



GRAHAM
SUSTAINABILITY INSTITUTE
UNIVERSITY OF MICHIGAN

Sustainability News



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Director's Message

It's hard to believe more than five years have passed since joining Graham, but because I'm having so much fun seeing our growth and its impact within and beyond the university, I happily accepted a second term as Director. As we embark upon this next chapter, we are working hard to define the future we want for the Institute.

Toward this end, our full staff recently engaged in a full-day, professionally-facilitated retreat where we came together to share ideas for what we collectively want the institute to be in 2020. The resulting document provides a shared vision and flexible roadmap for where we are heading.



As next steps, the centers will draw upon the document to develop center-level visions, goals, objectives, initiatives, and metrics to track where we are en route to the vision.

We are happy to begin this next chapter with ongoing support from the Erb Family Foundation and the Dow Chemical Company, and with a generous new gift from the Graham Family Foundation that continues to support the Institute's core functions. This critical base of support continues to allow us to attract additional resources from corporations, government agencies, foundations, and the university to support us as we translate knowledge for practical application, enable transformative learning, and bolster U-M's leadership.

We have much good work left to do but, as I begin this second term, I could not be more excited for the tremendous opportunities that lie ahead for the Graham Institute.

Sincerely,

Don Scavia

Moving Forward

Graham Institute Begins Next Chapter with New Gift & New Name

The University of Michigan recently received a new gift commitment from the Graham Family Foundation, which enables the Graham Sustainability Institute to achieve greater impact through continuing support for its interdisciplinary sustainability research, education, and engagement efforts.

Established in 2006, the core purpose of the Institute is to foster sustainability at local, national, and global scales by systematically bringing together and harnessing talents across all U-M units. This work focuses on three key areas: *Translational Knowledge*, *Transformative Learning*, and *Institutional Leadership*.

"We are very proud of the work we do to advance sustainability knowledge, learning, and leadership at U-M," said Graham Family Professor Don Scavia, who just entered a second term as the Institute's director. "As we embark on our next chapter, we are exceedingly grateful to the Graham Family Foundation for empowering us to continue our efforts to make a positive difference in the world."

As part of the new gift agreement, the Institute's name has been officially changed from the Graham Environmental Sustainability Institute to the Graham Sustainability Institute. Graham Deputy Director and Chief of Staff Andrew Horning explained the rationale behind the name revision.

"At its core, sustainability is about finding solutions that harmonize environmental, societal, and economic considerations. Our new name better conveys the breadth of our work, and the fact that it draws upon expertise from all corners of the university."

The Graham Institute currently comprises 35 team members spanning four primary program areas: education, integrated assessment, climate, and water. Through the generosity of a wide range of individuals, foundations, and corporations, the Institute has undergone a dramatic expansion since being founded just eight years ago.

"I've been proud to watch the Institute grow and mature into a talented and formidable team," says Donald Graham, chairman of the Graham Family Foundation.

"We are honored to help support this important work to pursue collaborative and meaningful solutions to global sustainability challenges, while simultaneously cultivating the next generation of sustainability leaders."



Sustainability Cultural Indicators Providing Valuable Insights on Campus

Significant progress has been made with the **Sustainability Cultural Indicators Program (SCIP)**, a first-of-its-kind survey effort the Graham Institute is overseeing with the Institute of Social Research to measure and analyze the culture of sustainability on U-M's Ann Arbor campus over a six-year period.



SCIP kicked off campus-wide in October 2012 by surveying more than 6,600 students, faculty and staff about their sustainability knowledge, beliefs and behaviors. A first-year report, titled "**Monitoring the Culture of Sustainability at the University of Michigan: Fall 2012**," was distributed and discussed with units across campus. And those discussions have helped to inform a variety of sustainability education and outreach efforts on campus.

For example, SCIP survey results indicated that U-M staff were significantly less aware of public transportation options and climate change issues than students and faculty. Therefore, U-M Parking & Transportation Services developed an outreach campaign to educate employees about public transportation options. In addition, a climate-focused Campus Sustainability Town Hall was held on campus last fall, and a recent issue of our Planet Blue Ambassador newsletter covered alternative transportation alternatives. The Office of Campus Sustainability and Graham Institute are also coordinating with U-M Human Resources to cover sustainability topics during Employee Orientation.

Not only is SCIP providing valuable insights to foster improvements in sustainability knowledge and behavior on campus, but the overall program is garnering quite a bit of recognition, as well. For example, more than 30 requests have been received for copies of the survey instruments from institutions across the U.S. and other countries. Three book chapters and one journal article have been produced on the SCIP process and results, and the program has been accepted for presentation at more than 10 major conference events including six international venues (India, Ireland, Taiwan, Brazil, Romania, and the UK). The Graham Institute is now considering expanding the program to a national level.

