

## HIGHLIGHTS FROM THE BIOTECH CENTER September 2009

### **Student Activities and Accomplishments**

International Science and Education-Africa (ISE-Africa) undergraduate interns **Andrew Glaser** (Senior, Environmental Policy, Institutions and Behavior), **Nicholas Greene** (Junior, Agricultural Science) and **Syed Abbas** (Senior, University College), returned from Africa August 22 after completing the first leg of their internship at the University of Ibadan (UI), Ibadan, Nigeria and the Kenya Agricultural Research Institute, Thika (KARI-Thika), Kenya. Abbas and Greene interned at UI while Glaser interned at KARI-Thika. The internship component of the ISE project addresses the goal of “*Strengthening the Global Competence of Students*” by expanding students’ international perspectives, knowledge, and skills through instructional and experiential learning. In the ISE program, students are introduced to agricultural systems in Africa, the Americas and Asia. The knowledge acquired will be used to advance (i) food crop diversification in the Mid-Atlantic states in response to changing demographics, (ii) research on new crops for biofuels to enhance alternate energy source development for the US economy, and (iii) curriculum internationalization at the School of Environmental and Biological Sciences. The ISE project titled “*Agricultural competitiveness in New Jersey and the United States: New crop options*” is funded by USDA/CSREES and matched 100% by Rutgers’ NJAES. **Michael Lawton** (Plant Biology & Pathology, Biotech Center) is project director, while **Albert Ayeni** and **James White** (Plant Biology and Pathology) and **Gerben Zylstra** (Biochemistry & Microbiology, Biotech Center) serve as co-directors.

### **Grants and Fundraising Efforts**

The National Science Foundation awarded a grant of \$3.2 million to Principal Investigator **Eric Lam** (Plant Biology and Pathology, Biotech Center) and colleagues across Rutgers for graduate education in renewable and sustainable fuels through its IGERT program (Integrative Graduate Education and Research Traineeship). The NSF IGERT program supports scientists and engineers pursuing doctorates in fields that cross academic disciplines and have broad social impact. The 5-year renewable fuel IGERT project led by Dr. Lam will provide education, research, and training in biotechnology, chemistry, ecology, engineering, and energy policy in collaboration with partner institutions in the U.S. as well as from Brazil, China, and South Africa. The goal is to produce a new generation of leaders who will design and implement ecologically sustainable solutions for renewable fuels worldwide. Co-PIs on the project are **Paul Falkowski** (Institute of Marine and Coastal Sciences, director of the Rutgers Energy Institute), **Frank Felder** (Bloustein School of Planning and Public Policy), **Alan Goldman** (Chemistry & Chemical Biology), and **Lena Struwe** (Plant Biology & Pathology, Ecology and Evolution). In total, 43 faculty members from 14 institutes across Rutgers will be involved in the project, partnering with colleagues at the University of Puerto Rico, Virginia Union University, and Delaware State University; as well as Peking University at Shenzhen and Academia Sinica Guangxi in China; the University of Sao Paulo in Brazil; and the University of Witwatersrand in South Africa. Dr. Lam and his colleagues will be coordinating with other Rutgers faculty members who have been awarded another IGERT project from NSF this year that will focus on graduate training in nanotechnology for clean energy generation and storage. The synergistic interaction between participants of these two energy-related IGERTs across the Rutgers campus

should create huge opportunities for interdisciplinary research and training for energy programs in the coming years.

### **Conferences, Seminars, and Other Events**

The new Rutgers-NSF IGERT Program on Renewable Fuels Solutions (see above) and the Biotechnology Center for Agriculture and the Environment co-hosted a visit on September 22 and 23 from Dr. Zosimo Battad, Executive Director of the Association of Colleges of Agriculture in the Philippines and Professor and Past President of Pampanga Agricultural College. While at Rutgers, Professor Battad delivered a seminar September 22nd on “Biofuels Development in the Philippines.” [He met with SEBS Deans Mark Robson, Lily Young, and Waksman Director Jo Messing](#) to explore opportunities for research collaborations and exchanges of faculty and students between Rutgers and institutions in the Philippines. Dr. Battad is an internationally recognized scholar in both crop biology and ruminant animal science, and co-author of the recently published book “Sweet Sorghum Food Products, A Compendium.” He is responsible for establishing more than 30 international academic and research exchange collaborations with diverse countries including the USA, South Korea, Japan, Egypt, the Netherlands, and India.

Eric Lam (Plant Biology & Pathology, Biotech Center) visited the Max-Planck Institute of Molecular Plant Physiology at Potsdam-Golm, Germany August 31<sup>st</sup>- September 4<sup>th</sup>. He presented an invited lecture entitled: "Defining chromatin states through integration of genome-wide datasets obtained in the model plant *Arabidopsis thaliana*: the NextGen World". In addition to touring the facilities of the Institute and discussing their core facility and institute management models, Dr. Lam and Dr. Ralph Bock, Director of the Institute, discussed strategies to further their current collaborations on antiviral tomatoes as well as new collaborations on chromatin proteomics. The joint project on antiviral tomatoes is currently funded by a Phase I Grand Challenge Exploration project from the Gates Foundation.

Nilgun Tumer (Plant Biology & Pathology, Biotech Center) attended the Protein Synthesis and Translational Control meeting at the EMBO labs in Heidelberg, Germany Sept. 9-13, 2009, where she presented her work on the interaction of ricin with the isolated ribosomal stalk. Then she traveled to Spain and visited a collaborator, Dr. Juan Pedro Garcia, at the Autonomous University of Madrid. She gave a talk there September 15 on the "Interaction of ricin and Shiga toxins with the ribosomal stalk."