As we begin the 2013-2014 academic year, the Research Office management team, in concert with the college deans, is continuing efforts to boost sponsored research at UNH. During the management team retreat in June, we decided to focus on increasing the number of proposals that faculty across the university submit for external support of their work. To that end, we set an ambitious but attainable goal of 1,000 proposals annually by fiscal year 2017. The number of proposals submitted typically has been around 750-800 per year, with about 30 percent of applications receiving funding. We know that “1000 in ’17” is a “stretch goal” but we deliberately choose to be aspirational.

As part of our commitment to increasing proposal submissions, we hired Michael Thompson (UNH MFA ’13) on July 1 as a full-time associate in the Office of Research Development and Communications (RDC). Previously, he worked for three years as a part-time editorial assistant in RDC while pursuing his MFA degree in writing. Michael edits proposals and teaches grant-writing, with a special focus on assisting graduate students applying for research support, including the highly competitive NSF Graduate Research Fellowships. We are planning for a similar initiative focused on supporting doctoral students to successfully compete for dissertation fellowships and other related awards.

In addition to adding a staff member, we plan to compile monthly reports on the proposal submission activity of faculty in each department and college. These reports will include the percentage and number of faculty submitting… (cont. on page 5)
OEHS Monitors Hazardous Waste Across Campus with the Help of UNHCEMS®

In late July, inspectors from the Radiological Health Section of the New Hampshire Department of Health and Human Services arrived on campus to perform an unannounced inspection of the UNH Radiological Protection Program. After reviewing records and visiting laboratories where radioactive materials are kept, they found no violations of radiation-safety regulations.

Rewind exactly 16 years. In July 1997, officials from the U.S. Environmental Protection Agency (EPA) spent three days at UNH performing inspections at our laboratories and storage facilities. They cited multiple violations of federal and state hazardous-waste laws. The university faced a fine of more than $200,000. A major reason for these vastly different outcomes is the introduction of UNHCEMS® (UNH Chemical Environmental Management System), an online system that tracks the location, quantity and toxicity of every container of chemical, biological and radioactive material on campus. The system was conceived as part of a settlement agreement between UNH and the EPA following the 1997 inspection. The EPA lowered UNH’s penalty to $49,000; in return, UNH agreed to use the money it saved from the reduced fine to create an electronic environmental management system.

“The EPA was very interested in this project,” says Brad Manning, director of UNH’s Office of Environmental Health and Safety (OEHS). “All they had heard from colleges and universities was that creating such a system would be impossible because they were too decentralized.”

It was a challenging undertaking for UNH, too. Like most schools nationwide, the university had no institution-wide system of any kind to track potentially dangerous substances used in its research and teaching labs, building- and vehicle-maintenance areas, printing facilities, and art studios. We didn’t know what hazardous substances were on campus or where they were located.

OEHS’s first step was to find them. Ken Brown, Environmental Health and Safety Coordinator, and a team of interns went door-to-door across campus to place bar codes on all hazardous-materials containers. Most faculty members understood the importance of the project, and Brown’s team promised it would replace anything that got broken or damaged. (Nothing did, even though the team barcoded 42,000 chemical containers.) During their inventory, the team discovered some chemicals that had been sitting on lab shelves for decades. It found labels with no hazardous-materials information; others consisted of the word “poison” written on a piece of tape.

Meanwhile, software engineers at the UNH Research Computing and Instrumentation Center worked with OEHS to develop an electronic database that would track the bar-coded items. UNHCEMS® was launched in 2002. According to UNH Licensing Manager Tristan Carrier, UNHCEMS® currently is used by researchers not only at UNH, but also at 15 other U.S. institutions of higher education, including Brown University, College of the Holy Cross, Temple University, the University of Massachusetts at Amherst, and Connecticut College. Since 2003, the first year that UNHCEMS® was licensed to other institutions, it has brought in just over $500,000 in license fees.

