

Maine EPSCoR

FALL
2010
Newsletter

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NSF EPSCoR Sustainability Science Initiative Announced

Maine EPSCoR at the University of Maine, in conjunction with the University of Southern Maine, Governor John Baldacci, and other state leaders, announced that it has received a \$20 million National Science Foundation EPSCoR (Experimental Program to Stimulate Competitive Research) grant for its Sustainability Science Initiative.

The research portion of this five-year Maine EPSCoR initiative will be led by the Senator George J. Mitchell Center at the University of Maine. The initial focus will be on multi-faceted problems related to urbanization, forest management, and climate change, and will enable innovative science, education, and economic and workforce development in an area of critical importance to Maine's future.

While the University of Maine and the University of Southern Maine are the core research partners, virtually every Maine institution of higher learning will join in this one-of-a-kind initiative to generate broad-based benefits for the state. The integrated research and education teams include faculty members from multiple institutions who will bring expertise from a wide range of fields, including environmental science, engineering, economics, communication, and public policy.

Maine's future depends on the ability to move forward with economic development in a manner that sustains our vital natural resources, and a key component of this project is for teams of faculty and students to work directly with stakeholders such as business, industry, government, and non-profit organizations. As businesses and communities are transformed by changes in the global economy, rising energy costs, and a focus on a healthy environment for long-term prosperity, knowledge about sustainable practices is critical to survival, and this project will position Maine as a leader in this field.

During the five years of the project, research and education programs will involve over 15,000 participants, and 200-300 jobs a year will be directly supported, including research faculty, postdoctoral associates, and research internships for graduate, undergraduate and high school students in the state.



Governor John Baldacci announcing National Science Foundation EPSCoR grant for Sustainability Science Initiative.

The project also will provide for statewide education initiatives at all grade levels in science, technology, engineering, and mathematics (STEM). Maine EPSCoR will work with the Maine STEM Collaborative, a statewide partnership of business, government, research, education, and non-profit sectors, to implement a systematic approach to improving STEM education in the state. The project's coordinated strategy will develop students' STEM skills, interest, and career paths for all levels of K-20 education, and provide a strong foundation for the development of Maine's future workforce.

EPSCoR is a federal program directed at states that have historically received smaller portions of federal research and development funding. Financial support is provided to develop partnerships to effect lasting improvements in infrastructure, capacity, and national competitiveness. Maine EPSCoR at the University of Maine administers and implements the NSF EPSCoR program for the state. For more information see: www.umaine.edu/epscor/ or www.umaine.edu/sustainabilitysolutions/

YR1 Sustainability Science Initiative Research Highlights



Steve Depoe, University of Cincinnati, leads a panel discussion at the Environmental Communication Symposium

Environmental Communication Symposium A Model for Integrating Students & Partners

Solutions-driven sustainability science requires that researchers develop a deep understanding of diverse communities and stakeholders, their needs, and the platforms they use for communicating. Likewise, this work requires that researchers and stakeholders communicate in effective ways. As sustainability science scholars and stakeholders attempt to link the production of knowledge with action to support healthy economies, ecosystems, and communities, the need for research and teaching in communication grows. The interdisciplinary field of Environmental Communication brings unique and important components to the study of sustainability, and research in this growing field is essential for sustainability scientists to achieve their goals. Given the recognition that communication scholarship is central to sustainability science, the Sustainability Solutions Initiative (SSI) group at UMaine hosted an Environmental Communication Symposium on May 20-21, 2010 that brought together leading scholars from the field of Environmental Communication with researchers, educators, and students from both SSI and across the state of Maine interested in sustainability and environmental studies.

The Symposium provided opportunities for dialog and discussion about the Environmental Communication field. Through a series of roundtables, panels, and scholarly dialogs, over 80 participants obtained a greater understanding of this field and had opportunities to network with faculty and students from SSI and

visiting scholars. Scholars included: Donal Carbaugh, University of Massachusetts, Amherst; Anabela Carvalho, University of Minho (Portugal); Steve Depoe, University of Cincinnati; Jennifer Good, Brock University (Canada); Mark Meisner, State University of New York; Nadarajah Sriskandarajah, University of Agricultural Sciences (Sweden); Stacey Sowards, University of Texas, El Paso; and Anne Marie Todd, San Jose State University.

