January, 2015

Read stories this month in these UNH research areas:

Agriculture & Biosciences  
Business & Technology  
Engineering & Physical Sciences  
Health, Behavioral & Social Sciences  
Humanities & the Arts  
Marine & Ocean Sciences  
Space Science  
Sustainability & the Environment

Click on the area name at right to jump to that section, or browse through the entire list.

Agriculture & Biosciences

Assistant Professor Studying Non-Native Species in Hawaii
Jeffrey Foster, assistant professor of molecular, cellular, and biomedical sciences in UNH’s College of Life Sciences and Agriculture is part of a team of scientists working to maintain the fragile ecosystem in Hawaii. Foster brings his background as a wildlife biologist, with expertise in studying the effects of non-native birds on Hawaiian ecosystems, to his collaboration with scientists from the University of Hawaii, the University of Wyoming, the U.S. Army Construction Engineering Research Laboratory, and the non-profit Conservation Sciences Partners to research the loss of native flora and fauna.


Bringing Up Biologists
David Townsend says what excites him about research is new discoveries and the chance to witness something that hasn’t been reported before. Townsend, a professor in the department of molecular, cellular and biomedical sciences, received the Outstanding Associate Professor Award from UNH in 2014.

http://www.unh.edu/unhtoday/unhtoday/veterans/2015/01/bringing-biologists

Credit: UNH Communications and Public Affairs

Professors Halpin and Gamtso Travel to Limerick, Republic of Ireland
Carolyn Gamtso and Patricia Halpin travelled to Limerick, Ireland in August 2014. While there, the two UNH Manchester professors participated jointly in a panel discussion at the Information Literacy Section Satellite Meeting of the International Federation of Library Associations, presenting the results of their collaborative research on student learning and information literacy in an online environment. The topics discussed (information literacy and social media;
information literacy as a “meta-literacy”; information literacy and distance learning) relate directly to conversations going on at UNH Manchester about how best to teach students the transferable critical thinking skills they will need both as members of the workforce and members of their communities.

http://manchester.unh.edu/blog/about-our-faculty/professors-halpin-and-gamtso-travel-limerick-republic-ireland

UNH Scientists Successfully Grow Onions Overwintered in Low Tunnels
Becky Sideman, extension professor of sustainable horticulture production at UNH, and her colleagues with the University of Massachusetts-Amherst, University of Massachusetts Extension, and UNH Cooperative Extension report they have successfully grown bulb onions planted in the Fall for a Spring harvest with the aid of inexpensive low tunnels. This planting system promises to help farmers meet the high demand for year-round local produce.

http://colsa.unh.edu/aes/article/onions
http://extension.unh.edu/articles/Extension-Researchers-Successfully-Grow-Onions-Overwintered-Low-Tunnels

UNH to Break Ground on New Facility for NH Veterinary Diagnostic Laboratory
Construction is set to begin on a modern facility for the New Hampshire Veterinary Diagnostic Laboratory (NHVDL) that will significantly enhance the ability of the NHVDL to provide essential diagnostic services to the state’s agricultural, veterinary, wildlife, and public health communities. The new facility will offer additional space and be configured with an efficient, open-concept design that will allow for more collaboration, cross training and resource sharing. The expanded facility also will allow the NHVDL to enrich its contributions to the academic opportunities for students in the university’s biomedical sciences and pre-veterinary medicine programs. Co-funded and co-managed by the New Hampshire Department of Agriculture, Markets & Food and the UNH College of Life Sciences and Agriculture, the NHVDL has served the University and the state since 1970.

http://colsa.unh.edu/aes/article/nhvdl
http://www.unh.edu/news/releases/2015/01/lw21vet.cfm

Business & Technology

Life Will Find a Way: The Unexpected Growth of Agriculture in Kingston
The resurgence in agriculture businesses in Kingston, NH has surprised town leaders who thought their community’s farming days were a thing of the past. Kingston Planning Board member Glenn Coppelman came to UNH Cooperative Extension’s Economic Development Academy to gain insights to assist the town as it works to respond to the new interest in small farms, greenhouses, and roadside farm stands. Coppelman will be taking what he’s learned beyond Kingston – as vice president of the New Hampshire Economic Development Association, he can share the information statewide.

http://extension.unh.edu/articles/Life-Will-Find-Way
Two NH Businesses Awarded Grants for Research and Product Development by NH Innovation Research Center

