July, 2015

Inquisitive Minds - Highlights from UNH Research
The Spring/Summer 2015 issue of the University of New Hampshire Magazine highlights three research projects currently underway at UNH. Will Clyde, professor of geology, is studying how rock core data from the Paleocene-Eocene thermal maximum event, a massive release of carbon dioxide into the atmosphere 55 million years ago, can inform our understanding of modern-day climate change. Gale Carey, professor of molecular, cellular, and biomedical sciences, is investigating the possible link between chemical flame retardants commonly found in household items and an increased risk of obesity. In March, following a decade of work by UNH researchers and students and colleagues across the U.S., the Magnetospheric Multiscale Mission, led by Roy Torbert, professor of physics, was launched into space to study magnetic reconnection and its impact on telecommunications.


Agriculture & Biosciences

New England Poised to Take Bigger Slice of Sweet Potato Pie
In the first study of the performance of modern sweet potato cultivars in northern regions, UNH researchers have found that sweet potatoes can be a viable crop for growers in areas with short growing seasons such as New England’s. In response to the needs of local sweet potato growers, Rebecca Sideman, UNH Cooperative Extension professor of sustainable horticulture production, led the project which identified Beauregard and Covington as orange-fleshed cultivars that will produce consistently high yields in New Hampshire. The research was funded by the U.S. Department of Agriculture’s National Institute of Food and Agriculture, the New Hampshire Agricultural Experiment Station, and the New England Vegetable and Berry Growers’ Association.

http://colsa.unh.edu/aes/sweetpotato

Not Just the Heat, It’s the Humans: New UNH Study Connects 13,000 years of Small Mammal Adaptation to Warming — and More
Assistant professor of natural resources and the environment Rebecca Rowe and her colleague Rebecca Terry of Oregon State University studied the unique fossil record of Homestead Cave in the Great Basin west of Utah’s Great Salt Lake to see how small mammals such as mice and voles responded to a period of natural rapid warming almost 13,000 years ago in comparison to contemporary climate warming. Rowe and Terry pieced together fossil and contemporary data to measure energy flow – the total energy needed to sustain the biomass of this community of small mammals over time.
The researchers found that while warming is a problem, human impacts, particularly those leading to land-cover conversion, are having a dramatic effect on ecosystems.

http://www.unh.edu/unhtoday/unhtoday/2015/07/not-just-heat-its-humans

Research Brief: Sophomore Gets Hands On With Conservation Genetics
Christina DiMeo '18, a UNH genetics major, received a Research Experience and Apprenticeship Program (REAP) award for her summer work to study the population size of the endangered New England cottontail. Under the guidance of her advisor Adrienne Kovach, research assistant professor of natural resources, DiMeo is using extracted DNA from rabbit pellets to monitor the size of the rabbit population and the success of individual New England cottontails in Maine, New York, New Hampshire, and Connecticut. To thrive, these cottontails need a specific habitat of brush, which is usually near roadsides or in fields, but housing and other development is reducing the availability of that habitat.

http://www.unh.edu/unhtoday/unhtoday/2015/07/research-brief-sophomore-gets-hands-conservation-genetics

Yes, You Can Grow (Hardy) Kiwis in New England
Iago Hale, assistant professor of specialty crop improvement, is working to develop the hardy kiwifruit into a new high-value crop for New England farmers. This small, hairless, grape-sized fruit is becoming popular in the U.S. because of its sweetness, nutrient density, and complex flavor profile that also allows it to be used for winemaking. Hale has established a long-term breeding program on New Hampshire Agricultural Experiment Station land that will support the region’s producers and consumers through the development and dissemination of this novel crop. Hale already is working with two farmers in northern New Hampshire who are interested in trying out hardy kiwis as a way to expand their production of high-value crops in an area with a short growing season and hard winters.

http://www.unh.edu/unhtoday/unhtoday/2015/07/yes-you-can-grow-hardy-kiwis-new-england

Business & Technology

Consumer Confidence Steady in NH
The UNH Survey Center has released the latest Business and Industry Association (BIA) Report on Consumer Confidence. Conducted by Andrew E. Smith, UNH Survey Center director and associate professor of practice in political science, and research associate Zachary Azem, a scientific telephone poll found that New Hampshire residents continue to feel optimistic about business conditions within the state but less confident in the national economy. New Hampshire residents also feel that now is a good time to purchase a major household item.