“From our perspective, it’s been a fantastic system for UNH,” Manning says. One reason is that CEMS has decreased the amount of hazardous materials on campus, benefiting the environment and contributing to campus safety. It has allowed OEHS to target so-called legacy chemicals that have been around for a long time (which can cause them to become unstable) and to search the CEMS inventory for extremely hazardous substances (such as carcinogens, highly toxic materials or shock-sensitive explosives) and to work with faculty to dispose of them.
OEHS Monitors Hazardous Waste
(continued from page 2)

Researchers themselves can search CEMS to determine whether a chemical they need is already on campus. If it is, they can then ask to use the item rather than having to buy it.

The system also lets OEHS staff identify the biggest generators of hazardous waste on campus. “We can talk to faculty about reducing those volumes or substituting less toxic materials in their experiments,” Manning says. “It helps the university control our costs for waste disposal because we pay for disposal centrally. We can then put that savings into other safety programs on campus.”

CEMS benefits campus-safety in other ways: In the event of a fire, emergency responders can use the system to access information about materials in the affected labs and rooms, including real-time data on quantities of flammable substances. Previously, responders had to rely on index cards that frequently contained out-of-date information — what Manning compared to a recipe box. “Now the fire department can look in CEMS and see what’s in the rooms before they even get to the rooms,” Brown says.

Biological Safety Officer Maggie Trabeau says the biggest challenge in her job is keeping track of hazardous materials in the more than 100 rooms she oversees — and CEMS makes it easier. In fact, the system is part of what attracted her to UNH. “To have that tool as a health and safety person is really helpful. UNH is putting a lot of resources into it — they keep adding to it and improving it. It’s a very impressive program.”

UNHCEMS® by the Numbers
A few key numbers help tell the story of the impact of CEMS at UNH

- CEMS users at UNH since the system was launched: 1,892
- Chemical containers on campus: 37,000
- Number of unique chemicals: 13,600
- Hazardous-materials containers in Parsons Hall in 2008: 20,109
- Hazardous-materials containers in Parsons Hall in 2013: 9,932
- Material Safety Data Sheets in CEMS’ archive: 30,000
- Door signs on campus providing information about hazardous materials: 600+
- Items in kits used by interns updating CEMS inventory: ~8
  (bar code stickers, empty sheets to record chemicals not in the system, safety glasses, lab coats, latex gloves, tweezers and a knife to remove bar codes from empty bottles, and a first aid kit.)
- Hazardous-materials containers damaged during CEMS inventories over the past 15 years: 0

New Hampshire Department of Health and Human Services Conducts Unannounced Inspection of UNH Radiological Protection Program

Three inspectors from the Radiological Health Section of the New Hampshire Department of Health and Human Services performed an unannounced inspection of the UNH Radiological Protection Program (RPP) on July 24th.

The inspection was an examination of activities conducted under the UNH radioactive material license with respect to radiation safety and compliance with the New Hampshire Rules for the Control of Radiation (NHRCR).

The inspection team completed a records review of the RPP and visited research labs where radioactive materials are used and stored. The review included selective examinations of procedures and representative records, interviews with personnel, independent measurements and direct observations by the inspectors.

The inspectors found no NHCR violations in the OEHS central records management system or in our facilities.
OEHS Profile: Maggie Trabeau, Biological Safety Officer

Maggie Trabeau will always remember entering the headquarters of American Media Inc. (AMI) in Boca Raton, FL, more than two years after an anthrax attack killed an editor at AMI’s tabloid The Sun and forced the building to close abruptly.

“It was literally like time had stood still,” she recalls. “People had left the building on Friday afternoon thinking they were coming back Monday. Their belongings were still on their desks. Yet their coffee had dried up. Plants had died. It felt very surreal.”

Trabeau, an environmental consultant with Sabre Technical Services LLC at that time, was part of the team that cleaned up the 750,000-square-foot AMI building. She oversaw all the environmental sampling activities there over eight months in 2004, both before and after her company used chlorine dioxide gas to kill the anthrax. The previous year, Trabeau had written sampling procedures for the cleanup of the Trenton Postal Facility in New Jersey, which also had been contaminated during the anthrax attacks that targeted media organizations and Congress in late 2001. The chemical treatment was successful at both buildings, allowing them to reopen.

It was this experience that led her to a career in environmental safety and ultimately to her current job as UNH’s biological safety officer. “It was the first big biological release in the United States and the technology to deal with it was just developing,” she says of the anthrax attacks. “Working on the cleanup gave me a sense of purpose because I was having a direct impact.”