Lamprey Networks, Inc. and Nanocomp Technologies, Inc. have received Granite State Technology Innovation Grants in the latest round of funding from the New Hampshire Innovation Research Center (NHIRC) at UNH. The funding, which the companies match with dollars or services, enables the companies to collaborate with New Hampshire-based colleges and universities to help turn their research, conceptualization, and product development into economic assets. NHIRC-supported projects vary from proof-of-concept to substantial product or process design.

http://www.unh.edu/news/releases/2015/01/tw16nhirc.cfm

UNH Manchester Partners with Alpha Loft to Expand Resources for Students and Businesses

UNH at Manchester announced in January the closure of the college’s Emerging Technology Center (ETC) and its plan to expand the campus’ partnership with Alpha Loft. The Emerging Technology Center, opened in 2013, was established as a resource for students and faculty to collaborate with area business partners on real world projects and foster entrepreneurial activities. Students and faculty will have the same opportunities through the University partnership with Alpha Loft, a resource for entrepreneurs that provides resources such as affordable workspace, shared administrative and technological services, events, advice, and mentoring at its locations in Durham, Portsmouth, and Manchester.

http://manchester.unh.edu/blog/campus-news/unh-manchester-partners-alpha-loft-expand-resources-students-and-businesses

UNH Program Hosts Portsmouth Science Cafés on Sea Level Rise, Economy, Innovation

Rising tides and flooding, the government’s role in building the economy, and the commercialization of university research are on tap this spring at the Portsmouth Science Café. Hosted by UNH and NH EPSCoR to improve communication between scientists and the public, the cafes provide a unique opportunity for Seacoast residents to feed their minds with contemporary science in the relaxed atmosphere of a pub. The February 18th session, “What’s the Government’s Role in Building the Economy?” will feature Michael Ettlinger, founding director of the UNH Carsey School of Public Policy, and UNH economist Michael Swack.

http://www.unh.edu/news/releases/2015/01/bp12sciencecafe.cfm

Engineering & Physical Sciences

Building a Better Oil Spill Response

What happens to spilled oil on the bottom of a body of water? This video shows how students working with Nancy Kinner, professor of civil and environmental engineering and UNH Director of the Coastal Response Research Center, are using a unique oil flume to find out. Their findings could improve responses to oil spills.

http://www.unh.edu/unhtoday/unhtoday/veterans/2015/01/building-better-oil-spill-response

Credit: UNH Communications and Public Affairs
CAREER Builder: Boettcher, Li, Weber Receive Prestigious NSF Awards

Three UNH faculty members have received prestigious National Science Foundation (NSF) awards to support their research predicting earthquakes, recycling carbon dioxide into fuel, and measuring the fate of methane bubbles that rise from certain areas of both salt and freshwater bodies. Margaret Boettcher, assistant professor of geophysics, Gonghu Li, assistant professor of chemistry, and Tom Weber, assistant professor of mechanical engineering, received the NSF’s Faculty Early Career Development (CAREER) awards. The grants support junior faculty who “exemplify the role of teacher-scholar through outstanding research, excellent education, and the integration of education and research within the context of the mission of their organizations,” according to the NSF.

http://ceps.unh.edu/ceps-insider/career-builder

Three New Research Centers Support Outstanding Interdisciplinary Research and Scholarship

UNH has established three new research centers that will leverage the university’s existing strengths to enhance interdisciplinary research opportunities for faculty and students. The Center for Advanced Materials and Manufacturing Innovations (CAMMII), the UNH Center for Infrastructure Resilience to Climate, and Prevention Innovations: Research and Practice for Ending Violence Against Women Research Center are poised to bring their interdisciplinary research areas to the next level – from good to great. Each new center will receive a seed grant from the Office of the Senior Vice Provost for Research to increase center capacity to make major contributions to its respective field and boost its ability to compete for federal, state, and private grants and contracts that support innovative research and scholarship.

http://www.unh.edu/unhtoday/unhtoday/veterans/2015/01/three-new-research-centers-support-outstanding-interdisciplinary-research-and-scholarship
http://www.unh.edu/unhtoday/unhtoday/veterans/2015/01/new-research-centers-support-outstanding-interdisciplinary-research-and-scholarship

Health, Behavioral & Social Sciences

Director of UNH Institute for Health Policy and Practice to Retire in May

Ned Helms, director of the Institute for Health Policy and Practice at UNH, will retire May 15, 2015. He has held that position since becoming the Institute’s founding director in 2001. Under Helms’s leadership, the Institute has gained national recognition for its work in the areas of health policy, analytics, and applied research. Jo Porter, Deputy Director of the Institute, will serve as interim director during the search for a new director.

http://chhs.unh.edu/article/2015/01/director-ihpp-ned-helms-plans-retire-may-15th
http://www.unh.edu/news/releases/2015/01/cc26helms.cfm

Mil Duncan’s Worlds Apart: Poverty and Politics in Rural America Published

Mil Duncan, Carsey Policy Fellow and former director of the Carsey Institute, first published Worlds Apart in 1999 to examine the nature of poverty through stories of real people in remote rural areas in the United States. Now, 20 years later, Duncan has returned to the communities to learn what has changed.

