This agenda is subject to change. Last updated: 2/8/22

2022 INFEWS PI Workshop

Co-hosted by Anu Ramaswami (Princeton University) & Chad Higgins (Oregon State University)

February 9-11, 2022
FULLY VIRTUAL
Feb. 9 & 10: 11:00 am – 5:30 pm ET. **Feb. 11**: 11:30 am – 5:00 pm ET.
Note: All agenda times are listed in US Eastern Time.

Website & registration: http://infews.princeton.edu/register/
Online conference platform: https://infews.us.chime.live (register at link above to receive access)

Organizing & Scientific Advisory Committee

Anu Ramaswami, Princeton University
Chad Higgins, Oregon State University
Frank Chaplen, Oregon State University
Jennifer Adam, Washington State University
Greg Characklis, University of North Carolina at Chapel Hill
Arpad Horvath, University of California, Berkeley
Elena Irwin, Ohio State University
Andrew Kliskey, University of Idaho
Zhiyong Jason Ren, Princeton University
Janette Thompson, Iowa State University
Benjamin Zaitchik, Johns Hopkins University
Yuyu Zhou, Iowa State University

With Emily Eckart, Princeton University (Lead Organizer)

Workshop Overview

GOAL: The 2022 INFEWS PI Workshop is the closing event that brings together all PIs and projects supported by the USDA-NSF INFEWS program (2015 to present). Overall, the goal of the workshop is to take a wide-angle view and do a synthesis of the overarching INFEWS research frameworks; novel data, modeling and experimental approaches; key technologies, insights; educational programs, and approaches to translate science to practitioners in communities, industry, and government. We also plan journal special issues that can be a venue to report synthesis findings from our workshop and INFEWS projects.

Workshop format: Given the synthesis goals of our workshop, we envision this as a highly interactive event. The workshop will be held **fully virtually** using Zoom meetings within an **interactive online conference hub.** Register here to receive access to the conference platform. Plenary sessions highlight key findings, and breakout "deep dive" sessions allow smaller groups to discuss emerging methods, models, data, etc. The online platform will allow participants to view the agenda with associated Zoom links, network, participate in discussion forms, view e-posters, and share content. Awards for poster presentations and poster reviewers will encourage maximum participation and one-on-one interactions.

This agenda is subject to change. Last updated: 2/8/22

Workshop Agenda

DAY 1 (Feb. 9)

11:00-11:30 am ET: Opening keynote address

NSF Program Directors on the History and Trajectory of INFEWS

- Dr. Brandi Schottel

— Session 1: Systems Frameworks & Stakeholder Engagement —

11:30 am - 3:30 pm ET

Session leads: Anu Ramaswami (Princeton University) and Andrew Kliskey (University of Idaho)

Session Description: This session aims to get a wide-angle view of the various interdisciplinary and cross-sector systems frameworks that were proposed, developed, or used in the INFEWS projects. To understand the diversity of INFEWS frameworks by spatial scale and other attributes, five INFEWS project frameworks will be featured in the plenary session to compare, contrast, and elucidate key insights. A subsequent plenary on science-to-action will explore the impact INFEWS projects have had, followed by deep dive breakout sessions on frameworks, science-to-action, and education. Throughout this session, projects can share their framework diagrams (if interested and willing) via the online conference platform's photo gallery to help stimulate discussion.

11:30 am - 12:30 pm ET: Synthesis Panel on Interdisciplinary and Integrative Systems Frameworks

Visions of INFEWS Systems: What INFEWS Systems Frameworks were proposed/developed/used in INFEWS projects? Moderated by Anu Ramaswami and Andy Kliskey

Part 1 (25 minutes): Speakers present on interdisciplinary/integrative frameworks that structure their projects (5 minutes/4 slides each)

- **Xin Zhang, University of Maryland Center for Environmental Science**: Guiding the pursuit of sustainable agriculture in the Food-Energy-Water nexus with the Sustainable Agriculture Matrix
- **Charles Vorosmarty, City University of New York:** Climate-induced Extremes on the Food, Energy, Water Nexus (C-FEWS) and the Role of Engineered and Natural Infrastructure
- **Thomas Hertel, Purdue University:** Global-Local-Global Analysis of Food-Energy-Water Systems: Insights from an INFEWS Project
- **Anu Ramaswami, Princeton University:** Sustainable Urban Food Actions: Interdisciplinary Frameworks

