CARBONELL, RAMSEY ELECTED TO NATIONAL ACADEMY OF ENGINEERING

Ruben Carbonell, director of the William R. Kenan Jr. Institute for Engineering, Technology and Science at NC State, and J. Michael Ramsey, a member of the University of North Carolina at Chapel Hill and NC State joint department of biomedical engineering, recently were elected to the National Academy of Engineering.

Cited for “research and innovation in multiphase reactor design, high-pressure thin-film coating and novel bioseparation processes,” Carbonell has led the Golden LEAF Biomanufacturing Training and Education Center on Centennial Campus since 2008. He joined NC State in 1984 and served as co-director of the National Science Foundation’s Science and Technology Center for Environmentally Responsible Solvents and Processes from 1999 to 2008.

In the 1980s, Carbonell developed a new mathematical model to describe the hydrodynamic performance of trickle bed reactors used in petroleum processing. In the 1990s, his team developed a way to identify small, inexpensive and robust peptide ligands for purification of proteins from biological sources by affinity chromatography.

A fellow of the American Institute of Chemical Engineers, Carbonell also is a fellow of the Industrial and Engineering Chemistry Division of the American
THREE ELECTED AAAS FELLOWS

Three NC State faculty members were among 388 educators elected as Fellows of the American Association for the Advancement of Science:

• David F. Ritchie, professor of plant pathology, was elected to the section on biological sciences.

• Patricia E. Simmons, professor of STEM education, was elected to the section on education.

• Frances S. Ligler, professor of biomedical engineering, was elected to the section on engineering.

The trio was honored Feb. 15 at the organization’s annual meeting in Chicago. AAAS is a professional association that seeks to “advance science, engineering and innovation throughout the world for the benefit of all people.”

STUDENT WOWS WASHINGTON

Doctoral student Andy Smith caught the eye of the White House for his work with elementary school children, picking up a prestigious gold-level Presidential Service Award for Volunteerism in September.

Smith has worked with the Citizen Schools program at Lowe’s Grove Elementary in Durham as lead instructor of a Lego robotics apprenticeship for five semesters. The 10-week course introduces students to basic programming principles and gives them the opportunity to learn how different types of sensors enable robots to move intelligently interact with their environment. Students also learn about the academic majors that can lead to careers in robotics and continued
computer science. Students present group projects at a community showcase event called WOW!

Smith is a graduate of the STARS Student Leadership Corps, which provides students the opportunity to learn more about computer science careers, participate in service and outreach programs to local schools, engage in research, and meet with leaders in the computer field. His NC State adviser is James Lester in the College of Engineering’s computer science department.

The President’s Council on Service and Civic Participation created the President’s Volunteer Service Award in 2003. The program continues as an initiative of the Corporation for National and Community Service.

NC STATE RISES IN RANKINGS

U.S. News & World Report lists NC State as the No. 1 land-grant university in granting the largest proportion of science, technology, engineering and math degrees to its graduates. U.S. News also ranked NC State a top-10 “up-and-comer” among public universities.

And NC State once again appears near the top of “best value” rankings among public universities, rising to fourth on the Princeton Review/USA Today list and fifth on the U.S. News list.

Kiplinger’s Personal Finance places NC State in the top 20 for value for in-state and out-of-state students.

In recent months, national rankings also offered accolades for the Colleges of Agriculture and Life Sciences, Education, Engineering and Management.

A third-party analysis also found that NC State graduates have the highest starting salaries among all colleges and universities in the UNC system.

“Record-breaking research, industry-leading partnerships, top national value and the highest starting salaries — we are certainly on a great trajectory,” Chancellor Randy Woodson told faculty, staff and students in his spring update.

Carrying that trajectory forward, Woodson outlined ambitious goals for the future: passing $500 million in annual sponsored-research spending, consistently ranking among the top 10 in industry support and continuing to raise the quality of student applicants.

“Simply put, we want to be known as the pre-eminent research enterprise, anywhere,” he said.

ROJAS NAMED FELLOW FOR CHEMICAL SOCIETY

Orlando Rojas, an expert in forest biomaterials, has been named a fellow of the American Chemical Society in recognition of his contributions to the sciences and profession. ACS fellows are nominated by their peers.

Rojas and other members of the organization’s 2013 class of fellows were honored at the ACS national meeting in Indianapolis last fall.

THREE JOIN INVENTORS ACADEMY

Three NC State faculty members are new fellows of the National Academy of Inventors. The nonprofit organization recognizes achievement in patents and licensing, innovative discovery and technology, significant impact on society, and support and enhancement of innovation.

Physics professor David Aspnes, material science and engineering professor Jerome Cuomo and chemical engineering professor Joseph DeSimone were among 143 fellows honored in early March.

Aspnes, who has 23 patents, is generally credited with developing spectroscopic ellipsometry, the linear-optic materials/thin-film diagnostic technique on which integrated circuit technology depends.

Cuomo has developed innovations in materials synthesis and processes that enabled diverse technologies that include electron emission cathodes, tungsten films, ion beam technologies, amorphous magnetic materials and amorphous hydrogenated silicon. He has about 125 patents.

DeSimone has developed a technique for the fabrication of monodisperse particles with simultaneous control over structure and function. This innovation is being used to develop next-generation vaccines, along with treatments for cancer and pulmonary and systemic diseases. He has a joint appointment with the University of North Carolina at Chapel Hill and has more than 140 patents.