September, 2014

Read stories this month in these UNH research areas:

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

Agriculture & Biosciences

Dr. Ladybug
Lindsay Havens, a Ph.D. Student in genetics in UNH’s College of Life Sciences and Agriculture, works with assistant professor of genomics Matt MacManes in UNH’s Hubbard Center for Genome Studies to examine the cause of the wide variation in spot number on Harmonia axyridis (commonly known as the Harlequin Ladybug). Hypothesizing that there is genetic control of this characteristic, Havens has sequenced the DNA of the ladybug to develop a first draft of its genome. Interested individuals from around the world can upload their own photos of Harlequin ladybugs to Havens’ website, www.spotaladybug.com.

http://colsa.unh.edu/article/dr-ladybug-0

NHAES Scientists Tackle Climate-Related Challenges of Northeast Apple Growers

Scientists at the NH Agricultural Experiment Station in the UNH College of Life Sciences and Agriculture are helping northeastern apple growers manage diseases that can damage or destroy their crops. Working under the leadership of Kurt Broders, assistant professor of plant pathology, Experiment Station scientists are using sophisticated weather models to predict when an orchard is at risk for infection. This targeted approach lets orchard managers know when an outbreak could be at hand, helping the managers respond quickly to disease when it occurs and to cut costs and reduce the environmental impact of fungicides by using the expensive chemicals only when absolutely necessary.

http://colsa.unh.edu/aes/article/nhaes/climateandapples
http://www.unh.edu/news/releases/2014/09/lw10apples.cfm

UNH and Strafford County Conservation District Team Up to Test Cover Crops

A team of UNH scientists is working with the Strafford County Conservation District to test different combinations of cover crops in a hayfield in Dover, NH measuring the crops’ impact on fertility, productivity, and soil quality. The researchers are trying to adapt methods that have worked in the Midwest and Great Plains regions to New Hampshire’s distinct agricultural system to improve agricultural sustainability without the use of chemicals. The current tests, which
are funded by the NH Agricultural Experiment Station in the UNH College of Life Sciences and Agriculture, involve a variety of cover crops, including six different types of grass. Richard Smith, assistant professor of agroecology, leads the project team, which also includes Myers Shaiyen, a graduate student in natural resources and the environment.

http://cola.unh.edu/aes/article/nhaes/covercrop

UNH Survey: Milk Prices Top Concern of Northeastern Organic Dairy Farmers

Working with the Northeast Organic Dairy Producers Alliance (NODPA), UNH researchers recently surveyed 183 organic dairy farms in the first-ever effort to assess the concerns and needs of organic dairy farmers in the Northeast. They found that the farmers’ top concern is to receive steady, fair prices for their milk from milk processors. The research team included David Townson, professor of molecular, cellular, and biomedical sciences; Lisa Townson, assistant director of UNH Cooperative Extension; André Brito, assistant professor of organic dairy management; and André Pereira, doctoral student in dairy nutrition. The results of the needs assessment, funded by the USDA-NIFA-Organic Agriculture Research and Extension Initiative, the Northeastern Regional Association of State Agricultural Experimental Station Directors, and the NH Agricultural Experiment Station in the UNH College of Life Sciences and Agriculture, will serve as the foundation for future research and educational outreach programs.

http://cola.unh.edu/aes/article/nhaes/organicmilksurvey

Business & Technology

UNH: LESI Falls as Lodging Executives Present and Future Sentiment Wanes

The Lodging Executives Sentiment Index (LESI) fell to 72.9 in July from June’s 79.5 reading. According to associate professor of hospitality management Nelson Barber, despite this slip, executives expressed an increase in sentiment towards future non-managerial hires. The LESI, which tracks lodging executives’ expectations for present business conditions, as well as future business conditions 12 months in the future, is managed by the Department of Hospitality Management in the UNH Peter T. Paul College of Business and Economics.


Engineering & Physical Sciences

A Genius Among Us: Math Professor Tom Zhang Named 2012 MacArthur Fellow

On September 16, 2014, the MacArthur Foundation awarded UNH math professor Yitang “Tom” Zhang with a prestigious MacArthur “genius grant” for his bounded gap proof of Euclid’s twin prime conjecture. Colleagues have described Zhang’s work as “astounding,” and it has served as an academic foundation for other mathematicians to build upon. Zhang is UNH’s third MacArthur Fellow, joining poet Charles Simic and historian Laurel Thatcher Ulrich who received their awards in 1984 and 1992, respectively.

http://www.unh.edu/unhtoday/unhtoday/veterans/2014/09/genius-among-us
http://www.unh.edu/news/releases/2014/09/bp17zhang.cfm
Julie Bryce, Associate Professor of Geochemistry – Italy

