

## *News*

### **Department Open House Deadline July 25**

Academic departments are invited to plan open houses as part of this year's alumni reunion. They will be held on Friday, August 5, from 1:30 to 3 p.m.

A list of participating departments is being developed. If you plan to receive guests in your department, please send an email to [pamylylo@mtu.edu](mailto:pamylylo@mtu.edu) before Monday, July 25, so that you can be included on the list.

A complete schedule of reunion events and an on-line ticket form can be found at <http://www.admin.mtu.edu/alumni/reunion/>

### **MTU Archives Sponsors Lecture Series During Homecoming Weekend**

The MTU Archives is sponsoring a series of three evening presentations which highlight aspects of local history in Michigan's Keweenaw Peninsula. The events are free of charge and are part of the 2005 Copper Country Homecoming.

The first event will take place at the Calumet Theatre at 7 p.m. on Thursday, July 28, and will feature Michigan Tech historian Larry Lankton examining "Michigan's Copper Country: Industrial Decline and Heritage Rebirth."

Following World War I, the Keweenaw's copper mines entered into a fifty year decline that proved irreversible. Towns like Calumet, Laurium, Hancock and Houghton began exploring other avenues for economic growth and civic development, including historic preservation and cultural tourism. Lankton's presentation will follow the success and failure of some of the ventures, leading to the creation in 1992 of Keweenaw National Historical Park.

This presentation is also part of the "Fourth Thursday in History" series, co-sponsored by the MTU Archives and Keweenaw National Historical Park. Additional support is provided by the Calumet Theatre.

On Friday, July 29, at 7 p.m., KBIC tribal councilman Fred Dakota will present "American Indians and Keweenaw Bay." The presentation will be held in the Houghton High School Auditorium on Gundlach Road.

Dakota will provide an introduction and overview to native history around Keweenaw Bay. The region's abundant mineral, fish and water resources have attracted American Indians for more than 3,000 years, and the presence of Indian encampments along the bay attracted religious missions in advance of the influx of copper miners. Dakota will also examine more recent issues of American Indian sovereignty, including casino gaming and the state licensing and taxation of cigarettes, gasoline and tribal property.

Finally, at 7 p.m. on Saturday, July 30, in the Houghton High School Auditorium, Larry Molloy, Copper Country historian and professor from Oakland Community College, will present "The Golden Age of the Copper Country: The Photography of Adolph Isler."

At the dawn of the 20th century, local copper mines were working overtime and the ore was rich. The population of the Keweenaw was exploding. In the midst of this growth the Calumet and Hecla Mining Company hired a local photographer, Adolph Isler, to take photographs of their company's holdings. Isler carried his camera and glass plate negatives from the top of smoke stacks to the bottom of mine shafts and photographed everything in between, including schools, churches and picnics. Molloy's illustrated presentation takes you on a journey through Isler's images--and daily life in the golden age of the Keweenaw.

Further information about these and other events taking place during the 2005 Copper Country Homecoming is available online at <http://www.CCHomecoming.org>

## ***Seminars and Workshops***

### **Faculty Candidate Seminar in Hydrogel for Tissue Engineering Applications**

Ryan Gilbert from the Georgia Tech/Emory University Department of Biomedical Engineering and the Case Western Reserve University Department of Biomedical Engineering will present the seminar "Development of Hydrogels for Tissue Engineering Applications" on Friday, July 22, at 10 a.m. in M and M 610.

Hydrogels are increasingly being considered as viable replacements for diseased or injured soft tissues. Agarose hydrogels in particular have many chemical sites by which different bioactive agents can be attached to create an environment similar to what is normally seen in the body. The research described in this talk reviews past work where agarose hydrogels were used in studying neuronal outgrowth.

Using a novel carbohydrate analytical technique, glycosaminoglycan content was determined in injured brain and normal, uninjured brain; revealing an upregulation of a specific type of sulfated glycosaminoglycan. A commercially available glycosaminoglycan that resembled the upregulated glycosaminoglycan in the injured brain was covalently attached to agarose and embryonic chick dorsal root ganglion neurons were introduced to this hydrogel system. Results show that this upregulated glycosaminoglycan is potently inhibitory to neuronal outgrowth.

Agarose hydrogels have also been used to study growth cone dynamics in the presence of a single growth promoting molecule (laminin) or a single inhibitory molecule (chondroitin sulfate B - CS-B). Results from these studies show that inhibitory molecules alter the frequency of growth cone extension; in that growth cones extend, but not as often as seen in other agarose environments.

Future work will also be discussed--using agarose hydrogels to further understand inhibitory environments in the central nervous system, to create environments that facilitate neuronal regeneration in the injured spinal cord, and to create proteoglycan rich hydrogels for possible cartilage replacement.

### **Materials Science and Engineering seminar July 26**

The Department of Materials Science and Engineering will present the seminar "Semi-Empirical Atomistic Approach in Materials Research" by guest speaker Professor Byeong Joo Lee from Pohang University of Science and Technology, Korea, on Tuesday, July 26, at 10 a.m. in M&M 610. Everyone is welcome to attend.

## ***Regular Features***

### **In the News**

Monday's Los Angeles Times carried a feature story on Dave Karnosky (SFRES) and the Aspen FACE facility in Rhinelander, Wisc. The article can be found at the link below.  
[www.latimes.com/news/science/environment/](http://www.latimes.com/news/science/environment/)

Karnosky is the director of the FACE project. For more information on Aspen FACE, see <http://aspenface.mtu.edu/>