http://cola.unh.edu/article/2015/07/consumer-confidence-steady-nh

nTIDE Jobs Report: Growing Employment Opportunities for People with Disabilities
According to the most recent National Trends in Disability Employment – Monthly Update (nTIDE), Americans with disabilities are engaging in the workforce at a faster rate than Americans without disabilities. The report, issued by the Kessler Foundation and the University of New Hampshire’s Institute on Disability (IOD), found that networking strategies
that improve employment opportunities for people with disabilities are being used across the country, often via faith-based communities. Andrew J. Houtenville, associate professor of economics and research director at the UNH-IOD, is hopeful that the continued positive news for people with disabilities that is being seen each month reflects a real, long-term, structural shift in employment patterns.


**UNH-IOL Holds Second Open Networking Interoperability Plugfest**

The UNH InterOperability Laboratory (UNH-IOL) hosted the second Open Networking Solutions Plugfest as it works toward the creation of an Open Networking Certification program. The event was part of a series of Plugfests that aim to validate the compatibility of optical transceivers and cables with bare-metal open switches running varying NOS (Networking Operating Systems) software from multiple vendors.


**Yixin Liu Appointed Dwayne Wrightsman Professor in Finance**

In recognition of her scholarship, Yixin Liu was named the Dwayne Wrightsman Professor in Finance in UNH’s Peter T. Paul College of Business and Economics. Liu is one of the nation’s foremost researchers in corporate finance and is director of the college’s Peter T. Paul Financial Policy Center, which promotes financial policy research and education.


**Health, Behavioral & Social Sciences**

**IHPP Interim Director, Jo Porter, Spoke at the IHBI Annual Forum**

Jo Porter, interim director of the Institute for Health Policy and Practice at UNH (IHPP), delivered a presentation on “The Dark Side of Healthcare Analytics” at the 14th annual Advanced Analytics and Predictive Modeling Forum. The conference focused on ways for health care professionals to correct and prevent mistakes associated with “Big Data”, analytics, and visualization. A recording of Porter’s presentation can be viewed on the Forum website.

http://chhs.unh.edu/article/2015/07/IHPP-interim-director-Jo-Porter-spoke-IHBI-annual-forum

**Library Director Published in Peer-Reviewed Journal**

Annie Donahue, director of the library and experiential learning at UNH Manchester (UNHM), has had the results of her study, “Charting Success: Using Practical Measures to Assess Information Literacy Skills in the First-Year Writing Course” published in the journal *Evidence Based Library and Information Practice*. Donahue assessed the ability of low-key, locally-developed instruments to measure students’ understanding of concepts taught and to apply those concepts after the students’ participation in the UNHM Research Mentor Program. This Program provides training in basic library research skills to peer writing tutors who then support first-year students throughout the research and writing process. The journal is available online.

http://manchester.unh.edu/blog/about-our-faculty/library-director-published-peer-reviewed-journal
Many Eligible Children Don't Participate in School Nutrition Programs
A new research brief from the Carsey School of Public Policy at UNH shows that many eligible households do not use the National School Lunch and School Breakfast programs. Analysis of the Current Population Survey data from 2013 by Jessica Carson, vulnerable families research scientist, showed that, overall, only 64 percent of eligible households have children participating in the Lunch Program, and 52 percent participating in the Breakfast Program. This suggests that there is room for growth in participation, especially in rural places where large shares of households are eligible but participation rates are relatively low.

http://campaign.r20.constantcontact.com/render?ca=13b25039-752a-426a-9649-a6f09bcd245f&c=10e4c220-45a3-11e3-b9d6-d4ae5292c40b&ch=12810d00-45a3-11e3-ba92-d4ae5292c40b
http://www.unh.edu/news/releases/2015/07/em14schoollunch.cfm