Julie Bryce met with colleagues at the University of Ferrara in advance of a meeting of geochemists in nearby Florence during a trip to Italy last year. The UNH geochemistry research group has a strong relationship with the University of Ferrara that allows for easy access to Italy’s several volcanic provinces that provide a good research setting for geochemists as well as a steady exchange of knowledge and students. The journey provided Bryce with the opportunity to study xenoliths, rocks swept up from under the Earth’s crust as magma rises to the surface, as well as to sample the local cuisine and cappuccino.

http://unh.edu/cie/julie-bryce-2013

Health, Behavioral & Social Sciences

Apologies from Peterson to Palin

UNH professor of philosophy Nick Smith is no stranger to apologies. He has spent a good portion of the last decade examining the meaning of apologies and the philosophical, legal, spiritual, and practical ways our society responds to them. In his most recent book, Justice through Apologies: Remorse, Reform, and Punishment, Smith takes a look at apologies within the context of civil and criminal law.

http://cola.unh.edu/thecollegeletter/2014-09/apologies-peterson-palin

Carsey School of Public Policy at UNH: First Child Poverty Decline Since Before 2007

New research from the Carsey School of Public Policy at UNH indicates that child poverty rates declined slightly across the country in 2013, the first time this has occurred since before the Great Recession. The research was conducted by the Carsey School’s Beth Mattingly, director of research on vulnerable families and research assistant professor of sociology at UNH; Jessica Carson, vulnerable families research scientist; and Andrew Schaefer, a vulnerable families research associate and a doctoral student in sociology. While some states had an increase in child poverty, the researchers found that the overall decline nationally is the result of declining child poverty rates in urban America.

http://campaign.r20.constantcontact.com/render?ca=0793eef8-03c8-486b-b341-26f489ea5487&c=10e4c220-45a3-11e3-b9d6-d4ae5292c40b&ch=12810d00-45a3-11e3-ba92-d4ae5292c40b

Digging in the Dirt

Students in anthropology professor Meghan Howey’s “The Lost Campus: The Archaeology of UNH” class are excavating the site of the old train station on campus in the lawn adjacent to Morrill Hall. The process will teach students the foundational methods of archaeology as they work to examine and document part of UNH’s past.

http://cola.unh.edu/article/2014/09/digging-dirt
Eleanor Harrison-Buck, Associate Professor of Archaeology – Belize

Associate professor of archaeology Eleanor Harrison-Buck and professor of soil microbial ecology Serita Frey, with the assistance of a UNH Center for International Education Development Grant, recently traveled to Belize to work on refining a technique of soil testing and take soil samples from the eastern half of the Belize watershed. According to Harrison-Buck, their technique could provide “the first viable method for identifying historic, and possibly prehistoric, cacao orchards in the archaeological record.” Although archaeological evidence of cacao (the chocolate bean) exists, currently there is no way to understand ancient cacao cultivation and production.

http://unh.edu/cie/eleanor-harrison-buck

Highlights from the First Five Years of the Coös Youth Study

Eleanor M. Jaffee, project manager, and Michael S. Staunton, graduate research assistant, have published their findings from the first five years of the Coös Youth Study, a project of the Carsey School of Public Policy at UNH. The Coös Youth Study is a ten-year research project begun in 2008 that explores the decisions of rural youth in Coös County in northern New Hampshire concerning their education and job opportunities and their plans to stay in their native region or move away. The findings address youth aspirations and perceptions of regional opportunities, substance use and mental health, and other topics.

http://campaign.r20.constantcontact.com/render?ca=bfc6a11-dd2c-441f-94df-4d0879a596a3c&c=10e4c220-45a3-11e3-b9d6-d4ae5292c40b&ch=12810d00-45a3-11e3-ba92-d4ae5292c40b

IOD Filmmaker Dan Habib Appointed to Obama’s Disability Committee

The White House recently announced that Dan Habib, filmmaker and project director of the Inclusive Communities Project at the UNH Institute on Disability, will be appointed to the President’s Committee for People with Intellectual Disabilities. The Committee promotes policies and initiatives that support independence and lifelong inclusion of people with intellectual disabilities in their respective communities. Habib directed the award-winning film Including Samuel, about his family’s efforts to include his son, who has cerebral palsy, into all facets of their lives; and Who Cares About Kelsey?, a film that documents the life of a student with emotional and behavioral challenges and the innovative educational approaches that help her succeed.