At UNH, her primary focus is preventing incidents with biohazards by making sure the materials are handled, stored and disposed of properly. Though the university has no biological agents as dangerous as anthrax, its researchers in fields ranging from microbiology to plant biology use potentially infectious materials in their research and teaching. Trabeau, who joined UNH’s Office of Environmental Health and Safety in May, works with researchers and the UNH Institutional Biosafety Committee (IBC) to conduct risk assessments and develop safety protocols.

“When you’re doing research, you get very focused on your research question and you may not always think more broadly. So my role is to remind people of biosafety issues. But from what I’ve seen so far, UNH researchers do a very good job of it, in part because of the culture here that values safety — which is one of the reasons I came to the university.”

Trabeau, who holds bachelor’s and master’s degrees in microbiology and industrial hygiene, respectively, brings to the job a firsthand understanding of research from her years working in labs. “I love to learn, and when I work with these researchers, I’m always learning something new because each has their specialization. I think what drives a lot of researchers is a desire to learn — curiosity. I feel very fortunate that I can still be involved in research in some capacity and contribute to it.”

In addition to interacting directly with researchers, she’s been working on improving UNH’s biosafety web pages. “We have a lot of information that’s available but I don’t think it’s readily accessible,” she says. “I’m passionate about making information available to people in a very user-friendly, accessible format.”

Trabeau comes to the Seacoast from upstate New York, where she most recently worked as assistant director of environmental health and safety at Albany Medical Center. She now lives in Portsmouth — and enjoys the city’s proximity to both the mountains and the ocean. When she’s not in a lab or in her office in Perpetuity Hall, she often can be found outside. Her favorite activities include hiking, biking, and paddle boarding.
grant applications, which researchers are submitting to which agencies, and the amounts requested. This
detailed information will help deans and department chairs acknowledge faculty who have been especially
productive in this area and encourage others to submit more proposals.

At the same time that we focus on proposal submission, we also want to increase the visibility of our
research at UNH. Consequently, we have discussed enhancing our social media outreach by, for instance,
launching a Research Office Twitter account that would update followers at least once daily. Another idea
offered is a monthly electronic newsletter with links to UNH research published on our websites and
submitted as press releases.

Another strategic hire on July 1 was Steve Marchand, Director of Corporate Relations in the Office for
Research Partnerships and Commercialization (ORPC.) Steve formerly held this position in the UNH
Advancement Office and is well-connected across New Hampshire. In his role in ORPC, Steve will provide
connectivity to the business community, oversee the creation of a new web site that will clearly direct
outside companies to the right UNH resources, and explore the ability of UNH to provide access to student
talent. We also plan to increase corporate sponsored research.

With the official launching of the new UNH School of Marine Science and Ocean Engineering, the Research
Office has undergone some organizational changes. Our colleagues in Coastal and Ocean Technology
Programs, Marine Program, Piscataqua Region Estuaries Partnership, and NH Sea Grant have transitioned
to the new school, where synergies for research, teaching, and engagement abound. We wish them well in their new UNH home.

In other news, UNH hosted a roundtable discussion in July with U.S. Sen. Jeanne Shaheen, who talked about proposed legislation aimed at reducing incidents of sexual assault in the military. The event also was an opportunity for the senator to learn about UNH research on sexual violence and initiatives to prevent victimization. UNH speakers included Victoria Banyard, a professor of psychology whose research has focused on sexual assault; David Finkelhor, director of the Crimes Against Children Research Center; Jane Stapleton, who has helped administer UNH’s bystander-intervention programs on two U.S. Army posts in Europe; David Kurz, Durham chief of police; and Paul Dean, UNH chief of police. Joining them was Bradley Russ ’80, director of Fox Valley Technical College’s National Criminal Justice Training Center.