The event served as a starting point for connecting SSI faculty and students with the statewide network of Sustainability Solutions Partners. Representatives from eight institutions of higher education met, many for the first time, to talk about their projects and began a dialog about how to integrate their projects with each other.

SSI also offered a novel graduate course in conjunction with the Symposium. The course provided an overview of the growing field of Environmental Communication, and course activities were linked to the Symposium. Course participants read key texts in the field with a special focus on the visiting scholars. Online interactions and face-to-face class sessions preceded and followed the Symposium. During the Symposium, students had the opportunity to meet and interact with the visiting scholars and other participants in seminars, roundtables, and discussion sessions. Participants expressed strong enthusiasm for this course that connected them directly to the scholars whose work they had studied.

YR1 Sustainability Science Initiative Research Highlights

Partnership with Wabanaki and Regulatory Stakeholders Creates Radical Shift in Research Direction

Researchers with the Sustainability Solutions Initiative (SSI) at the University of Maine are studying and facilitating the ways that Wabanaki (translated, the people of the dawn) basketmakers and resource users, tribes, state and federal foresters, and landowners come together to prevent, detect, and respond to the Emerald Ash Borer (EAB), a potentially devastating invasive threat to all three species of ash trees found in Maine.

The research team has engaged in a purposefully deliberative approach in considering who is included in the process of research as well as how the research questions are identified. The team includes the Maine Indian Basketmakers Alliance, an American Indian owned and operated non-profit organization, as an internal partner to the research. Faculty researchers include two members of the Penobscot Indian Nation (John Daigle, Forest Resources, and Darren Ranco, Anthropology) which is one of the Wabanaki Indian Nations in Maine. The process of working with tribal and regulatory stakeholders has created a radical shift in the research question being pursued. Originally framed as a project to use indigenous knowledge and forestry data to map key locations of brown ash, the stakeholders identified the EAB as their highest priority issue in focus group meetings in summer 2009.

Maine has a particularly unique opportunity to prevent, detect, and manage for the EAB. While ash trees are not considered a key economic resource in Maine's forest, the cultural, spiritual, and economic impact of the EAB on Wabanaki communities and basketmakers could be devastating. For this reason, the research team has built the collaborative process from this particular resource user group outward. Because of this critical interest in the resource and the hard work of many, collaborations between the tribes, basketmakers, foresters, and researchers is positive and longstanding. Since the EAB was first detected near Detroit in 2002, its spread has been much faster than expected, primarily by human transport of infected firewood. On January 20, 2010, the research team, along with other stakeholders, presented testimony to the Maine State Legislature in favor of LD 1607, An Act to Regulate the Transporta-



Theresa Secord, Executive Director of the Maine Indian Basketmakers Alliance, is a key partner on the SSI project

tion of Firewood, which was signed into law on April 1, 2010, making Maine one of the few states to enact preventative legislation to fight the spread of EAB by restricting the transport of firewood into the state.

In an approach that explicitly pairs social science research methods with knowledge-to-action goals, the team has used professionally facilitated meetings to identify common research goals and areas of interest with an ever-expanding group of partners and stakeholders. In the most recent meeting on May 21st, key research collaboration activities were identified in the areas of seed collection, public outreach, and mapping ash resources. These identified activities will provide the focus for future project research.

YR1 Sustainability Science Initiative Research Highlights

Lake-Level Visualization Tool Supports Shared Vision Planning & Management



Team leader Andrew Reeve installs a stream-level logger on the Crooked River inlet to Sebago Lake

Sustainability Solutions Initiative researchers at the University of Maine have been working with colleagues at the University of Southern Maine, Portland Water District, National Weather Service (NWS), and SAPPI to develop interactive hydrological models of the Sebago Lake Watershed. Water resources are a cornerstone of human and ecosystem sustainability and the viability of public water supplies hinges upon successful source protection efforts. This project is inspired by the pressing need for a scientific analysis and visualization tool that can focus and facilitate shared vision planning and deliberation of lake-level

management strategies within the ongoing Utility – Water District – Stakeholder conversation.

Sebago Lake is the second largest lake in Maine and source of drinking water for 170,000 people in the Portland area. It has been identified as the most vulnerable source watershed in the northeast region, which underlines the importance of understanding the impacts of development and management decisions on the system. Sebago Lake level is regulated by a dam at the outlet and the water quality impacts of different water level regimes is controversial and as yet unknown. Knowing how this lake system responds to climate is a key need for many in the watershed.

