



### K-12 Student Programs

- Out of School Time Programs (after school, summer camps, spring break camps, etc.)
- Family Forest, Science & Engineering Nights
- Global Watershed (NSF GK12)
- Investigations Aboard MTU's R/V *Agassiz*
- Lake Superior Stewardship Initiative
- Outdoor Science Field Trips
- TiViTz Mathematics
- Western Upper Peninsula Science Fair

### Services for Teachers & Administrators

- Curriculum Support & Equipment Resources
- Teacher Professional Development
- Educational Leadership



## Western Upper Peninsula Center for Science, Mathematics and Environmental Education

The Center is a partnership of Copper Country ISD, Gogebic-Ontonagon ISD and Michigan Technological University's Center for Science and Environmental Outreach. The Western U.P. Center offers a wide variety of programs to enhance the teaching and learning of science, mathematics, and environmental education in the 19 school districts of Baraga, Houghton, Keweenaw, Gogebic and Ontonagon counties of Michigan's Upper Peninsula. The Center is a member of the Michigan Math & Science Centers Network whose goal is to build an educated workforce by providing quality student, teacher and community programming in K-12 science and mathematics education throughout the state. Center programs are wholly grant funded (Michigan Dept. of Education, Great Lakes Fishery Trust, Earth Force, Kinship & Wege Foundations, National Science Foundation, UW Madison CFIRE, U.S. Forest Service, Michigan Space Grant, Math & Science Partnership).

### Awards

- 2011 Lake Superior Stewardship Youth Award (Lake Superior Binational Forum)
- 2010 Copper Country Education Leadership Award
- 2006 Making Connections Award (Michigan Technological University)
- 2006 Excellence in Community Appearance Education (Dunn Fndtn)
- 2006 Torch Lake Remediation Monitoring Program (MASB)
- 2005 Lake Superior Stewardship Youth Award (Lake Superior Binational Forum)
- 2003 Earth Week /Kids Can Make A Difference Program (MASB)
- 2002 Conservation Education Award (Houghton-Keweenaw Conservation District)
- 2000 Family Science/Math Night Program (MASB) Michigan Association of School Boards

### Center Offices & Staff

#### Copper Country Intermediate School District

809 Hecla St., Hancock, MI 49930  
Tel: (906) 482-0331 / Fax: (906) 482-1931

**Shawn Opliger**, Director  
shawn@copperisd.org  
**Loret Roberts**, General Education Secretary  
loret@copperisd.org

#### Michigan Technological University

Center for Science & Environmental Outreach  
Great Lakes Research Center  
Houghton, MI 49931-1295  
Tel: (906) 487-3341 / Fax: (906) 487-1029

**Joan Chadde**, Program Director  
jchadde@mtu.edu  
**Lloyd Wescoat**, K-12 Education Program Assistant  
lwescoat@mtu.edu  
**Chad Norman**, Outdoor Science & Technology Specialist  
ctnorman@mtu.edu



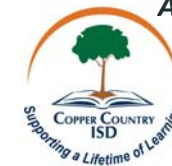
## Western Upper Peninsula Center for Science, Mathematics and Environmental Education



### 2013-2014 Programs to Enhance the Teaching & Learning of Math, Science and Environmental Education



A partnership of:



Center Website: <http://wupcenter.mtu.edu>

### ***Out of School Time Student Programs***

The Center develops and conducts STEM enrichment classes for Grade 1-8 students to stimulate and broaden their academic and career interests in science, engineering and technology. Classes are offered after school and during school breaks and summer at the Great Lakes Research Center.

### ***Family Engineering***

Co-developed by Michigan Tech, with funding from the National Science Foundation, to engage parents and elementary-age children in fun, hands-on engineering activities. The Family Engineering Activity Guide is available for purchase: [www.familyengineering.org/](http://www.familyengineering.org/)

### ***Family Forest & Science Nights***

Students and parents/caregivers participate in family night events at elementary schools in Houghton, Baraga, Gogebic and Ontonagon counties. MTU students conduct most of the activities and receive training in lesson plan design and presentation skills through a *Communicating Science* course taught by Center staff at Michigan Tech.