Credit: Yale University Press
Prevention Innovations Named Research Center
Prevention Innovations is one of three new research centers established by the Office of the Senior Vice Provost for Research that will leverage the university's existing strengths to enhance interdisciplinary research opportunities for faculty and students. Prevention Innovations is a research and training unit at UNH that develops, implements and evaluates programs, policies and practices to help end violence against women. The center's work to date is nationally and internationally recognized for its contributions to the prevention of sexual and relationship violence and stalking. The multidisciplinary center includes faculty and students from the sociology, psychology, social work and justice studies departments as well as the women's studies program and the UNH School of Law; Sharyn Potter (sociology) and Jane Stapleton are center co-directors.

http://cola.unh.edu/article/2015/01/prevention-innovations-named-research-center

Scenes From the Frontlines
A new exhibit at the UNH’s Dimond Library features dramatic images of war, including some captured by English instructor Nathan Webster while he was a freelance photojournalist embedded with troops in Iraq. Conflict Zone is a traveling exhibit of today’s leading international combat photojournalists’ work, chronicling the scenes of war – the disturbing, heart-breaking and violent, but also the everyday interactions between soldiers and civilians, as well as images of soldiers' lives back home.

http://unhinfo.unh.edu/unhtoday/2015/01/scenes-frontlines

Sign Language Professor Speaks at National Conference
Jack Hoza, professor and director of Sign Language Interpretation at UNH Manchester, recently gave a presentation at the Conference of Interpreter Trainers annual meeting. He reported the results of a national survey he conducted that help clarify how interpreters manage the interpreting process, develop expertise in this discipline, and change their approach to the work as they become more experienced. These findings have important implications for interpreter education.


The Impacts of Brain Injury: Science on Tap
On January 13, 2015 Daniel Seichepine, UNH Manchester lecturer and clinical neuropsychologist, discussed the science of brain injuries, including long term effects, key treatments and prevention technologies. The discussion was part of the SEE Science Center's Science on Tap program held at the Shaskeen Pub at 909 Elm Street in Manchester. Science on Tap events, presented monthly in partnership with UNH Manchester and SilverTech, are free and open to the public.

http://manchester.unh.edu/blog/about-our-faculty/impacts-brain-injury-science-tap
Two History Ph.D. Alums Publish Books

Two graduates from the UNH doctoral program in history have published books based on their dissertation research. Chris Pastore ’11 published *Between Land and Sea: The Atlantic Coast and the Transformation of New England* (Harvard University Press, 2014). Pastore’s dissertation was directed by Jeffrey Bolster, professor of history. Vitor Izecksohn ’01 published *Slavery and War in the Americas: Race, Citizenship, and State Building in the United States and Brazil, 1861-1870* (University of Virginia Press, 2014). His dissertation was co-directed by Frank McCann, professor emeritus of history, and Bill Harris, professor of history.

http://cola.unh.edu/article/2015/01/two-history-phd-alums-publish-books

Victims of Stalinist Repression Share Their Stories in New Book

Professor of history Cathy A. Frierson has published a new book that tells the stories of ten Russians who, as children, suffered banishment, starvation, disease, anti-Semitism, and trauma because their parents were political victims of the Stalinist regime. Frierson is an historian of modern Russia and the Soviet Union. Since 2005, she has focused on child survivors of Soviet political repression, forging relationships with survivors and their advocacy and commemorative organizations.

http://cola.unh.edu/article/2015/01/victims-stalinist-repression

Video: Ellen Fitzpatrick on Historians as Public Intellectuals

Ellen F. Fitzpatrick, UNH professor of history, joined colleagues from the Collège de France, Columbia University, the Wissenschaftszentrum Berlin für Sozialforschung, and New York University as a member of the panel, “Historians as Public Intellectuals” at the annual meeting of the American Historical Association on January 3, 2015. Her remarks are presented in this video.

http://cola.unh.edu/article/2015/01/video-ellen-fitzpatrick-historians-public-intellectuals

Humanities & the Arts

A Royal DNA Mystery, Five Centuries Later: UNH Professors Weigh In On Richard III Findings

