



SHC BOSC Subcommittee
Meeting, October 2021

Office of Research and Development

Sustainable and Healthy Communities Research Program Overview

Research Areas 7-8

Maureen Gwinn

SHC National Program Director



Sustainable and Healthy Communities National Research Program

National Program Director Team



Maureen Gwinn
National Program Director
(Lead NPD)



Sarah Mazur
Acting Principal Associate
National Program Director



Charles Maurice
Associate National Program
Director



Cheryl Hawkins
Acting Associate
National Program Director

Connections to Centers and Offices

Center for Environmental
Measurement and Modeling (CEMM)



Jennifer Cashdollar
Assistant Center Director
Topic 1: Research Areas 3/5

Center for Environmental
Solutions and Emergency Response (CESER)



Thomas Holdsworth
Assistant Center Director
Topic 1: Research Areas 1/2/4

Center for Computation
Toxicology and Exposure (CCTE)



Carlos Nunez
Assistant Center Director
Topic 2: Research Areas 6/7/8

Center for Public Health and
Environmental Assessment (CPHEA)



Susan Julius
Assistant Center Director
Topic 3: Research Areas 10/11

Office of Science Advisor, Policy,
and Engagement (OSAPE)



Intaek Hahn
STAR Grant Program Lead

Program Support



Aaron Ferster
Communications Lead
for SHC Related Topics



Michelle Latham
Outreach/Engagement Lead
for National Research Programs



Annelise Hill
Science Support for
National Research Programs



Hyon Kim
Budget Analyst



Nicholas Loschin
ORISE Fellow



Conner Burke
ORAU Contractor for SHC

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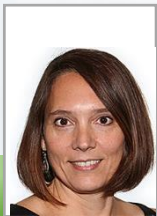
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Marc Russell
Assistant Center Director
Topic 3: Research Area 9

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From StRAP to Research Products

- ❖ **Engagement:** ORD is committed to an engaged, translational approach with partners for identification and development of products.
- ❖ **Teams:** Named Research Area Coordinators (RACs) to form RA Coordination Teams (RACTs).
 - RACs – SHC Assistant Center Directors (ACDs)
 - RACTs – ORD staff and EPA program and regional partners and selected states

Partners' Charge: *Refinements to problem statements or outputs, determine how StRAP outputs will support specific decisions and determine format of and timeline for products to support decision making.*

Scientists' Charge: *Determine if ORD has the skills/capacity to accomplish outputs and, in conjunction with partners, conceive and develop products to address the outputs.*



Research Implementation

- ❖ Planning by the National Research Programs
- ❖ Implementation by research Centers

Shared accountability and communication responsibility

Four Research Centers

- **Center for Public Health and Environmental Assessment (CPHEA)**
Tim Watkins, Director (*Acting*)
- **Center for Computational Toxicology and Exposure (CCTE)**
Russell Thomas, Director
- **Center for Environmental Measurement and Modeling (CEMM)**
Alice Gilliland, Director (*Acting*)
- **Center for Environmental Solutions and Emergency Response (CESER)**
Greg Sayles, Director



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ORD's Sustainable and Healthy Communities (SHC) Research Program

