After 50 years of teaching mathematics, Evan Maletsky retired from Montclair State University in June. Professor Maletsky taught in the Department of Mathematical Sciences from September 1957 through June 2006. He previously taught a year at Pascack Valley Regional High School. Throughout his 49 years at Montclair, Evan has taught thousands of mathematics educators and mathematics majors at the graduate and undergraduate levels as well as general education students.

Evan is a distinguished alumnus of Montclair having earned his B.A. and M.A. degrees in 1953 and 1954, respectively. In 1961 he earned a Ph.D. in Mathematics Education from New York University.

Throughout his career at Montclair, Evan has personified the teacher and learner. He has been innovative in his teaching; exploring new areas and developing new and creative approaches to the teaching of mathematics at all levels. Dr. Maletsky has shared his expertise with Montclair students seeking to become mathematics educators, as well as students just taking a single mathematics course. He has shared his love for and creative ways of teaching mathematics throughout the nation and beyond. Students and mathematics educators around the country have benefited dramatically from Evan’s introduction of new and exciting ideas into the teaching of mathematics. The numerous invitations to make presentations and give workshops attest to his excellence as a teacher. It is exciting that what he teaches to other mathematics educators is in turn shared with thousands of teachers nationwide who in turn share what they learn with their students. The ripple effect of his scholarship has been dramatic. An example is his work on incorporating fractals into all classroom levels. Evan has studied new topics, mastered the material so that he could create new and original material, evaluated the material, subjected it to peer review, and lastly shared it with educators who in turn shared it with their own students. (His course on fractals has been one of the most popular electives in the MSU Honors Program.)

Students and others who have attended Evan’s presentations and workshops have repeatedly praised him. Graduate students eagerly waited to take his courses. His teaching has personified his philosophy that he is always a teacher and a learner.

Dr. Maletsky’s excellence as a teacher has been acknowledged by the awards he has received such as the Mathematical Association of America-NJ Section Award for Distinguished University Teaching of Mathematics in 2002; the Student Government Association MSU Teachers in Excellence Award in 1999; the MSU Distinguished Teacher Award in 1993; and the Association of Mathematics Teachers of New Jersey Outstanding Mathematics Educator Award in 1991. In addition, he has received awards for being an outstanding researcher and a member of the MSU community. In 1991 he was the first to be named the Margaret and Herman Sokol Faculty Fellow and in 1984 the MSU Alumni Association Outstanding Faculty.

As a researcher and author Evan has been very prolific. He has co-authored four books, co-authored more than 30 textbooks, contributed to other books, and...
CSAM in the summer...a time to reflect, relax, and refresh. Well, perhaps also a time to develop new programs, update and renew curriculum, run student-based summer programs, generate grant proposals, write manuscripts and books, and intensify and focus on research efforts. The new academic year brings continued growth and continued change. In fact, while sounding a bit trite and certainly redundant…it seems the only thing constant about CSAM is change! This year, however, has brought a change that is unwelcome.

While the need for “seats” in higher education classroom for New Jersey students continues to grow, and despite the fact that MSU and CSAM are growing in all important academic measures, the state has responded by seriously cutting our budget. We have more students, more faculty, more programs, more publications, and more grants. All of this means more opportunities. And yet this year we are faced with dwindling state support. New Jersey seems to run in the back of the national pack in terms of supporting state institutions of higher learning. The decline in state support and the limited arenas of additional support helps push public institutions towards conducting business in ways similar to private institutions. With the challenges facing our state and our country, this is not the time to compromise public higher education.

CSAM will continue to represent excellence and shining opportunities for education. The fiscal challenge is being met with some compromises but our faculty members retain their outstanding dedication and creativity and you can be sure we will not only shirk from the recent budget crisis but will find new approaches and new opportunities to academically enhance our support of our students and our scholarship. Of course, now more than ever, we can use your help. Governor Corzine’s recently released economic growth plan for New Jersey lists the development of a “world class workforce” by supporting “students and job seekers” in obtaining “the skills and education needed…” This is certainly in line with our mission. Please consider a targeted contribution to your College so that our current and future students can continue to have the kind of programs they deserve.

* * *

Sokol Remembrance
By Robert S. Prezant

This past year CSAM lost one of its most ardent fans and supporters. Dr. Margaret McCormick Sokol, a true friend of the College, passed away in June 2006. Her impact and influence on our College remains an indelible mark of her dedication and friendship. Here’s a list of just some of the reasons why Margaret Sokol will long be remembered:

- Margaret and Herman Sokol Faculty Fellow Award
- Margaret and Herman Sokol Seminar Room
- Margaret and Herman Sokol Freshman Chemistry Scholarships
- Margaret and Herman Sokol International Graduate Study and Research
- Margaret and Herman Sokol Graduate Fellowship in Science
- Margaret and Herman Sokol Faculty/Student Research
- Margaret and Herman Sokol M.S. Summer Research Awards
- Margaret and Herman Sokol Science Lecture Series
- Margaret and Herman Sokol Chemistry Endowed Chair

