



Urban Watershed  
Environmental  
Research Group

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[engineering.wayne.edu/uwerg](http://engineering.wayne.edu/uwerg)

## FUNDING ANNOUNCEMENT: Healthy Urban Waters

The Urban Watershed Environmental Research Group at Wayne State University (UWERG) recently received a 3-year grant from the Erb Family Foundation for developing *Healthy Urban Waters* (ERB-HUW) research. An important element of that grant is the development of field-based research advancements and capabilities at the evolving urban field stations at Lake St. Clair Metropark (LSCMP), Belle Isle, and the Detroit Water and Sewerage Department (DWSD) Water Works Park Pilot Plant. Funding from the ERB-HUW grant along with complementary internal funding will be used to support seed projects and associated equipment improvements that will be based at one or more of these three locations and align with one or more of the following areas of emphasis:

1. Pure water for the local population
2. Understanding the ecosystems associated with the Lake St. Clair and Detroit River watersheds and the life they support
3. Understanding natural and engineered processes affecting water and affected by water
4. Sustainable water-related economic development
5. Water resource regulatory policies
6. Energy/Water/Environment interface impacting urban watersheds
7. Community outreach and education associated with use of these field stations



sponsored  
by the **Erb Family Foundation**

We anticipate funding approximately 3-5 projects each of the next two years, with each grant expected to be in the range of \$20,000-\$35,000 for a six-month timeframe. Funding is expected to be SEED funding for projects that will spur further external funding at the research stations, and/or lead to collaborations among scientists from multiple institutions, and/or spur community use of the field stations with WSU leadership.

Individual faculty members and collaborative research teams led by full-time WSU faculty are invited, by means of this memo, to develop proposals that are responsive to this funding announcement. Information about the field facilities is attached. For more information about UWERG see <http://engineering.wayne.edu/uwerg/pilot-research-themes.php>.

A **meeting** will be held on **January 12, 2016 from 1 to 2 p.m.** in **room 6202** (sixth floor) of the Maccabees Building, **5057 Woodward Avenue**, to provide an overview of the funding guidelines and

answer questions about this program. Potential applicants are highly encouraged to attend. However, if schedule conflicts prevent participation in the meeting, questions may be sent via email to [water@wayne.edu](mailto:water@wayne.edu).

**Application Submittal:** There are no proposal forms. The funding application submittal and review will proceed as follows:

A proposal summary, narrative, and full budget should be submitted in which the following are summarized: (1) research objectives and plan, (2) all participating faculty, researchers and staff, (3) proposed location of project, unique need and relevance of the location, and expected presence (time/duration/months) spent by the researcher at the field facility during the funding period, (4) budget (maximum 6-month budget), and (5) potential of the project to spark larger externally funded efforts with collaborating national/international laboratories, government and/or industry. The narrative and budget are expected to range from **four to six pages** total. **Biosketches (not to exceed two pages each)** of the participating faculty should be appended. Proposal and biosketches are due by e-mail attachment in a single pdf document with subject line **"Healthy Urban Waters"** to [uwergr@eng.wayne.edu](mailto:uwergr@eng.wayne.edu) **no later than 5:00 PM on February 12, 2016.** Award recipients are expected to implement funded projects as soon as possible and complete projects within 3-6 months.

**Review Process:** A review committee consisting of equal numbers of (1) faculty selected by OVPR and (2) members of the UWERG Advisory Committee will evaluate the proposals on the following criteria:

- Relevance of project to the intent of the RFP
- Significance of the project
- Demonstrated excellence of the participating faculty
- Clarity and viability of the research or project plan
- Place-based at the selected field station(s)
- Scientific merit
- Potential to secure external grant funding, a fellowship award, or a commission for further study or dissemination of the project
- Opportunity to develop partnerships with industry, government, or national/international laboratories

Prior to award, proposals will require the approval of all deans of the faculty involved. **Award recipients will be informed by the OVPR by mid-April 2016.**

We look forward to receiving your proposals.



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## Get Involved!

The HEART Field Stations are available for visiting researchers. See back for details.

# HEART

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## FIELD STATIONS



### Detroit Water and Sewerage Department (DWSD)

The DWSD Water Treatment Pilot Plant is an operational 1:12,000 scale replica of the water treatment plant (WTP) system used by DWSD. The pilot plant allows city water managers and researchers to manipulate various steps along the water treatment pathway and, since it uses the same source water as the real system, evaluate the effects on Detroit municipal drinking water quality.