- **Derek Kauneckis, Desert Research Institute:** Introducing the Organic Waste Lifecycles at the Interface of Food, Energy, and Water Systems (OWL-FEWs) project

Part 2 (35 minutes): Discussion on structure and implementation of frameworks

- How did integration happen?
- Reflections on systems diagrams
- Share photo gallery of INFEWS Systems Integration diagrams (in online conference platform—also available throughout session)

12:30-1:00 pm ET: Break & networking opportunity

Participants are encouraged to explore the "networking" tab in the Online Conference platform to exchange virtual business cards and chat with colleagues.

1:00-2:00 pm ET: Synthesis Panel on INFEWS Partnerships for Impacts in the Real World

How are INFEWS projects taking science to action? Moderated by Andy Kliskey and Anu Ramaswami

Part 1 (25 minutes): Speakers present on impact of their projects (5 min/4 slides each)

- **Paula Williams, University of Idaho:** Thinking Big and Thinking Small: Conceptual frameworks for best practices in stakeholder engagement in FEWS
- **Rimjhim Aggarwal, Arizona State University:** Application of best practices in stakeholder engagement for advancing FEW system science and sustainable management: New learnings and challenges
- **Meghna Babbar-Sebens, Oregon State University:** InterACTWEL Cyberinfrastructure: Enabling Longitudinal Stakeholder Decision Support for Adaptation Planning of FEW Nexus in Local Communities
- **Valoree Gagnon, Michigan Technological University, and Chelsea Schelly, Michigan Technological University:** Enacting Boundaries or Building Bridges for Diverse FEWS Engagement
- **Jamie Trammell, Southern Oregon University:** Building Trust, Building Futures: Stakeholder-driven scenario-based FEWS

Part 2: (35 minutes) Discussion:

- How to partner to maximize science to action?
- Create an online flowchart of implementation partners by sector and scale

2:00-2:30 pm ET: Break & networking opportunity

Participants are encouraged to explore the "networking" tab in the Online Conference platform to exchange virtual business cards and chat with colleagues.

2:30-3:30 pm: Deep Dive Breakouts on Interdisciplinary Frameworks, Science-to-Action, and Education

3 concurrent deep dive panels with moderators. Speakers present for ~8 minutes each, with 2 minutes each for questions

Interdisciplinary Frameworks Deep Dive (Moderator: Anu Ramaswami)

- **Nancy Love, University of Michigan:** Understanding, Communicating, and Advancing Resource Recovery through Urine Separation and Production of Nutrient-Rich Fertilizer
- **Rebecca Larson, UW-Madison:** Coordinated market framework for organic waste
- **Ximing Cai, University of Illinois Urbana-Champaign:** Integrated technology-environment-economics model (ITEEM) for food, energy, water (FEW) systems analysis in Corn Belt watershed: Development, application and dissemination
- **Xin-Zhong Liang, University of Maryland:** Growing Perennial Biomass Crops on Marginal Land to Sustain U.S. Agriculture
- **Liping Di, George Mason University:** WaterSmart: a science-based and data driven automated field-scale irrigation scheduling system for large geographic areas

Science-to-Action Deep Dive (Moderator: Andy Kliskey)

- **Jeff Bielicki, Ohio State University:** Systems Analysis and Participatory Engagement for Food, Energy, and Water Systems in the U.S. Great Lakes Region where Trade and Sustainability Intersect
- **Dan Cronan, University of Idaho: I**ntegrated solutions for alternative FEWS futures
- **Seth Tuler, Worcester Polytechnic Institute:** Stakeholder Engagement in the CFEWS (Climate-induced extremes on the linked Food, Energy, Water System) Research Framework
- **Ziqian (Cecilia) Dong, New York Institute of Technology:** A Discussion on Research Gaps on the Study of the Food, Energy, and Water Nexus for Sustainable and Resilient Urban Development
- **Erin Whitney, University of Alaska:** Does Renewable Energy Make Life Better in Alaska? Examining the Food-Energy-Water Nexus in Remote Arctic Communities
- **Saba Siddiki, Syracuse University:** Stakeholder engagement with food policy councils

