PLATINIX QUICKLY EARNING HONORS

PlatiNix — a new NC State startup that provides a replacement for platinum in the synthesis of hydrogen gas — is one of three members of the Cherokee-McDonough Challenge Class of 2013. PlatiNix has a license with the university for worldwide exclusive rights to a novel material created in the laboratory of Linyou Cao in the Department of Materials Science and Engineering. Expensive and in short supply, platinum is currently the most widely used catalyst for this process.

With assistance from the Office of Technology Transfer’s Venture Development arm, PlatiNix competed in the U.S. Department of Energy’s ACC Clean Energy Challenge, hosted by NC State in coordination with Duke, UNC Chapel Hill and Wake Forest in April. PlatiNix quickly went on to apply to both the Cleantech Open and the Cherokee-McDonough Challenge.

Brian Iezzi, co-inventor of the core technology and an NC State sophomore, explained the technology at the Research Triangle Cleantech Cluster’s May meeting. There, Iezzi met potential partners and investors.

“We want to see more students like Brian take risks with their ideas, both because of the innovations they will introduce to the marketplace and because we think that many of tomorrow’s solutions will originate from the Research Triangle Region.”

In July, PlatiNix was selected a winner of the 2013 Cherokee-McDonough Challenge that recognizes high-impact environmental startups. The company, which will be featured in a September showcase, also receives $20,000 in seed funding, free office space for three months, complimentary back office support from Cherokee Investment Services (including help with incorporation, accounting and IRS compliance), hands-on mentoring from an advisory committee of experienced entrepreneurs and investors, and an opportunity to present to other investors and the public.

The challenge’s announcement cites the PlatiNix catalyst, which can be produced at a fraction of the cost of platinum, as setting the stage for hydrogen to become a cost-effective fuel source, and notes “a hydrogen-based energy economy means affordable, abundant clean energy.”

NC State continues to work closely with PlatiNix toward commercializing the licensed technology. This includes an introduction to the Blackstone Entrepreneurs Network’s leader, Bob Creeden. “The Blackstone Entrepreneurs Network is a key partner in OTT’s effort to ensure that our startups are connected to seasoned and successful entrepreneurs in order to maximize their chances of success,” explains Kelly Sexton, OTT director.

KOCH ELECTED TO NATIONAL ACADEMY OF ENGINEERING

When Carl Koch heard he’d received a box from Washington, D.C., he expected a set of documents to review for a federal agency. He found something else altogether: a letter announcing his election to the National Academy of Engineering.

“It’s the most prestigious honor that any engineer or any person in engineering could receive,” says Koch, Kobe Steel distinguished professor of materials science and engineering at NC State. “It’s very humbling.”

With 50 years in engineering, he is known for research on amorphous and nanostructured materials. In 1983, he was the first to create an amorphous metallic structure — which differs from a normal metal because of its disordered atomic makeup — from two separate elements through a process known as mechanical alloying.

Recent research has turned to creating nanocrystalline materials that have special mechanical and magnetic properties. In 2008, his team produced an iron composed of tiny crystals that is far stronger than traditional iron. The new substance has a wide variety of potential applications, such as engine components exposed to high stress and temperatures.

“Dr. Koch’s numerous honors during his impressive career are a testament to his dedication to education and the field of engineering,” Chancellor Randy Woodson notes.

Koch is a fellow of numerous professional societies, including the Minerals, Metals and Materials Society. At NC State he has earned the Alexander Quarles Holladay Medal for Excellence; the NC State Alumni Association Outstanding Research Award; and the R.J. Reynolds Award for Excellence in Teaching, Research and Extension.
NC STATE: STEM LEADER

A national ranking confirms that NC State is a leader in educating students in the STEM disciplines — science, technology, engineering and math.

The recent *U.S. News & World Report* list, establishes NC State as the No. 1 land-grant and No. 7 overall among public, national colleges and universities granting the largest percentage of bachelor’s degrees in STEM fields. The U.S. Department of Commerce estimates that STEM occupations will grow 1.7 times faster than non-STEM occupations in the coming decade.

To make the list, institutions had to rank in the top half of national colleges and universities and grant at least a third of their undergraduate degrees in the STEM disciplines during the 2011-12 academic year. Only 39 universities made this new list of leading STEM institutions.

The list ranks NC State 17th overall and seventh among public universities. In 2011-12, NC State awarded nearly 2,600 bachelor’s degrees in STEM fields, almost half the university’s total.

With strengths across a wide range of disciplines, including the humanities, social sciences and design, NC State offers a robust student experience. As a result, NC State graduates overall are among the most sought after by corporate recruiters, according to the *Wall Street Journal*.

**LIBRARY JOURNAL CITES YORK**

Maurice York, director of information technology at NCSU Libraries, is one of the field’s “movers and shakers.” *Library Journal* recognized York for visionary work on the new James B. Hunt Jr. Library and on the Tech Sandbox at the D.H. Hill Library.

The journal cited York’s work with the Hunt Library’s BookBot, which earned wide media attention, along with the new facility’s computing, imaging and “digital media backbone” technology.

York and his 22-member team also earned recognition for the Technology Sandbox, 1,700 square feet designated for testing experimental and leading-edge technology with gaming and engineering students. The collaboration allowed the team to determine how the library could support the students’ learning and innovation.

York joined NC State in 2007 and was included in the Spring 2013 Results cover story on the Hunt Library.