New Book Analyzes Role of New Hampshire Primary
An upcoming book co-authored by Andrew E. Smith, associate professor of practice in political science at UNH and director of the UNH Survey Center, and David W. Moore, senior fellow in the Carsey School of Public Policy at UNH, analyzes the history and significance of the New Hampshire presidential primary. The First Primary: New Hampshire’s Outsize Role in Presidential Nominations offers a comprehensive history of the state’s primary, an analysis of its media coverage and impact, and a description of the New Hampshire electorate, along with a discussion of how that electorate reflects or diverges from national opinions on candidates and issues. The book will be published by the University of New Hampshire Press at the beginning of September.

http://cola.unh.edu/article/2015/07/first-primary

Rates of SNAP Receipt Stabilize or Drop in All Regions for First Time Since Great Recession
A study conducted by Jessica Carson, vulnerable families research scientist, and Paul Anskat, a doctoral student of sociology in the Carsey School of Public Policy at UNH, has found that the share of households receiving Supplemental Nutrition Assistance Program (SNAP) benefits has declined for the first time following the Great Recession. Despite the declines in SNAP receipt in 2013, the program remains an important support for populations at risk for food insecurity and hunger. The report provides valuable insights for policy makers to draw upon as they work to meet the challenge of balancing fiscal responsibility with the needs of the people who receive SNAP assistance.

http://campaign.r20.constantcontact.com/render?ca=cb7f5154-2c85-468f-92e3-c6397b486763&c=10e4c220-45a3-11e3-b9d6-d4ae5292c40b&ch=12810d00-45a3-11e3-ba92-d4ae5292c40b
http://www.unh.edu/news/releases/2015/07/em28carseysnap.cfm

FIGURE 1: PERCENT OF HOUSEHOLDS REPORTING SNAP RECEIPT, BY REGION AND PLACE TYPE, 2013
Researchers at IOD Prepare Data for New Study Revealing Significant Disparities in Status for New Yorkers with Disabilities

UNH Institute on Disability’s Debra Brucker, project director, and Nicholas Rollins, project research specialist, prepared the data for a recent Center for Independence of the Disabled, New York (CIDNY) report. *ADA at 25: Many Bridges to Cross* examines the challenges facing New Yorkers with disabilities on the 25-year anniversary of the Americans with Disabilities Act. Brucker and Rollins analyzed disability statistics for New York City from the 2012 5-year public-release American Community Survey data file for disparities in education, employment, income, health care, food, housing, family security, and transportation. They found that New Yorkers with disabilities do significantly less well in many aspects of their lives than their non-disabled peers.


Socioeconomic Status of Mexican Immigrants on Rise as Total Numbers Decrease

A new brief from the Carsey School of Public Policy at UNH details the changing profile of Mexican immigrants coming to the United States. Rogelio Sáenz, a policy fellow at the Carsey School, authored *A Transformation in Mexican Migration to the United States* in which he reports that Mexican immigration to the U.S. has decreased 50% over the past five years. He also found that the socioeconomic status among recent immigrants increased over the same period.

http://campaign.r20.constantcontact.com/render?ca=3e4c7f81-3c02-466d-9c78-49fcbde9fee3&c=10e4c220-45a3-11e3-b9d6-d4aa5292c40b&ch=12810d00-45a3-11e3-ba92-d4ae5292c40b

http://www.unh.edu/news/releases/2015/07/em14immigrants.cfm

The Art of the Thank-You Note: Biology Professor, Internship & Career Planning Director Publish Findings

UNH Manchester’s Patricia Halpin, assistant professor of biology, and Jennifer Landon, acting director of Internship and Career Planning, have authored an article in *Advances in Physiology Education* on the importance of professional thank-you notes. “The Art and Practice of Gratitude: Practicing An Overlooked Skill to Help Undergraduate Biology Students Become Successful Professionals,” evaluated the effectiveness of a structured workshop and grading program in helping students learn to write thoughtful and articulate thank-you notes.

http://manchester.unh.edu/blog/about-our-faculty/art-thank-you-note-biology-professor-internship-career-planning-director

UNH Professors Receive Spencer Grant for Education Research

Emilie Reagan, assistant professor of education, and Thomas Schram, associate professor of education, have been awarded a research grant from the Spencer Foundation. The grant will support research on how and if teacher education performance assessments effectively prepare teachers for the classroom and their first year of teaching. The results of the research will inform the work that Reagan, Schram, and faculty across five New Hampshire higher education institutions have been conducting to develop an effective state-wide assessment tool for teacher candidates.