Education Deep Dive (Moderator: Ben Zaitchik)

- **Luis Rodríguez, University of Illinois Urbana-Champaign:** The INFEWS-ER: a model for innovative graduate education
- **Madisen Gittlin, University of Minnesota:** Transdisciplinary Graduate Student Training at the Food, Energy, Water Nexus: A Case Study for Food Waste

- **Steven Loheide, University of Wisconsin-Madison:** Interinstitutional Graduate Training across the INFEWS network

---

— Poster Session —
3:30 - 5:30 pm ET

Poster session leads: Frank Chaplen (Oregon State University), Jennifer Adam (Washington State University), Yuyu Zhou (Iowa State University)

3:30-4:30: Early career poster session

- E-posters are available throughout the conference for viewing (as PDFs in a Posters tab)
- During this hour, Early Career poster presenters will be available in a Zoom meeting (with an individual breakout room for each) to meet conference attendees, as well as poster judges (Frank Chaplen, Jennifer Adam, and Yuyu Zhou)

4:30-5:30: General poster session

- E-posters are available throughout the conference for viewing (as PDFs in a Posters tab)
- During this hour, General poster presenters will be available in a Zoom meeting (with an individual breakout room for each) to meet conference attendees, as well as poster judges

Adjourn for the day

DAY 2 (Feb. 10)

— Session 2: Advances in Social-Biophysical FEW Nexus Data and Modeling —

12:00 – 3:15 pm ET

Session leads: Elena Irwin (Ohio State University) and Janette Thompson (Iowa State University)

Session Description: This session will dive into advances made in social-biophysical food-energy-nexus data and modeling. A plenary synthesis panel will allow for an overview of key advances across projects, followed by concurrent deep dive breakout sessions to give additional INFEWS projects opportunities to present. During a report back and community discussion, the whole group will discuss and synthesize previous sessions. Session moderators will invite INFEWS projects to share exciting data, models, or findings shared for the photo gallery in the online conference platform.

12:00-1:00 pm ET: Plenary Synthesis Panel: Advances in Social-Biophysical FEW Nexus Data and Modeling (moderated by Elena Irwin and Janette Thompson)

Part 1 (25 minutes): Speakers present (5 minutes/4 slides each)

- **Elena Irwin, Ohio State University:** A Regional Integrated Modeling Framework with Scenarios to Assess the Sustainability of the Great Lakes Economy and Food, Energy, Water Systems
- **Gregory Characklis, University of North Carolina at Chapel Hill**: Modeling cross-scale, cross-sector feedbacks to inform critical decision-making in food-energy-water systems
- **Mengqi Zhao, University of Maryland**: The Implications of Global Change for the Co-Evolution of Argentina's Integrated Energy-Water-Land Systems
- **David Hyndman, University of Texas Dallas:** Quantifying the Effects of Irrigated Agriculture on The Nexus of Water, Energy and Food Across Key Regions of the United States
- **Roni Neff, Johns Hopkins University:** (Sea)Food Energy Water Nexus: Quantifying and Addressing Resource Use and Waste Across the U.S, Seafood Supply

Part 2: (35 minutes): Moderated discussion and Q&A

1:00-1:30 pm ET: Lunch break

1:30-2:30 ET: Deep Dive Sessions

4 concurrent deep dive panels with moderators. Speakers present for ~8 minutes each, with additional time for questions

Human behavior, perceptions, values, adaptations: Deep dive (Moderator: Janette Thompson)

- **Jillian Fry, Towson University:** (Sea)Food Energy Water Nexus: Perspectives from Actors Across Key Supply Chains
- **Derek Kauneckis, Desert Research Institute:** Integrating multi-level decision heuristics with smart tech design: building a smart organic compost bin
- **Carol Arantes, University of West Virginia:** Large-scale hydropower impacts and adaptation on rural communities in the Amazonian floodplain of the Madeira River
- **Masoumeh Heshmatpour, University of Minnesota:** Effects of social norm and educational interventions on household organics recycling: Evidence from two municipal curbside organics recycling programs
- **David Watkins, Michigan Technological University:** Grappling with Uncertainty: Towards More Conscious Household Decision Making for Climate Change Mitigation