Marieka Brouwer-Burg, UNH anthropology lecturer, and Douglas Lanier, Shakespeare professor at UNH, shared their insights on the announcement that extensive DNA testing has proven that a skeleton unearthed in a Leicester, England parking lot in 2012 was indeed Richard III, king of England from 1483 to 1485, and that it provides evidence that Richard’s mother had some sort of affair, thus causing a break in the royal lineage. According to Brouwer-Burg, there only have been a handful of such collaborations between archaeologists, forensic anthropologists, and geneticists, including the sequencing of the so-called Neanderthal genome. Similar DNA extraction and testing has been used on New Kingdom mummies to determine royal parentage.

http://cola.unh.edu/article/2015/01/royal-dna-mystery-five-centuries-later-unh-professors-weigh-richard-iii-findings
http://www.unh.edu/unhtoday/2015/01/royal-dna-mystery-five-centuries-later-unh-professors-weigh-richard-iii-findings
Historian of Medieval Europe Publishes Two New Translations
David Bachrach, associate professor of history, has published two translated works and provided commentary that sheds light on medieval Saxony and the German city of Worms. *Deeds of the Saxons* is a translation of an exceptionally rich account of the Saxon people and the reigns of the first two rulers of the Ottonian dynasty written by Widukind, a monk at the prominent monastery of Corvey in Saxony during the middle third of the tenth century. *The Histories of a Medieval German City, Worms c. 1000-c. 1300* follows the development of this important city over almost three centuries from the perspective of writers who lived there. Worms was one of the first cities to develop as a center of episcopal power; it also was one of the first to develop an independent urban government.

http://cola.unh.edu/article/2015/01/historian-medieval-europe-publishes-two-new-translations

HYPE (Hosting Young Philosophy Enthusiasts) Returns to UNH on Monday, March 16th
HYPE (Hosting Young Philosophy Enthusiasts) is an annual day of philosophical discussion open to high school students from all over New Hampshire. The 2015 conference, scheduled for March 16th at UNH Durham, will focus on the complexities of true fear. Founded in 2006 by the Souhegan High School Ethics Forum, HYPE is supported by the New Hampshire Humanities Council, Granite State College, UNH Durham, UNH Manchester, Mount Washington College, Merrimack College, and St. Anselm College.

http://cola.unh.edu/article/2015/01/hype-returns-unh

MFA Candidate Benjamin Ludwig Publishes His First Book, "Sourdough"
Benjamin Ludwig’s first book, which was awarded the 2013 Clay Reynolds Novella Prize, has been published by the Texas Review Press. *Sourdough* tells the story of Lucas, who discovers that a safe bet can be the most dangerous thing a person can dare to make.


Marine & Ocean Sciences

New Hampshire Sea Grant Symposium Set for January 30
On January 30, 2015 UNH Cooperative Extension staff participated in the first biennial New Hampshire Sea Grant Symposium. This symposium was designed to showcase the results of recently funded NH Sea Grant projects and provide a forum to discuss best practices in translating cross-disciplinary science to action through integrated research, education, and engagement. Extension Program Leader Charlie French discussed his recent research, in collaboration with Kelly Cullen and Alberto Manalo from UNH’s natural resources and the environment department, which found that there is demand for locally-caught seafood and that consumers are willing to pay a premium for that seafood.

http://extension.unh.edu/articles/New-Hampshire-Sea-Grant-Symposium-Set-Jan-30
Seaweed: It’s What’s for Dinner
On January 22nd, UNH Cooperative Extension and New Hampshire Sea Grant, in collaboration with Maine Sea Grant and local restaurant Stages at One Washington provided an opportunity to explore the world of seaweeds through sight, touch, and especially taste. Gabriela Bradt, UNH Cooperative Extension and NH Sea Grant fisheries specialist, and Maine Sea Grant marine extension expert Sarah Redmond designed the event that included cooking some innovative sea vegetable dishes; reviewing the biology, diversity, and ecology of native seaweeds; and discussing the wild crafting and culture of sea vegetables in New England. Stages at One Washington chef and owner Evan Hennessey, who views his kitchen as more of a research and development food lab, was thrilled to host this sea vegetable workshop.

