

Research Accolades

Selected honors earned by Rensselaer's faculty members:

Curt Breneman, professor of chemistry, was named a permanent member of the California State Tobacco-Related Disease Research Program review panel, which is modeled after an NIH study section and is responsible for reviewing proposals for research funding provided by the California tobacco product tax. At the April meeting, over \$21 million was awarded in research grants and pre- and post-doctoral fellowships.

Nancy Campbell, assistant professor of science and technology studies, published a paper, "Technologies of Suspicion: Coercion and Compassion in Post-Disciplinary Surveillance Regimes," in *Surveillance & Society*, an online, peer-reviewed, international journal that focuses on bringing surveillance studies to wider attention, within academia and beyond.

Chan Chung, research professor of materials science and engineering, received the 2004 Society of Plastics Engineers' International Engineering / Technology Award during the Society's 62nd Annual Technical Conference (ANTEC) in Chicago. Chun is a leading scientist and engineer in extrusion processing technology. He is widely recognized in the area of extrusion screw design, as well as polymer rheology and chemistry, and has made a significant impact on the screw-manufacturing industry, according to the society's announcement. Chung is also a fellow of the Society of Plastics Engineering and has served as president of the Korean-American Scientists and Engineers Association.

Fern Finger, assistant professor of biology, received a Scientist Development grant from the Northeast Affiliate of the American Heart Association. The \$198,000, three-year award recognizes Finger's potential as a research scientist to advance the understanding of heart health. Finger's work uses nematode worms as a model system for understanding the role of septin family proteins in organ development. Her experiments will explore how septins help form cell-cell junctions, which may be important for heart pumping and for maintaining heart structure during aging.

Martha Grabowski, research professor of decision sciences and engineering systems, was appointed vice chair and chair-elect of the National Research Council, Transportation Research Board/Marine Board at the council's annual meeting. The National Research Council (NRC) serves as an independent adviser to the federal government and others on scientific and technical questions of national importance. The NRC is jointly administered by the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. The Transportation Research Board/Marine Board promotes innovation and progress in transportation through research.

Michael Shur, the Patricia W. and C. Sheldon Roberts '48 Chaired Professor in Solid State Electronics at Rensselaer, has been named a fellow of the Electrochemical Society (ECS). Shur is one of 13 newly selected fellows recognized for their individual contributions and leadership in the achievement of science and technology in the area of electrochemistry and solid-state sciences, according to ECS. Shur is director of Rensselaer's Center for Broadband Data Transport Science and Technology. His research is primarily focused on semiconductor devices and integrated circuits. He is part of a multi-university research team that was awarded a Department of Defense Multidisciplinary University Research Initiative grant for \$465,000 to enhance semiconductor materials. The team is working to develop epitaxial multifunction materials — multilayer single-crystal oxide thin films and multilayer single-crystal junctions — for use in semiconductors. Applications for the materials include high-frequency, high-temperature, and high-power devices, such as radar equipment.

Prabhat Hajela, professor of mechanical, aerospace, and nuclear engineering, received the 2004 American Institute of Aeronautics and Astronautics (AIAA) Multidisciplinary Design Optimization (MDO) Award presented biennially for outstanding contributions to the development and/or applications of techniques of MDO in the context of aerospace engineering. Hajela was recognized for his seminal contributions to the development and adaptation of soft computing methods for multidisciplinary design, and for leadership in promoting MDO education at the national and international levels, according to AIAA.

Sunderesh Heragu, professor of decision sciences and engineering systems, was selected to receive the Institute of Industrial Engineering (IIE) Fellow Award, according to IIE's announcement of 15 new fellow award winners. Heragu was honored at the annual Industrial Engineering Solutions 2004 Conference in Houston, Texas. IIE Fellow Awards recognize distinguished service and leadership qualities in their field, according to the society. Heragu's research interests have included the design, analysis, and modeling of intelligent and traditional manufacturing systems.



Kai Liu, a graduate student studying physics, received the IMRA Fellowship Award totaling \$150,000 for three years in recognition of his outstanding achievements in terahertz research. The award was presented to Liu on campus by IMRA America Inc. President Tak Omitsu. Founded in 1990, IMRA America Inc., headquartered in Ann Arbor, Mich., describes itself as a global acting company, dedicated to a leading-edge position in the development of pulsed fiber laser technologies for commercial applications.

David Stern, associate professor of economics, will serve on an advisory group to the Commission for Environmental Commission (CEC) of North America. The commission was formed to advise North American governments on assessing the environmental impacts of trade liberalization. CEC consists of government representatives from Canada, Mexico, and the United States, as well as research organizations and academia, the private sector and non-governmental organizations.

Donald Siegel, professor and chair of economics, presented "Transformational Leadership and Corporate Social Responsibility," in a keynote session on corporate social responsibility at the Reputation Institute Conference in Fort Lauderdale, Fla. He also was named to an Environmental Protection Agency advisory committee on environmental technology to improve existing programs and to develop and use of innovative environmental technologies to meet environmental goals.

Jan Stegemann, assistant professor of biomedical engineering, is combining nanotechnology and tissue engineering to develop new cellular tissue that can bridge and support damaged regions of the cardiovascular system. The research is being funded through a \$200,000 grant awarded through the New York State Office of Science, Technology, and Academic Research (NYSTAR) James D. Watson Investigator Program. The money will allow Stegemann to advance a novel project aimed at creating a living heart wall patch for the treatment of congestive heart failure and congenital heart defects. The award is one of 10 across the state designed to recognize and support outstanding scientists and engineers who, early in their careers, show potential for leadership and scientific discovery in the field of biotechnology.

Xi-Cheng Zhang, the J. Erik Jonsson '22 Distinguished Professor of Science and director of Rensselaer's Center for Terahertz Research, published an article titled "Materials for Terahertz Science and Technology" in the journal *Nature Materials*, 1, 26 (2002) that has been identified by Thomson-ISI® as one of the most cited papers in the field of materials science. The paper has been selected by Thomson-ISI for designation as a "New Hot Paper" and is featured on the company's special topics Web site in July, 2004. Thomson-ISI, a business of The Thomson Corporation, provides access to information for researchers and scholars worldwide. Zhang also presented "Recent Development of Terahertz Wave Time-Domain Technology," as an invited speaker for the plenary session of the Conference on Precision Electromagnetic Measurement in London, UK, in June.

Michael Zuker, professor of mathematics, presented the keynote address "Predicting Nucleic Acid Hybridization and Melting Profiles," at Cambridge Healthtech Institute's 12th annual nucleic acid-based technologies meeting in McLean, Va., June 21-23. The meeting was titled "Profiling Polymerase Chain Reaction and Beyond: In Celebration of Twenty Years of PCR."