April 19, 2010
FOR IMMEDIATE RELEASE

EDITOR’S NOTE: ATTENTION ASSIGNMENT, EDUCATION, ENERGY EDITORS

RUTGERS, NJIT PARTNER AS TEAM NEW JERSEY IN U.S. DEPARTMENT OF ENERGY SOLAR DECATHLON 2011

First-ever NJ entrant combines evolving technologies, sustainability, usability, and affordability to develop eNJoy! The New Jersey Solar House

NEW BRUNSWICK, N.J. – Rutgers, The State University of New Jersey and the New Jersey Institute of Technology (NJIT) have partnered to compete as “Team New Jersey” in the U.S. Department of Energy Solar Decathlon 2011 competition. Team New Jersey is one of 20 collegiate teams, selected from an international pool of 40 candidates, challenged to design, build, and operate solar-powered houses that are affordable, energy-efficient, and attractive. The winner of the competition is the team that best blends cost-effectiveness, consumer appeal, and design excellence with optimal energy production and maximum efficiency.

“The selection of Team New Jersey as a participant in the Solar Decathlon 2011 puts New Jersey squarely on the international ‘green building’ map now,” said Jennifer Senick, Executive Director of the Rutgers Center for Green Building at the Edward J. Bloustein School of Planning and Public Policy, Rutgers University. The Center played a key organizing role in the Solar Decathlon 2011 proposal and will continue this capacity throughout the project. “This is a vote of confidence by the USDOE in New Jersey’s green building activities, and Team New Jersey’s design will showcase innovations that represent the future of green economy.”

The home base for the project will be the Rutgers Center for Green Building at the Bloustein School, which brings together students, faculty and staff, as well as policymakers, industry stakeholders, and members of the public interested in green building. In addition to strong working relationships with the School of Engineering, the School of Environmental and
Biological Sciences, and other Rutgers units integral to green building strategies, RCGB has a strong pre-existing working relationship with the NJIT College of Architecture and Design.

Richard Garber, a professor of architecture and design at NJIT and a co-principal investigator for Team New Jersey, elaborated, “The various expertise represented by our diverse team of Rutgers and NJIT faculty and students, and of our external consultants, has enabled us to very quickly focus our efforts on the discreet technologies that must be present in a winning scheme, and to integrate them through interdisciplinary strategic design. This is a big deal for our state.”

The competition was first held by the USDOE in 2002 and has been held biennially in 2005, 2007, and 2009. Since its inception, the Solar Decathlon has involved more than 70 university-led teams, which pursued multidisciplinary course curricula to study the requirements for designing and building energy-efficient, solar-powered houses and also established a worldwide reputation as a successful educational program and workforce development opportunity for thousands of students.

“The Solar Decathlon has affected the lives of more than 12,000 participants – students, faculty, and staff – at universities around the world,” said Rutgers faculty principal investigator Clinton J. Andrews, professor of urban planning and public policy at the Bloustein School. “Team New Jersey will be led by a team of students drawn from both Rutgers and NJIT. enJoy! The New Jersey Solar House, will be designed and built to operate in a sustainable, cost-efficient, zero-energy fashion – an example of much needed market transformation. Designing and building a cutting-edge solar house will involve intensive participation by students and faculty from both schools, which have complementary programs that cover all key technology and design aspects required for this project.”

“Team New Jersey’s entry is predicated on the idea of making energy efficiency an integral part of every student’s educational experience. It is expected that those very students will then become enthusiastic ambassadors for solar energy when they become professionals. This is an important opportunity to affect the trajectory of housing design for the future,” said Urs Gauchat, dean of the NJIT College of Architecture and Design.

Applicants for the 2011 competition were evaluated by a panel of engineers, scientists, and experts from the National Renewable Energy Laboratory, American Institute of Architects,
National Association of Home Builders, the U.S. Green Building Council, and the American Society of Heating, Refrigerating, and Air-Conditioning Engineers. Each project was required to meet specific criteria; in their proposals teams demonstrated their ability to design and build an innovative, entirely solar-powered house; raise additional funding; support the project through well-integrated curriculum; and assemble a team to carry the project through to completion. Once selected, the teams spend almost two years designing and building their houses and preparing for the competition and testing their houses to ensure optimal energy production and maximum efficiency. The final competition will be held in the fall of 2011 at the National Mall in Washington, D.C., where each house will be assembled and on view for public display.

Meanwhile, many critical choices remain regarding the final design of eNJoy! The New Jersey Solar House. A veteran of collegiate solar car racing in Arizona, Professor Dunbar P. Birnie, III came to Rutgers in 2004 to join the Materials Science and Engineering Department, where he now teaches a class on solar cell design and processing, stressing new innovations in solar energies. Prof. Birnie looks to bring expertise in the area of solar array design to the project, which may include novel solar tracking structures. “We have to be strategic in how we place the solar panels to maximize their annual integrated energy collection. These calculations and this thought process are woven into the class projects that I assign my students.”

“The architecture is no longer simply the material or the style but becomes a negotiation of technologies and programs that seeks to create the most environmentally-forward and technologically-savvy solution,” added Douglas Gauthier, NJIT principal investigator for the team and a professor at the College of Architecture and Design. “Fortunately, digital technology is enabling measurement in smaller and smaller increments. In turn, this is leading to the discovery of new relationships between structure and energy and therefore higher performing buildings.”

“It is an important step towards a more sustainable planet,” shared one NJIT student who worked many long days and long nights on Team New Jersey’s Solar Decathlon 2011 entry.

The next project milestone is the submission of Schematic Design drawings in early May, to be followed by a design workshop in Washington, D.C. May 21-22. Also beginning May 11th, all 20 solar house models, including Team New Jersey’s, will be on display at the National Building Museum in Washington, D.C. for two months. During this time the Solar Decathlon project will be receiving the Museum’s “Honor Award” for its commitment to educating the next

An official website for the project will be launched later this spring and will serve many communication functions and as a fundraising resource. Team New Jersey is actively seeking sponsorship of its Solar Decathlon 2011 bid in the form of cash and in-kind donations. Sponsors will receive extensive publicity benefits along with the opportunity to integrate their products and services into an affordable solar home that can be expected to serve as a prototype for the New Jersey home market of the future.

For more information about the project or questions regarding fundraising, contact Jennifer Senick at (732) 932-4101 x 520 or jsenick@rutgers.edu. For additional information about the Solar Decathlon 2011 and a list of the participating teams, visit [http://www.solardecathlon.gov/](http://www.solardecathlon.gov/).

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