Finally, we are so pleased to announce that the ship Ferdinand R. Hassler, NOAA’s newest survey vessel, arrived in New
Castle on August 9. New Castle residents had an opportunity to visit this coastal mapping vessel, which is home ported at UNH’s
Judd Gregg Marine Research Complex. The ship, whose mission is to make ocean navigation safer, supports the
research of UNH’s Center for Coastal and Ocean Mapping/Joint Hydrographic Center. An official pier side welcoming and home
porting ceremony took place on September 21 during the Marine School’s Ocean Discovery Day. Lieutenant Commander Ben Evans,
Rear Admiral David Score, Rear Admiral Gerd Glang, and Congresswoman Carol Shea Porter all delivered remarks along
with Provost Lisa MacFarlane and me. It was a great day on the coast of New Hampshire.

We have lots of work to do this year to advance UNH research and commercialization. As always,
I appreciate all of your great work and look forward to a productive and fun year.

Jan Nisbet
Melissa McGee has moved from Sponsored Programs Research Administration to the position of Compliance Officer working with Julie Simpson and Kathleen Stilwell in Research Integrity Services. In her new role, Melissa will make use of her background as an attorney, initially working on UNH’s HIPAA program, then taking on export controls and other institutional compliance issues related to research.

Michael Thompson joined RDC in a full-time position on July 1st and hit the ground running. Currently he is working with 41 prospective NSF Graduate Research Fellowship applicants with November deadlines (double the number of GRFP applications submitted in 2012). Michael will be writing proposals to foundations for infrastructure and multidisciplinary program support, and nominating faculty for prestigious awards. He also manages RDC’s graduate student editorial assistant staff, who review and improve proposal text and write for the division’s research publications.

The InterOperability Lab welcomed two employees into new roles. Kerry Munson now serves as Operations Manager for the Storage Consortia, overseeing its daily operations. Kerry has been with the UNH-IOL since 2009 and holds an A.A. in Arts from NHTI. Craig Chabot, now maintains daily operations for the Wireless Consortium as its Technical Manager. Craig has been with the UNH-IOL since 2008 and holds a B.S in Mathematics from UNH.

Steve Marchand has joined ORPC as Director of Corporate Development. He most recently served in that role in the UNH Advancement Office. Previously, in addition to other noteworthy public policy and strategic communications consulting activities, Steve served as mayor of the City of Portsmouth. He holds a B.S. in International Relations, a B.A. in Public Affairs, and a Masters in Public Administration, all from Syracuse University.

On Sept. 23, RDC organized and the Research Office hosted the first in a series of monthly Faculty Research Excellence Seminars. The first session featured speakers who had all done extraordinary research related to the Deepwater Horizon Oil Spill in 2010: Larry Mayer (ocean mapping), Nancy Kinner (emergency response), Kelley Thomas (seafloor microorganisms), and Larry Hamilton (human impact). Lively discussion between the faculty and the audience of 55 faculty, post docs, grad students, staff, and members of the public followed the presentations.

In this quarter, the UNH-IOL dove into its STEM outreach with a big splash. A High School Internship started July 2, with 14 students gaining hands-on experience by working in the lab for seven weeks. The UNH-IOL also participated in UNH Tech Camps, hosting Engineeristas for one day and sponsoring a networking track for eight of the Co-ed Tech campers for a week. Volunteers from the UNH-IOL attended the first-ever Dover Mini Makers Faire on August 24, a family-friendly showcase of invention, creativity and resourcefulness, and a celebration of the Maker movement.

The UNH-IOL celebrated its 25th Anniversary on Sept. 16 with 225 guests, showcasing the next generation of engineers with interactive demonstrations and tours. Speakers discussed the growth of the UNH-IOL and their involvement with the lab, and included Erica Johnson, Director of UNH-IOL; UNH President Huddleston; Dave Kjendal, Enterasys; Rick Chavez, Cisco; Joe McEachern, CEO and founder, QA Café; Amy Davies, UNH computer science student and UNH-IOL employee; and Craig Benson, former Governor of NH and founder of Cabletron. During the event, the UNH-IOL recognized its first five distinguished alumni as members of the UNH-IOL Wall of Fame. Click here to view pictures of the festivities.

“ORPC Lunch and Learn” events were presented this summer by Tristan Carrier to CEPS departments of Electrical/Computer Engineering, Chemical Engineering, Mechanical Engineering, Computer Science, and Chemistry. Marc Sedam started off the series with a Market Research seminar. Maria Emanuel presented Intellectual Assets: Copyrights as a guest lecturer in RPM490 Recreational Policy and Management in September.