Map NH Health Brings the State’s Health Future into Focus

The NH Citizens Health Initiative (NH CHI) and the Institute for Health Policy and Practice at UNH are collaborating on the MapNH Health Project. The project includes a user-friendly, interactive website (www.mapnhhealth.org) that provides information, such as healthcare service data and health behavior projections, that can serve as a basis for community leaders, policy makers, and consumers to engage in educated discussions about the future of health policy in New Hampshire. MapNH Health has benefitted from advisory assistance from a broad range of organizations and agencies, both nationally-based and from across New Hampshire. NH CHI’s work to engage stakeholders, including outreach to consumers, policy makers, business and industry leaders, hospitals and health systems, social service providers, public health professionals, and educators, will continue through 2015.

http://www.unh.edu/news/releases/2014/09/cc08healthcare.cfm
NEGC Publishes Recommendations on State Implementation of Affordable Care Act

The New England Genetics Collaborative (NEGC) recently released its findings on the impact of the 2010 Patient Protection and Affordable Care Act on children with genetic disorders and their families, along with recommendations for policymakers regarding the state-level ongoing implementation of the Act. NEGC found that these children could fall into gaps in coverage and, according to Monica McClain, research associate professor in the UNH Institute on Disability and co-director of the NEGC, state lawmakers must act so that these children are not left behind. The NEGC is funded by a grant from the Health Resources and Services Administration/Maternal and Child Health Bureau/DSCSHN Genetic Services Branch.


New Hampshire Public Radio: How N.H. Colleges Are Fighting Campus Sexual Assault

Jane Stapleton (co-director of UNH’s Prevention Innovations, Research and Practice for Ending Violence on Campus program) recently appeared on NHPR with other local experts on sexual violence to discuss how best to address the problem of sexual assault on college campuses. Prevention Innovations is a collaboration between researchers and practitioners that develops, implements, and evaluates cutting-edge programs, policies, and practices to eliminate violence against women.


Oct 29th Science Café in Portsmouth: Superman or Clark Kent: What Kind of Bystander Are You?

On October 29, 2014, Sharyn Potter, associate professor of sociology and co-director of Prevention Innovations, Research and Practice for Ending Violence on Campus, and professor of psychology Victoria Banyard will speak at the Portsmouth Brewery’s Jimmy LaPanza Lounge. They will discuss prevention and community intervention efforts in stopping interpersonal violence. The discussion, part of the Portsmouth Science Café series hosted by UNH research associate professor Cameron Wake, is free and open to the public and will run from 6-8 p.m.

http://nhepscor.org/events/superman-or-clark-kent-what-kind-bystander-are-you

One Small Voice

Hannah Waller ’15, a political science and international affairs dual major, recently spent nine weeks in Bosnia with the support of a UNH International Research Opportunities Program grant. She had intended to study governmental strategies for promoting justice and reconciliation, but discovered that ethno-religious division, searing memories, and fresh loss persist nearly 20 years after the Bosnian War ended, and that the government policies she’d hoped to study did not exist. Instead, she spent time offering humanitarian assistance and shifted her research to the people in the Bosniak Muslim community of Sanski Most where she lived. With the help of a local translator, Waller interviewed the citizens to find out what they think is important in the transition to a stable society. Although the experience was sobering, Waller is committed to working in the field of human civil rights, planning to “go where I can make the most difference” after graduation.

http://cola.unh.edu/thecollegeletter/2014-09/one-small-voice
Politics Divide Coastal Residents’ Views of Environment, UNH Research Finds
A recent study conducted by two UNH sociologists, professor Lawrence Hamilton and assistant professor Tom Safford, showed that, across the country, coastal-dwelling residents’ views of environmental concerns divide along party lines. The research was the first of its kind and offers new insights for “anyone who’s trying to manage resources,” according to Hamilton. The study provides a broad comparative look at how residents of different coastal areas view the challenges and threats to their unique environments. The study was supported in part by grants from the U.S. Department of Agriculture Rural Development program, the U.S. Environmental Protection Agency, the National Oceanographic and Atmospheric Administration, the Ford Foundation, and the Kellogg Foundation.


http://www.unh.edu/news/releases/2014/09/bp16climate.cfm

Science Can Be Slow—Like Brewing a Good Cup of Tea
Neuroscience and behavior major Laura Van Beaver ’16 spent the summer of 2014 trying to develop a new process for removing caffeine from tea while retaining its health benefits and flavor. Van Beaver’s approach is to essentially turn off caffeine production, creating a naturally decaffeinated product. To do that, she is trying to modify the gene that controls caffeine synthesis in tea plants. Her research is supervised by Subhash Minocha, professor of plant biology and genetics, and was supported in part by a Summer Undergraduate Research Fellowship from UNH’s Hamel Center for Undergraduate Research. Van Beaver will continue her research during the academic year.