http://extension.unh.edu/articles/Seaweed-It%E2%80%99s-What%E2%80%99s-Dinner

Space Science

EOS Researcher: Cosmic Rays Could Make Mars Travel Unsafe
Crewed missions to Mars remain an essential goal for NASA, but scientists are only now beginning to understand and characterize the radiation hazards that could make such ventures risky, concludes a new paper by UNH scientists. Nathan Schwadron, associate professor in UNH’s Institute for the Study of Earth, Oceans, and Space and the department of physics, and colleagues have found that the Sun’s low activity boosts radiation to harmful levels for space travelers. Schwadron serves as principal investigator for the project Cosmic Ray Telescope for the Effects of Radiation (CRaTER), a detector on NASA’s Lunar Reconnaissance Orbiter (LRO) that provides comprehensive findings on space-based radiation.

http://ceps.unh.edu/ceps-insider/eos-researcher

UNH Scientists Launch "CubeSats" into Radiation Belts January 29
Twin, small satellites built in part at UNH’s Space Science Center were launched into orbit as independent, auxiliary payloads on a Delta II rocket carrying NASA’s Soil Moisture Active Passive mission satellite on January 29, 2015. The 4x4x6-inch Focused Investigations of Relativistic Electron Burst Intensity, Range, and Dynamics (FIREBIRD II) “CubeSats” will be positioned 400 miles above Earth to study a process known as microbursts, which involves electrons moving at nearly the speed of light during short-duration (100 milliseconds) events. Microbursts are thought to be one of the primary mechanisms by which the outer radiation belt loses energetic particles to Earth's atmosphere after the occurrence of powerful solar storms. Such storms can dramatically change the intensity of the radiation belts and thereby pose hazards to the satellites for telecommunications, and weather monitoring and prediction.

http://www.unh.edu/news/releases/2015/01/ds29cubesats.cfm
Sustainability & the Environment

A River Runs Through It: Ph.D. Candidate Studies the Hydrologic–Human Cycle
Danielle Grogan, a Ph.D. candidate in natural resources and environmental studies, spent 10 weeks studying hydrologic models in Japan with support from the National Science Foundation’s (NSF) East Asia and Pacific Summer Institutes for U.S. Graduate Students program. Grogan, who also holds a prestigious NSF Graduate Research Fellowship, will use the results of the modeling work she completed in Japan to help the New Hampshire EPSCoR Ecosystems and Society research team develop scenarios that will provide projections of how land cover and climate might change across New Hampshire over the next 50 years.

http://unhinfo.unh.edu/unhtoday/2015/01/river-runs-through-it-phd-candidate-studies-hydrologic-human-cycle

Carbon Bomb with a Long Fuse: Ph.D. Student Makes Key Finding in the Climate Change Puzzle
Claire Treat ‘14G, now a postdoctoral researcher at the University of Alaska and the U.S. Geological Survey in Menlo Park, California, will build on the research she completed at UNH by exploring fossilized wetland vegetation datasets to better understand panarctic peatland and species composition. Treat will examine how peat samples provide evidence indicative of high methane emissions during the Holocene Epoch. Treat is collaborating with Steve Frolking, a biogeochemical modeler and research professor with joint appointments in UNH’s Earth sciences department and the Earth Systems Research Center/UNH Institute for the Study of Earth, Oceans, and Space, who served as a member of Treat’s Ph.D. dissertation committee.

http://www.unh.edu/unhtoday/unhtoday/veterans/2015/01/carbon-bomb-long-fuse-phd-student-makes-key-finding-climate-change-puzzle

Exxon Valdez, Deepwater Horizon: What Have We Learned?
In October, UNH assembled nearly 40 scientific experts and industry specialists for a two-day forum, “Oil Spill Response: 25 Years After the Exxon Valdez and in the Wake of Deepwater Horizon, What Have We Learned and What Are We Missing?” Hosted by the UNH Center for Spills in the Environment and the School of Marine Science and Ocean Engineering, the forum featured panelists who played key roles during the aftermath of the Valdez and Deepwater Horizon spills. Speakers discussed how these two spills can inform future spill responses as well as what should be done differently to avoid future disasters.

http://ceps.unh.edu/ceps-insider/exxon-valdez

Frey Elected to NEON Board of Directors
Serita Frey, professor of soil microbial ecology in the UNH College of Life Sciences and Agriculture, has been elected to the board of directors of the National Ecological Observatory Network (NEON), a continental-scale observatory funded by the National Science Foundation to study the impacts of climate change, land use change, and invasive species on natural resources and biodiversity. NEON will combine data from 106 strategically-selected terrestrial and aquatic sites with remotely sensed data and existing continental-scale data sets to describe changes in the nation’s ecosystem through space and time. Frey’s research focuses on soil microbial responses to global change, with an emphasis on how long-term soil warming, simulated nitrogen deposition, and biotic invasion are altering soil fungal ecology and evolution.

http://colsa.unh.edu/aes/article/freyneon