

Making a Difference

A monthly sampler of educational, cultural, and economic contributions of Maine's public universities

Jet Engine to Help Advance UMaine Sensor Research



ORONO – Engineers and scientists in UMaine's interdisciplinary [Laboratory for Surface Science & Technology](#) (LASST) have created state-of-the-art wireless

high-temperature sensors able to withstand temperatures of up to at least 1,800 degrees Fahrenheit—more than twice as hot as any wireless sensor that previously existed.

They are now taking prototypes of the wireless microwave acoustic sensors from the laboratory to more realistic proving grounds, thanks to the Maine Air National Guard's indefinite loan of a jet turbine engine to the university.

With the tiny sensors attached to spinning jet engine blades and other moving parts, technicians can monitor such things as pressure, temperature, strain, vibration, and corrosion. The sensors have been developed with funding from the U.S. Air Force and U.S. Army, plus university and state grant funds, are expected to save the aerospace industry and military billions of dollars in costs associated with jet engine maintenance.

UMF Debuts Hybrid Master of Science in Ed – Early Childhood Degree

FARMINGTON – In response to the educational needs of early childhood professionals, UMF is launching a new [Master of Science in Education – Early Childhood](#) degree program. This will be the only master's program in early childhood education offered solely by a Maine institution.

The new UMF graduate-level program was carefully designed by UMF faculty members who are experts in the field, it emphasizes child development based curriculum, leadership and assessment as well as an understanding of the family and community contexts in which young children are educated.

For additional information on UMF's masters programs, e-mail umfmasters@maine.edu.

UMPI Awarded \$75,000 NSF EPSCoR Sustainability Grant

PRESQUE ISLE – A team of UMPI professors has received \$75,000 in National Science Foundation grant monies from the Experimental Program to Stimulate Competitive Research [EPSCoR] in order to conduct a wide range of research related to the sustainable development of the Aroostook River Watershed.



The research team will use the grant funding for their project *Modeling Evolving Ecological, Cultural, and Economic Systems of the Aroostook River Watershed of Northern Maine for Sustainable Development*, which involves studying the historical and present uses of the watershed area – and the impacts those uses have had on the region.

Members of the team will be hosting workshops for local educators, city officials and community members about sustainable resource usage. Their hope is that engaging and educating citizens, landowners, municipalities and businesses about these issues will increase the use of best practices in the sustainable development of the watershed area.

USM Hosts 5th Annual Titan Challenge



PORTLAND – Sixty student teams from high schools across Maine participated in the fifth annual Titan

Challenge, sponsored by [Junior Achievement of Maine](#) and held at USM on February 17.

Twenty-five teams gathered at USM's Portland campus and the competition also included another 35 online participants from UMaine, USM's Lewiston-Auburn College, and the Presque Isle Regional Technical Center.

Each team consisted of three students and one professional business consultant, or sponsor. The young entrepreneurs were placed in the CEO's seat, running their own virtual corporations where they learned the nuances of running a global business in a competitive, high-tech marketplace.

“Leadership Hancock County” Cultivates Community Leaders



LHC class at the Schoodic Education & Research Center

ELLSWORTH – [Leadership Hancock County](#) is a development program designed to improve the economy and quality of life in Hancock County by building the leadership capacity of its citizens.

The first session was held January 25 and is coordinated by UMA’s University College staff at the Hancock County Higher Education Center, the Ellsworth Area Chamber of Commerce, and multiple Hancock County businesses.

The program consists of six day-long sessions, three weeks apart, in various locations across the county. Participants learn proven leadership and management practices first-hand from leaders in Hancock County businesses and organizations. For more information, visit: learn.maine.edu/ellsworth.



Violin Virtuoso Midori to Perform at UMFK

FORT KENT – World-renowned violin virtuoso, Midori, will perform at UMFK on March 30 at 7 p.m. in Fox Auditorium.

In 2007, Midori was named a *Messenger of Peace* by U.N. Secretary-General Ban Ki-moo, and has inspired young artists

to change lives with the power of music.

Proceeds from the evening with Midori benefit UMFK’s International Performers Series, which provides a wide range of entertainment free to UMFK students, as well as to the greater Fort Kent community at nominal prices.

Reserved seating tickets will be sold in advance, and are priced at \$20 per person for the performance only. Tickets may be purchased by calling 834-7800. For more information on Midori, visit: www.gotomidori.com.

UMM Students to Participate in National Genomics Research

MACHIAS – First-year students at UMM will soon have the opportunity to search for undiscovered organisms, thanks to an innovative genomics course funded by the Howard Hughes Medical Institute (HHMI).

UMM is one of just 26 schools selected to participate in the prestigious [National Genomics Research Initiative](#), a year-long course that enables students to conduct genomic research on soil-dwelling bacterial viruses called phage.

The initiative is part of the Science Education Alliance, a national program of HHMI that seeks to develop resources for undergraduate science educators to present innovative courses and programs.

UMPI’s TriO Upward Bound Awarded \$45,000 College Access Grant

PRESQUE ISLE – UMPI’s TriO Upward Bound has been awarded a \$45,000 Maine College Access grant by the Finance Authority of Maine.

The grant monies will help officials to teach high school students in the Upward Bound program about finances and college savings, as well as provide support for Upward Bound graduates who are now in college.

Upward Bound is a federally funded program open to high school students who qualify financially, or are the first in their families to attend college.

The grant, titled “Success! Planning for College and Beyond,” will have two main focuses – finance education for Upward Bound students and parents and retention efforts. Several workshops about money will be offered to for Upward Bound students and parents and “Success!” sessions will be held in several Aroostook County locations. Three workshops will be presented across the region for parents and students on Saturdays during March, April and May – at UMPI, UMFK, and the Houlton Higher Education Center. For more information, call 768-9456.



