

# The Provost's Report

A MONTHLY REPORT TO THE COLLEGE COMMUNITY

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June 2006

For this edition of *The Provost's Report*, David Podell asked me to highlight the faculty research and scholarship achievements in the Division of Science and Technology. (The previous issue focused on faculty achievements in the Division of Humanities and Social Sciences.) Below, you will find just a sample of the outstanding scholarship and grantsmanship performed by Science and Technology faculty in the past academic year. From this sample it is abundantly apparent why the College of Staten Island has risen through the ranks of CUNY campuses to have the third-largest externally funded research budget in the system. Our faculty are active in research—in the laboratory, in the field, on the computer, at the telescope, and in the clinic. As further evidence of CSI's rising prominence, this year saw Prof. Ruth Stark joining Prof. Naider in the rank of Distinguished Professor of Chemistry.

Faculty in the Division have brought an increasing number of undergraduate and graduate students into the research enterprise, which has led to student honors such as the prestigious Salk Award. The Salk Award, which recognizes a premedical student who has performed notable research, was given to senior Svetlana Rabinovich based on her work in the laboratory of Fred Naider. An interdisciplinary group of faculty submitted an National Science Foundation Science and Technology Expansion Program grant in February, building on the Interdisciplinary Applied Mathematics initiative to propose a program to retain more students in science majors through increased funding for their participation in research. Many individual faculty grants and publications this year featured our students as participants or coauthors.

I would like to express my gratitude to the faculty in both Divisions, along with Dean Soto, for making my first year at CSI a delightful experience. CSI has developed a wonderful culture of collaboration across all disciplines, and I am looking forward to many years of productive work at the College.

Dean Gail Simmons, Division of Science and Technology

## **Department of Biology**

Professor Frank Burbrink published two articles in *Molecular Phylogenetics and Evolution* (2005) and received a grant from the Arkansas Game & Fish Commission, "Reassessment of Species Boundaries in the Endemic Arkansas Salamanders of the Plethodon Ouachitar Using Molecular Phylogeographic Techniques."

Professor Gregory Cheplick published book chapters in *Reproductive Allocation* (Elsevier-Academic Press, 2005) and articles in *Plant Ecology* (2005) and *American Journal of Botany* (2006).

Professor Abdeslem El Idrissi received a grant from Hospital League 1199, "What Lies Beneath: The New York Water Ways" (with NYC College of Technology).

Professor Maria Knikou published articles in *Spinal Cord* and *International Journal of Neuroscience* (2006).

Professors William L'Amoreaux and Bhanu Chauhan received a grant from Merck/AAAS, "Nanotechnology at the Biology-Chemistry Interface."

Professor Jose Ramirez received a grant from the CUNY Collaborative, "Prenatal Cocaine Exposure Induces AMPA Receptor Dysfunction" (with CCNY).

Professor Chang-Hui Shen published articles in *J. Biol. Chem.* (2005) and *Mol. Cell. Biol.* (2005).

Professor Richard Veit received a grant from the Nuttall Ornithological Club, "Dispersal and Population Dynamics of the New England American Oystercatcher (*Haematopus palliatus*)."

Professor William Wallace received a grant from the NY Sea Grant, "The Importance of Metal Storage in Prey and Digestion in Predators to Metal Trophic Transfer in Estuarine Foods Chains."

### **Department of Chemistry**

Professor Probal Banerjee received a grant from the NIH, "The 5HT1A Receptor and Brain Development," and a grant from Sandoz, Inc., "Development of a Biomarker for Glatiramer Acetate Samples."

Professor Marco Ceruso received a grant from the CUNY Collaborative, "Computational and Experimental Biophysical Studies of Immunologically Active Truncated Human Thioredoxin."

Professor Bhanu Chauhan received the following grants: from Becton Dickinson and Company, "Research on Drug Delivery"; from Honeywell for analytical work; from Sun Chemical, "Applicability of Unique Capping Agents in Producing Novel Metallic Nanoparticles for Inks and Coatings"; and from the CUNY Community College Collaborative, "Inorganic-Organic Hybrid Composites as Nano Reactors."

Professor Qiao-Sheng Hu published articles in *J. Org. Chem.* (2006) and *Tetrahedron Lett.* (2006).

Professor Shi Jin received a grant from Kent Optronics, "Strong Anchoring Polyimide."

Professor Fred Naider published articles in *Fungal Genetics and Biology* (2005) and *Genetics* (2006) and received grants from the NIH, Peptide-Cell Interactions in *Saccharomyces cerevisiae*, and from the Binational Science Foundation, "NMR Study of HIV-1 Glycoprotein Interaction with CCR5."

Professor Ralf Peetz received a grant from Pall Corp., "Novel Multicomponent Biomembranes for Size-selective Protein Filtration."

Professor Chwen-Yang Shew published articles in *J. of Phys.: Condens. Matter* (2006) and *Chem. Phys.* (2006).

