resources</b></p> <p>Chairs: <b>Frank Löffler</b>, University of Tennessee; and <b>Meghna Babbar-Sebens</b>, Oregon State University</p> <ul style="list-style-type: none"> <li>Managing Water-Energy-Food nexus for Sustainable Development —<b>Junguo Liu</b>, South University of Science and Technology</li> <li>Water Crisis and Ecological Security in Central Asia —<b>Yaning Chen</b>, Chinese Academy of Sciences</li> <li>20-minutes for questions and discussion</li> </ul> <p><i>Note Takers: <b>Kat McDearis</b> and <b>Mengqi Zhao</b></i></p>	<p align="center"><b>Breakout 2—(Room: Columbia A) Challenges of Crop Production</b></p> <p>Chairs: <b>Jenna Tilt</b>, Oregon State University, and <b>Yan Zhu</b>, Nanjing Agricultural University</p> <ul style="list-style-type: none"> <li>Coupled FEWS Modeling for Sustainability of the Global Crop Supply Chain —<b>Mingzhou Jin</b>, University of Tennessee</li> <li>Regenerative Agriculture and the Climate Crisis: Real Opportunities and Real Challenges —<b>Joshua Brugeman</b>, NSF International</li> <li>Revisiting Chinese Cropping Systems in the Context of The Past 2000 Years: Toward a Sustainable Farming Paradigm —<b>Zhigang Sun</b>, Chinese Academy of Sciences</li> <li>WEF-Environment Nexus in the North China Plain —<b>Fadong Li</b>, Chinese Academy of Sciences</li> <li>20-minutes for questions and discussion</li> </ul> <p><i>Note Takers: <b>Regan Wagner</b> and <b>Kellie May</b></i></p>	<p align="center"><b>Breakout 3—(Room Columbia B) Challenges of Technology</b></p> <p>Chairs: <b>David Griffith</b>, University of Idaho; and <b>Cheng Gu</b>, Nanjing University</p> <ul style="list-style-type: none"> <li>Environmental Impacts of Emerging Technologies Related to the FEW Nexus —<b>Andrea Hicks</b>, Wisconsin University</li> <li>Increasing Resilience and Sustainability in FEW Systems of the Columbia River Basin —<b>Jan Boll</b>, Washington State University</li> <li>Heavy Metals in Sludge from Wastewater Treatment Plants in China and its Potential Hazards in Land Use or Electricity Generation —<b>Kan Li</b>, Nanjing University</li> <li>20-minutes for questions and discussion</li> </ul> <p><i>Note Takers: <b>Jessica McCord</b> and <b>Melissa Demmitt</b></i></p>	
10:00-10:30 am	<b>Coffee Break</b>		