Climate Change: Deep dive (Moderator: Bhartendu Pandey)

- **Nicolas Maxfield, City University of NY:** Impact of Climate Extremes, Technology & Management on Transport of Nitrogen through the Contiguous US
- **Wei Chen, Iowa State University:** Estimating the diurnal cycle of land surface temperature by integrating weather modeling with satellite observations
- **Hamid Moradkhani, The University of Alabama:** Adaptive benefits of crop yield forecasting and agricultural water markets under climate change
- **Chengcheng Fei, Texas A&M University:** Effects of Climate Change on Food-Energy-Water Nexus Cooperation in Water Scarce Area
- **Anthony Cak, CUNY:** A multi-model ensemble approach to assess climate and hydrological changes across the Amazon Basin at different scales

Economic-environmental trade-offs: Deep dive (Moderator: Kirti Das)

- **Levan Elbakidze, WVU:** *Integrated Assessment of Nitrogen Runoff to the Gulf of Mexico: The IHEAL Model*
- **Amanda Quay, Stanford University:** *Assessing the Magnitude of Crop Switching due to Salinity in the California Central Valley: A Ricardian Analysis*
- **Steven Smith, Colorado School of Mines:** *Center Pivot Irrigation Systems and Where to Find Them: A Deep Learning Approach to Provide Inputs to Hydrologic and Economic Models*
- **Jing Liu, Purdue University:** *Cropland Supply Response in China and the Implications for Conservation Policies*

1:30-2:30 ET: Deep Dive Sessions (continued)

Resources and Sustainability: Deep dive (Moderator: Elena Irwin)

- **Laura Condon, University of Arizona:** Exploring FEW drivers of groundwater trends in Arizona
- **Yiming Wang, Iowa State University:** Pathways towards sustainable development in Food-Energy-Water Nexus: an outlook in Jing-Jin-Ji region, China
- **Brinda Yarlagadda, University of Maryland:** Implications of Global Agricultural Trade Uncertainty for Latin America's Integrated Energy-Water-Land Systems
- **Tong Wu, Cornell University:** Agricultural-to-Energy Land Use Transitions: A FEW System
- **Hemant Kumar, North Carolina State University:** Understanding the food-energy-water nexus through hydroeconomic modeling under regional development portfolios
- **Zhan Wang, Purdue University:** Impacts of China's South-North Water Transfer Project on Agriculture: A Multi-scale Analysis of the Food-Land-Water System

2:30-3:00 pm: Report back and community discussion

Advances in Social-Biophysical FEW Nexus Data and Modeling

- Online conference platform photo gallery can display most exciting data, model, or finding shared

3:00-3:15: Zoom break

— Session 3: Education —

3:15-4:15 pm ET

Session leads: Benjamin Zaitchik (Johns Hopkins University) & Gregory Characklis (UNC Chapel Hill)

Session Description: This session explores the educational opportunities and partnerships that have been developed during the course of INFEWS projects. Our plenary sessions will allow for an overview of educational learnings from a diversity of INFEWS projects. Moderators will invite INFEWS projects (ahead of time) to share key takeaways for success for international and educational programs, as well as ideas to overcome common barriers, that can be shared in the photo gallery.

Photo gallery for this session can include:

- Key takeaways for success of international partnerships
- Key takeaways for success of education programs
- Ideas to overcome common barriers

3:15-4:15 pm ET: Plenary Synthesis Panel: Education Learnings from INFEWS

Part 1 (25 minutes): Speakers present on education learnings (Moderator: Greg Characklis)

- **Christine Prouty, American Society of Civil Engineers, and Adaline Buerck, University of South Florida:** How does it all fit together? Examining interdisciplinary training in systems thinking and modeling
- **Emiliano Lopez-Barrera, Texas A&M:** An innovative, multilingual curriculum for High Schools
- **Julie Padowski, Washington State University:** Exploring innovations in the FEW Nexus- Research Experiences for Undergraduates
- **Datu Buyung Agusdinata, Arizona State University:** Conservation of food, energy, and water to reduce household greenhouse-gas emissions: Experience from stakeholders educational engagement using role-playing games
- **Deepak Keshwani, University of Nebraska–Lincoln:** reFEWSing to give-up: reflections on a multi-year project to develop research-based educational games on the Corn-Water-Ethanol-Beef Nexus