At the time of this writing, Margaret’s generosity unfolded as funding for 16 Faculty Fellows, 92 Freshman Chemistry Scholarships, 11 graduate students able to travel internationally for research and conferences, 22 graduate students supported for doctoral work, 42 faculty funded for shared research opportunities with students, six graduate summer research fellowship, eight science lectures by renowned individuals, and an endowed chair in Chemistry. Funding for many of these programs will go on for years to come because of her foresight and thoughtfulness. The Sokol Seminar room offers a venue for seminars, lectures, classes, workshops and has been well used for an array of happy occasions including the CSAM Awards Program, Orientations for our Health Careers Program, and regular CSAM Seminars. Our students have had the opportunity to travel world-wide and gain support in preeminent doctoral programs. Because Dr. M. Sokol understood the power of bringing leaders in the sciences to campus, we’ve had the likes of Oliver Sacks, Brian Green and Roald Hoffman visit campus and meet with our students. And many a student got their launch in chemistry because of her kindness.

Many of us will retain fond memories and personal recollections about this remarkable woman and Montclair alumna. I personally will long recall her deep inquiries and surprisingly scientifically insightful questions that she posed to our research students after they offered short presentations on their scholarship. Many more will know that some part of their success is a result of her altruism. Here was a woman, a respected philanthropist, who truly earned her honorary doctorate from Montclair State University, and our deepest thanks and admiration. Margaret will always be part of the College of Science and Mathematics.

* * *
submitted his research to journals such as Student Math Notes, Mathematics Teacher, Arithmetic Teacher, The Virginia Mathematics Teacher, and the New Jersey Mathematics Teacher.

Dr. Maletsky has been a very active citizen of the Department of Mathematical Sciences, serving on many committees such as the PAC, search committees, and the committee that prepared the proposal for the Ed.D. in Pedagogy, specialization in Mathematics Education. In the doctoral program, he has served on portfolio committees and was the mentor for the student who earned the second doctoral degree in the history of Montclair State. He was the co-director of a $2,500,000 State Workforce grant that started the successful and important graduate program for Mathematics for Middle School teachers. He was an active member of the Algebra Initiative that led to an extremely successful program for mathematics teachers in the Newark School District. Dr. Maletsky has also been an active member of professional organizations and has served in various positions in those organizations.

Dr. Maletsky has been an extremely important member of the Department of Mathematical Sciences, the Montclair State community as well as the Mathematics education community throughout the United States for 49 years. We wish him well in his retirement and we are delighted that he will teach courses for us occasionally and will be involved as an outside member of doctoral committees. We look forward to his continued association with the Department of Mathematical Sciences.

**Dr. Roald Hoffmann- Finding Symmetry In A World Of Contrasts**

By William M. Philian- Master of Arts in Teaching Physical Science

Nobel Prize-winning chemist Dr. Roald Hoffmann has a knack for seeing the paradox in things. Take ozone, for example. As he points out, it protects us from ultraviolet radiation, yet it attacks the rubber in tires and harms the lungs. Morphine, on the other hand, he observes, serves humanity as a pain killer yet can enslave it through addiction. Not surprisingly, Dr. Hoffmann chose the title The Same and Not the Same for an acclaimed book he wrote about chemistry and the title of his lecture at MSU.

On the evening of April 6, 2006 in the Alexander Kasser Theater, Dr. Hoffmann became the eighth speaker and the first Nobel Prize winner in the Margaret and Herman Sokol Science Lecture Series. The lectures are made possible through the support of Mrs. Margaret A. Sokol, whose late husband Herman was a leader in the pharmaceutical industry and led the discovery of the breakthrough antibiotic Tetracycline.

Dr. Hoffmann reminisced about what he called the “immigrant tradition” during a reception with a small group of students before his lecture. A graduate of Brooklyn’s Stuyvesant High School, he recounted the widely-held belief that “Education was the way to get ahead in America.” Balancing his erudition with a wry sense of humor, Dr. Hoffmann playfully mused that “It’s a miracle I didn’t become a doctor,” then went on to advise that “Nothing is rational in choosing professions or in marrying – you just have to trust yourself.” About his book, he quipped “It’s a good book – it has short chapters.”

During his lecture, Dr. Hoffmann chronicled the history of chemistry from the art on ancient tombs through the practice of alchemy, the synthesis of Buckyballs and the elucidation of protein structure. This, he said, illustrates the thesis that chemistry is a blend of art, science, simplicity, complexity and symmetry. Dr. Hoffmann culminated his presentation in a way that reflected his dual nature as a literary scientist. He displayed an early sketch of Mendeleev’s periodic table alongside a draft of William Blake’s manuscript of the poem, The Tyger. Both were filled with cross-outs and corrections, but to Hoffmann’s keen eye, these visible alterations represent “wonderful evidence of a human being struggling to understand the world.” A paradoxical world that is at once both “beautiful and terrible.”