A second round of surveys was sent to a new sample of faculty, students, and staff in December 2013, and results from this second-year SCIP survey will be available this summer. Learn more at graham.umich.edu/leadership/scip.

Research in the Region

Hydraulic Fracturing in Michigan Integrated Assessment

Having published seven technical reports on key topics related to hydraulic fracturing in Michigan, the Graham Institute is now developing the Integrated Assessment Final Report—a single, cross-cutting report analyzing strategic policy options to address the guiding question:

“What are the best environmental, economic, social, and technological approaches for managing hydraulic fracturing in the State of Michigan?”



This phase of the project—which is explained in detail in an *Integrated Assessment Plan (PDF)* on Graham’s website—draws on multidisciplinary analysis of information from the technical reports, additional peer-reviewed material, and continued broad stakeholder input.

Released in September 2013, the seven technical reports were developed by faculty-led and student-staffed teams, and cover the following subjects and issues: Technology; Geology/Hydrology; Environment/Ecology; Public Health; Policy/Law; Economics; and Public Perceptions.

An advisory committee is providing input to the project. Members include representatives from the Office of Governor Rick Snyder, the Department of Environmental Quality, the Michigan Oil and Gas Association, the Michigan Department of Natural Resources, the Michigan Environmental Council, and the Tip of the Mitt Watershed Council.

The two-year Integrated Assessment is expected to be completed by the end of 2014.

Details, reports, and the IA Plan are available at graham.umich.edu/knowledge/ia/hydraulic-fracturing.

Interactive Mapping Tool to Support Adaptation Planning

A new interactive map gives Great Lakes policymakers and decision-makers easy access to targeted data to help them plan for, and adapt to, the regional impacts of climate change.

The free online tool—titled the **“Socioeconomics and Climate Change in the Great Lakes Region”** map—provides social, economic, and demographic statistics on 225 counties in the region, overlaid with detailed data about municipal spending, land-use change, and climate-change characteristics. It was co-developed by the Graham Institute (as part of our Great Lakes Adaptation Assessment for Cities project, known as GLAA-C) and Headwaters Economics, an independent, nonprofit research group. The Kresge Foundation funded and facilitated the collaboration.

Visit graham.umich.edu/glaac/great-lakes-atlas.

National Media Coverage about Lake Erie Study

The need to reduce phosphorus runoff into Lake Erie by nearly 50 percent was recently brought to the public eye, thanks to national media coverage about EcoFore-Lake Erie, a multi-institution study that documents trends in Lake Erie’s health. Graham Institute Director and Aquatic Ecologist Don Scavia is principal investigator for the project, which offers science-based guidance to policymakers seeking to reduce the size of toxic algae blooms and oxygen-starved regions called “dead zones” in the lake.

“The new target is very ambitious but is achievable if the region agrees to adopt agricultural practices that help reduce the amount of phosphorus-bearing fertilizer washing off fields,” said Scavia in a U-M news release about the Lake Erie assessment. “We believe this EcoFore synthesis report provides important input to the U.S. and Canadian teams charged with setting new phosphorus load targets for Lake Erie.”



This effort is being facilitated by the U-M Water Center. Media coverage about this important issue and new report included ABC News, the Detroit Free Press, New York Times, and Washington Post.

Learn more at graham.umich.edu/news/ecofore-media.

Great Lakes Initiatives

Great Lakes Oceanography Class Repeated

A new two-week Field Methods in Great Lakes Oceanography course co-taught by three Water Center research scientists was so successful last spring that it is being repeated again Spring Term 2014.



The hands-on course, which is based at the U-M Biological Station, includes Lake Michigan ship time aboard the *Laurentian*, an 80-foot, university-owned research vessel leased and operated by the National Oceanic and Atmospheric Association (NOAA).

"I learned more about the Great Lakes in two weeks than I have in my whole life," said a student in a course evaluation. Another participant said "I felt like I was doing the real work of an oceanographer."

Integrated Assessment on Great Lakes Water Levels

As announced by Don Scavia at the Environmental Law & Policy Center's "Science-Policy Confluence Conference: Great Lakes Water Levels" hosted by the U-M Biological Station in March 2014, the Graham Institute and U-M Water Center are developing an Integrated Assessment to consider options for addressing fluctuations in Great Lakes water levels, which reached historical lows in 2013.



The upcoming Assessment will examine socially, politically, and economically feasible policy and management options for addressing lake-level fluctuations.