**Monday, October 28, 2019 (continued)**

10:30 am-12:00	<b>Concurrent Breakout Sessions for Keynote Presentations</b>		
	<p align="center"><b>Breakout 4—(Room: Alpine)</b> <b>Challenges of Environmental Degradation</b></p> <p>Chairs: <b>Steven Ripp</b>, University of Tennessee; and <b>Fangjie Zhao</b>, Nanjing Agricultural University</p> <ul style="list-style-type: none"> <li>• Water Pollution, Treatment, and Security —<b>Baohua Gu</b>, Oak Ridge National Laboratory</li> <li>• Land Use Optimization for Nutrient Reduction under Stochastic Precipitation Rates —<b>Sarah Ryan</b>, Iowa State University</li> <li>• Reclaimed Wastewater, Food Production, and Contaminants of Emerging Concern —<b>Steven Ripp</b>, University of Tennessee</li> <li>• Biogeochemistry of Depleted Uranium in the Ranges and Its Remediation —<b>Fengxiang Han</b>, Jackson State University</li> <li>• 20-minutes for questions and discussion</li> </ul> <p><i>Note Takers: <b>Kat McDearis</b> and <b>Mengqi Zhao</b></i></p>	<p align="center"><b>Breakout 5—(Room: Columbia A)</b> <b>Challenges of Policy Development</b></p> <p>Chairs: <b>Julie Carrier</b> and <b>Mingzhou Jin</b>, University of Tennessee</p> <ul style="list-style-type: none"> <li>• InterACTWEL: A New Decision Support Tool for Adaptation Planning in the Food, Energy, and Water Sectors —<b>Jenna Tilt</b> and <b>Meghna Babbar-Sebens</b>, Oregon State University (co-presenters)</li> <li>• A Case Study of Integrated Analysis and Modeling for The Management of Sustainable Urban FEW Resources —<b>Cecelia Dong</b>, New York Institute of Technology</li> <li>• Mapping Socioeconomic Scenarios for Subnational FEW Research —<b>Jeffrey Bielicki</b>, Ohio State University</li> <li>• 20-minutes for questions and discussion</li> </ul> <p><i>Note Takers: <b>Regan Wagner</b> and <b>Kellie May</b></i></p>	<p align="center"><b>Breakout 6—(Room Columbia B)</b> <b>Challenges of Stakeholder Engagement</b></p> <p>Chairs: <b>Brad Gaolach</b>, Washington State University; and <b>Daniel Cronan</b>, University of Idaho</p> <ul style="list-style-type: none"> <li>• Engaging Diverse Stakeholders in FEWS Research in the Magic Valley, Idaho: lessons Learned and The Path Ahead —<b>David Griffith</b>, University of Idaho</li> <li>• A GeoDesign Approach for Stakeholder-driven Scenarios, Impacts, and Solutions for Magic Valley, Idaho —<b>Daniel Cronan</b>, University of Idaho</li> <li>• Approaches to Engage Stakeholders in Addressing FEWS Nexus Challenges —<b>Keith Kline</b>, Oak Ridge National Laboratory</li> <li>• 20-minutes for questions/discussion</li> </ul> <p><i>Note Takers: <b>Jessica McCord</b> and <b>Melissa Demmitt</b></i></p>
12:00-1:00 pm	<b>Lunch</b> provided at the hotel (Room: Horizon)		
1:30-2:30 pm	<b>Session Chairs Presentations Summarizing the Findings from the Breakout Sessions</b> (Room: Alpine) Moderators: <b>Keith Kline</b> (Oak Ridge National Laboratory) and <b>Julie Carrier</b> (University of Tennessee)		
2:30-3:00 pm	<b>Coffee Break</b>		
3:00-4:30 pm	<b>Team Meetings for Collaboration Plans</b> (dividing into 6-8 small groups) (Rooms: Alpine, Columbia A, and Columbia B)		
4:30-5:00 pm	<p><b>Closing Remarks</b> (Room: Alpine) Moderator: <b>Frank Löffler</b> (University of Tennessee and Oak Ridge National Laboratory)</p> <ul style="list-style-type: none"> <li>• <b>Mingzhou Jin</b>, University of Tennessee</li> <li>• <b>Brad Gaolach</b>, Washington State University</li> <li>• <b>Cheng Gu</b>, Nanjing University</li> </ul>		

**Tuesday, October 29, 2019**

<b>Optional Tour Sponsored by Agilent Technologies</b>	
8:45 am	Depart hotel for one-hour bus ride to field locations
10:00 am-12:00	<p>Tour and presentation at <b>Brightwater Wastewater Treatment Facility</b> (<a href="https://www.kingcounty.gov/depts/dnrp/wtd/system/brightwater/process.aspx">https://www.kingcounty.gov/depts/dnrp/wtd/system/brightwater/process.aspx</a>)</p> <p>This is one of the three regional facilities that treat wastewater for the Seattle Metropolitan Region, produces reclaimed water and has contracts for the distribution of that water for several commercial uses, including food production. They also produce biosolids for use in crop and forestry production.</p>
12:00-1:00 pm	<b>Lunch</b> at Brightwater facility; travel to next stop
1:30–3:30 pm	<p>Tour of 21Acres (<a href="https://21acres.org/">https://21acres.org/</a>)</p> <p>This is an urban farm and food hub that helps train new farmers. They are offering to talk about regenerative agriculture, supporting local agriculture and its effect on our carbon footprint, restoring our climate, energy efficiency, renewable energy and resources seen in their LEED Platinum building, and the multitudes of intersections between everything listed.</p>
4:30-6:00 pm	Tour downtown <b>Bothell</b> and how they redeveloped downtown to include green stormwater infrastructure in their downtown, which is at the intersection of two state highways, including daylighting a stream that connects with Lake Washington.
6:30-8:00 pm	Dinner: McMenamins Anderson School in Bothell ( <a href="https://www.mcmenamins.com/anderson-school">https://www.mcmenamins.com/anderson-school</a> ). The McMenamins is a Pacific North West (WA and OR) firm that redevelops old facilities into eclectic restaurants and hotels. The Anderson School used to be junior high school and now is a hotel with several restaurants, including the Shed that specializes in whisky and specialty cocktails. They feature a northwest farm-to-table restaurant menu.
Return	One-hour bus ride back to hotel

