

AGENDA

International Symposium “TOWARDS URBAN SUSTAINABILITY”



November 15-17, 2021

Virtual Event

website: <https://fewsus.utk.edu>



GOAL & OBJECTIVES

The symposium aims to strengthen academic-business-government partnership for developing sustainable urban systems that have robust resilience in the context of global environmental change. Scientific objectives are to:

- Identify challenges and opportunities for achieving urban system sustainability regionally and globally;
- Develop international academic-business networks to promote collaborative actions for decarbonization and sustainability;
- Stimulate transdisciplinary ideas for decarbonization and sustainability projects encompassing research, education, outreach, and policy development.

OVERALL AGENDA

Day	U.S. Eastern Time	Scheduled Activity
November 15	8-12 pm	Opening Ceremony & Keynote Presentations (All Participants)
November 16	8-12 pm	Concurrent Workshops <ul style="list-style-type: none"> • Workshop 1: Urban Water Security and Sanitation • Workshop 2: Sustainable Urban Ecosystem Services • Workshop 3: Urban-Rural Co-prosperity • Workshop 4: Sustainable Urban Economy and Society
November 17	8-11 am	Concurrent Workshops <ul style="list-style-type: none"> • Workshop 1: Urban Water Security and Sanitation • Workshop 2: Sustainable Urban Ecosystem Services • Workshop 3: Urban-Rural Co-prosperity • Workshop 4: Sustainable Urban Economy and Society
	11-12 pm	Closing Ceremony (All Participants)

Note: U.S. Eastern Time 8—12 pm; Central European Time 1—5 pm; Beijing Time 8 pm—12 am; Brazil Time 9 am—1 pm.

ORGANIZERS

NSF Project: iRCN for Creating Transdisciplinary Nodes of Food-Energy-Water to Support Sustainable Urban Systems (FEWSUS)
 Project Leaders: Jie (Joe) Zhuang, Frank Löffler, Tom Gill, Mingzhou Jin, Wendy Tate, Gary Sayler, Sara Mulville

Opening and Closing Ceremony (all participants)

Monday, November 15, 2021, Opening Ceremony: 8-12 pm (U.S. Eastern Time)

8:00-8:30	WELCOME & OPENING REMARKS — Moderator: Jie (Joe) Zhuang (University of Tennessee)
	<ul style="list-style-type: none"> Welcome and Introduction of Symposium Goals (Jie Zhuang, FEWSUS Project Leader) Ready for Sustainable Development Goals (President Randy Boyd) One Ecosystem under One Health (Dean Hongwei Xin) Overview of Funding Opportunities for Sustainable Development (James Jones, National Science Foundation Program Leader) Transdisciplinarity for Co-Innovation: A JRCEEC Experience (Gary Sayler, Chair of FEWSUS Advisory Research Board) Revitalizing the Global Partnership for Sustainable Development (Frank Löffler, FEWESTERN Project Leader)
8:30-11:00	OPENING KEYNOTE SESSION Moderators: Frank Löffler (University of Tennessee & Oak Ridge National Laboratory) & Mingzhou Jin (University of Tennessee)
8:30-9:00	Building Back Better: Creating a More Resilient Food System for Urban Communities Marty Matlock, University of Arkansas, USA
9:00-9:30	Impact of COVID-19 Pandemics on The Development of Circular Economy and Food-Energy-Water Nexus Jiri Klemes, Brno University of Technology, Czech Republic
9:30-9:45	Break
9:45-10:15	Impacts of Climate and Humans on Water Storage Changes in U.S. Aquifers Using GRACE Satellite Data Bridget Scanlon, University of Texas at Austin, USA
10:15-10:45	The Science-Policy Interface of Urban Ecosystem Services: Preparing for Climate Change J.B. Ruhl, Vanderbilt University, USA
10:45-11:00	Q & A
11:00-12:00	PANEL DISCUSSION — Moderator: Gary Sayler (University of Tennessee) Panelist: Marty Matlock, Jiri Klemes, Bridget Scanlon, J.B. Ruhl, James Jones, Bruce Hamilton, Brandi Schottel, Wendy Tate
Wednesday, November 17, 2021, Closing Ceremony: 11-12 pm (U.S. Eastern Time)	
11:00-12:00	SUMMARY & CLOSING REMARKS — Moderator: Frank Löffler, University of Tennessee & Oak Ridge National Laboratory
11:00-11:40	Reporting of Concurrent Workshops (Workshop Chairs)
11:40-11:45	Student Video Awards (Tom Gill)
11:45-12:00	Closing Remarks by Leaders of NSF and UT (Brandi Schottel & Brad Day)

