Northwestern teams cumulatively win $100,000 at prestigious cleantech business plan competition

Two Northwestern cleantech startups were awarded funding at the 2014 Clean Energy Student Challenge. MeterGenius won the $25,000 McCaffery Interests Prize; myPower was awarded the $75,000 Clean Energy Trust Consumer Favorite Prize. For each team, the funding will facilitate continued product development.

Now in its third year, the Challenge is a regional business plan competition sponsored by the US Department of Energy (DOE) and administered by Clean Energy Trust, a nonprofit dedicated to accelerating the development of clean-energy businesses in the Midwest.

Through its free consumer website MeterGenius provides tools and incentives for residents to save money on their power bill. Users with smart electricity meters can track consumption, set savings goals and track their progress, compare themselves to similar neighbors, and earn points that can be redeemed for bill credits. The team will use the prize money to build a mobile app to accompany their web platform.

myPower is a device that captures the kinetic energy of daily motion and converts it into extra cell phone battery life. Combined with an
app in development that tracks a user’s physical activity, the device could make a big splash at the cross-section of two large markets: consumer electronics and fitness. The award will be used to begin a pilot production run of the device; more than 500 people have already signed up to purchase a unit at runwithmypower.com.

Each will continue to compete for additional funding and prizes. MeterGenius is a semifinalist for the MIT Clean Energy Prize and a finalist for the St. Louis Arch Grants, later this month. myPower will compete in the finals of the 1776 Challenge Cup in Washington, DC in May.

Both teams are 2013 alumni of NUvention: Energy, a graduate entrepreneurship course that teaches the iterative process of entrepreneurship. Over an intense quarter, interdisciplinary teams of graduate students develop a product or service in the sustainable energy or cleantech industry. Upon completion, each team makes a pitch to a board of industry veterans.

A partnership of the Farley Center for Entrepreneurship and Innovation and the Institute for Sustainability and Energy at Northwestern (ISEN), the class also works closely with INVO, the University’s tech transfer office, to leverage intellectual property out of Northwestern labs. Although the class is not intended to serve as an incubator, students often work on their project beyond the end of the quarter says Mark Werwath, Assistant Director at the Farley Center and lead instructor for the course. “NUvention teams tend to be highly driven. The early emphasis on the dynamics of interdisciplinary team formation is an investment in future success. Seeing the enormous progress that teams like myPower and MeterGenius have made is a wonderful validation of the NUvention model.” The Farley Center also runs NUvention courses focused on medical technology, web, nanotechnology and social impact.

“We are thrilled to win Clean Energy Trust’s “Consumer Favorite” Prize!” said Alex Smith, myPower Chief Product Officer. “None of this would have been possible without NUvention: Energy and the generous support of the Farley Center.” Ty Benefiel, co-founder of MeterGenius shared a similar perspective. “We would not be where we are though without the financial and mentorship support of ISEN and Kellogg’s Zell Fellowship. It’s clear these organizations are dedicated to supporting entrepreneurial-minded students, and we are proud to represent them.”

Over the past three years, companies competing in the Clean Energy Challenge have raised more than $40 million in outside investment, created 280 jobs and registered 40 patents and disclosures. “These entrepreneurs have invented devices to change the way we create and use energy, services that lower utility bills and streamline the energy sector and new technologies for biofuels, microgrids and energy storage,” said Amy Francetic, CEO of Clean Energy Trust. “These prizes will help these entrepreneurs to move their technologies out of the laboratory and into the marketplace.” Northwestern startups NuMat Technologies and SiNode Systems, another NUvention:Energy team, won the DOE competition in 2012 and 2013, respectively. “Teams from Northwestern have consistently been top performers all three years of the Challenge,” said Francetic. “We look forward to seeing the next big thing out of the University in 2015.”

