

Virtual Meeting Agenda
Student FEWSUS symposium
Undergraduate and Graduate levels
Tuesday, April 27, 2021 8:30-10:30am EDT

Zoom link: <https://tennessee.zoom.us/j/achvZbilfM> **password: 490554**

Developing sustainable urban systems through food-water–energy nexus research



Background

Urban systems, including cities and surrounding regions, occupy less than 4% land surface area on the earth but support 66% of population and contribute more than 80% of gross domestic product and more than 70% of greenhouse gas emissions in the world.

The water-food-energy nexus provides a conceptual tool for addressing urban sustainable development. Demand for all three is increasing, driven by a rising global population, rapid urbanization, changing diets and economic growth. Currently, estimates project that by 2050, water and food demands will grow by over 50%, while urban energy demands may double.

Our changing global scenario urgently requires creating a transdisciplinary student network to develop a global research agenda and community of practice that addresses the impacts of regional and global FEW systems on urban sustainability. As the world urbanizes, we need to be prepared to address the changes to our critical food, water, and energy systems.

About the FEWSUS program

The United States National Science Foundation funded FEWSUS program is an opportunity to bring academic faculty members and university students together to share interdisciplinary research on the intersection of the food-energy-water nexus in sustainable urban systems.

Symposium information

Meeting Format: Virtual

Date: April 27th, 2021 8:30-10:30am EDT

This virtual event showcases undergraduate and graduate student research across the world towards addressing sustainable urban systems through cutting-edge research in the food-energy-water nexus. This symposium will cover multiple United Nations' Sustainable Development Goals, including SDGs 2, 6, 7, 11 and 12.



MEETING AGENDA

TUESDAY, APRIL 27, 2021

8:30-10:30 am (U.S. Eastern Time)

Zoom link: <https://tennessee.zoom.us/j/98012345678> **password: 490554**

Facilitator: Dr. Tom Gill

8:30-8:40 am

Tom Gill, The University of Tennessee, USA

8:40- 9:00 am

SDG 2 Zero Hunger

Tinashe Roy Chizema, Nelson Mandela University, South Africa. "A Mobile Technology Framework for Climate Change Management and Awareness: A case study of Aquaculture in Graff Reinet" 2.59

Muhammad Aleem, Bahauddin Zakariya University, Multan, Pakistan.

"Temperature and Humidity Control Systems for Agricultural Applications to meet United Nations Sustainable Development Goal 2" 3.30

Ashlyn Anderson, The University of Tennessee, United States. "Collaborative Approaches to Nutrition Security through Community Gardens: Lessons from Rural Guatemala" 3.14

Xinru Zhang, Shenyang Agricultural University, China. "Effect of combined application of chemical fertilizers with monosodium glutamate waste liquid

residue on rice yield, quality and environmental burden” 3.00

9:00-9:15 am

SDG 6: Clean Water and Sanitation

Luz Adriana Rincon Baron, Pontificia Universidad Javeriana, Colombia. “TiO₂ Thin Film Production by Varying Oxygen Atmosphere for Treating Domestic Wastewater on a Laboratory Scale using Magnetron Sputtering Technique” 3.24

Luis Alejandro Cañon Tafur, Pontificia Universidad Javeriana, Colombia. “Preparation and characterization of a bio-composite based on Guadua and TiO₂ residues for the photocatalytic inactivation of Escherichia coli and removal of organic matter” 4.25

Muhammad Bilal, Bahauddin Zakariya University, Multan, Pakistan. “Absorption-based atmospheric water harvesting: A review” 2.49

Guido Bambini, Universidad Nacional de Rosario, Argentina. “Programa Barrios” 2.44

9:25-9:40 am

SDG 7: Affordable and Clean Energy

Gabriela Shirkey, Michigan State University, United States. “An Environmental and Societal Analysis of the US Electrical Energy Industry based on the Water-Energy Nexus” 3.03

Philbert Mperejekumana, China Agricultural University, China. “Determinants of urban household decision-making on clean cooking fuels in East-Africa. Evidence from Rwanda” 2.55

9:40-9:55 am

SDG 11: Sustainable Cities and Communities

Daniela Salamanca Rodriguez, Universidad de los Andes, Colombia. “Quantitative microbial risk assessment of the micropool

in a dry extended detention basin. San Cristobal park case study (Bogotá, Colombia)” 2.54

Yi Chen, Nanjing University, China. “Novel and legacy flame retardants in paired human fingernails and indoor dust samples” 2.41

Chen Feng, Shenyang Agricultural University, China. Study on the Sustainability of Rice Production in Liaoning Province” 2.56

Payton Myers, The University of Tennessee. “ Supply Chain Decarbonization and the Reduction of Transportation Emissions” 5.32

9:55-10:10 am

SDG 12: Responsible Consumption and Production

Laura Lara, Pontificia Universidad Javeriana, Colombia. “Silicon thin film by sputtering in dental zirconia”3.00

Juan Cruz de Micheli, University of Buenos Aires, School of Agriculture, Argentina. “Alternative Food Networks: Institutional support, strategies and scaling up perspectives. Case of study: Bolsón Soberano”2.55

Alivia Nytko, University of Tennessee, United States. “Perceptions of potential biosolid barrier solutions for agricultural use in Tennessee” 3.34

10:10-10:30 am

Questions and Summary