Workshop 1: Urban Water Security and Sanitation

Chairs: Frank Löffler; Michael Seeger, Weiwei Mo, Jon Hathaway

(#U.S. eastern time, *keynote presentation)

Tuesday, November 16, 2021

8:00-8:30 [#]	Future Perspectives of Wastewater Treatment* Yongsheng Chen, Georgia Institute of Technology, USA
8:30-8:45	The Water-Energy Nexus of Megacities Beyond Geographic Boundaries: A Case of Beijing, China Jie Liu, Peking University, Beijing, China
8:45-9:00	Sustainable Urban Water Security, Hygiene and Sanitation: A Case for Kampala Capital City, Uganda Archileo Kaaya, Makerere University, Uganda
9:00-9:15	Projecting Future Flood Risks in China Megacity Clusters Hui Lu, Tsinghua University, China
9:15-9:30	Case Studies of Nature-Based Solutions for Sustainable Management of Municipal Wastewater Alexandros Stefanakis, Technical University of Crete, Greece
9:30-9:45	Transformation of Multiple Use Urban River Systems in A Heavily Industrialized Area Michael Eisinger, The University of Duisburg-Essen, Germany
9:45-10:00	Break
10:00-10:15	Bioremediation of Hydrocarbon-Polluted Soils Is Crucial for Urban Sustainability Michael Seeger, Technical University Federico Santa Maria, Chile
10:15-10:30	Decentralized Urban Water Systems for Enhanced Water and Energy Security Weiwei, Mo, University of New Hampshire, USA
10:30-10:45	Water Governance Progress after a Crisis: El Niño-triggered Drought and Water Conflict in Southern Guatemala Alex Guerra, Climate Change Research Institute, Guatemala
10:45-11:00	Development of an Urban Waters Report Card for the State of Tennessee John Schwartz, University of Tennessee, USA
11:00-12:00	Panel Discussion (all chairs and speakers of the workshop)

Wednesday, November 17, 2021

8:00-8:30	Nanotechnology-Enabled Water Treatment: A Perspective for Distributed Treatment and Reuse* Pedro Alvarez, Rice University, USA
8:30-8:45	An Agent-Based Model and a Recurrent Neural Network Metamodel for Investigating the Growth of Sucrose-Exporting Cyanobacteria Miguel Fuentes-Cabrera, ORNL, USA
8:45-9:00	Towards Full-scale Modelling of Microbial Communities Using Individual-Based Models Paolo Zuliani, Newcastle University, UK
9:00-9:15	Potential of The Treatment Wetlands in the Latin American and Caribbean Region for Facing The Current Wastewater Problems Marco Rodríguez-Domínguez, Aarhus University, Denmark
9:15-9:30	Break
9:30-9:45	Impervious Connectivity: Impacts on Urban Runoff and Implications for Green Infrastructure Jon Hathaway, University of Tennessee, USA
9:45-10:00	Photocatalytic Activity of TiO₂:N Films Growth by ALD for the Removal of Emerging Contaminants Juan Salcedo-Reyes, Pontificia Universidad Javeriana, Colombia
10:00-11:00	Panel Discussion (all chairs and speakers of the workshop)

Workshop 2: Sustainable Urban Ecosystem Services

Chairs: Jie (Joe) Zhuang, Marinus Otte, Lei Zhao, Adam Sochacki

(#U.S. eastern time, *keynote presentation)