* * *

---

Dr. Hoffmann culminated his presentation in a way that reflected his dual nature as a literary scientist. He displayed an early sketch of Mendeleev’s periodic table alongside a draft of William Blake’s manuscript of the poem, The Tyger. Both were filled with cross-outs and corrections, but to Hoffmann’s keen eye, these visible alterations represent “wonderful evidence of a human being struggling to understand the world.” A paradoxical world that is at once both “beautiful and terrible.”

* * *
Today, Ronald Califre (BS ‘72) is Senior Vice President, Research and Development, for Novartis, where he heads the global firm's U.S. operations for research and development and is responsible for 2,400 employees in the United States. He also is a member of Novartis’ Executive Committee, Research Management Board and Discovery Management Board.

However, when he entered Montclair State in the late ‘60s, he had a “clear” vision of becoming a biology teacher. As he took more courses in biology, his interests began expanding beyond pre-med courses to studies in wildlife biology. His interest in all aspects of biology, coupled with a strong interest in art, even led him to consider becoming a scientific illustrator. As he neared graduation, an academic counselor suggested he takes a federal exam that would have qualified him for a government job as a wildlife biologist. Fortunately, prior to sitting for the exam Mr. Califre received a call from the Food and Drug Administration (FDA), which was looking to expand its staff. That phone call led to a 10-year career at the FDA, during which time he pursued graduate studies in pharmacy and pharmacology.

He then moved to Ciba-Geigy, where he first worked in regulatory affairs and later became involved in broader clinical development and medical affairs activities. He was senior vice president of medicine and clinical development by 1997, when the company merged with Sandoz to form Novartis.

In his post, Califre strives to maintain a work environment in which creativity can flourish, and he feels fortunate to work for a company whose mission is to improve people's lives. Califre also is proud of the leadership Novartis has taken in making it easier for seniors to get access to pharmaceuticals through a program called Together Rx.

Residing in Wayne with his wife, Marcy, their children Evan and Gabrielle, and their golden retriever Sammy, he reconnected with MSU a few years ago. He is an active supporter of CSAM’s programs and activities. He has served on a panel at the PharmFest 2003, a daylong program designed to give high school and college students an opportunity to explore careers in the pharmaceutical industry in New Jersey, and met with students as part of our Professional Speakers Series.

Mr. Califre is also a member of the New Jersey R&D Council, a board member of the National Council on Patient Information and Education, and is on the corporate advisory board of Johns Hopkins University.

New Members

Two new members have accepted to serve on the CSAM Advisory Council. They are Dr. David Bergstrom and Mr. Patrick DenBoer.

Dr. David Bergstrom is Senior Vice President of Pharmaceutical Technologies and Services of Cardinal Health, Inc. in Somerset NJ. Cardinal Health, headquartered in Ohio, is a global company serving the health-care industry with a broad portfolio of products and services. The company manufactures, packages and distributes pharmaceuticals and medical supplies, offers a range of clinical services and develops automation products that improve the management and delivery of supplies and medication for hospitals, physician offices and pharmacies.

Mr. Patrick DenBoer is founder, President and CEO of Integrated Pharma Technologies/iPT and Chief Executive Officer of CSSC, Inc. in Morristown, NJ. iPT is dedicated to providing Prescription Drug Marketing Act solutions that range from rep training and certification to practitioner validation to sample tracking to full reconciliation support to pharmaceutical companies. CSSC is a full service regulatory compliance services and consulting firm.

PRI To Host 2nd Symposium

The second Passaic River Symposium will be held on Friday, October 13, 2006, at Montclair State University’s Conference Center. The Symposium is collaboration between the Passaic River Institute of Montclair State University and the Hudson-Delaware Chapter of the Society for Environmental Toxicology and Chemistry (SETAC). The "Lower Passaic River Restoration Project" will be prominently featured in the 2006 Symposium. Projects and issues in the upper River and tributary watersheds will also be examined. Speakers will include heads of NY and NJ regional USEPA, DOT, DEP, and US Army Corps of Engineers NY district office. Congressman William Pascrell, Jr., an advocate of the Passaic River, will deliver the keynote address.

Further information, agenda and registration information are available at http://pages.csam.montclair.edu/pri/symposium2006 or by contacting Dr. Kirk R. Barrett, Director of the Passaic River Institute, Montclair State University at kirk.barrett@montclair.edu or Ms. Lisa A. Baron, (HDC-SETAC Secretary), Project Manager, Office of Maritime Resources/NJDOT at lisa.baron@dot.state.nj.us.

* * *
An Interview With Amal Johnson
By Maureen McGuire, Office of Development

“My success story could only happen in the United States,” insists Jordanian-born Amal Malouf Johnson. “We do not appreciate what we have to offer in this country and we have a responsibility to guard this country and this freedom for others in the future.”