A data-driven computational analysis of global climate teleconnections and development of a visualization tool to predict lake levels have been completed. The climate analysis shows that the winter hydrology is more strongly affected by tropical sea-surface temperatures than by local climate variability. This in turn affects lake turbidity and other water quality parameters. This is important to know as some factors affecting lake management lie well beyond the watershed boundaries. The model can be used to show how monthly precipitation interacts with dam operations to control lake level. Users of this model can vary precipitation (Fig. 1) and control the dam to dynamically control lake level. Work continues on this model to allow the weather forecasters to evaluate the skill and methodology of the short-term hydrologic forecasts to support flood warning and reservoir operations for the outlet dam.

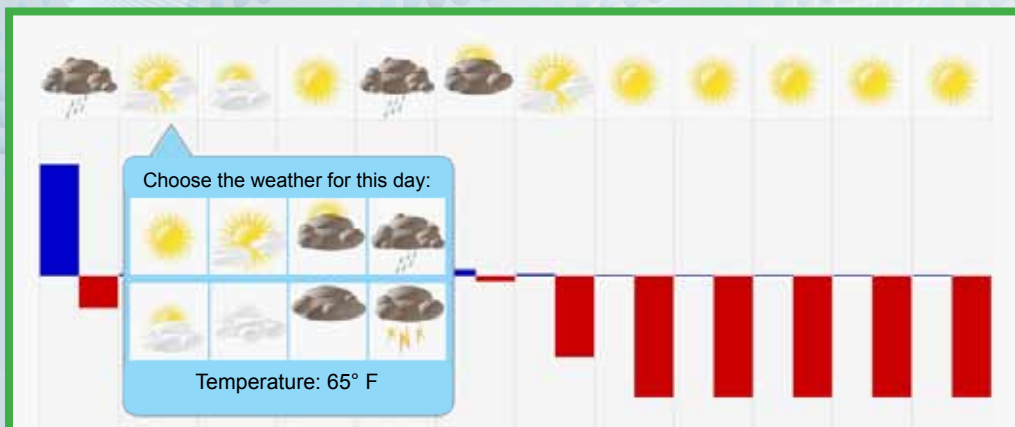


Fig. 1: Model input for water balance showing daily weather selection, precipitation (blue), and evapotranspiration (red).

Maine EPSCoR Cyberinfrastructure

Cyberinfrastructure in the Maine EPSCoR Sustainability Science Project

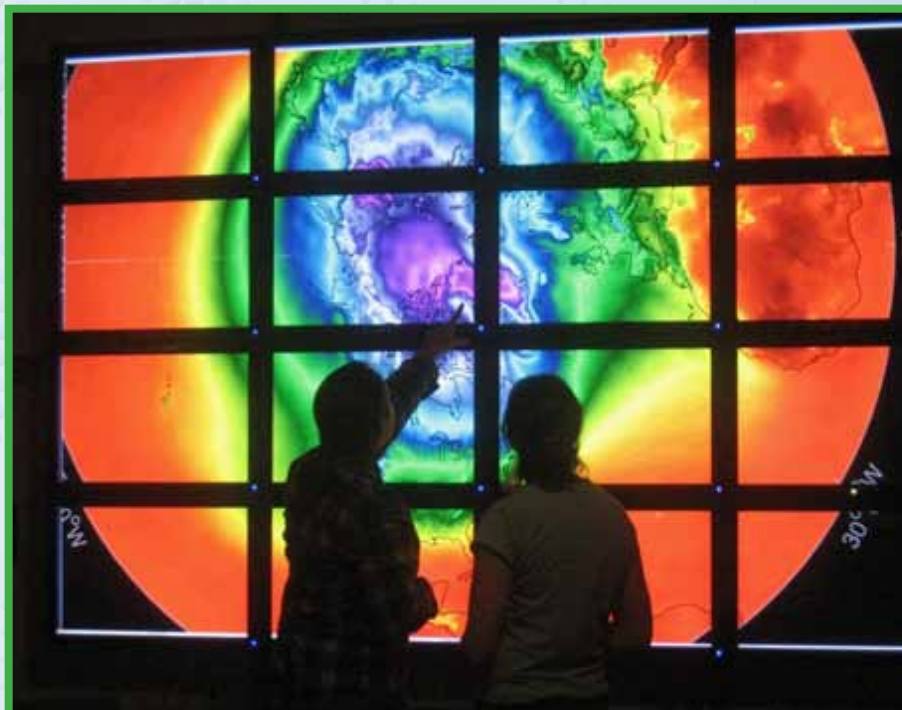
During the first year of the Maine EPSCoR Sustainability Science Initiative project, and in alignment with a 5-year cyberinfrastructure strategy for the state, Maine EPSCoR implemented some basic, but essential, infrastructure activities that addressed the communication, collaboration, visualization, and data needs of the project's research and education teams. This included:

Communication Cyberinfrastructure:

Given the integrated, multi-disciplinary, and multi-institutional nature of this project, state-of-the-art communication tools are an absolute necessity. Therefore, the following new cyberinfrastructure was purchased and installed:

- 1) Gigabit ethernet switches were installed in twelve buildings on the Orono campus of the University of Maine to facilitate virtual organization collaborations among SSI researchers, and to take advantage of the planned upgrade of high-speed fiber that will become available shortly.
- 2) A 30 port High Definition videoconferencing Multipoint Control Unit (MCU) was purchased and installed, and is being used by SSI researchers for multi-way distance communications with large numbers of participants.
- 3) A videoconference system was purchased and installed at the Maine Mathematics and Science Alliance (MMSA) in Augusta, which will provide the ability to videoconference meetings of the Maine STEM Collaborative, and will also allow MMSA to provide teacher professional development in STEM via videoconferencing.
- 4) Webcams - and training in their use - have been provided to researchers throughout the state in a program to evaluate their effectiveness in increasing communication and collaboration.

Visualization Cyberinfrastructure: The project's cyberinfrastructure research team has been working



Prototype visualization wall at the University of Maine.

to further the development of visualization tools for improved scientific collaboration and communication. Their focus is on the utilization of tools for collaborating at a distance, which will assist the Sustainability Science teams to communicate as a virtual organization. In addition, a dynamic visualization wall has also been configured for K-12 outreach efforts, which introduces students to advanced visualization concepts.

Data Planning: The state's supercomputer resides at UMaine, and during the first year of this project, the CI team evaluated the data needs for the overall SSI project and created a dedicated SSI server (messi.target.maine.edu) as the SSI database linked to the 100TB disk storage system at the supercomputer. An authentication system for SSI users has been put into place that transcends campus boundaries, and includes an automatic data backup process. The system has been designed to grow over time without data loss or user disruption, and is ready for use by the researchers throughout the state, as well as the new SSI faculty modelers at UMaine and USM who started this fall.

Maine EPSCoR Cyberinfrastructure

Maine EPSCoR Participates in Northeast Cyberinfrastructure Consortium (NECC)



NECC members at the first annual consortium workshop in Burlington, VT in March 2010

The Northeast Cyberinfrastructure Consortium (NECC) is a consortium of five states that are collaborating on building regional cyberinfrastructure. The NECC states, Delaware, Maine, New Hampshire, Rhode Island and Vermont, have a \$6M collaborative award from NSF EPSCoR (Track 2 RII) for specific fiber, research, and workforce development and diversity programs. The NECC states also have a coordinated set of supplements to INBRE and COBRE grants from NIH to further build cyberinfrastructure in the region. These supplements cover fiber, research, electronics, and training in cyber-tools and education outreach in the region. The NSF EPSCoR Track 1 RII grants to these states also include

cyberinfrastructure improvements that are coordinated with the above.

In Maine, the overall focus for the NECC project is extending the existing fiber optic network to add redundancy and reach additional research and education facilities. The \$1.35M NSF EPSCoR Track 2 RII award funds the leasing of fiber up the coast of Maine between Brunswick and Ellsworth to complete a geographically diverse fiber optic ring, and between Orono and Presque Isle to extend Maine's research and education network (MaineREN) into northern Maine to the Canadian border.

In addition, an NIH IDeA (INBRE) supplement award funds the leasing of dense wave division multiplexing equipment to light these new fiber routes with multiple 10Gbps wavelengths.