The New York Times: California Law on Sexual Consent Pleases Many but Leaves Some Doubters
A recent New York Times article on California’s new sexual consent law featured expert comments from Jane Stapleton, co-director of the UNH Prevention Innovations, Research and Practice for Ending Violence on Campus program. Stapleton emphasized that research is needed to establish the true incidence of sexual assault on college campuses and to evaluate the effectiveness of measures implemented to combat it.


UNH Experts Available to Discuss U.S. Poverty Trends
Researchers in the Carsey School of Public Policy at UNH welcome the opportunity to discuss trends in U.S. poverty and the new data released by the U.S. Census Bureau in September. Beth Mattingly, director of research on vulnerable families, Jessica Carson, vulnerable families research scientist, and Andrew Schaefer, vulnerable families research associate, are available for comment. They all play key roles in the Carsey School’s research on child poverty, and policy, programs, and labor issues affecting families.

http://www.unh.edu/news/releases/2014/09/as15poverty.cfm
UNH Researcher Comments on Developments in Ferguson, MO

In a statement released September 2, 2014, Laurence Armand French, senior researcher and affiliate professor of UNH’s Justiceworks, provided commentary on the shooting death of Michael Brown in Ferguson, MO and the subsequent protests and violence. He discussed the historical and sociological factors at play behind the situation and offered suggestions for positive steps to take to diffuse and prevent similar situations in the future.

http://cola.unh.edu/article/2014/09/ferguson-mo

Humanities & the Arts

History Major Scares Up Consequences of Red Scare

With the support of a Summer Undergraduate Research Fellowship from UNH’s Hamel Center for Undergraduate Research, history major Joseph Juknievich ’16 spent the summer of 2014 researching the effects of the 1919-1920 Red Scare in New England. The Red Scare was a national event, spurred by “a fear of anything that resembled communism and anarchy,” Juknievich states, but his research allowed him to examine it on a smaller, more local scale. Juknievich’s research was supervised by Lucy Salyer, associate professor of history.

http://cola.unh.edu/article/2014/09/juknievich

Joe Biden’s ‘Shylock’ Stumble Has Long History, Doug Lanier Comments in Wall Street Journal

UNH English professor Doug Lanier recently provided commentary in a Wall Street Journal article about Vice President Joe Biden’s use of the term “shylocks” in a recent speech. Lanier, who is currently writing a book on Shakespeare’s The Merchant of Venice – where the term originated – explained the origin and derogatory significance of the word.


UNH Holds First Classics and Humanities Research Symposium in Durham and Portsmouth, NH, October 17-19

Scholars of ancient myth from across the United States and Europe will gather from October 17-19, 2014 for UNH’s first John C. Rouman Symposium for Research in the Classics and Humanities. The inaugural symposium will focus on myth criticism in the ancient world. The symposium is named in honor of UNH Professor Emeritus John C. Rouman, a distinguished scholar who taught in the UNH Classics program for many years. The conference presentations, which are free and open to the public, will take place Friday afternoon and Sunday morning at the Hilton Garden Inn in Portsmouth, and all day Saturday on UNH’s Durham campus.

UNH Hosts 2014 New England Renaissance Conference, October 11
UNH will host the 2014 New England Renaissance Conference on Saturday, October 11, 2014 from 9 a.m. to 6 p.m. in the Memorial Union Building Theatre 1 on UNH’s Durham campus. This year’s theme is “Cultures of Credit and Debt in Medieval and Early Modern Europe.” The conference brings together a distinguished group of scholars from a variety of disciplines to simultaneously showcase recent research and open up new areas of inquiry into the social, cultural, intellectual, and legal history of credit and debt. The conference is made possible by funding from programs at both UNH and Harvard University.

Marine & Ocean Sciences

UNH Ocean Mappers Discover Seamount in Pacific Ocean
A team of UNH scientists headed by UNH Center for Coastal and Ocean Mapping/Joint Hydrographic Center research professor James Gardner has discovered a new seamount near the Johnson Atoll in the Pacific Ocean. Working aboard the R/V Kilo Moana, an oceanographic research ship owned by the U.S. Navy and operated by the University of Hawaii, Gardner and his team were using multibeam echosounder technology to create detailed images of the seafloor when, late at night, the feature appeared “out of the blue.” The team was in the area on a mapping mission in support of the U.S. Extended Continental Shelf Task Force, a multi-agency project to demarcate the outer edges of the U.S. continental shelf.
http://www.unh.edu/news/releases/2014/09/bp02seamount.cfm
http://www.unh.edu/unhtoday/veterans/2014/09/theres-bottom-sea

UNH-led Fisheries Research Collaborative Calls for New Regional Projects
The UNH-led Northeast Consortium (NEC) will lead a new collaborative research initiative supported by the New England Fishery Management Council. The NEC will distribute research funds to projects researching groundfish stocks and the groundfish fishery in the Gulf of Maine and Georges Bank. Project proposals from local commercial fishers and scientists are due November 5, 2014.