Tuesday, November 16, 2021

8:00-8:30 [#]	Social-Ecological Research on The Ecosystem Services and Bio-Cultural Services of Urban Ecological Infrastructure* Dan Childers, Arizona State University, USA
8:30-9:00	Wetland Restoration and Creation in the Anthropocene – Constructed Wetlands in Urban Environments* Marinus Otte, North Dakota State University, USA
9:00-9:15	Using Nature to Solve The Global Challenges of Urbanization Dan Richards, Crown Research Institute, New Zealand
9:15-9:30	Understanding the Human-Building-Microbiome Nexus for Sustainable and Healthy Urban Environments Qian He, University of Tennessee, USA
9:30-9:45	Practitioner Perspective on Food System Sustainability’s Complexities in Program and Policy Design Matt Taylor, Tennessee Department of Environment and Conservation, USA
9:45-10:00	Break
10:00-10:15	Nature-Based Solutions for Greywater Reuse in Urban Areas: Benefits, Challenges and Case Studies Adam Sochacki, Czech University of Life Sciences, Prague, Czech Republic
10:15-10:30	The Participatory Land Use Planning Process at Parana River Delta, Buenos Aires Province, Argentina Daniel Somma, National Institute of Agricultural Technology, Argentina
10:30-10:45	A “Just Green Enough” Approach: Urban Greening without Displacement Winifred Curran, DePaul University, Illinois, USA
10:45-11:00	Urban Food Security and Food Sovereignty Issues: Argentina’s ProHuerta Program Elena Hidalgo, National Institute of Agricultural Technology (INTA), Argentina
11:00-12:00	Panel Discussion (all chairs and speakers of the workshop)

Wednesday, November 17, 2021

8:00-8:30	Urban Ecosystem Services: Toward a Sustainable Future* Alessio Russo, University of Gloucestershire, UK
8:30-8:45	Global Multi-Model Projections of Local Urban Climates Lei Zhao, University of Illinois at Urbana-Champaign, USA
8:45-9:00	Urban Warming Advances Spring Phenology but Reduces The Response of Phenology to Temperature in the Conterminous United States Jiafu Mao, Oak Ridge National Laboratory, Tennessee, USA
9:00-9:15	Lessons and Opportunities for Integrated Engineering and Earth Systems Science as Solutions to Water in a Changing Climate Joshua Fu, University of Tennessee, USA
9:15-9:30	Break
9:30-9:45	Best Practices in Community and Stakeholder Engagement Virginia Dale, University of Tennessee, USA
9:45-10:00	Natural Drainage Systems to Restore Ecosystem Services in Residential Landscapes Andrea Ludwig, University of Tennessee, USA
10:00-11:00	Panel Discussion (all chairs and speakers of the workshop)

Workshop 3: Urban-Rural Co-Prosperity

Chairs: David Ader, Jamie Greig, Andrea Hicks

(#U.S. eastern time, *keynote presentation)

Tuesday, November 16, 2021

8:00-8:30*	Promoting Sustainability and Resilience Through Community Engagement and Technical Assistance* Jennifer Tribble, Tennessee Department of Environment and Conservation, USA
8:30-9:00	Aquaponics as a Sustainable Closed Loop Food Production System: Rural and Urban Applications* Andrea Hicks, University of Wisconsin-Madison, USA
9:00-9:15	Improving The Feasibility of Indoor Agriculture: Light Intensity during Lettuce Seedling Production Kellie Walters, University of Tennessee, USA
9:15-9:30	Productive and Commercial Networks of Small and Family Producers in The Metropolitan Area of Buenos Aires, Argentina Sebastian Grenoville, National Institute of Agricultural Technology (INTA), Argentina
9:30-9:45	End-of-Pipe Solutions for Agricultural Drainage Management Lorenzo Pugliese, Aarhus University, Denmark
9:45-10:00	Break
10:00-10:15	Rural to Urban Sojourning: Benefits to The Food System in Cambodia David Ader, University of Tennessee, USA
10:15-10:30	How Does Bioenergy Influence Urban-Rural Interactions? Esther Parish, Oak Ridge National Laboratory, USA
10:30-10:45	The Business of Composting: A “Science-First” Business Model Kat McDearis, Green Heron Compost Services, USA
10:45-11:00	The Tech Divide in Agriculture: How The Rural-Urban Technology Gap Threatens Farm Sustainability Jamie Greig, University of Tennessee, USA
11:00-12:00	Panel Discussion (all chairs and speakers of the workshop)