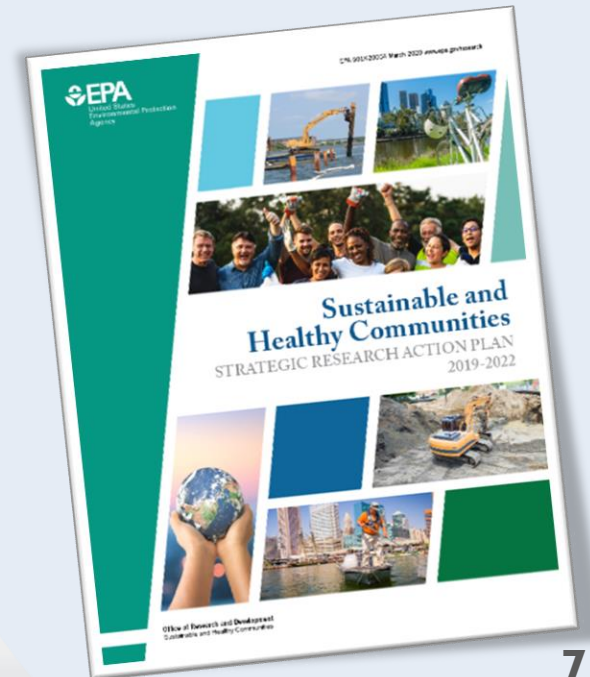


Research Areas/Priorities:

- Technical Support at Contaminated Sites and for Contaminated Groundwater
- Site Characterization and Remediation
- Solvent Vapor Intrusion
- Leaking Underground Storage Tanks
- Chemicals of Immediate Concern—PFAS & Lead
- Landfill Management
- Life Cycle Inventories and Methodologies (RA 7)
- Waste Recovery and Beneficial Use of Materials (RA 8)
- Community Benefits from Remediation, Restoration, and Revitalization
- Community-Driven Solutions
- Measuring Outcomes

FY19-22 Strategic Research Action Plan

SHC is guided by its StRAP developed through rigorous engagement with EPA programs and regions, states, and tribes to identify research needs.



BOSC Charge Questions: RA7

SHC expanded its research on *life cycle inventories and methodologies* in response to OLEM, regional, and state priorities under the Resource Conservation and Recovery Act (RCRA), which focuses on reducing material use at the source and recovering and reusing valuable materials from waste streams. ORD is focusing on the development of US-Environmentally-Extended Input-Output (USEEIO) economy-wide life cycle models to support key functionalities of various waste reduction, recovery, and reuse tools, as well as potential refinements or enhancements to the underlying datasets and models of those tools.

1. What recommendations does the BOSC have to improve ORD's USEEIO life-cycle model?
2. What recommendations can the BOSC SC offer to facilitate increased usability of ORD's life cycle inventories and methodologies by EPA and state- or tribal-delegated programs?

SHC expanded its research on **waste recovery and beneficial reuse** in response to OLEM's priorities of improved methods for sorting construction and demolition materials for reuse, and regarding source-term development to evaluate potential leaching from beneficial use, land disposal, and remediation. ORD research addresses effective and efficient materials reuse, protecting health and the environment while reducing natural resources consumption, waste generation, and the volume of materials disposed into landfills.

1. What recommendations can the BOSC offer to facilitate increased usability of ORD's construction and demolition materials research by EPA and state- or tribal-delegated programs?
2. What recommendations can the BOSC offer to improve future leaching predictions through increased use of the Leaching Environmental Assessment Framework (LEAF)?



Focus Areas and Outputs

Focus Area	RA(s)	Output
Life Cycle Inventories and Methodologies	7	USEEIO Economy-Wide Life Cycle Models
		Data and Methods to Advance EPA's SMM – Facts and Figures Report
		USEEIO Scenario Modeling Capability, Applications, and Guidance
		Characterization of Food Waste Reduction Strategies and Identification of Food Waste Prevention Solutions
Waste Recovery and Beneficial Use of Materials	8	Inventory and Assessment of Materials for Material Recovery and the Potential to Reduce Waste
		Methods to Improve Sorting of Construction and Demolition Materials for Reuse
		Leaching Tests to develop source terms to evaluate potential leaching from beneficial use, land disposal, and remediation
		Technologies that Beneficially Reuse Waste Products