**HUNTINGTON HONORED**

The American Society of Animal Science recently honored NC State researcher Gerald Huntington with its Fellow Award for his contributions to the industry. Huntington is professor emeritus in the Department of Animal Science.

Since joining the faculty in 1997, Huntington has been known for his work with cattle. His research, conducted in collaboration with professor Matt Poore and USDA agronomist Joe Burns, has led to improvements in animal productivity through better nutrition.

Huntington previously was a research scientist at the USDA and an independent consultant. The American Society of Animal Science is a professional organization that serves more than 5,000 animal scientists and producers around the world.

**ROOM OF THE YEAR**

The NC State chancellor’s residence must serve many functions, from official events to family meals. Its kitchen earned the 2012 Room of the Year honors in American Living Awards program of the National Association of Home Builders.

“The house has, at its roots, a North Carolina vernacular,” says architect Marvin Malecha, who led design efforts.

Dean of NC State’s College of Design, Malecha says the award honors the collaborative vision that guided the design. He shepherded the project to completion during daily visits to the construction site, often interacting with N.C. craftsmen.

Reflecting the university’s commitment to sustainability, the entire house incorporates the latest energy-efficient technologies. “Good architecture always begins with those principles,” Malecha says.

**NATIONAL PANEL TAPS GOULD, KELLEY**

Fred Gould and Stephen Kelley are now serving on the Board on Agriculture and Natural Resources, a major program unit of the National Research Council. The board is responsible for organizing and overseeing studies on agriculture, forestry, fisheries, wildlife, and the use of land, water and other natural resources.
William Neal Reynolds professor of entomology, Gould received the state’s 2012 O. Max Gardner Award. A member of the National Academy of Sciences, he directs a National Science Foundation-funded graduate training program in genetic engineering and society.

Kelley leads the forest biomaterials department in the College of Natural Resources. Previously, he worked on biomass conversion technologies in the U.S. Department of Energy’s National Renewable Energy Laboratory.

Gould and Kelley join the board as Julia Kornegay, NC State professor of Horticultural Science, leaves it.

KUZNETSOV RECEIVES HUMBOLDT AWARD

Andrey V. Kuznetsov recently earned the international Humboldt Award for multidisciplinary research that may identify critical factors in Alzheimer’s and Parkinson’s diseases. Given by the Alexander Von Humboldt Foundation in Germany, the honor recognizes researchers whose discoveries, insights, or theories have made significant impacts on their scientific disciplines.

Kuznetsov, a professor of mechanical and aerospace engineering, leads teams in which molecular biology meets mathematics and physics of microscale dimensions. The results advance the understanding of what goes wrong in the intracellular transport machinery in neurogenerative diseases. He also developed models of transport of prions, or infectious agents that cause mad cow disease.

He expanded research on transport in various thermofluid and biological systems at the Institute of Thermofluid Dynamics in the Hamburg University of Technology, collaborating with Heinz Hervig.

SCIENCE TEACHERS SELECT PENICK

The National Science Teachers Association recently presented its Robert H. Carleton Award, to John E. Penick for his national leadership in science education. Retired from the College of Education in 2009, he continues emeritus status at NC State.

His career started as a biology and chemistry teacher at an inner-city high school in Miami. At NC State, he headed the Department of Science, Technology, Engineering and Mathematics Education.

He has also worked in 35 countries on a wide range of projects, including teaching university faculty in Indonesia, evaluating teacher workshops in Portugal, designing a science education center in Venezuela and translating science curriculum from Portuguese to English. He also has been a leader in the International Council of Associations for Science Education.

CITY LAUDS CAMPUS SUSTAINABILITY

NC State received Raleigh’s 2013 Environmental Stewardship Award, presented annually for leadership in sustainable development.

“This award is a great honor for NC State and the many people on campus working to make the university leaner, smarter and stronger through sustainable projects and programs,” notes Tracy Dixon, university sustainability director.

NC State captured numerous awards at the city’s Earth Day ceremony, including:

• James B. Hunt Jr. Library, Green Design (Nonresidential) Award
• University Dining, Pioneering Efforts Award
• Artists’ Backyard, Natural Resource Conservation Award
• Sullivan Shops, Natural Resource Conservation Award
• Students Wei Wang and Robert Smith, Donna Jackson Trailblazer Award for environmental public service announcement

The Princeton Review also included NC State in its 2013 Guide to 322 Green Colleges. This is the second year NC State has been selected as one of the nation’s most environmentally responsible schools. Go online to learn more about NC State’s efforts: http://sustainability.ncsu.edu/

BROWN-GRAHAM EARNHS WHITE HOUSE HONORS

Anita Brown-Graham, director of NC State’s Institute for Emerging issues State is among the “Champions of Change” honored in July by the White House. She was cited for efforts to increase civic participation in North Carolina.

Brown-Graham has led development of the Emerging Issues Commons. Its combination of a physical location at the new Hunt Library and a virtual online portal transforms the way citizens can access information and connect with each other.

“I am extremely proud of the way the Emerging Issues Commons is already engaging North Carolina’s citizens,” notes Brown-Graham, who also is a William C. Friday Fellow, American Marshall Fellow and Eisenhower Fellow.

The overall institute works to improve North Carolina’s competitiveness and addresses issues such as job creation, the environment and health care. The annual Emerging Issues Forum attracts businesses and civic leaders from around the state and nation.