In July, UNH once again hit the road to encourage additional colleges and universities to evaluate and implement UNHCEMS®. Prepared with promotional materials, portable barcode scanners, UNHCEMS® iPad demonstrations, and the always popular candy dish, Philip Collins (RCI) and Tristan Carrier (ORPC) engaged with industry and academic attendees from across the country at the 60th annual meeting of the Campus Safety Health and Environmental Management Association (CSHEMA) in Orlando, Florida.

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Comings, Goings, & Goings-on (cont. from page 6)

Patrick Messer (RCI), Kathy Cataneo, and Michael Thompson (both RDC) partnered with Scott Valcourt (UNH IT) to promote, do proposal planning and management, and co-write (with 9 faculty members) a successful proposal to the NSF Campus Cyberinfrastructure - Network Infrastructure and Engineering (CC-NIE) Program. The 2-year, $499,225 award will enable UNH to create the capacity for UNH faculty to access national and global high-performance end-to-end dynamic network services for extremely rapid, unimpeded movement of diverse and distributed scientific data sets and advanced distributed computing.

In June, RCI’s Lenhart Data Center became the home of the first Cray supercomputer in the state of New Hampshire. Supported by funds from an NSF Major Research Instrumentation (MRI) grant awarded to PI Jimmy Raeder, acquisition of the Cray included the construction of a special 22’ by 14’ room within the data center with dedicated cooling and power. The Cray XE6m-200 is used by researchers for the simulation of space plasma and fluid flow.

RCI also will provide data management for a state-of-the-art gene sequencer purchased by the UNH Hubbard Center for Genome Studies by PI Kelley Thomas with funds from the NSF MRI program.

EPSCoR Update

NH EPSCoR has received two new awards from the National Science Foundation’s Research Infrastructure Improvement (RII) program:

Strengthening the Scientific Basis for Decision-making: Advancing Sustainability Science and Knowledge-action Capacities in Coupled Coastal Systems

This EPSCoR RII “Track-2” project establishes the New England Sustainability Consortium. A collaborative effort with Maine EPSCoR and the University of Maine, the consortium initially will focus on scientific challenges related to the sustainable management of coastal systems, examining interactions between watershed processes and human activities that contribute to high populations of pathogenic bacteria in coastal waters, which in turn trigger decisions to close economically important beaches and shellfisheries.

Among the initiatives is the establishment of the Stewardship Network of New England, which will be led by UNH Cooperative Extension. Jan Nisbet, NH EPSCoR State Director, is the principal investigator of this $3 million project. Co-investigators are Kevin Gardner, Vaughn Cooper and Tom Safford. Other UNH faculty on the project are Steve Jones, Curt Grimm, and Wil Wolheim. Partners include Great Bay Community College, Plymouth State University and Keene State College in New Hampshire, and the College of the Atlantic and the University of New England in Maine.

Ecosystem Computing Challenge: A Partnership Model to Build Access to Relevant Computing Education for Underrepresented High School Students

This EPSCoR RII “Track-3” project will build partnerships between UNH, the state’s Career and Technical Education centers, and professionals from the high-tech sector to improve computing education. The project will train 22 teachers and more than 420 high school students to program applications for mobile devices using data on the quality and quantity of water resources in NH from NH EPSCoR’s “Track-1” project, Ecosystems & Society. The project uses novel outreach strategies to broaden participation of underrepresented groups in computing education, particularly women, underrepresented minorities, and students in underserved rural regions.

Mihaela Sabin, associate professor of computer science in the Computing Technology Program at UNH Manchester, is the principal investigator of this $750,000 project. Co-investigators are Erik Froburg, Judy Sharkey and Michael Young. Partners include the Leitzel Center for Mathematics, Science and Engineering Education at UNH, the New Hampshire Department of Education and UNH Cooperative Extension.

In July of 2013, the National Organization of Research Development Professionals (NORDP) Northeast Section, it was announced that Kathy Cataneo is the new section chairperson. Kathy succeeds founding chair Anne Windham of Brown University.