

SUSTAINABILITY INSTITUTE

at Ohio State



Healthy Land and Water



Sustainable Energy



Smart and Resilient Communities



THE OHIO STATE UNIVERSITY
SUSTAINABILITY INSTITUTE



TIME TO ACT ▶



Today, our planet's life support systems are rapidly transforming. The ecosystems that sustain us are fluctuating, due to continued population growth, resource consumption, environmental degradation, and climate change.

As a society, we stand at a crossroads between a sustainable and resilient future, and one that leaves future generations to deal with unprecedented environmental change, resource scarcities, and growing social inequities.

At The Ohio State University, we are poised to make lasting contributions to solving many of the world's most complex and pervasive challenges. Our interdisciplinary research capacity, culture of problem solving, and strategic partnerships with private industry, public agencies and non-governmental organizations offer countless opportunities to create transformational change in Ohio and around the world.

We invite you to partner with us to build a more sustainable and resilient future for all. The time to act is now.

Harvey J. Miller
Professor, Reusche Chair in Geographic Information Science
Director, Center for Urban and Regional Analysis



At the Center for Urban and Regional Analysis, we are working with the Sustainability Institute, Smart Campus and our regional partners to develop the Sustainable Columbus Observatory (SCO), an online data warehouse, portal and interactive dashboard that will benchmark sustainability indicators for campus and central Ohio. SCO is also a community of researchers investigating how social, environmental, and economic factors contribute to sustainability, including how policies influence sustainability outcomes. SCO facilitates new forms of convergent sustainability science with benefits for Ohio and beyond.



Smart and Resilient Communities

OHIO STATE — A SUSTAINABILITY LEADER

Sustainability improves the well-being of society while protecting—even enhancing—Earth’s life support systems. Sustainability depends on the resilience of natural and human systems and the ability of communities to recover, adapt and flourish in the face of changing environmental, economic and social conditions. A more sustainable and resilient future will require highly integrated and collaborative approaches to managing large and complex systems such as those that produce our food, supply our energy, and run our cities. Ohio State is a leader in developing sustainability solutions thanks to our interdisciplinary capacity, problem-solving culture and strategic partnerships. Through our own actions and by helping others, we are making a difference.



- **INTERDISCIPLINARY CAPACITY**

A comprehensive approach to sustainability research is only possible at an institution with the size and diversity of Ohio State. We bring scholars together—working on a wide range of research and technological innovations—to discover new approaches and solutions to persistent problems. Ohio State is a leader in key areas including climate change, behavioral science, environmental economics, resilient infrastructure design, materials and energy technology innovation, and environmental health sciences.

- **PROBLEM-SOLVING CULTURE**

Ohio State’s land-grant mission compels us to discover and disseminate knowledge to improve public well-being. We do not focus on research in isolation, but instead seek to match new discoveries to practical applications. The large footprint of our campuses provides limitless opportunities to test innovations and provide firsthand learning opportunities.

- **STRATEGIC PARTNERSHIPS**

Ohio State is located in a state with a highly diverse economy that places many sustainability challenges at our doorstep: the intersection of agriculture and water quality; the environmental footprint of energy production; the interface between rural and urban areas; and the impact of urban development on social equity. Our researchers have a clear vantage point into pressing issues while cultivating meaningful relationships with stakeholders.



Healthy Land and Water

Robyn Wilson

Associate Professor

School of Environmental and Natural Resources



My research seeks to incorporate more realistic expectations about human behavior into modeling efforts that explore the impact of potential policies on land-water systems. Assumptions about how people might respond to a new policy or program aimed at promoting sustainability may lead to over- or underestimations of the effect of that policy on environmental quality. Focusing on how farmers respond to policies and programs aimed at improving soil health and water quality provides better estimates of the actual change that occurs across the watershed, to identify the policies that will be the most robust to variation in farmer decisions.

UNPARALLELED OPPORTUNITIES FOR RESULTS



The vision of the Sustainability Institute is to realize the full potential that Ohio State can contribute to a more sustainable and resilient future for all. Our role as a leading public institution of sustainability education, research, engagement, and applied solutions allows us to integrate knowledge and build partnerships toward that vision. We look forward to partnering with you as we work to solve local and global sustainability challenges through discovery and innovation, teaching and learning, and community engagement.



- 15** internationally recognized centers for sustainability research
- Byrd Polar & Climate Research Center
 - Center for Applied Plant Sciences
 - Center for Automotive Research
 - Center for Carbon Management and Sequestration
 - Center for Emergent Materials
 - Center for Energy, Research, Training & Innovation
 - Center for Urban & Regional Analysis
 - Environmental and Social Sustainability Lab
 - Initiative for Food and AgriCultural Transformation (InFACT)
 - Institute for Materials Research
 - Stone Laboratory and Ohio Sea Grant
 - Ohio Water Resources Center
 - Olentangy River Wetland Research Park
 - Risk Institute at the Fisher College of Business
 - STEAM Factory

• DISCOVERY AND INNOVATION

Today, major challenges facing society include sustainable food and water production, climate change, and accelerating urbanization. The land-grant mission of Ohio State compels us to discover and enhance knowledge in order to drive significant advances for public well-being. We have 600 faculty and researchers, representing eight colleges and 41 academic departments, who study sustainability issues. Since 2014, we have hired 60 faculty with the specific charge of contributing to sustainability and resilience research, teaching, and collaboration.

• TEACHING AND LEARNING

Ohio State invests in the future by educating tomorrow's leaders and change agents. We offer 74 undergraduate majors and graduate programs that identify one or more sustainability-related learning outcomes, 458 sustainability courses, and 672 courses that include sustainability-related content. We provide internal opportunities for project-based and experiential learning, as well as external internships and experiences, for our students.

• COMMUNITY ENGAGEMENT AND OUTREACH

Durable solutions to sustainability challenges require community engagement and lasting partnerships with our stakeholders. Ohio State has a long history of engaging urban and rural communities in ways that are highly responsive to their needs and interests. OSU Extension reaches all 88 counties, while our faculty have relationships throughout the Midwest, nation and the world. We strive to develop solutions that promote social equity and ensure that enjoyment of the benefits from sustainability is widespread.

David Cole
Professor of Earth Sciences
 Ohio Research Scholar



Global climate change with substantial global warming may be the most important environmental challenge facing our world. Geological formations, such as depleted oil and gas fields and brine aquifers, are likely to provide the first large-scale opportunity for safely storing large volumes of carbon dioxide, the principle greenhouse gas. My group studies the chemical and physical processes that control the fate of carbon dioxide in the subsurface, in terms of the permanence of storage as well as the potential for leakage back to the surface.

Sustainable Energy

OHIO STATE SUSTAINABILITY

By the Numbers

600

Faculty and research staff engaged in research surrounding sustainability issues

MORE THAN

1,000

courses that support sustainability learning

23

LEED Gold, Silver and Certified buildings

15%

of Columbus campus electrical energy provided by wind power

80+

active student organizations focused on sustainability issues

7

strategic sustainability goals to guide the university vision

Carbon neutrality by

2050



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