Part 2 (35 minutes): Moderated Q&A and discussion

— Poster Session—
4:15-4:45 pm ET

Poster session leads: Frank Chaplen (Oregon State University), Jennifer Adam (Washington State University), Yuyu Zhou (Iowa State University)

4:15-4:45 pm: Poster awards

- Poster committee will announce poster awards from the poster sessions on Day 1

4:45-5:30 pm: Dedicated time for informal networking

Adjourn for the day

DAY 3 (Feb. 11)

— Session 4: INFEWS Engineering and Technology Innovations —

11:30 am – 5:00 pm ET

Session leads: Jason Ren and Arpad Horvath

Session Description: This session provides an opportunity to explore the engineering and technology innovations developed during INFEWS projects, with a plenary overview session and subsequent deep dive breakouts. After a chance to synthesize discussions during a "report back" conversation, a final town hall will review best practices in managing complex projects and opportunities for the future.

11:30-12:30 ET: Plenary Session: INFEWS Engineering and Technology Innovations (Moderated by Jason Ren and Arpad Horvath)

Part 1 (25 minutes): Speakers present (6 minutes/4 slides each)

- **Yanbao Ma, University of California, Merced:** Developing Saltwater Greenhouse System for Agricultural Drainage Treatment and Food Production
- **Ngai Yin Yip, Columbia University:** Meeting the Nutrient Challenge of the Food-Energy-Water Nexus through Technological Innovations to Achieve Sustainable Recovery
- **Jie Xu, GA Tech:** Using doped magnetic nanoparticles for total phosphorus removal
- **Jason Ren, Princeton University:** Microbial electrochemical co-valorization of organic waste and CO2

Part 2 (30 minutes): Moderated Q&A and discussion

12:30-1:20 pm ET: Lunch break

1:20-2:00 pm ET: Dedicated time for networking

Participants are encouraged to use this time to set up one-on-one meetings with each other or chat via the online conferencing platform

2:00-3:00 pm ET: Deep Dive Sessions on Engineering and Technology Innovations

3 concurrent deep dive panels with moderators. Speakers present for ~8 minutes each, with 2 minutes each for questions

Engineering and Technology Innovations: Focus on Water (Moderator: Roshan Shankar)

- **Yiming Wang, Iowa State University:** Water use estimation and its impact on hydrological processes in the context of Food-Energy-Water nexus

- **Lee Blaney, University of Maryland Baltimore County:** Development of Sustainable Nutrient Extraction and Recovery Devices (NERDs) for Municipal and Agricultural Wastewater
- **Yuanzhi Tang, Georgia Institute of Technology:** An integrated management system for improved energy and nutrient recovery from biological wastes
- **Subanky Suvendran, New Mexico State University:** Reducing soil salinity and improving irrigation efficiency using non-chemical treatment
- **Lauren Greenlee, Pennsylvania State University:** Advances in Electrochemical Nutrient Recovery Technology within the Context of a Systems Approach to Wastewater & Nutrient Management

Engineering and Technology Innovations: Focus on Energy (Kirti Das)

- **Rakesh Agrawal, Purdue University:** Solar Solutions for Food, Energy and Water Systems
- **Emilio Moran, Michigan State University:** Innovative Energy Solutions for Sustainable Communities
- **Toufiq Reza, Florida Institute of Technology:** Integrated Anaerobic Digestion and Hydrothermal Carbonization of Organic Fraction of Municipal Solid Waste for Energy Production and Acid Mine Drainage Remediation
- **Lei Zuo, Virginia Tech**: Feasibility study of an ocean wave powered Food-Energy-Water (FEW) nexus in saline coastal area
- **Ismaila Dabo, Pennsylvania State University:** Optimizing Accuracy and Efficacy in Data-Intensive Materials Discovery for the Solar Production of Hydrogen
- **Brendan O'Connor, NC State University:** Solar-Powered Integrated Greenhouse (SPRING) Systems Using Wavelength Selective Photovoltaics

Engineering and Technology Innovations: Focus on Food (Moderator: Arpad Horvath)