News about our Integrated Assessment was picked up by numerous print, broadcast, and online media outlets, including the Wall Street Journal, WEMU 89.1 (NPR), TwinCities.com, Green Bay Press Gazette, WDET 101.9 (NPR), and others.

Learn more at graham.umich.edu/knowledge/ia/water-levels.

Building U-M's Freshwater Research Capacity

The University of Michigan wants to be the "go to" place for freshwater research and solutions, and \$758,000 in grants recently awarded to eight interdisciplinary research teams by the U-M Water Center is helping to build on this capacity.

"We challenged the U-M community to cross departmental and disciplinary boundaries to assemble teams best-equipped to address the most complex issues facing freshwater ecosystems, and the response was tremendous," said Water Center Director Allen Burton.

The RFP offered two levels of funding: leveraging grants, up to \$50,000, to develop curriculum, support instrument acquisition, or support graduate students and fellows; and grants up to \$250,000 for larger, cross-departmental efforts that cultivate new research partnerships and capabilities as the basis for long-term freshwater research efforts at the University. The Water Center has awarded more than \$1.2 million since last November to increase freshwater research capacity at the university.



Ecosystem Management Tools

The U-M Water Center has awarded a \$214,600 grant to support the development of new, web-based, ecosystem management tools for the Great Lakes region. The tools will facilitate access to habitat data at multiple spatial scales to support planning and research analysis such as predicting land use impacts on harmful algal blooms and effects of invasive species or climate change on the food web. The project will link planning, restoration, and management needs from across the basin to identify and prioritize objectives for the tools as identified by the management and research community.

Learn more about all of these water-related initiatives at graham.umich.edu/water



Planet Blue Program Awards

Dow Distinguished Award in Sustainability

Four teams of U-M graduate students were recently selected to receive **Dow Distinguished Awards for Sustainability** totaling more than \$135,000.

As part of U-M's Dow Sustainability Fellows program, the Distinguished Awards are intended to spur multidisciplinary collaborations toward sustainability solutions on local to global scales. A unique aspect of the competition is that it welcomes collaborations with external entities, such as municipalities and non-profit organizations.

"It's very exciting to grant the first of the Dow Distinguished Awards for Interdisciplinary Sustainability at the University of Michigan, enabling the winning teams to pursue projects that drive sustainability here at home and around the world," said Neil Hawkins, Corporate Vice President of Sustainability at The Dow Chemical Company.

Projects selected for the award were based on criteria of interdisciplinarity, innovation, and potential impact. Project titles and objectives are as follows:

- **Enabling Energy Efficiency in Rental Properties:** Overcome disadvantages that members of the residential rental market face when seeking to finance energy efficiency projects in their units.
- **Greenhouse Gas Inventory for the City of Detroit:** Compile the first comprehensive inventory of greenhouse gas emissions in Detroit.
- **Retrofitting Ann Arbor: The Living Building Challenge:** Retrofit a 112-year-old house in Ann Arbor, so the home will meet parameters of what's called a "Living Building."
- **Water Demand Management for Improved Adaptation by Small Farmers in Semi-Arid India:** Investigate how water-demand management in a semi-arid region of India can be more resilient to the impacts of climate change and variability.

A dozen teams entered the competition, and winners were selected by a diverse group of sustainability experts including U-M faculty and external practitioners from business, government, and civil society. The Dow Sustainability Fellows program is administered by the Graham Institute.

Learn more at sustainability.umich.edu/education/dow.

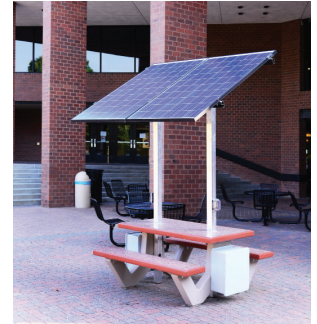


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Planet Blue Student Innovation Fund

The **Planet Blue Student Innovation Fund (PBSIF)**, which funds significant student-initiated sustainability projects on campus, recently selected the following six project teams to receive a total of nearly \$69,000 in project support in 2014:

- **Solar-Powered Workstations:** Place picnic tables equipped with solar-powered charging stations on north and central campus and show just how easy it can be to incorporate solar into everyday life.



- **Bees on Roofs/ Roofs on Bees:** Put bee-hives on a roof on central campus and establish a honeybee sanctuary at the Campus Farm.



Native Grass at Music School Pond:

Replace some of the turf grass at the School of Music pond with native grasses, thus helping re-establish the natural ecological system of the area.