Day 1

TIME (EST)	TOPIC	PRESENTER
12:00 - 12:15	Sign on and Technology check	
12:15 - 12:25	Meeting Kickoff/FACA Rules/expectations/logistics	Tom Tracy , Designated Federal Official, ORD Office of Science Advisor, Policy, and Engagement (OSAPE)
12:25 - 12:40	Welcome	Chris Frey , ORD Deputy Assistant Administrator for Science Policy
12:40 - 12:50	Subcommittee Chair Opening Remarks and Introductions	Courtney Flint , Chair, BOSC Subcommittee
12:50 - 1:10	SHC Opening Comments	Maureen Gwinn , ORD National Program Director for SHC
1:10 – 1:25	Research Implementation Engagement between ORD and OLEM	Carolyn Hoskinson , Director, Office of Resource Conservation and Recovery (ORCR/OLEM)
1:25 – 1:35	Implementation of Life Cycle Models, Inventories, and Methodologies Research in CESER	Greg Sayles , Director, ORD Center for Environmental Solutions and Emergency Response (CESER)
1:35 – 1:50	15-Minute Break	
<u>Charge Question 1: Improvements to USEEIO life cycle model and increased useability of life cycle inventories & methodologies</u> Charles Maurice , Associate National Program Director for SHC		
1:50 – 2:05	USEEIO national models and applications	Wes Ingwersen , CESER
2:05 – 2:20	USEEIO state models and applications	Wes Ingwersen , CESER
2:20 – 2:35	BOSC Subcommittee Discussion and Q/As	Courtney Flint , Chair, BOSC Subcommittee
2: 35– 2:50	Materials life cycle applications and tools - National facts and figures on material, waste, and recycling programs	Dave Meyer , CESER
2:50 – 3:05	BOSC Subcommittee Discussion and Q/As	Courtney Flint , Chair, BOSC Subcommittee
3:05 – 3:20	Developing life cycle models for managing plastics - Understanding material flows, processes, and potential consequences	Ray Smith , CESER
3:20 – 3:35	BOSC Subcommittee Discussion and Q/As	Courtney Flint , Chair, BOSC Subcommittee
3:35 – 3:50	Food waste management applications - Holistic and foundational organic waste management	Shannon Kenny , OSAPE
3:50 – 4:05	BOSC Subcommittee Discussion and Q/As	Courtney Flint , Chair, BOSC Subcommittee
4:05 – 4:15	Wrap-up Day 1	Courtney Flint , Chair, BOSC Subcommittee

Day 2

TIME (EST)	TOPIC	PRESENTER
12:00 – 12:15 PM	Sign on and Technology check	
12:15 – 12:20	BOSC Subcommittee Chair Opening Remarks	Courtney Flint , Chair, BOSC Subcommittee
12:20-12:30	Public Comments	Tom Tracy , DFO, OSAPE
12:30 – 12:40	Implementation of Waste Recovery and Beneficial Use Research in CESER	Greg Sayles , CD, CESER
<u>Charge Question 2: Increased useability of construction/demolition materials research and the Leaching Environmental Assessment Framework (LEAF)</u> Carlos Nunez , Assistant Center Director, CESER		
12:40– 12:55	Leaching Tests to develop source terms to evaluate potential leaching from waste beneficial use, land disposal, and treatment	Susan Thorneloe , CESER
12:55 – 1:10	BOSC Subcommittee Discussion and Q/As	Courtney Flint , Chair, BOSC Subcommittee
1:10 – 1:25	Current and future focus for Leaching Environmental Assessment Framework (LEAF)	Susan Thorneloe , CESER
1:25 – 1:40	BOSC Subcommittee Discussion and Q/As	Courtney Flint , Chair, BOSC Subcommittee
1:40 – 1:55	15-Minute Break	
1:55 – 2:10	Technology-Enabled Construction and Demolition Debris Recovery	Thabet Tolaymat , CESER
2:10 – 2:25	BOSC Subcommittee Discussion and Q/As	Courtney Flint , Chair, BOSC Subcommittee
2:25 – 2:35	Wrap up Day 2	Courtney Flint , Chair, BOSC Subcommittee
2:35 – 4:00	BOSC Subcommittee Deliberations	Courtney Flint , Chair, BOSC Subcommittee
4:00 – 4:30	BOSC Subcommittee Summarize Back and Final Q/As	Courtney Flint , Chair, BOSC Subcommittee



Points of Contact

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