Space Science

Astrophysicist Available To Discuss Powerful Solar Flares
Nathan Schwadron, an astrophysicist in the Space Science Center within the UNH Institute for the Study of Earth, Oceans, and Space, is available to discuss the implications of and provide context for the powerful solar flare that erupted from the sun on September 10, 2014. Schwadron is the principal investigator for both the Cosmic Ray Telescope for the Effects of Radiation (CRaTER) instrument onboard NASA’s Lunar Reconnaissance Orbiter mission and the Earth-Moon-Mars Radiation Environment Module under development at UNH.
Oct 8th Science Cafe in Portsmouth:
Space Weather: Radiation with a Chance of Solar Flares
Harlan Spence, professor of physics and director of UNH’s Institute for the Study of Earth, Oceans, and Space, and research professor of physics Antoinette Galvin discussed solar storms, flares, and eruptions, also known as space weather, at the Science Café held at the Portsmouth Brewery’s Jimmy LaPanza Lounge on October 8, 2014. The two astrophysicists offered insight into space weather and its possible impacts on humanity. The Portsmouth Science Café series, hosted by UNH faculty member Cameron Wake, is free and open to the public.

http://nhepscor.org/events/space-weather-radiation-chance-solar-flares

UNH Scientific Balloon Set to Measure Gamma Rays from the Crab Pulsar
In September, UNH scientists launched a massive weather balloon carrying instruments that will measure gamma rays from the Crab Pulsar, the remains of a supernova explosion that occurred in 1054 A.D. over 6,500 light years from Earth. The Gamma Ray Polarimeter Experiment (GRAPE) is led by Mark McConnell, a professor in the Space Science Center within the UNH Institute for the Study of Earth, Oceans, and Space and chair of the UNH department of physics. The team hopes the data collected with GRAPE’s new type of detector technology will provide information about the cause of the gamma rays and, ultimately, more insight into the poorly-understood process of particle acceleration.


Sustainability & the Environment

John Aber – Organic Farming with the Former “Provost of Compost”
When University Professor John Aber stepped down from his role as Provost and Vice President for Academic Affairs in 2013, he returned his full attention to research, focusing on the sustainability of UNH’s innovative Organic Dairy Research Farm. With funding provided by a series of three agroecosystems research grants from Northeast SARE (Sustainable Agriculture Research and Education), a program of the U.S. Department of Agriculture, Aber leads a team studying the nutrient cycling that takes place at the farm. In keeping with UNH’s sustainability mission, Aber researches ways in which the farm’s environmental footprint might be reduced while increasing productivity.


UNH Joins USDA Northeast Climate Hub
UNH recently joined the USDA Northeast Climate Hub, a Durham-based collaboration of U.S. Department of Agriculture agencies, state agencies, and land-grant university partners that will address climate and weather-related risks to agriculture. The move is ideal for both the University and the Climate Hub, says Jon Wraith, dean of the UNH College of Life Sciences and Agriculture and director of the NH Agricultural Experiment Station, as both are interested in climate adaptation research and
UNH Scientists Find Urban Ecosystems "Evolve," Require Sustainable Management

The journal *Biogeochemistry* released a special issue in September that presents 14 related studies in which scientists from across the country show that urban and suburban environments are dynamic biological, chemical, and even geological ecosystems that can change relatively quickly in response to human activities. The researchers noted that scientists, managers, and citizens must work together to sustainably manage these ecosystems. William McDowell, professor of natural resources and the environment (NREN), and Wil Wollheim, assistant professor of NREN and in the UNH Institute for the Study of Earth, Oceans, and Space, co-edited the issue and co-authored many of the studies. The research reported was funded in part by the National Science Foundation and the New Hampshire Agricultural Experiment Station.

http://nhepscor.org/news/river-runs-through-it-us-cities-waterways-show-consistent-patterns-evolution

This stream restoration project in Baltimore, Maryland is in an early stage of evolution towards sustainability. A concrete channel that enclosed the stream has been removed, and native tree seedlings have been planted along its banks.

Credit: Tamara Newcomer Johnson