It is easy to hear the same passion in Amal Johnson’s voice today that was there when this courageous seventeen-year old girl left her Lebanese parents residing in Ramala on the West Bank of Jerusalem to travel alone to America. Amal accepted the invitation of a distant cousin living in the U.S. to come to America to attend college and that college was Montclair State. Wanting at the time to very much fit in, she longed to be blonde and blue-eyed when she first enrolled at Montclair State College. Holding three to four part-time jobs, she completed her studies in three years time with a B.A. in mathematics and a minor in physics in 1973.

Math came easy to Amal, so as she adjusted to the demanding challenges of a new country, new language and new way of living, she chose an academic path that would not pose additional challenges. It was in the mathematics department that Amal met Professor Max Sobel, whom she recalls as a great teacher, mentor, coach and friend.

Amal believes that professors are part of a student’s critical path to success. “I will attribute my success in life to Professor Sobel as much as to anyone else or any other experience. He instilled in me (and the other students) a confidence that the sky is the limit and that we were special.”

Retired Professor Sobel remembers Amal to this day as a “young, bright, ambitious student with a great deal of potential… who was also thoughtful and considerate.”

Mentoring goes hand-in-hand with teaching and is also a key ingredient of success for a student. Another person Amal credits with building her confidence and making her feel part of the American experience is Evelyn Murphy, who then worked in the A.V. Center on campus. “Evelyn opened her heart and home to me, helping me find work and to feel like I was part of a family here at Montclair State.”

Upon graduation, Amal taught high school math in West Orange, married her distant cousin and began graduate work at Stevens Institute of Technology in computer science. Following a trip to San Francisco, she and her husband decided that they would like to settle there, and they moved to San Francisco. Amal began her computer career as a programmer with Bank of America and then as a systems engineer with IBM. She advanced within IBM during the course of sixteen years always receiving outstanding reviews. Amal was selected to serve as an assistant to the Chairman of IBM for one year, which gave her great exposure to top management.

Although her career took a departure from mathematics, she was able to apply her Montclair State education to her work through analytical thinking and problem solving. Amal credits part of her success with being in the right place at the right time. Her career with IBM provided excellent training, including management training which served her well as she moved on to become a manager in Silicon Valley Field Operation. Following a number of increasingly challenging executive management positions with software companies and venture partnerships, Amal ultimately became the CEO of MarketTools, Inc., a very successful technology company located in San Francisco, California.

“Success for women comes with a price and executive women working at high level positions need to have in place services and a supportive family to ensure their ability to work at a fast and often grueling pace,” Amal shares.

Amal’s success story exemplifies one we are beginning to hear repeated regarding the women graduates of CSAM. We recognize her extraordinary path to success, her dedicated undergraduate years at MSU and the place she holds today among leading female executives in the field of technology. The College of Science and Mathematics at Montclair State University salutes Amal Johnson.

* * *

Convocation 2006

On May 15th, CSAM celebrated the achievement of its bachelor degree recipients at the annual Convocation, a ceremony held on campus before Commencement. Over 700 family and friends cheered the 250 students as student speaker Matthew Doherty urged his classmates to “not fear the uncertainty because it is what makes us all significant.”

During the ceremony, the second consecutive honorary Sc.D was bestowed upon Dr. Sylvia A. Earle. Dr. Earle is a Marine Biologist and an advocate of marine conservation and exploration. She is Chief Scientist of the National Oceanographic and Atmospheric Administration and founder of Deep Ocean Exploration and Research.

* * *
On July 5, 2006, I stepped outside an aircraft at the airport of Punta Cana (Dominican Republic) and experienced excruciating heat and humidity. The uneasiness of the weather, however, was momentary since soon I was about to embrace the breathtaking white beach, mesmerizing lagoons, peace and calmness in the air and diverse flora of Punta Cana. The unparallel beauty of Punta Cana made me ready to gain maximum experience and knowledge out of the 2006 Summer Minority Health and Health Disparity International Research Training (MHIRT) program.

I along with four other undergraduates from MSU had the opportunity to participate in the highly selective 2006 MHIRT program. Funded through a National Institute of Health (NIH) grant of Dr. Eloy Rodriguez of Cornell University, the program was organized in the Dominican Republic (DR). This five week long program focused on training undergraduates to become good researchers by teaching them to respect the values and knowledge of indigenous people. The program consisted of ethno botany, plant biochemistry, antimicrobial assay, exposure to clinics of the DR, lectures from U.S. professors and lectures on infectious diseases by professionals at the National Center for Control of Tropical Diseases (CENCET). The MHIRT summer program was conducted at three different locations in the DR Punta Cana, Cachote and Santo Domingo. Ethno botany and plants collection were conducted in Punta Cana and Cachote. Plant biochemistry along with a visit to medical clinic and to CENCET were performed in Santo Domingo.