- **Arpad Horvath, University of California, Berkeley:** Life-Cycle Assessment of Fruits and Vegetables: Modeling and Opportunities in Periurban Areas
- **Ryan Bailey, Colorado State University:** Improving crop yield and soil salinity by cost-effective integration of microbial community, hydrology, desalination, and renewable power
- **Heike Sederoff, North Carolina State University:** Emergent Molecular Traits of Crops Grown under Semi-transparent Organic Solar Cells
- **Abraham Noe-Hays, Rich Earth Institute:** Freeze concentrating source-separated urine to produce a volume-reduced fertilizer

3:00-3:15 pm: Zoom Break

3:15-4:15 pm ET: Deep Dive Sessions on Engineering and Technology Innovations

2 concurrent deep dive panels with moderators. Speakers present for ~10 minutes each, with 2 minutes each for questions

Engineering and Technology Innovations: Focus on Food (Moderator: Jason Ren)

- **Bruno Basso, Michigan State University:** Towards Circularity of Grain Production Systems
- **Ruben Michael Ceballos, University of Arkansas:** Mobile Enzyme Sequestration Platforms (MESP) for enhancing Feed-Conversion-Ratio (FCR) in broiler production operations: Impacts on the environment and food, energy, and water use
- **Charles Coronella, University of Nevada, Reno**: Nutrient recovery and recycle from dairy manure
- **Bo Hu, University of Minnesota:** Producing high nutritional monogastric animal feed from corn-ethanol plant

Engineering and Technology Innovations: Materials & Models (Moderator: Bhartendu Pandey)

- **Diana Rodriguez Alberto, Rochester Institute of Technology:** Integration of anaerobic digestion and thermochemical processes: a sustainable approach to food waste management
- **Benjamin Ruddell, Northern Arizona University:** Applications of the FEWSION 2.0 dataset for FEWS Research
- **Neil Mattson, Cornell University:** Scaling Urban Controlled Environment Agriculture: Economics, Environment, Nutrition, and Workforce Development

4:15-5:00 pm ET: Town hall discussion and report back: Looking back, looking forward

Speaker:

- Dr. Bruce Hamilton, Program Director, National Science Foundation

Moderated discussion topics will include:

- Looking back: Best practices in managing complex projects like INFEWS (people, data, education, partnerships)
- Looking forward to future opportunities
- Closing remarks

5:00 pm ET: Adjourn

Early Career Poster Presenters

- **Birnbaum, Abigail** (Tufts University) - Discovering Drivers of Future Water Scarcity in Latin America and the Caribbean Using a Scenario Discovery Approach
- **Brighenti, Tássia & Stone, Tiffanie** (Iowa State University) - A Biophysical Lens: Assessing Multiple Food System Scenarios in the Des Moines Metropolitan Area using LCA and SWAT Simulations
- **Brown, Erik** (Michigan State University) - An Amazon with No New Dams or Reservoirs
- **Carranza, Katia** (University of Nebraska-Lincoln) - NSF-NRT Program Advances Resilience Science through Transdisciplinary Collaboration
- **Doherty, Conor** (Stanford University) - Atmospheric and land surface drivers of evapotranspiration in California wine grape vineyards
- **Fowler, Ames** (Washington State University) - Orienting large interdisciplinary teams for FEWS research: Lessons learned from initial system conceptual mapping to project completion.
- **Gregg, Stephen** (University of Minnesota) - Nitrogen effects winter camelina productivity and the potential effects on water quality
- **Hunt, Natalie** (University of Minnesota) - Incorporating winter Camelina into the corn-soybean landscape and food system: a life cycle perspective
- **Jackson, Kevin** (University of Maryland Center for Environmental Science) - An interactive dashboard environment of the Sustainable Agriculture Matrix for stakeholder engagement and education
- **Johnson, David** (Purdue University) - Reducing US Biofuels Requirements Mitigates Short-term Impacts of Global Population and Income Growth on Agricultural Environmental Outcomes
- **Jones, Mackenzie** (The Ohio State University) - Assessing Weak and Strong Sustainability Using the DR-FEWS Scenario Modeling Framework
- **Leininger, Aaron** (Princeton University) - Doubling down on food waste: synchronous use as codigestion substrate and biochar feedstock boosts food-energy-water circularity
- **Lin, Tzu-Shun** (University of Illinois Urbana-Champaign) - Influence of interactive effects of climate extremes and changing technology and management on crop productivity in the CONUS
- **Maureira, Fidel** (Michigan State University) - Sustainable intensification of food systems: the case study of tomato production in greenhouses in Washington State
- **Ojeda-Matos, Glorynel** (Arizona State University, Tempe Campus) - Using media framing to explore the food-energy-water nexus: the Case of the Rio Negro Basin in Uruguay
- **Partridge, Trevor** (Dartmouth College) - Projected Climate Change Adaptation Potential of Existing and Future Irrigation in the Central United States
- **Shaffer-Morrison, Carrie** (The Ohio State University) - Integrating a Heterogeneous Farmer Decision Making Model with a Parcel Land Use Allocation Model to Assess Land Use Change in the Great Lakes Region
- **Stid, Jacob** (Michigan State University) - The Food, Energy, Water, Carbon, and Economic Impacts of Solar Photovoltaic Co-Location in California's Central Valley
- **Vishwakarma, Srishti** (University of Maryland Center for Environmental Science) - Modeling the impacts of extreme weather and socio-economic drivers on crop yield shocks

