

Hinkley Center Research Forum

July 25, 2023

SWANA FL Summer Conference
Daytona Beach

Hinkley Center for Solid and Hazardous Waste Management

- The core mission of the Hinkley Center is to sponsor, conduct, and coordinate research that is pragmatic, applied, and timely. The research projects that the Hinkley Center sponsors focus on important issues and problems related to solid and hazardous waste management in Florida. The research should provide important information and assistance to the Florida Department of Environmental Protection (FDEP), local governments, and the private sector.

William W. "Bill" Hinkley



John D. Schert



John D. Schert
Director Emeritus



Currently Funded Hinkley Center Projects

Project

FSU – Dr. Abichou → Using Ambient Methane Concentrations to Estimate Total Landfill Emissions

FSU – Abichou → Investigating Possible Functional Stability and Completion of Post-Closure Care for Florida Slurry Wall Landfills (Year 2)

FL Poly – Anshassi → State of Recycling in Florida: Understanding the Costs, Environmental Impacts, and Ways to Improve

UCF – Chen, Reinhart → Life-cycle Assessments of Residential Curbside Collection Programs for Recycling Quality Improvement

FL Poly – Srinivasan → Development of an Economic Approach to Remediate Per- and Polyfluoroalkyl Substances in Landfill Leachate Via Adsorption Enhanced Solar Photocatalysis

Currently Funded Hinkley Center Projects

Project

UCF – Sun, Chen, Reinhart → An Efficient Landfill Surveying Method for Surface Emissions Monitoring and Cover Integrity Inspection

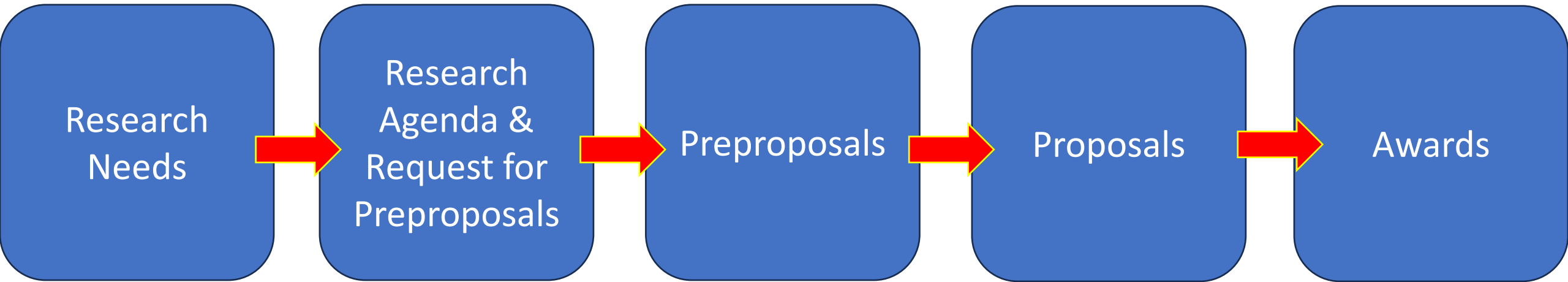
FSU – Tang → Fate of PFAS and Other Contaminants During Leachate Evaporation

FIU – Tansel → PFAS in biosolids: Partitioning during wastewater treatment and leaching from Florida biosolids

FIU – Tansel → Occurrence, types, and estimated quantities of PFAS in e-waste and appropriate management strategies for PFAS containing e-waste components

UF – Bowden → Closing the Mass Balance on PFAS in MSW Management Systems

Hinkley Center Award Process



Stakeholders

*Research Selection
Committee,
Advisory Board*

*Research Selection
Committee*

*Research Selection
Committee,
Advisory Board*

Recently Funded Hinkley Center Projects

Project

FSU – Chen, → Fate and Transport of PFASs in the Landfill- Impact of the perfluoroalkyl Chain Length

FSU – Tang → Fate and Transport of PFAS in Bench-Scale Municipal Solid Waste Landfills

USF – Kuhn → Carbon Capture from Gaseous Landfill Emissions Part 2: System Design Guidelines for Carbon Repurposing

FAU – Lashaki → Microwave-Assisted Conversion of Waste Tire to Adsorbent Materials for Removing Carbon Dioxide, Hydrogen Sulfide, Water Vapor, and Siloxanes from Landfill Gas

UCF/FSU – Yu, Chen, Abichou → Using a Digital Twin Approach for Designing and Evaluating Landfill Gas Emissions Modeling and Monitoring

Recently Funded Hinkley Center Projects

Project

UF – Martin-Ryals → Integrating Life-cycle Assessment and Machine Learning to Understand and Optimize the Value of Food Waste (FW) Utilization Via Anaerobic Digestion (AD)

UF – Ferraro, Riding → Autoclaved Aerated Concrete (AAC) using MSWI bottom ash as an aerating agent

UM – Solo-Gabriele → Does Sargassum spp. Compost Impact the Arsenic and Bacteria Levels within the Beach Environment?

UCF – Chen, Reinhart → Encouraging Better Residential Curbside Recycling Behavior and Improvement of the Cart-tagging Programs

How can you get involved?

- Provide research ideas
- Participate on project TAGs
- Review project reports
- Assist researchers
- Provide financial support

Hinkley Center 2023 Research Needs Survey

About: The Hinkley Center for Solid and Hazardous Waste Management is soliciting research needs for their next round of funding. The core mission of the Hinkley Center is to sponsor, conduct, and coordinate research on Florida solid and hazardous waste issues that are pragmatic, applied, and timely. The research should provide important information and assistance to the Florida Department of Environmental Protection (FDEP), local governments, and the private sector. Please share your research ideas:

1. _____

2. _____

3. _____

Your Name: _____

Email: _____

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Today's Agenda

Presenter	Topic
Dr. John Kuhn, Professor University of South Florida	Technologies for Upgrading Landfill Gas to a High-Quality Fuel
Dr. Helena Solo-Gabriele, Professor University of Miami	The Challenge of Managing Seaweed (Sargassum) Deposited on Florida's Beaches
Dr. Dan Meeroff, Professor Florida Atlantic University	A Novel Sensor for Detecting Landfill Odors
Dr. Tarek Abichou, Professor Florida State University	From ppm to Kg/hr: Using Surface Emissions Monitoring (SEM) Data to Infer Methane Emissions Fluxes from Landfills
Dr. Nick Chen, Assistant Professor, University of Central Florida	The Latest Research on Landfill Liner Equivalenc
Dr. Malak Anshassi, Assistant Professor, Florida Polytechnic University	State of Recycling in Florida