In Santo Domingo, we had occasion to explore several clinics in Santo Domingo. Meanwhile, I seized the opportunity and decided to shadow one of the doctors at a diabetes clinic called Instituto Nacional de Diabetes, Endocrinología y Nutrición (INDEN). Initially, my objective was to observe doctor-patient interaction and analyze case-based prescription drugs. However, after seeing patients with fasting blood glucose level in the range of 96 mg/dl to 426 mg/dl and acknowledging their reluctance to comply with doctors’ instruction, my objective diverted towards understanding the reasons behind high glucose level. Interviews conducted with some of the patients at INDEN helped me conclude that in addition to having low financial status, their ignorance of the causes and effects of diabetes make them reluctant to obey doctors’ instructions. Also, the higher influx of patients and limited medical resources hinder proper doctor-patient interaction and education. I believe that there is a higher potential in decreasing the number of diabetic patients in DR through increasing patients’ awareness about diabetes, focusing on preventive care and providing more medicinal resources to doctors.

In order to carry out the ethno-botanical work and plant collection, we set out to various sites in Punta Cana and Cachote. Plants were collected in Punta Cana with the help of information provided by the local botanists Alberto Veloz and Ronaldo Sano. Plants were collected in Cachote based on the information obtained form interviews with the local Indians. Interviews were mainly focused on looking into diseases that were prevalent in that region, people’s knowledge about medicinal plants, women’s health and socioeconomy. Those interviews and site visits revealed that people’s knowledge of plants and natural products is based on the common diseases and ailment present in their area. Knowledge that the people of Cachote’s cloud forest had regarding plants and their medicinal use is incredible. Village elders as well as children had knowledge of local plants and their use. People of Cachote might not have proper education regarding plants but their knowledge was equal to that of a trained botanist! My interest in natural product became even stronger after meeting eighty year old Don Frank, who led us on our six hour long hike, and a fifty year old woman who has never visited a doctor but relied on her knowledge of plants instead. People of Cachote remind me of what Sir Francis Bacon said about nature "This is the foundation of all. We are not to imagine or suppose, but to discover, what nature does or may be made to do."

The experience in DR was very enlightening. I learned something new every moment whether it was while watching folk dance of Tainos and Haiti, talking to the children of Cachote, interviewing people of DR or interacting with fellow students from Cornell U., Texas Wesleyan U. and California State University.

I would like to express my gratitude to all who made my participation in the 2006 MHIRT possible and highly recommend this experience.
**CSAM Annual Awards**

Dean Robert S. Prezant presented end of year awards to CSAM faculty, staff and students for their exemplary research, teaching and service during the 2005-06 academic year. The awards were given at a ceremony held on May 8, 2006, in the Sokol Seminar Room.

The faculty and staff awardees were selected by a committee composed of department chairs and directors.

CSAM Faculty Awards were given to Associate Professor James J. Campanella, Biology and Molecular Biology, for Outstanding Research; Professor Evan Maletsky, Mathematical Sciences, for Outstanding Teaching; and Professor Judith Shillcock, Biology and Molecular Biology, for Outstanding Service.

R. Marie Washington, Academic Advisor/Counselor, Health Careers Program, received the Outstanding Professional Staff Service Award and Raquel S. Peterson, Dean’s Office, the Outstanding Administrative Staff Award.

For the first time, graduate student awardees were also named and recognized at the CSAM annual awards celebration. Claudio M. Fernandez was named Outstanding Graduate Student in Biology, Mayuko Yokota in Chemistry, Shilpa Venugopal in Computer Science, Christin Elaine Cifelli in Geoscience, Gina Quinones in Environmental Studies, Amy Fiorillo in Mathematics, Nicole Cordasco in Statistics, and Jessica Mitchell in Teaching Middle Grades Mathematics.

Yuri Tirtulus Jadotte, a Biology senior, received the Outstanding Senior Student Research.

* * *

**2006 Sokol Awards Presented**

The annual Margaret and Herman Sokol Awards were presented to CSAM faculty and students on May 9, 2006, by Provost Richard Lynde and Dean Robert Prezant.

Earth & Environmental Studies graduate student, Charles Chris Kontos, (Dr. N. Smith-Sebasto, mentor) received the Graduate Summer Research Fellowship to continue his field research for the master's thesis.

Recognizing the need for students to broaden their boundaries when studying the sciences, the International Graduate Study and Research Award was established in 1994. Michael DaSilva (Dr. M. Gorring, mentor) is the recipient of this year's award. He will use the funds to conduct research in Patagonia.

The oldest award, the Graduate Fellowship in Science, has been active since 1984. Graduating senior Chemistry major Keri A. Flanagan (Drs. M. Kasner and J. Berger, mentors) is the recipient of the 2006 award. She will pursue doctoral studies at UNC–Chapel Hill.

And, the Faculty Fellow Award, which Mrs. Sokol began in 1991, was presented to Dr. Huan Feng from the department of Earth and Environmental Studies.