### ***Global Watershed Program***

This program is a collaborative effort of the Western UP Center and Michigan Tech Center for Water and Society and funded by a National Science Foundation grant. It provides two-year fellowships for Michigan Tech PhD students (GK12 fellows) to work with middle and high school teachers to create lesson plans and activities that engage students in research on watershed science topics. This project will place 18 graduate fellows over 5 years in classrooms in the Western UP Center's service area.

### ***Hands-on Outdoor Science Field Trips***

Center staff lead field trips to forests, streams, and wetlands that engage K-8 students in hands-on learning. Field trips are 1-2 hours, and different activities are offered for each grade during each season: fall, winter, and spring. Teachers select field trip locations near their schools.

### ***Scientific Excursions aboard Michigan Tech's Research Vessel Agassiz***

The Center coordinates scientific excursions for students, teachers, and community members aboard MTU's research vessel (R/V) *Agassiz* on Lake Superior, Portage Waterway, and Torch Lake.

### ***Lake Superior Stewardship Initiative***

The Lake Superior Stewardship Initiative (LSSI) is part of the statewide Great Lakes Stewardship Initiative (GLSI) launched by the Great Lakes Fishery Trust with financial support from the Wege Foundation. The goal of the GLSI is to increase understanding and active stewardship of the Great Lakes by K-12 teachers and students working in partnership with local units of government and community organizations. The Initiative incorporates three strategies: place-based curricula, teacher professional development, and school-community partnerships. Mini-grants are provided to school teams to support implementation of school-community projects. <http://lakesuperiorstewardship.org/>

### ***TiViTz Mathematics Program***

TiViTz is a challenging math and strategy game used to build students' mathematics and problem solving skills. Each year, a workshop guides teachers in how to incorporate TiViTz games into the math curriculum. In the spring teachers and students participate in a TiViTz tournament held at Michigan Tech.

### ***Western U.P. Science Fair & STEM Festival***

Since 1997, the Center sponsors an annual regional science fair for students in grades 4-8. Students receive a project planning guide and their classroom teachers assist them through the process of scientific inquiry and communication of results. Michigan Tech faculty, staff and community volunteers help with the judging of projects and conducting a Science & Engineering Exploration Festival.



### ***Project PRIME***

Sustained professional development is provided to address student achievement in Algebra & Geometry. Teachers learn to how to reach all learners through a wide range of instructional strategies that approach the teaching of algebraic concepts from the functions perspective. Teachers explore how to effectively use graphing calculators and other technologies to support student learning.

### ***Resource Clearinghouse for Teachers***

The Center provides a free lending library to teachers in our service area which contains standards-based activity guides, hands-on activity kits, children's literature, and scientific equipment. To make a request, contact Loret at [loret@copperisd.org](mailto:loret@copperisd.org) or call 906-482-0331. A list of materials available is posted on the Center's website: <http://wupcenter.mtu.edu>

### ***Greater Proficiency in Math***

This project provides K-8 teachers with quality sustained professional development to improve instructional practice by building deeper understanding of mathematics concepts and practices in the Common Core State Standards. Teachers are engaged in the evidence-based Intel Math professional development program and in a learning community focused on the teaching and learning of mathematics.

### ***School Year Workshops***

The Center conducts teacher training workshops during the school year on a wide variety of topics that provide teachers with the knowledge, teaching strategies and resources to implement Michigan Grade Level Expectations for mathematics and science, as well as, integrate language arts and social studies.

### ***Summer Institutes***

The Center conducts week-long institutes in partnership with Michigan Tech where teachers earn university credit while deepening their content knowledge and enhancing their teaching skills. Institute topics include the Great Lakes, Forestry, Math & Navigation, Global Change, Maritime & Ship-Building,