The MeterGenius team is comprised of:
Ty Benefiel MBA student, Kellogg School of Management, expected graduation in 2014
Hillary Hass BA student in Physics, Weinberg College of Arts & Sciences, expected graduation in 2014
Yan Man PhD student in Mechanical Engineering, McCormick School of Engineering and Applied Science, expected graduation in 2017
Fred Thwaites 2013 graduate BS/MS in Mechanical Engineering, McCormick School of Engineering and Applied Science
Yves Xie PhD student in Computer Science, McCormick School of Engineering and Applied Science, expected graduation in 2015

The myPower team is comprised of:
Michael Geier PhD student in Materials Science and Engineering, McCormick School of Engineering and Applied Science, expected graduation in 2015
Tejas Shastri PhD student in Materials Science and Engineering, McCormick School of Engineering and Applied Science, expected graduation in 2015
Alex Smith PhD student in Materials Science and Engineering, McCormick School of Engineering and Applied Science, expected graduation in 2015
New Seed Funding Platform for Big Ideas

The Office for Research and the research deans of Northwestern’s schools and colleges have developed a new seed-funding program to cultivate visionary “Big Ideas” initiated by teams of researchers themselves. The NU-Interdisciplinary Program 1-2-3 has been created to encourage bold, collaborative research.

“We developed NU-Interdisciplinary Program 1-2-3 to respond to the barriers identified as possibly hindering the pursuit of bold research at Northwestern,” says Vice President for Research Jay Walsh. “We saw that we needed more proactive planning for growth, fast-track approvals for resources, more support for team-based research, and a more risk-tolerant environment.”

The program consists of three non-sequential tiers of seed funding that address different stages of need in the process of developing visionary science at Northwestern. The three tiers will support: Ideas (I1), Innovative Initiatives (I2), and Innovative Initiatives Incubators (I3).

I1 will provide up to $1,000 for a one-day workshop to brainstorm new, interdisciplinary ideas by bringing together key faculty, staff, and students, at Northwestern.

I2 will provide up to $15,000 to cover expenses pertinent to the preparation of a large proposal for external funding.

I3 will provide up to $60,000 per year for up to two years for promoting effective team assembly, developing a track record of collaboration, generating preliminary data, and submitting a large/center proposal to an external sponsor.

I1 and I2 applications will be accepted on a rolling basis. The deadline for submitting I3 applications is June 1, 2014.

The program is open to all Northwestern faculty collaborating in interdisciplinary, cross-school, and cross-department teams.

In addition to funding, the Office of Research Development (ORD) will provide assistance in project management, identifying funding opportunities, proposal development, and Team-Science guidance. All awarded teams will share their new initiatives with the Northwestern community at an annual symposium.

“We hope this program will help faculty jump-start their bold, innovative ideas, and promote the next generation of leaders,” says Fruma Yehiely, director of the Office of Research Development. “ORD is looking forward to working with the teams and providing the support to successfully move these initiatives forward.”

For more information, contact Fruma Yehiely at ORD, or visit: research.northwestern.edu/interdisciplinary123.

New Argonne National Lab Director

Peter B. Littlewood, a professor of physics at the University of Chicago and the associate laboratory director for physical sciences and engineering at Argonne National Laboratory, has been selected to serve as Argonne’s 13th director.

As associate laboratory director, Littlewood led an innovative cross-disciplinary approach bringing together leading researchers in materials science, physics, chemistry and computation to create new materials with the potential to revolutionize energy science. Those efforts made Argonne a key part of the Center for Hierarchical Materials Design (CHiMaD), a Chicago-based consortium led by Northwestern University, which was recently awarded $25 million by the National Institute of Standards and Technology (NIST) to establish a new center of excellence for advanced materials research.

Littlewood succeeds Eric D. Isaacs, who became the provost at the University of Chicago on March 31.

For more information click here.

New Buffett Center Director Named

Bruce Carruthers, the John D. MacArthur Professor of Sociology, has been named director for the Roberta Buffett Center for International and Comparative Studies.

Professor Carruthers, who is currently on leave as a visiting fellow at the Institute for Advanced Study in Berlin, will assume the directorship effective July 1, 2014.

Professor Carruthers joined Northwestern in 1990, his first teaching position. He received his PhD from the University of Chicago in 1991. His areas of interest include comparative and historical sociology, economy and society, sociology of law, and sociology of organizations. At Northwestern, Professor Carruthers is involved in the graduate Comparative Historical Social Science (CHSS) program, and the undergraduate Business Institutions Program (BIP).