* * *

The CSAM Newsletter is published semi-annually by the College of Science and Mathematics

Robert S. Prezant, Dean
Michael Kruse, Associate Dean
Jinan Jaber, Assistant Dean & Editor
Raquel Peterson, Administrative Asst.
Tyra Addison, Secretary & Layout/Design

The CSAM Newsletter is distributed to MSU’s administrators and CSAM’s faculty, students and alumni. Back issues are available at http://www.montclair.edu/page/csam
Send your comments and news to CSAM at addisont@mail.montclair.edu
SPIE Grant Awarded

By Stefan A. Robila, Department of Computer Science

The Department of Computer Science was selected as 2006 SPIE grant recipient. The funds from the grant will be used to support the development of an innovative course focused on pattern discovery in High Quality Data Sets to be offered in Fall 2006. High Quality refers to the amount of information available in the data. Examples of high quality characteristics are high spatial or temporal resolution in sequences of images, or multiple sources of information for the same feature. Such data sets are characterized by significant data sizes and often significant correlation and require changes in the design of pattern recognition methods. The course is open to upper level undergraduate students as well as graduate students with backgrounds in computer science, as well in other sciences.

According to the official press release, SPIE – The International Society for Optical Engineering awards scholarships and grants annually to SPIE student members and to educational institutions. The Scholarship Committee, chaired by Sandra Biedron of Argonne National Laboratory, selected the Department of Computer Science, Montclair State University for its potential Long-range contribution to the field of optics and photonics. While overall in 2006, SPIE will award 108 scholarships to individual students and 21 grants to educational institutions, the grant awarded to Montclair State University is one of the twelve received by North American schools. The other awardees include College of Charleston, Colorado School of Mines, New Mexico State University, Rice University, University of Arizona, University of North Carolina/Chapel Hill, University of Rochester and Washington University School of Medicine.

This is the third consecutive year that Montclair State University receives a SPIE educational grant. All three grants were coordinated by the Center of Imaging and Optics (CIO) and have Dr. Stefan Robila as Principal Investigator. CIO groups several Computer Science faculty with research interests in imaging, optics, and graphics. Founded in 2004 CIO has established itself as a viable entity in the region through the organization of an imaging workshop, hosting guest lectures, and attracting external support.

* * *

MobillTy – Using Tablet PCs in the IT

By Stefan A. Robila, John Jenq, Dorothy Deremer, Department of Computer Science

Hewlett Packard has selected Montclair State University through the Computer Science Department as a recipient of a 2006 HP Technology for Teaching Grant. The MSU grant proposal integrates innovative uses of mobile technology for transforming and improving teaching and learning of information technology. With over 300 applications MSU was one of the 40 nationwide colleges and universities, and the only higher education institution in New Jersey, selected by HP for funding. During the academic year beginning in September, grant funded projects will impact more than 4,000 students. HP’s funding for the MSU project is approximately $75,000 and includes a mobile classroom of wireless Tablet PCs, computer data project and printer, conference travel support and faculty stipends. Dr. Stefan Robila is the PI with Drs. John Jenq and Dorothy Deremer as Co-PIs of the MSU project team.

HP Technology for Teaching grant recipients use HP wireless Tablet PC technology to enhance learning in engineering, math, science, computer science or business courses. The MSU project will impact three required core information technology courses that focus on web applications and information security. Through a traditional lecture format possibly enhanced with Smartboard technology students currently learn to analyze, design and develop solutions for IT problems. With the project’s tablet PCs, however, the instructor will be able to naturally increase active learning and collaboration among students and instructor. Specially, the instructor will revise the course content and topic sequencing and create new examples, assignments and projects based on the tablet PCs interactive functionality, e.g. the ease of adding student questions/comments to classroom presentations.

Because of Tablet PCs facility to support student input that will result in new organizations of courses, instructor and class management efficiency will improve. The modified courses will be designed and delivered by Drs. Robila and Jenq and Dr. Deremer will serve as program evaluator.

Hewlett Packard, a technology company operating in more than 170 countries worldwide, supports its commitment to the transformation of teaching and learning through technology with programs such as the HP Technology for Teaching Grant Initiative. Bess Stephens, VP for Philanthropy and Education, says that when instructors apply especially mobile technology in a meaningful way in the classroom, they can increase student achievement, interest, and preparation for greater success in the competitive global workforce.

The Computer Science Department at MSU initiated the B.S. in Information Technology in fall 2005 as a complement to its well established B.S. in Computer Science. The Computer Science major emphasizes the creation and deployment of new software, new ways to use computers, and the best ways for maximizing computer speed and minimizing computer space in solving problems. On the other hand the new Information Technology major trains students to meet the computing needs of government, educational institutions, business, healthcare systems, and organizations in general. IT student experiences with the mobile technology of the HP grant will not only increase their IT learning at MSU but also expand their IT toolbox as preparation for IT careers in industry.