Wednesday, November 17, 2021

8:00-8:30	Sustainable Water-Food-Energy Systems at Urban-Rural Interfaces* Bernard Engel, Purdue University, USA
8:30-8:45	Beneficial Utilization and Economic Values of Wild Food Plants in Northwestern Cambodia Pao Srean, University of Battambang, Cambodia
8:45-9:00	Using Wastewater as The Sole Source of Energy in Rural Communities: Some Challenges and Questions That Still Need to Be Addressed Johana Husserl, Universidad de los Andes, Colombia
9:00-9:15	The Spatial Logic of Regional Policy on The Development of Special Economic Zones in China Shanshan Li, Central University of Finance and Economics, China
9:15-9:30	Break
9:30-9:45	By-Products of Agricultural Industry Robert Spajić, University of J.J. Strossmayer Osijek, Croatia
9:45-10:00	Determine Ecosystem Health Disparities in The Context of Urban-Rural Gradient Liem Tran, University of Tennessee, USA
10:00-11:00	Panel Discussion (all chairs and speakers of the workshop)

Workshop 4: Sustainable Urban Economy and Society

Chairs: Wendy Tate, Mingzhou Jin, Tom Gill

(#U.S. eastern time, *keynote presentation)

Tuesday, November 16, 2021

8:00-8:30	Climate Protection – Urban or Transnational Level?* Felix Ekardt, Research Unit Sustainability and Climate Policy in Leipzig, Germany
8:30-9:00	Urban Food-Energy-Water Nexus: Dynamics and Optimization* Lixiao Zhang, Beijing Normal University, China
9:00-9:15	Blockchain and Carbon Footprint Tracking of The Food Supply Chain Cecilia Dong, New York Institute of Technology, USA
9:15-9:30	Quantifying The GHG Mitigation Potential of Urban Roadway Lighting in China Yuan Chang, Central University of Finance and Economics, China
9:30-9:45	Opportunities for Standards to Support More Sustainable Urban Systems: Circular Economy Standards in Development with The International Organization for Standardization Keith Kline, Oak Ridge National Laboratory, Tennessee, USA
9:45-10:00	Break
10:00-10:15	Urban Spaces and Public Sphere: Institutional Design of Democratic Decentralization José Vargas-Hernández, University of Guadalajara, Mexico
10:15-10:30	Urban Water-Energy Nexus: Evidence from Water Evaluation and Planning Model Daohan Huang, Beijing University of Civil Engineering & Architecture, China
10:30-10:45	Focusing on FEW Managers, Stakeholders and Academics: Results from FEW Focus Group Research Jennifer Givens, Utah State University, USA
10:45-11:00	Food is The Gateway to All Things Justice Sheryll Durrant, Kelly Street Garden, Tennessee, USA
11:00-12:00	Panel Discussion (all chairs and speakers of the workshop)

Wednesday, November 17, 2021

8:00-8:30	Urbanization, Climate Change and The Sustainable Development Goals* José Puppim, Getulio Vargas Foundation, Brazil
8:30-8:45	Sustainable and Affordable Household-Level Self-Sufficiency Enabled by Integrated Abundance Advances Bruce Tonn, Three ³ Inc., Tennessee, USA
8:45-9:00	Urban Carbon Emission Reduction – Low Carbon School Project Xiaoyu Liu, World Wide Fund for Nature (WWF), China
9:00-9:15	A State Agency Perspective: The Role of TDEC’s Office of Policy and Sustainable Practices in Tennessee Chris Pianta, Tennessee Department of Environment & Conservation, USA
9:15-9:30	Break
9:30-9:45	The Nashville Food Waste Initiative Todd Lawrence, Urban Green Lab, Tennessee, USA
9:45-10:00	Advancing Community Resilience through Regional and Private Sector Collaboration Jennifer Jurado, Natural Resources Division, Broward County, Florida, USA
10:00-11:00	Panel Discussion (all chairs and speakers of the workshop)