His current research projects include a study of the historical evolution of credit as a problem in the sociology of trust, regulatory arbitrage, what modern derivatives markets reveal about the relationship between law and capitalism, and the regulation of credit for poor people in early 20th century America. He has held visiting fellowships at the Russell Sage
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...Buffett Center continued

Foundation and the Radcliffe Institute for Advanced Study, and received a John Simon Guggenheim Fellowship. He is the author of five books, including the award winning volume entitled “Bankrupt: Global Lawmaking and Systemic Financial Crisis”.

The Buffett Center is one of Northwestern’s signature centers. It sponsors and facilitates collaborative interdisciplinary scholarship on crucial problems facing the world. The Buffett Center was founded in 1994 and will celebrate its 20th anniversary this fall. It has grown to 182 faculty affiliates, including 33 faculty program leaders; 142 graduate student affiliates and more than 1,000 undergraduates, including 81 student program leaders; 62 visiting scholars from five continents; and hundreds of guests, including Nobel prize winners and other luminaries. The number of research groups, programs, and projects has doubled to more than thirty in the past five years. These include work on critical problems such as global security, forced migration, deportation, and religious freedom, and the rapidly expanding Equality Development and Globalization Studies program.

“I’d like to express my gratitude to Brian Hanson, Director of Programs, Research and Strategic Planning at the Buffett Center, who has maintained the center’s forward momentum as interim director for the past year and will continue to do so until July,” says Vice President for Research Jay Walsh. “I look forward to working with Bruce Carruthers, an accomplished international scholar, as the new Director of the Buffett Center.”

38 Northwestern Students Awarded NSF Graduate Research Fellowships

In 2014, 38 current Northwestern graduate students were awarded National Science Foundation’s Graduate Research Fellowships (GRFP). The NSF Graduate Research Fellowship Program (GRFP) recognizes and supports outstanding graduate students in NSF-supported science, technology, engineering, and mathematics disciplines who are pursuing research-based master’s and doctoral degrees at accredited US institutions.

NSF received more than 14,000 applications for the 2014 competition, and made 2,000 fellowship award offers. GRFP fellows receive the following:

• Three years of support
• $32,000 annual stipend
• $12,000 cost-of-education allowance to the institution
• International research and professional development opportunities
• XSEDE (Extreme Science and Engineering Discovery Environment) supercomputer access

Northwestern fellows and their fields of interest are:

Michael James Ashley, Chemical Engineering
Jamie Nicole Barstein, Social Sciences - Communications
Hilary Chase, Environmental Chemical Systems
Samantha Marie Clarke, Chemistry of Materials
Sara Clifton, Applied Mathematics
Daniel Elwood Cook, Life Sciences - Genomics
Amanda Sara Davis, Life Sciences - Bioinformatics
Alexandra Michelle de Paz, Bioengineering
Kristine K. Deibler, Chemistry of Life Processes
Benjamin James Des Soye, Life Sciences - Molecular Biology
Kedy Edme, Chemistry - Macromolecular, Supramolecular, and Nanochemistry
Matthew Jordan Ford, Mechanical Engineering
Ruby Laurel Fried, Social Sciences - Biological Anthropology
Christina Marie Fuentes, Engineering - Bioengineering

Audrey Theresa Gallagher, Chemistry - Chemical Synthesis
Michael James Graham, Chemistry - Macromolecular, Supramolecular, and Nanochemistry
Jennifer Anne Grant, Chemistry - Macromolecular, Supramolecular, and Nanochemistry
Emily Kathryn Harburg, STEM Education and Learning Research - Engineering Education
Rachel D. Harris, Chemistry - Macromolecular, Supramolecular, and Nanochemistry
Karl Alexander Huisak, Materials Research - Materials, Interdisciplinary/ Nanoscience
Han Heidi Jiang, Life Sciences - Neurosciences
Mark Gabriel Kokish, Physics and Astronomy - Atomic, Molecular and Optical Physics
Andrew Jacob Mannix, Materials Research - Electronic materials
Michael O’Neal McAnally, Chemistry - Chemical Structure, Dynamics, and Mechanism
Alicia Christine McGeachy, Chemistry - Sustainable Chemistry
Samuel Miller, Engineering - Materials
Newell Moser, Engineering - Mechanical
Scott Lyle Nauert, Engineering - Chemical Engineering
Christine Estelle Notherfer, Psychology - Perception and Psychophysics
Samantha Jean Nowierski, Physics and Astronomy - Atomic, Molecular and Optical Physics
Rachel Scholes, Engineering - Chemical Engineering
Christopher Manuel Serrano, Materials Research - Biomaterials Engineering – Materials
Ashwin Jairaj Shahani, Engineering – Materials
Owen Samuel Skinner, Chemistry - Chemical Structure, Dynamics, and Mechanism
Emily Sprague, Chemistry - Chemical Measurement and Imaging
Victoria Lynn Weidner, Chemistry - Chemical Catalysis
Madeleine Stewart Wright, Engineering - Materials
Chyi-Huey Joshua Yeh, Materials Research - Polymers
INVO Partners With Lurie Children’s Research Center to Provide Invention Support