* * *
MSU Announces Teaching Excellence Awards Competition

Education and Human Services (CEHS) and College of Science and Mathematics (CSAM) have collaboratively developed a program to recognize excellent science and mathematics teaching in Grades 5 through 8 to draw attention to exemplary instruction with funding from Roche Foundation. The program will consist of a juried selection process culminating in a poster session and awards dinner for winning teachers and their principals.

An application may be completed and submitted on line at http://frontpage.montclair.edu/CSAM/Roche.htm, no later than March 15, 2007. Applications will consist of a narrative description of the goals, strategies, and outcomes of creative and effective approaches to science or mathematics education taking place in the classroom. The narrative should describe innovative instructional methodology and how it is increasing learning through:
- Manipulative;
- Addressing different learning styles;
- Modeling of real-life applications;
- Use of technology (i.e., computer, graphing calculator, microscope, thermometer);
- Measurable student outcomes; and
- Other innovative approaches and exercises.

A signed letter of support from the school principal or mathematics science supervisor in the district is required with the application.

An evaluation team will review the applications and notify the awardees in both math and science by April 15, 2007. Winners will be invited to attend an open poster session and awards dinner at MSU on May 31, 2007. Winners may invite two guests, including the school principal. The poster will be a standard, trifold tabletop display (3’ high with the center section 2’ wide and each side panel 1’ wide) and will mirror the narrative on the application. A $500 prize will be given to each winner for the purchase of classroom materials. For questions contact: mcguirema@mail.montclair.edu.

* * *

New Faculty/Staff

CSAM extends a welcome to our new faculty and staff:

Dr. David Konas, Assistant Professor, Department of Chemistry and Biochemistry

Dr. Mary Egan, Assistant Professor, Department of Biology and Molecular Biology

Dr. Jing Peng, Associate Professor, Department of Computer Science

Dr. David Trubatch, Assistant Professor, Department of Mathematical Sciences

Dr. Nicholas Smith-Sebasto, Associate Professor, Department of Earth and Environmental Studies (Formerly with MSU’ NJSOC)

Ms. Patricia D’Emidio, Math Lab Coordinator, Department of Mathematical Sciences

* * *

Fall Sokol Science Lecture

Nicholas Wade, Science Writer for the New York Times and author will deliver the Fall 2006 Margaret and Herman Sokol Science Lecture on November 1, 2006, at 8 p.m. titled “Human Evolution and Progress: How DNA is Enabling Recovery of the Deep Human Past.”

Mr. Wade has reported on science for the New York Times for many years, and before that worked on Nature and Science, two leading scientific journals. He has also written several books, including Betrayers of the Truth, a study of fraud in science, and The Nobel Duel, the story of two scientists’ race to win the Nobel prize. In his most recent book, Before the Dawn, Mr. Wade demonstrates how human evolution did not stop, as widely believed, but has continued until present day. He traces the development of language, religion, trade and warfare, and cites recent evolutionary changes such as today’s human race, resistance to new diseases, and acquisition of new cognitive skills.

Tickets are free to MSU community ($10.00 others) and available at the Kasser Theater Box Office (973) 655-5112.

* * *

CSAM Receives Scientific Instruments

Kevin Olson (Department of Chemistry and Biochemistry) continues to secure donated instruments for the department from area companies. A Laboratory Robot (Packard Instruments) used for sample preparation in biochemical assays was recently received from Becton Dickenson. And, two automated pipetting devices, also used for sample handling in biochemical assays were donated by Millennium Pharmaceuticals. Millennium also donated several thousand dollars worth of biochemistry laboratory supplies and consumables.

* * *

Visit us at www.montclair.edu/page/csam
### Publications


**Kight, S.L., J.J. Gaynor** and S. Adams.


**Presentations**

In August, Dr. John M. Berger (Chemistry & Biochemistry) presented “Hematin Polymerization Inhibition of Plant Extracts” at the annual meeting of the American Society of Pharmacognosy in Arlington, VA.

Dr. Paul Bologna’s ( Biology & Molecular Biology) students presented the following at the 2006 New Jersey Academy of Sciences Meeting:

- “Assessment of Fish & Invertebrate Abundance in Mangrove and Seagrass Habitats in St. John, USVI” by Charles Kontos and Daniel Ward;
- “A Comparative Study of Seagrass (Thalassia testudinum) and Mangrove (Rhizophora mangle) Community Structure in St. John, USVI” by Rita Papagian, Suzann Regetz, Cathleen Dale, Taryn Townsend, Daniel Ward, Charles Kontos, Erik Rudorfer, and Marie Gizaris;
- “Molecular Evidence Suggests a Long Island Origin for the Present Population of Bay Scallops in Barnegat Bay” by Liliana E.J. Kim (with Dr. James Campanella);
- “Effects of Various Macroalgal Loading on Plant and Animal Inhabitants of Eelgrass Zostera marina” by Dennis Muro, Roberta DeAndrade, Suzann Regetz, Rita Papagian and John Clark;
- “Sediment Size Structure and Organic Carbon Content of Rhizophora mangle and Thalassia testudinum Beds in St. John, USVI” by Cathleen Dale, Suzann Regetz, Rita Papagian, Daniel Ward and Taryn Townsend; and