Implementing Maine's Cyberinfrastructure Plan

During this past year, the careful leveraging of multiple sources of funds to implement an overall statewide plan for cyberinfrastructure has proven a very effective strategy for the state, and will significantly improve the ability to collaborate across Maine and the region, and to generate increased access to national resources.

In 2008, Maine EPSCoR assisted in the formation of a statewide committee that developed a 5-year cyberinfrastructure plan to address the needs of the state's research and education communities. This defined strategy has allowed Maine to leverage multiple grant opportunities to accomplish the first phases of the plan, and to be integrated as part of the overall Northeast Cyberinfrastructure Consortium (NECC) efforts for the New England region, and the Northeast Education and Research Network (NEREN).

In addition to NSF EPSCoR and NIH IDeA awards, Maine also has two separate Broadband Technology Opportunities (BTOP) awards. The cyberinfrastructure committee assisted a Maine-based Internet Service Provider, Biddeford Internet Corp. d/b/a GWI, in a successful proposal for a \$25M BTOP broadband infrastructure grant. This award was personally announced by Department of Commerce Secretary Locke at the University of Maine in December 2009. This project will build the new, critically-needed fiber routes throughout Maine that will provide the foundation for Maine EPSCoR's

future CI efforts by providing "middle mile" fiber throughout the rural most parts of the state.

A second BTOP award will result in the creation of 108 Public Computer Centers in public libraries around the state (Maine Public Library Information Commons Project).

The investments in cyberinfrastructure from NSF EPSCoR and NIH IDeA, along with the two BTOP awards and an additional \$2.75M of funds committed by the University of Maine System (UMS), have allowed Maine to engage in a coordinated and leveraged effort for the state. This includes the expansion of MaineREN beyond the original NECC core network paths by leasing fiber installed as part of the BTOP Three Ring Binder Project to connect 5 additional University of Maine System campuses and outreach centers and 10 additional high schools.

In addition, the BTOP awards are allowing UMS and the University System of New Hampshire to establish a redundant northern interconnection between Maine's MaineREN and New Hampshire's IBEAM research and education networks to provide for more network resiliency throughout the New England Region.

Lastly, the Maine Public Library Information Commons BTOP Project will benefit from all these investments as all 108 public libraries are members of the Maine School and Library Network which uses MaineREN as its backbone.

FY09 NSF EPSCoR Co-Funding Awards to Maine

The NSF EPSCoR Co-Funding program enables more awards to be made to researchers in EPSCoR jurisdictions from the Foundation's regular research, education, and special emphasis competitions, by providing partial support for those proposals that merit review places at or near the cutoff for funding by the

reviewing NSF program. This mechanism operates internally within NSF and does not require any action on the part of the proposer. Since FY2000, 105 awards have received over \$12M in co-funding, and enabled over \$30M in projects to happen in Maine that would not have otherwise been funded.

FY2009 Maine NSF EPSCoR Co-Funded Awards

Institution	Title	PI Name	Total Project:
Bigelow Laboratory for Ocean Sciences	Collaborative Research: Quantitative Importance and Trophic Role of Noctiluca Blooms in the Arabian Sea	Goes, Joaquim	\$296,905
Colby College	RUI: Gene flow, selection, and maintenance of mating system diversity on an ecological gradient	Stone, Judy	\$306,632
University of Maine	The relative trace formula and central L-values	Knightly, Andrew	\$137,246
University of Maine	Collaborative Research: HECURA: A New Semantic-Aware Metadata Organization for Improved File-System Performance and Functionality in High-End Computing	Zhu, Yifeng	\$363,141
University of Maine	Quantifying Syntectonic Weakening in Deep Orogenic Crust	Gerbi, Christopher	\$238,686
University of Maine	Collaborative Research: Exploring A 2 Million + Year Ice Climate Archive-Allan Hills Blue Ice Area (2MBIA)	Kurbatov, Andrei	\$436,546
University of Maine	US-Ireland Partnership Program: BEACONS: Biosafety for Environmental Contaminants using Novel Sensors	Connell, Laurie	\$370,490
University of Maine	Collaborative Research: Interactive effects of chronic N deposition, acidification, and phosphorus limitation on coupled element cycling in streams	Simon, Kevin	\$197,661
University of Maine at Machias	PFI: Developing Infrastructure for Innovation in Downeast Maine: Using Place-and Inquiry-Based Marine Science Education to Build a K-12 STEM Pipeline	Beal, Brian	\$600,000
University of New England	The Interactions of Biology, Chemistry and Physics at the Land-Ocean Interface: A Systemic PARTnership Aimed at Connecting University and School (SPARTACUS)	Zeeman, Stephan	\$584,184
TOTAL:		10 awards	\$3,531,491