- **Wang, Qian** (Georgia Tech) - Co-evolution of iron and phosphorous during anaerobic digestion with inter-stage hydrothermal treatment of sewage sludge
- **Zhang, Tao** (Iowa State University) - Quantifying urban thermal environment and its dynamics in Jing-Jin-Ji region, China by creating a daily 1 km gridded air temperature dataset
- **Zuidema, Shan** (University of New Hampshire) - Multi-scale analysis of nutrient management solutions and existing incentive programs to mitigate Gulf of Mexico Hypoxia

General Poster Presenters

- **Bailey, Ryan** (Colorado State University) - Assessing the Feasibility and Salinity Effects of On-Farm Desalination Technology in Irrigated Semi-Arid Regions
- **Brighenti, Tássia** (Iowa State University) - Evaluation of Management Data, Water Balance Outputs and other Factors to Assess the Accuracy of Multiple Baseline SWAT Simulations for the Des Moines River and Skunk Watersheds that Encompass the Des Moines Metropolitan Area in Central Iowa
- **Chen, Jingyi** (University of Arkansas) - Controlling Spatial Composition of Nonprecious Metal-based Nanostructures for Enhanced Electrocatalytic Performance
- **Cwiertny, David** (University of Iowa) - Have you considered INFEWS-related internship experiences for your graduate trainees? You should!
- **Davis, Sarah** (Ohio University) - Life-cycle framework for coproduction opportunities at the food-energy-water-waste nexus
- **Li, Shaobin (Xiamen University) & Cai, Ximing (University of Illinois at Urbana-Champaign)** - Integrated technology- environment-economics model (ITEEM) for INFEWS simulation in Corn Belt – demonstration and application
- **Maciejewski, Ross** (Arizona State University) - Challenges and Opportunities inModeling and VisualizingFood-Energy-Water Interactions at the Metropolitan Scale
- **Markazi, Daniela** (University of Illinois Urbana-Champaign) - NGO-Academia collaboration for the resilience of the food, energy and water systems: the INFEWS-ER experience in post-disaster Puerto Rico
- **Passe, Ulrike** (Iowa State University) - Integrating Social and Biophysical Models for Urban Food, Energy and Water Systems
- **Sarjoughian, Hessam** (Arizona State University) - Nexus Modeling and Simulation for Food-Energy-Water Systems
- **Stablien, Michael James** (University of Illinois Urbana-Champaign) - Compound[ing] Disasters in Puerto Rico: Pathways for Virtual Transdisciplinary Collaboration to Enhance Community Resilience
- **Wang, Yaoping** (University of Tennessee, Knoxville) - Modeling and Analysis of sustainable soybean supply between China and the U.S.
- **Yao, Yuanzhi** (Auburn University) - The interactions between extreme flooding and terrestrial processes during enhanced hurricanes: insight from terrestrial ecosystem modeling approach
- **Zaitchik, Ben** (Johns Hopkins University) - Propagation of F-E-W nexus shocks through networked systems: case studies from Ethiopia