UMaine Students Offering Free Tax Return Assistance

ORONO – UMaine accounting students are providing free assistance to the public for federal and state income tax return

preparation at the Orono Public Library, Friday afternoons through April 15.

The students are supervised by Steve Colburn, associate professor of accounting in the Maine Business School, who reviews all tax returns before they are electronically filed.

The service is available to anyone on campus or in surrounding communities with basic tax-assistance needs and income of \$58,000 or less. Appointments are required for income tax help, and may be made by calling Professor Colburn at 581-1982 or emailing colburn@maine.edu.



UMaine's Unveils Lunar Habitat, Wireless Sensing Lab

ORONO— UMaine recently unveiled the world's first

inflatable lunar habitat, which was assembled on the UMaine campus. The 3,600-square foot laboratory building contains a 42-foot by 10-foot circular inflatable structure which will be the blueprint for a habitat to be used on future NASA missions to the moon and planets.

The structure will have wireless sensors embedded in a layer of its fabric walls to monitor the structural integrity, micrometeoroid impacts and internal environmental conditions. The sensors will be able to detect impacts and leaks in the structure. UMaine faculty and students have developed algorithms for relaying data.

The project funding includes more than \$2 million from NASA and another \$2.2 million from the Maine Technology Institute. Jackson Lab, USM, and the Maine Economic Improvement Fund also contributed funding.

Northern New England Science Bowl to be Held at USM—March 5

GORHAM – For the 11th year running, USM will again host the Northern New England Science Bowl.

Teams of high school students from Maine, New Hampshire and Vermont will travel to USM on March 5 to compete.



The competition is styled in a game-show format similar to “Jeopardy” with students fielding questions on a range of subjects including biology, chemistry, physics, astronomy, earth sciences and mathematics.

This year, 80 to 100 students are expected to attend. Winning regional teams earn an all-expense paid trip to April's [National Science Bowl](#) competition in Washington D.C.

The competition will run from 9:00 a.m. – 3:00 p.m. in Bailey Hall, Gorham. For more information call 780-5756.

UMF Art Gallery Spotlights Unique Images of Jean M. Sanders

FARMINGTON – The UMF Art Gallery will present a unique collection of photogravure and carbon prints by artist Jean M. Sanders as its next exhibit.

Free and open to the public, the show runs from March 3-27, with a gala opening reception from 5:00-7:00 p.m. on March 3.

This installation is largely based on Sanders' new

photographic suite “Ivan the Boneless,” richly detailed images documenting the life of her dog, Ivan.

These works employ antique photographic techniques that impart a strange, dream-like quality to the images

The [UMF Art Gallery](#) is open noon to 4 p.m., Tuesday-Sunday, during the UMF academic year and by appointment. For more information call 778-7002.



UMaine Awarded Patent for Stronger Beam

ORONO – UMaine's [AEWC Advanced Structures and Composites Center](#) has been issued a patent for a method of pre-stressing glued-laminated timber beams that significantly increases the strength of the wood for use in bridges and other structures without adding extra material.



The patent addresses a common problem of conventional glued-laminated beams, which is that they often fail in bending-induced tension. The Advanced Structures and Composites Center has found that adding small amounts of reinforcement to the tension side of the beam significantly increases its strength.

Associate Professor of civil engineering Mac Gray and Habib Dagher, director of the Advanced Structures and Composites Center, are the lead inventors on the patent.

Wanted at UMFK: Musicians and Entertainers for Annual Jamboree



FORT KENT – Organizers of the 2011 UMFK's Fiddlers' Jamboree have put out a call to musicians and entertainers to participate in the area's largest jam session and house party, which has been held annually on the UMFK campus for more than a decade.

This year, the jamboree will be held on March 6 from 1:00-4:00 p.m. in UMFK's Fox Auditorium. Fiddlers, guitarists, other acoustic musicians, and singers are invited and encouraged to take part.

Interested participants may contact Susan Tardie at 834-7557 before February 28.

PAULA DOUGHERTY

Artist to Exhibit at UMM



FEBRUARY 4 - MARCH 18, 2011
UNIVERSITY OF MAINE AT MACHIAS

MACHIAS – The Art Galleries at UMM will display Brooklyn artist Paula Dougherty's exhibit of life and figure drawings through March 18.

Dougherty has more than a decade of in-depth training in drawing, oil painting, watercolors, and pastel. She attended the Art Center of Northern New Jersey, the Art Institute of Ridgewood, the School of Visual Arts in New York, the Fair Lawn Center for the Arts, and the Demarest Cultural Center.

To learn more, contact the [Art Galleries](#) at 255-1279.

Editor-in-Training



BANGOR – This issue of *Making a Difference* was researched and edited by Nicole Reiner, of Eliot. Nicole is a UMaine senior majoring in mass communication, with a minor in public relations.

During the Spring 2011 semester, she is a communications intern in the System Office.

UMaine Presidential Search Update

BANGOR – During January and February, all four finalists for the UMaine presidency completed multiple-day visits with the University community.

The UMaine Presidential Search Committee will now review community feedback and present their impressions to Chancellor Pattenau, who will recommend one candidate to the UMS Board of Trustees for approval.

A decision is expected in upcoming weeks, possibly as early as the March meeting of UMS Trustees. UMaine's new president is expected to take over in early July. Information about the four candidates, including resumes, photos, and itineraries for campus visits may be found at www.umaine.edu/presidentsearch/finalists/.

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