- **Events Based Composting Program:** Create a culture of reuse at the University of Michigan by establishing student-run, event-based compost programs within four academic units across campus.
- **Food Recovery Network:** Divert leftover food from U-M Dining Halls to local food banks.
- **Environmental Community Program:** Start a community program focused on giving U-M students opportunities to explore environmental issues on campus.

Projects were selected by a PBSIF student review board. Most of the projects aim to kick off by Fall 2014. The PBSIF program is administered by the Graham Sustainability Institute.

Learn more at sustainability.umich.edu/pbsif.

Student Spotlights

New Need-Based Scholarship for Graham Scholars

Patricia and Jim Robertson are passionate about the University of Michigan, sustainability, and helping students in need. As a result, these U-M alumni established the Rosario and Yvonne Sommella Scholarship Fund (in honor of Patricia's parents), which offers need-based scholarships to deserving students involved in the Undergraduate Sustainability Scholars program, the Graham Institute's supplemental studies program. The award provides much needed tuition support during the students' senior year.

The first recipient of the Somella award was Sustainability Scholar and Business major Megan Biner, of Crystal Lake, Illinois. As part of the Graham program, Megan studied sustainable business practices in Costa Rica to fulfill the field-study requirement. According to Biner, she could not have had this international learning experience had it not been for the financial support of Sommella Scholarship, which she received last fall.

"My professional goal is to work in eco-entrepreneurship, and I have a particular interest in clean energy," Biner said. "The experience in Latin America will undoubtedly help me to move quicker towards this goal. I am very grateful to the Robertsons for supporting me in my quest."

Learn more at graham.umich.edu/learning/student-support.

Scholars Program Highlighted in Sustainability Journal

A profile about the Graham Institute's Undergraduate Sustainability Scholars program was recently published in *Sustainability: the Journal of Record*. The article focused on how our nine-credit supplemental studies program empowers participants to become leaders in sustainability. The program profile was written by Graham Education Director Mike Shriberg, Ph.D., former Sustainability Scholar Sarah Schwimmer, and recent U-M master's graduate Lindsey MacDonald.

Article available at graham.umich.edu/knowledge/pubs.



Michigan Journal of Sustainability

A team of doctoral fellows from the University of Michigan Graham Sustainability Institute recently launched the Michigan Journal of Sustainability—an online, open-access periodical designed to make academic sustainability research easier to understand and use.

The new resource, which provides translated, peer-reviewed articles about a wide variety of sustainability subjects, aims to appeal to readers from a broad range of specialties and backgrounds, with papers edited to be intelligible to non-academics, concerned citizens, and others reading outside their own area of expertise.

"This journal fills an important and underserved niche of translating complex interdisciplinary research into a practical form that stakeholders, practitioners, and policymakers can use to better understand sustainability challenges," says Prof. Don Scavia, director of U-M's Graham Sustainability Institute, which sponsored the journal's development. "It was planned with real-world applications in mind."

Access the journal at graham.umich.edu/mjs.

Forty Master's Students Accepted into U-M's Dow Sustainability Fellows Program

Forty sustainability-minded master's and professional-degree students from eight U-M schools and colleges recently started the 2014 Dow Sustainability Fellows program, through which they each receive \$20,000 for their studies and become part of a collaborative community of scholars focused on sustainability.

"We're happy to see this diverse group of students accepted into the Dow Fellows program," says Don Scavia, director of the Graham Institute, which administers the program on the university's behalf. "The best ideas and solutions come when diverse perspectives are brought together, and that's what this interdisciplinary fellowship is all about."

The new fellows were selected from a distinguished group of 72 nominees (each U-M school/college could nominate up to 10 candidates) and are the second cohort of Dow Sustainability Master's Fellows at the university.

Learn more at sustainability.umich.edu/education/dow.

University of Michigan
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Climate Adaptation Conference June 24-26, 2014

Mark your calendars for the Graham Institute's "*Adaptation in the Great Lakes Region*" Capstone Conference from June 24 to June 26, 2014 at the University of Michigan.

Participants will learn about climate adaptation efforts across sectors and scales and discuss next steps to building a resilient region. This three-day Capstone Conference will be held at different locations on U-M's Central Campus in Ann Arbor. The early registration fee is \$150 (\$75 for students).

The Conference is being jointly organized by U-M's Graham Sustainability Institute, the Great Lakes Adaptation Assessment for Cities (GLAA-C) project, the Great Lakes Integrated Sciences & Assessments (GLISA) Center, the American Society of Adaptation Professionals, the Institute for Sustainable Communities, and the Kresge Foundation.

Details at graham.umich.edu/glaac/capstone2014