http://cola.unh.edu/article/2015/07/spencer
Humanities & the Arts

Feats of Clay
The lives of Edwin and Mary Scheier, internationally famous potters, are profiled in the Spring/Summer 2015 issue of the University of New Hampshire Magazine. The artists lived in Durham and worked in the Department of the Arts at UNH from 1940 to 1968, where Edwin served as an instructor and Mary was an artist-in-residence.

http://issuu.com/unhmag/docs/unhmag_spr_sum2015 (p.66)

Travels of an Art Historian
Patricia Emison, professor of art history, traveled to England and Europe over the summer to share the results of her research on the art of the Renaissance and Baroque periods. Emison was the keynote speaker at the Symposium on Renaissance Printmaking at the University of Manchester as well as a featured speaker at the conference, “Figural Knowledge – Mediality, Aesthetics, and Materiality of Knowledge in the Pre-Modern Period” hosted by the Freie Universität in Berlin.

http://cola.unh.edu/article/2015/07/travels-art-historian

Marine & Ocean Sciences

Saving Great Bay, Oyster by Oyster: UNH Program Recognized for Oyster Conservation Efforts
The Gulf of Maine Council awarded the Gulf of Maine Visionary Award to UNH and The Nature Conservancy (TNC) for their oyster conservation efforts in the Great Bay. Ray Grizzle, UNH research professor of biological sciences, thanked the many local volunteers instrumental to the research: “They’re providing us with data that can be interpreted for growth and survival. We end up with this dataset that shows how growth and survival vary within the whole watershed of the estuary.” The TNC/UNH Oyster Conservationist Program has raised more than 120,000 oysters and participated in the restoration of 18 acres of oyster reefs in the Great Bay ecosystem.


Testing the Waters in Science: UNH Scientist Heads Up NOAA’s East Coast Ocean Acidification Cruise
Led by UNH biogeochemical oceanographer Joe Salisbury, a group of 15 scientists is aboard the National Oceanic and Atmospheric Administration (NOAA) research vessel Gordon Gunter on a two-leg, 34-day expedition that will help
determine how humans are causing changes in the oxygen and carbon dioxide content of oceans, leading to the global acidification of seawater. Working 24 hours a day, the team will use new techniques and sensors to get the first, in-depth view of the waters in the Gulf of Maine. Salisbury, research associate professor of oceanography and biogeochemistry in the UNH Ocean Process Analysis Laboratory (OPAL) within the Institute for the Study of Earth, Oceans, and Space, is joined on the NOAA-funded expedition by OPAL research scientists Shawn Shellito and Marc Emond, Ph.D. student Melissa Meléndez Oyola, and by scientists from five other institutions.

http://www.unh.edu/unhtoday/unhtoday/2015/07/testing-waters

Space Science

Riding High: Project SMART’s Annual High Altitude Balloon Flight Sends UNH-built Instrumentation to Near Space

Seventeen high school students from six U.S. states and Europe, participants in UNH’s Project SMART, gathered in Warner, New Hampshire recently to send a scientific balloon into near space at 96,000 feet. The balloon they launched was equipped with a prototype gamma-ray detector built at the UNH Space Science Center and with instruments designed to capture in-flight atmospheric data that scientists will use to better characterize the intercontinental atmospheric radiation environment. Two of the students involved helped craft the circuitry and did some programming that controlled the in-flight operations of the prototype detector. This year’s Project SMART scientific balloon launch occurred simultaneously with the launch of two other high-altitude scientific balloons as part of the first cross-country experiment to measure atmospheric radiation levels. UNH’s Project SMART (Science and Mathematics Achievement through Research Training) introduces high school juniors and seniors to hands-on science during a four-week program each summer in which the students work with UNH faculty and mentors in three disciplinary modules: space science, marine and environmental science, and bio- and nanotechnology.

http://unh.edu/unhtoday/unhtoday/2015/07/riding-high

Top: Project SMART high school students steady their scientific balloon as it fills with helium prior to launch
Bottom: The Project SMART balloon payload/re-entry vehicle with label noting the cross-continent radiation experiment
Credit: Devin Thomas, University of British Columbia