Professor Ruth Stark published articles in *Biomacromolecules* (2006) and *Phytochemistry* (2006), and book chapters in *Molecular Interfacial Phenomena of Polymers and Biopolymers* (Woodhead, 2005) and *Biology of the Plant Cuticle* (Blackwell, 2006). Professor Stark also received the following grants: from the NSF, "Molecular Structure and Function of Protective Plant Polymers," and "Networking Tools for NMR Research on Biological Studies"; from the Binational Agricultural Research and Development Fund, "Understanding the Hardening Syndrome of Potato Tuber Tissue to Eliminate Textural Defects in Fresh and

Fresh-peeled/cut Products”; from NIH, “Biology of Fungal Melanin” (with Albert Einstein College of Medicine), “Fatty Acid Transport in the Intestine (Minority Supplement)” (with Rutgers University), and “Fatty Acid Transport in the Intestine (with Rutgers University)”; and from DASNY/GenNYsis, “Purchase of Equipment for CUNY’s Macromolecular Assemblies Institute.”

Professor Shuiqin Zhou published articles in *Chemistry of Materials* (2005) and *J. Phys. Chem. B* (2005). Professor Zhou also received the following grants: from Dow Chemical Co., “Laser Light Scattering Studies”; Degussa Corporation, “Laser Light Scattering Studies of Pigment Particles in Solutions”; and from the NSF, “Control of the Supramolecular Assembly Behavior of Fullerene-based Surfactants (Equipment Supplement).”

Professor Nan-Loh Yang received a grant from the NSF, “Polymers at Engineered Interfaces” (with Queens College & SUNY Stony Brook); and from Estee Lauder, Inc., “CePM Consulting Services.”

### **Department of Computer Science**

Professor Natacha Guerogueiva published articles in *International Journal of General Systems - Intelligent Systems Design and Neurocomputing* (2005), and refereed proceedings in the ASMA Press Series on *Intelligent Engineering Systems through Artificial Neural Networks* (2005) and the “Digital Avionics System Conference” (2005). Professor Guerogueiva also received a grant from CUNY Diversity Grant, “Empowering for Success of Women in Computing: Legacies, Problems and Solutions.”

Professor Shuqun Zhang published an article in *EURASIP Journal on Applied Signal Processing* (2006) and a refereed proceeding in *SPIE Applications of Digital Image Processing* (2005).

Professor Zhanyang Zhang published refereed proceedings in the “IEEE International Conference on Advanced Communication Technology” and the “International Conference on Cutting Edge Wireless and IT Technologies” (2005).

### **Department of Engineering Science and Physics**

Professor Neo Antoniadis received a grant from Ametekron, Inc., “Optical Switching and Multi-Media Technology.”

Professor Anatoly Kuklov received a grant from the NSF, “Collaborative Research: Worm Algorithm and Diagrammatic Monte Carlo for Strongly Correlated and Condensed Matter Systems.”

Professor Lihong Li published two articles in *Medical Physics* (2005).

Professor Charles Liu received a grant from the NSF, “Earth and Planetary Science and Astrophysics REU at the American Museum of Natural History” (in collaboration with CUNY).

Professor Syed Rizvi received a grant from the ARO, “A Modular Clutter Rejection Technique for FLIR Imagery Using Region-based Principal Component Analysis.”

Professor Alexander Zaitsev published two articles in *Physica Status Solidi (a)* (2006) and *Physica Status Solidi (b)* (2006).

### **Department of the Library**

Professor Wilma Jones received a grant from the New York State Department of Education, "Library Collection Aid."

Professor James Kaser received a grant from the New York State Department of Education, "Staten Island's Response to the World Trade Center Disaster."

### **Department of Mathematics**

Professor Antonia Foldes published two articles in *Journal of Theoretical Probability* (2005) and *Statistics and Probability* (2006).

Professor Joel Hamkins published two articles in *Mathematical Logic Quarterly* (2005) and *Journal of Logic and Computation* (2005), and received a grant from CUNY Collaboration in Mathematical Logic (with Baruch, Bronx, Queens, & NYC Tech). Professor Hamkins also received two visiting researcher grants: "Modal Logics in Set Theory," funded by the Dutch government for research at the University of Amsterdam, Institute for Logic, Language and Computation, Summer 2006; and "The Modal Logic of Forcing," funded by the Dutch government, (NWO) for research at the University of Amsterdam, Institute for Logic, Language and Computation, Summer 2005.

Professor Ilya Kofman received a grant from Collaborative Research, "FRG: Hyperbolic Geometry and Jones Polynomials."

Professor Andrew Pojé receive a grant from the ONR, "Optimal Deployment of Drifting Acoustic Sensors: Sensitivity of Lagrangian coherent Structure Boundaries to Model Uncertainty."

Professor Jay Rosen received a grant from the NSF, "Research in Stochastic Processes."

Professor Tobias Schaefer published two articles in *Optics Communications* (2005) and *Physica D* (2005).

### **Department of Nursing**

Professor Marianne Jeffreys published two articles in *Journal of Multicultural Nursing and Health* (2005) and *Imprint* (2006).

Professor Margaret Lunney published two articles in *Journal of School Nursing* (2006) and *Nurse Educator* (2006).

Professor Mary O'Donnell received a grant from the U.S. Health Resources & Services Administration, "Advanced Education Nursing Traineeships"; and from the Department of Health and Human Services, Health Resources and Services Administration, "Advanced Education Nursing Traineeship, Clinical Nurse Specialist in Adult Health."

Professor Angela Sammarco published two chapters in *Phipps Medical Surgical Nursing: Health and Illness Perspectives* (2007) and *Medical-Surgical Nursing: Critical Thinking for Collaborative Care* (2006).