Michigan Green Labs Initiative – Resources and Opportunities

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August 12, 2014

Michigan Green Labs

Michigan Green Labs Initiative Background

- U.S. EPA P2 grant
  - Focus on pollution prevention, toxics reduction, and green chemistry
- Received grant late 2012; work has occurred since January 2013
- Mission:
  - The Michigan Green Labs Initiative (MGLI) is an effort dedicated to promoting sustainability within academic and institutional laboratories. The MGLI strives to facilitate the implementation of pollution prevention and energy conservation best practices and techniques without compromising the safety or integrity of laboratory research.

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Michigan Green Labs Initiative Grant

- Goals:
  - Hold workshop and develop materials
  - Partner with institutions interested in green lab practices
  - Create network and opportunities for partners with laboratory operations
  - Provide small amount of competitive funding for partners
  - Encourage partners to implement new pollution prevention and green practices
  - Report environmental performance results

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MGLI Background

- Laboratories have been identified as a major opportunity for environmental improvement on campuses and within institutions.
- Labs are energy intensive, using 5 to 10 times more energy per square foot than an average office building. Fortunately, there are ways to improve efficiency and reduce energy use. The US EPA's Laboratories for the 21st Century (Labs21) program estimates that most labs can reduce energy use by 30 to 50 percent.
- A key step towards identifying savings is to assess how efficiently your lab uses energy and resources. This is the key principle behind the Michigan Green Labs self-assessment process.

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MGLI Project

2013

- Student research
- Materials development
- Workshop #1 in Ann Arbor
- Website

What's New?

- MSU host partner for 2014 workshop
- New partners
- Request for Proposals out
- Example results fact sheet

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MGLI Research – Lab Sustainability Principles

<u>Pollution Prevention</u>

- Toxic source reduction
- Hazardous product substitution
- Waste neutralization
- Waste disposal
- Contamination avoidance
- Spill prevention

<u>Energy and Material Conservation</u>

- Utility use minimization
- Micro analytical procedures
- Green purchasing
- Reusable components
- Recyclable systems
- Water use mitigation

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MGLI Materials Version 1.0

- MGLI Laboratory Coordinator Materials
  - Ideas and suggestions:
  - How to start with examples
  - Green Team and buy-in
  - Measurement and tracking
  - Recognition/certification
  - U of M case study

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Green Labs Coordinator Packet

Version 1.0

July 31, 2013

MGLI – Self-Assessment Method

The purpose of a laboratory self-assessment is to:

- Identify laboratory components applicable for environmental improvement.
- Introduce best known practices that maximize efficient use of energy and resources.
- Facilitate the implementation of recommended sustainability-focused techniques.
- Provide a mode of recognition for successful optimization of laboratory operations.

Post-Certification Benefits For Laboratory

- Reduced pollution and a cleaner environment
- Improved safety for laboratory personnel
- Reduction in operational expenses
- Increased grant application competitiveness
- Community recognition

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MGLI Materials Version 1.0

- MGLI Lab Assessment Packet
  - Self-Assessment Process

C. Self-Assessment Form

Questionnaire and Checklist

For checklist items below, review current practices, then answer "YES"," NO", or "N/A" if they are being implemented. Refer to the reference document for further information on best practices. When you have completed the checklist, you can review your answers and set goals to turn your "NO" answers into "YES".

ENERGY CONSERVATION

1. Equipment and Operations		YES	NO	N/A
Essential Items				
1.1	Are computers and monitors set to automatically enter sleep mode after a period of inactivity? Are computers and monitors shut down when not in active use?	☐	☐	☐
1.2	Are electrical and mechanical units maintained and powered off when not in use?	☐	☐	☐
1.3	Is heating equipment properly maintained and turned off when not in use?	☐	☐	☐
1.4	Are fume hoods closed and set to the minimum ventilation rate when unattended?	☐	☐	☐
Advanced Items				
1.5	Are freezers, refrigerators, and common access storage in a centralized location?	☐	☐	☐

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MGLI Materials Version 1.0

- MGLI Laboratory Assessment Materials
  - Inventory and resources documents
  - Suggestions to incorporate at institution
  - Recognition and certification

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MGLI Materials Version 1.0

- MGLI Performance Measurement and Tracking Materials
  - After self-assessment
  - Can you answer “Yes” to as many relevant questions as possible?
  - Focus on additional items
  - Are practices working?
  - Environmental goals and results

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MGLI Materials Feedback

- Looking for feedback on materials and project:
- Functionality
- Usability
- Gaps
- Opportunities
- Any other feedback

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MGLI Website

- MI Green Chemistry Clearinghouse page
  - http://migreenchemistry.org/education/green-labs/

MICHIGAN
GREEN CHEMISTRY CLEARINGHOUSE

INTERACT | Spotlight on Michigan | Education | Public | Industry | Government | Toolbox | Funding & Incentives

Michigan Green Labs Initiative

The **Michigan Green Labs Initiative (MGLI)** is a project of the Michigan Department of Environmental Quality in partnership with the University of Michigan and supported by a U.S. EPA grant.

MGLI seeks to deliver resources and partner with institutions in Michigan to implement green laboratory practices. The University of Michigan Office of Campus Sustainability is partnering to provide resources and expertise after implementing their own sustainable labs program.

We have developed materials that will serve as the basis of the program by compiling best practices, methods, and resources for implementation at your institution. The MGLI materials can be downloaded on the sidebar of this page.

We would also like to begin building a network of green lab professional partners in Michigan. The forum below will serve as a vehicle to connect others thinking about greening their labs. We hope you will sign up and join the discussion.

Ultimately, we hope your institution will become a partner and start a pilot green labs project or program. See the information in the Green Labs Coordinator Packet to find out how to sign up and get started.

Opportunities for Michigan Green Labs partner institutions:

- Join as partner for your organization, department, or individual labs.

Events

Michigan Green Labs Initiative Workshop:
Transferring Green Labs Best Practices

Wednesday, July 31, 2013; University of Michigan, Ann Arbor; 9.00AM to 2.00PM

For more information and to register:

Workshop Flyer

Resources

The following program materials will be available soon:

- *Michigan Green Labs Initiative Green Labs Coordinator Packet*
- *Michigan Green Lab Initiative Lab Assessment Packet*

MGLI Project Looking Ahead

- Next Steps:
  - Sign-on partners interested in greening lab operations
  - Partners pilot in labs
  - Partners and MGLI team communicate
    - Comment on materials
    - Communicate with MGLI team
  - Before September 2015 – partners report results

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MGLI Partner Sign-on

- Voluntary Commitment:
  - Implement program on campus or in your organization
    - Anything from piloting in one lab to fully institutionalizing
  - Report results

- MGLI Partner Opportunities
  - RFP – small grant projects for student or staff time

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Current Partners

Project partners:

- U of M
- MSU

MGLI signers:

- NSF International
- Aquinas College

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Grant Project Funding

- Request for Proposals open now
  - Deadline September 5, 2014
- $10k available with a 50% match requirement
- Visit michigan.gov/greenchemistry for RFP and information

Due Date: Proposals are due no later than September 5, 2014.

Application Materials:
Michigan Green Labs Initiative Grant Program Request for Proposals
Grant Proposal Cover Sheet (fillable Word form)
Budget Form in Excel Format

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Example Results Fact Sheet

- Developed by DEQ intern Mallory Hebert
- Examples of results achieved or expected from various project types

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Next Steps after Workshop

- Follow up:
  - Workshop survey
  - Sign on as a partner!
  - Comment on materials
  - Apply for a grant project

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Thank You!

Questions?

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DEQ Environmental Assistance Center
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