The Innovation and New Ventures Office (INVO) at Northwestern University announced a new partnership with Ann & Robert H. Lurie Children’s Hospital of Chicago Research Center (Lurie Children’s Research Center) to provide invention disclosure, licensing and commercialization support.

“We are enthusiastic about working with the faculty to develop and commercialize advancements in the prevention, diagnosis and treatment of diseases that impact pediatric health.”

The new partnership grew out of discussions between Mary J.C. Hendrix, president and scientific director, Lurie Children’s Research Center, Philip V. Spina, senior vice president and chief operating officer, Lurie Children’s Research Center and Löffler. Hendrix holds several patents and was working with INVO to identify prospective licensing and commercialization opportunities for her laboratory’s research. This research encompasses the detection and targeted treatment of cancer cells with stem cell properties that have a set of specific prognostic biomarkers. One of the cancer cell markers identified, called Nodal, is associated with aggressive and advanced forms of melanoma and other cancers.

For more information click here.

Purple Pride!

Conversations with the President

The Northwestern University’s Staff Advisory Council (NUSAC), the Faculty Senate, and the Office of the President are sponsoring the 5th annual “Conversations with President Morton Schapiro.” All staff, faculty and students are invited to hear from President Schapiro and engage in conversation about the state of the University.

Two events will be held:

Thursday, April 17, 2014
10-11:30 a.m.
McCormick Tribune Center
1870 Campus Drive,
Evanston

Wednesday, April 23, 2014
10-11:30 a.m.
Hughes Auditorium
303 East Superior Street,
Chicago

The events will be webcast live for those not able to attend in person. View the event here. Questions and comments will be accepted prior to or during the event; send them to nusac@northwestern.edu. Visit NUSAC’s website for more information on upcoming events: northwestern.edu/nusac/calendarofevents.html.
New NAISE Director of Operations

Goldie Gorski has accepted the position of director of operations for the Northwestern-Argonne Institute of Science and Engineering (NAISE). One of the major programs within NAISE is the new National Institute of Standards and Technology (NIST) Center of Excellence in Advanced Materials, the Center for Hierarchical Materials Design. In this capacity, Goldie will lead the strategic business management and tactical operations of the new institute, forging new business relationships between Northwestern, Argonne and NIST, and interfacing with center senior management, executive committee and advisory board. She joined NAISE on April 14.

Since 2010, Goldie had served as research administrator, Non-Equilibrium Energy Research Center (NERC). In that capacity Goldie’s responsibilities included the financial administration of a multi-investigator, multi-institution five-year American Recovery and Reinvestment Act (ARRA) center award from the Department of Energy. Prior to joining Northwestern, Goldie was the section administrator for the academic department of general surgery (and its subsections) at Rush University Medical Center, Chicago.

Exonerated Woman Rebuilds Her Life

It’s the stuff of nightmares: to be convicted for a crime you didn’t commit. It’s even more horrific if the death of a loved one is involved—as it was for Nicole Harris. Nicole was convicted of the murder of her four-year-old son, Jaquari, in 2005. Even though the Cook County Medical Examiner’s Office had initially ruled the death accidental, after a videotape of her coerced confession was shown as evidence, the cause was changed to homicide and Nicole was convicted.

Nicole appealed for help from Northwestern’s Bluhm Clinic’s Center on Wrongful Convictions. A team including Northwestern Law students, pro bono attorneys from the law firm of Jenner& Block, and Northwestern clinicians Steve Drizin and Alison Flaum helped overturn the conviction. Nicole was released in February 2013 and Center lawyers helped her obtain her official “certificate of innocence” in early 2014.