Maine EPSCoR STEM Outreach and Workforce Development

Under its new NSF EPSCoR Sustainability Science Initiative project, Maine EPSCoR has just begun to implement a wide array of educational outreach and workforce development programs in the state. A large part of the focus during this first year has been on the completion of major formal studies on the state of STEM education in Maine, which will provide critical baseline information to direct future STEM investments.

In addition to continuing the programs below, new upcoming opportunities during the second year of the Sustainability project will include mini-grants for schools to fund collaborations with university, business, or non-profit partners (i.e. field trips), and an initiative to help schools place more of a focus on STEM through special activities and programs.

Recent and current programs include:

Native STEM Scholarship Development Program: Maine EPSCoR has established partnerships that will connect Native students to STEM research areas that are relevant to their communities. This program currently supports two Native American Collaborative Graduate Research Assistantships, several mentoring programs, and hands-on activities for all age levels, such as a recent Brown Ash Seed Collection workshop for middle and high school students.

RiSE Center Teacher Conference, UMaine: Maine EPSCoR supported the center's fifth biennial conference in June 2010 on "Integrating Science and Mathematics Education Research into Teaching." Over 200 participants took part in keynote addresses, contributed and invited talks, workshops, panels and roundtables, a poster session, and evening programs. Discussion groups set the stage for moving both research and teaching in STEM forward, and focused on improved assessments; better understanding by teachers of related content and improved pedagogical content knowledge;



Brown Ash workshop

areas for which there are very few research-supported materials; and the need for students to learn first-hand about STEM careers.

Maine Girls Collaborative Project at UMaine's Womens Resource Center: Maine EPSCoR provides additional mini-grant opportunities through this program for organizations that have formed collaborations to serve girls in the STEM fields. Maine EPSCoR supported six mini-grants in 2010, which engaged girls of all ages in hands-on STEM

activities and career exploration. These included: 1) "Engineering Your Future," UMaine Presque Isle TRiO Upward Bound program, Maine School of Science and Mathematics, and Aroostook Coalition for Women in Trades and Technology; 2) "Helping Girls Dream Big in Science and Education," Coastal Studies for Girls and Cornerstones of Science; 3) "2010 Earth Day: A Thirst for Conservation," St. John Valley Soil & Water Conservation District and UMaine Cooperative Extension; 4) "Think Tank with STEM Professionals," Damariscotta Montessori School and Platform Shoes Forum; 5) "Enhancing Collaboration: CBOs and ME CTEs," Platform Shoes Forum and Maine Centers for Women, Work, and Community; 6) "Math Mentoring Project Portland High School," Math and Science Mentoring Alliance and the Portland Mentoring Alliance.

Expanding Your Horizons, UMaine's Womens Resource Center: Maine EPSCoR provided its fourth year of support for the Expanding Your Horizons STEM conference on campus for 515 middle school girls in grades 6-8. This conference, sponsored by UMaine's Womens Resource Center, links the girls with women role models who are active in STEM and provides hands-on STEM activities, workforce development experiences, and career information. This program has provided young women with positive, hands-on, fun experiences in mathematics and science that provides a foundation for them to increase their interest in these areas.

Maine EPSCoR STEM Outreach and Workforce Development

Maine EPSCoR High School Research Experience Program



This program aims to increase student STEM skills and encourage career interests in STEM disciplines by bringing high school students to UMaine to work with faculty and graduate students in these fields. The high school students actively work in the labs and in the field, assisting researchers and presenting the results of their collaborations in both reports and public seminar presentations.

During the summer of 2010, a total of 21 high school students participated in research internships, including 18 students from Orono High School and 3 students from Bangor High School. Students apply through their schools and are chosen in a selective process, and several elect to continue their internships through the following academic year.

This program provides high school students with the opportunity to directly participate in cutting-edge research with faculty teams at a time when they are thinking about and formulating their post-high school plans. Through interviews with these participants we have determined that many can develop or solidify an interest in studying a STEM field in college through their experience conducting what they consider relevant and beneficial “real-world” research. The program both expands their interests if they were not interested in STEM and focuses them if they already were. Each year many of these students subsequently enroll at UMaine,

and several are able to continue their internships as undergraduate students.