#### Current Research

1. Evaluation and optimization of current drinking water treatment strategies to detect, measure, and remove contaminants of emerging concern (CECs)
2. Monitoring and optimization of water treatment energy consumption
3. Automation of microorganism detection for drinking water quality and invasive species prevention



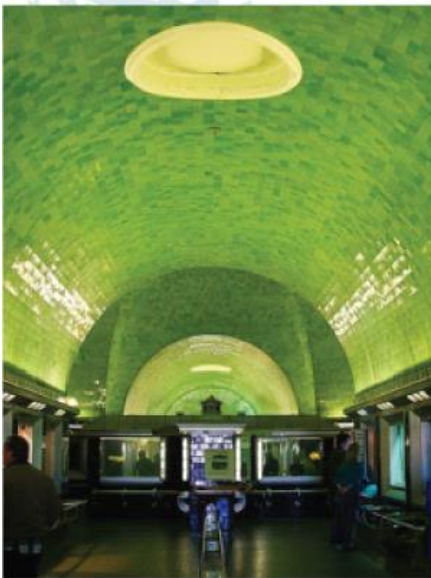
### Lake St. Clair Metropark (LSCMP)

LSCMP is a 750 acre natural and recreational space that includes a large public swimming beach and a laboratory equipped for freshwater analysis and accelerated pathogen detection. Natural areas provide opportunities for habitat and wetland restoration study while the built environment, such as parking lots with recent green and blue infrastructure interventions, allow study of interactions in natural and human systems.

#### Current Research

1. Technique development for rapid culture and characterization of microorganisms using molecular methods
2. Evaluation of on-site green/blue infrastructure
3. Calibration of numerical models of the groundwater/-surface water interface (GSI)
4. Restoration of Great Lakes freshwater marshland



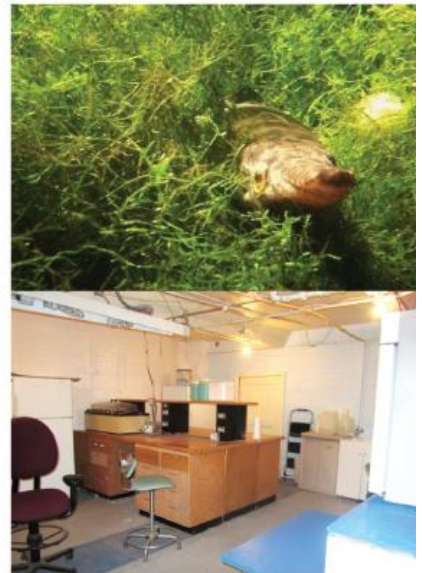


## Belle Isle Aquarium Field Station

Belle Isle State Park is 980 acres with access to forested wetland, waterways, and shoreline ideal for observation and sample collection of invasive plants and aquatic organisms. Lab facilities in the lower level of the historic Belle Isle Aquarium are equipped for zoological, physiological, morphological, and molecular aquatic ecology investigations. The aquarium location provides access to unique organisms, simulated natural habitats, aquaria space, and knowledgeable staff.

### Current Research

1. Algae influences on Dreissenid mussel reproduction
2. eDNA tools to monitor gar restoration
3. eDNA education for detection of invasive species
4. Automated detection system for organisms in ship ballast water



## Visiting researchers welcome!

Arrangements to use the HEART field station facilities can be made by qualified researchers. Interested investigators may submit proposals or request information via:

Email: [water@wayne.edu](mailto:water@wayne.edu)  
Phone: 313-577-3870

Small grants for collaborative projects may be available.

### Wayne State University faculty

Dr. Carol Miller

Dr. David Pitts

Dr. Jeffrey Ram

Dr. David Szlag,  
Oakland University



### Wayne State University faculty

Dr. Yongli Zhang

Dr. Shawn McElmurry

Dr. Donna Kashian

Richard Kik IV,  
Belle Isle Aquarium



HEART investigators are united by their passion for safe and healthy food, energy, and water systems starting right at home in the Great Lakes.

## Locations



Lake St. Clair Metropark  
31300 Metro Pkwy, Harrison  
Charter Township, MI 48045



DWSD Water Works Park  
10100 E Jefferson Ave,  
Detroit, MI 48214



Belle Isle Aquarium  
900 Inselruhe Ave,  
Detroit, MI 48207

Lake Michigan

Lake St. Clair

Lake Erie

Lake Ontario