In June 2013, Nicole began a new chapter of her life as a cage wash technician at the Center for Comparative Medicine (CCM) on the Chicago campus. “We’re delighted to have Nicole as part of our team,” says Lisa Forman, CCM executive director. “She is an extremely optimistic, positive example for all of us.”

New Gift Means Name Change For IBNAM

The Querrey Simpson Charitable Foundation has made an additional $15 million gift to Northwestern in support of the University’s innovative, interdisciplinary research efforts applying nanotechnology to regenerative medicine. In recognition of the new gift, the Institute for BioNanotechnology in Medicine (IBNAM) has been renamed the Simpson Querrey Institute for BioNanotechnology in Medicine; the institute will continue to use the acronym IBNAM.

This gift follows a $10 million gift received in 2012 that established the Louis A. Simpson and Kimberly K. Querrey Center for Regenerative Nanomedicine within IBNAM. Together, these gifts bring the foundation’s support of WE WILL, the Campaign for Northwestern, to a total of $25 million.

Established in 2000, the institute draws clinicians, scientists and engineers from across the University to work together on the challenges of regenerative nanomedicine: using nanoscale technology or materials to seek ways to repair, replace or regenerate tissues or organs and to improve human health.

“Regenerative medicine is one of the great biomedical challenges of this century as we seek to regenerate parts of the human body lost to trauma, aging, disease and genetic factors,” said scientist Samuel I. Stupp, who has led the institute since the beginning. “We thank Lou and Kimberly for their generous and continued support of our pioneering research.”

Click here to read more.
What are GLPs?

Good laboratory practices (GLPs) are stringent, federally legislated regulations enforced by the United States Food and Drug Administration to maintain the quality of products used and ingested by animals and human beings, including food and color additives, animal food additives, human and animal drugs, medical devices for human use, biological products, and electronic products.

GLPs mainly refer to the quality of data collected during preclinical research. GLPs should not be confused with standards for laboratory safety, including correct clothing, glasses, gloves, and footwear.

It is rare to have laboratories that follow GLPs at a university, and when this is required, most university laboratories contract with an outside service.

Regulations covering GLPs that apply to lab testing include:

- Testing facility management is responsible for designating a study director with appropriate education/training for each study. Management ensures there is a quality assurance unit separate from the personnel engaged in the study. Management also ensures that facility, personnel, equipment, etc., are available and comply with the GLPs.
- A study director is the single point of contact for the study, with overall responsibility and control of the study and its components.
- The quality assurance unit monitors critical phases of each study and periodically inspects the facility to inform testing facility management of the studies and compliance with the GLPs. This process is entirely separate from the personnel engaged in the study. This is an oversight function only, not quality system or control. An index of all studies is maintained by the quality assurance unit.
- The kind of testing available is open-ended determination of product performance, often for submission to EPA or FDA for pre-market approval.
- The facility’s design and construction must be suitable to the type of testing conducted, with separation of areas for minimizing mix-ups and contamination. Lighting, plumbing, sewage, washing facility regulations are not mentioned under GLPs.
- The facility’s equipment must be appropriate, maintained, and the state of the equipment documented to provide study reconstructability. Data-generating equipment is calibrated regularly.
- Standard operating procedures (SOPs) are drafted by any qualified personnel, and approved by testing facility management.
- The signature or initials of personnel conducting all procedures, preparations, calibrations, etc., are required along with dates completed and must be on all records. Records are maintained in secure archives for at least five years following date of registration if used to support a marketing permit or two years following study completion/termination. An archivist is responsible for the archives and ensures security of permit for two years following study completion/termination.

For more information about GLPs click here.

Computational Research Day: April 22

The inaugural Northwestern Computational Research Day will be held on Tuesday, April 22, at the Norris University Center on the Evanston campus. This all-day symposium (8:30 am to 4:15 pm) will showcase computational research at Northwestern and provide networking opportunities for faculty, graduate students, undergraduate students, and postdoctoral researchers.

Northwestern Computational Research Day is hosted by NUIT, and sponsored in conjunction with the McCormick School of Engineering, the Weinberg College of Arts and Sciences, CIERA (Center for Interdisciplinary Exploration and Research in Astrophysics), Northwestern University Library, and the Office for Research.