As a culmination of their experience, the students write a research report and present their research during an evening program open to the public. This year the students’ projects ranged broadly in topic with titles such as, “A Statewide Assessment of Agroforestry in Maine,” “Prediction of Climatological Conditions in the Gulf of Maine from Data Collected by Buoys,” “A Study of Sediment from Sargent Mountain Pond, Maine’s Oldest Lake,” “Weed Management for Sustainable Agriculture,” “Isolation of Shikimic Acid, a Precursor to Tamiflu®, from the Foliage of Red Pine,” “Scanning Electron Microscope Analysis of Atmospheric Dust in Ice Cores from Antarctica,” and “The Construction of a Light Diffraction Detector for Nanoparticle Analysis.”

Maine EPSCoR plans to expand this program over the next few years to include more high schools and universities/colleges throughout the state.



Maine STEM Collaborative STEM Summit

The Maine STEM Collaborative, begun in 2007, is a statewide partnership of education, research, business, government, and non-profit sectors. These partners have come together to help build a strong educational foundation in science, technology, engineering, and mathematics (STEM) in order to help propel the state of Maine's future economic prosperity. The Collaborative's focus is on increasing the quality of STEM education, aspirations, and public awareness through the integration, coordination, and promotion of efforts throughout the state. Maine EPSCoR is a key member and financial supporter of this initiative.



On January 29, 2010, the Collaborative sponsored its second STEM Summit at the Augusta Civic Center, bringing together stakeholders from diverse sectors to discuss the status, strengths, and needs of STEM education in Maine. The 338 registered participants spanned the breadth and depth of Maine's STEM initiative and included: higher education (44); K-12 teachers & administration (128); business/industry (46); government/nonprofits (98); K-12 students (12); and undergraduate students (10).

The day-long Summit featured keynote addresses, breakout sessions, and exhibits that actively engaged participants in conversations. The results of the day indicated that the Maine STEM Collaborative should look at the following priorities for next steps:

- engaging in a statewide landscape study on the current STEM education status;
- developing a strategic plan for fostering STEM education in Maine;
- increasing public awareness surrounding issues of STEM education;
- building, integrating, and coordinating STEM efforts in the state;
- increasing business participation in STEM education and student career awareness;
- fostering teacher conceptual knowledge and teaching effectiveness in STEM.

Membership in the collaborative is free and open to anyone interested in supporting STEM education for Maine's future. Applications and more information are available at: www.mainestem.org, www.mmsa.org, or www.umaine.edu/epscor.

Save the Date for NSF Workshop on Communicating Science

On April 14-15, 2011, Maine EPSCoR has been selected to host the National Science Foundation workshop "Communicating Science: Tools for Scientists and Engineers." This two-day workshop will focus on building communication skills for researchers, professionals, graduate students, and public information officers from colleges and universities in the New England region.

The first day of the workshop will include a diverse array of general session topics such as: Scientists are from Mars - Journalists are from Venus; What they Hear is What you Get; and Creating and Distilling Your Message.

Additional breakout sessions will include: Writing for the Public (blogs, websites, op-ed, NSF Highlights, etc.); Media Boot Camp (tell your story in video, audio, etc.); A Hitchhiker's Guide to Public Presentations; and Ask the

Experts (open forum Q & A).

Day Two of the workshop will delve deeper into the art and science of communicating more effectively by providing a select group of pre-registered participants with a more personalized training experience. Activities will include one-on-one counseling on message development; direct interaction with workshop leaders and colleague participants on communications strategies, techniques and effectiveness; and the videotaping of each participant in a structured, "real-world" simulation to facilitate individual analysis, feedback, and assessment with an eye towards identifying participants' communications strengths and areas for improvement.

More information and registration will be available at www.umaine.edu/epscor starting in February 2011.



Maine State EPSCoR Committee:

Maine EPSCoR is overseen by the Maine Innovation Economy Advisory Board, a statewide steering committee of individuals from Maine's education, research, and business communities and state government. The Board is under the auspices of Maine's Office of Innovation.

For more information see: www.maineinnovation.com

The Maine Science & Technology Action Plan can also be downloaded at this site.

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