Symposium highlights include:

- Speakers from Carnegie Mellon University, Drexel University, and Northwestern University
- Panel discussion featuring Northwestern high-performance computing experts and the Office of Research Development
- Poster competition highlighting University student and postdoctoral research, sponsored by CIERA
- Discussion on Northwestern research data management survey and emerging sharing requirements
- Faculty networking luncheon

Registration is requested on or before April 16.

To see the full agenda for further details on speakers and the day’s events, click here.
Register now for ACCR Symposium: May 16

The Northwestern Advisory Council for Clinical Research will sponsor the 5th Annual Clinical Research Symposium on Friday, May 16, from 8:00 am to 12:00 pm. The symposium, entitled Gadgets and Widgets and Apps—Oh My!: Clinical Research in the Information Age and Beyond, will be held in the McGaw - Daniel Hale Williams Auditorium, 240 E. Huron on the Chicago campus. Refreshments will be served.

This free symposium is available to all staff, administrators, and faculty involved with clinical research at Northwestern University or its medical affiliates. Its purpose is to enhance the understanding of the role new technology plays in clinical research.

The symposium is free, but advance registration is required. To register email accr@northwestern.edu or call (312)695-1301.

Click here for more information.

Science Café: Making Gold Green

Using test tube chemistry, a chance discovery by a researcher in Fraser Stoddart’s lab led to a cheap and environmentally friendly process for mining and extracting gold. This environmentally benign method uses a sugar derived from cornstarch — instead of cyanide — to isolate gold from raw materials in a selective manner. The process is simple, selective, scalable and highly cost-efficient. All it requires is for the gold-bearing materials to be dissolved in an aqueous solution that is relatively safe and easy to handle — unlike the current cyanide leaching process used in 80 percent of today’s gold production.

Join Dr. Stoddart as he presents the results of this research. It is a piece of magic for isolating gold from any source — in a green way.

“Serendipity: Making Gold Green” will take place at 6:30 p.m., Wednesday, April 16, at the Firehouse Grill in Evanston.

For more information, visit sciencecafe.northwestern.edu.

Honors

Tahera Ahmad, associate chaplain, was recognized March 28 at the White House as a leading Muslim female in the United States. The event commemorated Women’s History Month, honoring women who have taken lead roles in everything from business and science to art and social justice activism.

Larry Hedges, statistics, psychology, education and social policy, and IPR, has been selected to receive the AERA Presidential Citation 2014 for research excellence from the American Education Research Association (AERA), the nation’s preeminent education research organization.

The DuSable Museum of African American History is honoring Carol Lee, education and social policy, with its top 2014 award, the Dogon Award.

The American Academy of Neurology and the American Brain Foundation have named M. Marsel Mesulam, MD, director of the Cognitive Neurology and Alzheimer’s Disease Center (CNADC), the 2014 Potamkin Prize winner.

Julia R. Weertman, materials science and engineering (emerita), has received the highly prestigious 2014 John Fritz Medal from the American Association of Engineering Societies (AAES).
Proposal and Award Reports for February 2014

The total amount of award funding received through February 2014 is $225.6 million, an increase of 11 percent ($22.2 million) over February 2013. The number of awards thus far within the fiscal year (1,068) is roughly the same as the prior year to date.

Through February 2014, the dollar volume of awards from federal agencies reflected a decrease of 1 percent ($1.1 million). Awards from industrial sponsors increased by 87 percent ($26.7 million), while those from foundations have fallen by 9 percent ($1.2 million). Awards from the State of Illinois have decreased 84 percent ($1.7 million).

The dollar volume of proposals submitted through February 2014 is $1.67 billion, an increase of 11 percent ($123.9 million) over the total reported through February 2013. The number of proposals submitted thus far this fiscal year is about 2 percent fewer than last year (30 fewer).

Through February 2014, the dollar volume of proposals submitted to federal agencies grew by 10 percent ($99 million), while those to industrial sponsors rose by 80 percent ($23.9 million). Proposal activity to State of Illinois agencies reflected a decrease of 92 percent ($3 million), while those to voluntary health organizations were up by 8 percent ($2.3 million).

Click here (research.northwestern.edu/osr/reports.html) to access the reports. You first will be brought to the University’s single sign-in access page, where you then need to provide your NetID and password. From the report launching page, find the appropriate report type and select the desired month.