Dr. Huan Feng (Earth & Environmental Studies) and colleagues presented the following: “Microstructure of Methane Hydrate Sediments” at the CAARI 2006 19th International Conference on the Application of Accelerators in Research and conference in Fort Worth, TX.; “Total Maximum Daily Loads (TMDLs), Water Quality Trading/Banking, and Adaptive Management in New Jersey, Happy Together?” at the AWRA 2006 Summer Specialty Conference Adaptive Management and Water Resources in Missoula, MT.; “A Proposal for Innovative Sediment Decontamination Technologies Using A Cross Program – Cross Media Business Model” at the WEDA XXVI & TAMU 38 / Dredging: Creating A Strong Economy conference in San Diego, CA.; and “Innovative Contaminated Sediment Decontamination Technologies and Their Application to Environmental Sustainability” at the BOSICON 2006 – International Conference on the Remediation of Polluted Sites in Rome, IT.

Dr. Sandra Pascshier (Earth & Environmental Studies) presented a paper titled “Oligocene-Miocene Antarctic Continental Weathering Trend and Ice-Volume Variations from Sediment Records in the Ross Sea Area” at the 2nd SCAR meeting “and Antarctica in the Earth System” in July in Hobart, Tasmania. While in Hobart, she attended a meeting of the research steering committee of ACE (Antarctic Climate Evolution). Dr. Pascshier also presented a co-authored a paper (with M.G. Kleinmans) titled "Stability of megaripples in the Dutch coastal area, southern North Sea, under storm and fairweather conditions" at the April Geological Society of America Northeastern section meeting in Harrisburg, PA.

Dr. Jeffrey H. Toney (Chemistry & Biochemistry) presented an invited seminar, “Metallo-lactamases and Inhibitors: Combating Antibiotic Resistance” at Yale U. and George Washington U.

**Kudos**

Drs. Paul Bologna and James Campanella ( Biology & Molecular Biology) were awarded $77,662 NJ Sea Grant for 2006-2008 for “Assessing the Population Genetic Structure of Eelgrass (Zostera marina): Implications for Management and Restoration of a Coastal Habitat.” And, Bologna with Dr. Kirk Barrett (PRI) received a $46,668 3-year grant for “Assessing Invasive Plant Species In Floodplain Wetlands Of The Upper Passaic River And Initiating A Geospatial Database Of Invasive Plants In New Jersey” from the EPA.

Anthony Bonasissa, a Geography-Urban Studies major, was our first Landsberger Foundation Scholarship recipient ($2500). This award is limited to students who had graduated from an Essex County high school. Anthony is a graduate of Cedar Grove H.S.
Drs. S. Brachfeld, A. de Picciotto, J. Farnum, M. Gorring and S. Passchier, were awarded a 3 year $264,579 grant by National Science Foundation, Major Research Instrumentation, Earth Sciences Division for the “Acquisition of a Scanning Electron Microscope at MSU.”

Dr. S. Brachfeld also received a $10,511 grant for ‘Geomagnetic Paleointensity Dating and Environmental Magnetism of the McMurdo Ice Shelf Record’ from the Antarctic Drilling Program (ANDRILL).

The American Chemical Society Petroleum Research Fund awarded Dr. Saliya de Silva (Chemistry & Biochemistry) $50,000 for 3 years to conduct research on “The Design and Study of Molecular-Scale Photonic Devices and Green Chemistry Approaches Towards Their Synthesis.”

Dr. Charles Du (Biology & Molecular Biology) has been appointed as editor of the International Journal of Plant Genomics for 2006 -2009.

A paper by Science Informatics students T. Fatima, J. Marra, R. Realaubit, G. Schegolev and faculty mentor K. Herbert titled “Automated Gene Processing and Exon Sequence Retrieval” was the winner of a best student paper award at the 11th Annual ACM SIGCSE International Conference on Innovation and Technology in Computer Science Education (ITiCSE) in Bologna, Italy.

Dr. Jeffrey H. Toney (Chemistry & Biochemistry) received a two-year $44,176 (with $18,000 MSU matching funds) award from the Research Corporation Cottrell College Science for “An Interdisciplinary Study of the Beneficial Effects of Peanuts in Preventing Onset of Type 2 Diabetes.”

Becky West, a Geography Environmental Studies major, received an Alumni Association Non-Traditional Student scholarship ($1000). Becky, a single mom and Montclair resident, been interning with Montclair Township and conduction doing very interesting studies on Pearl Brook.

* * *

Calendar of Events

September 20, 2006
Professional Speakers Series
Ms. Irene Dec, VP & Head of International Operating Management, Prudential Financial
6:30 p.m. - Sokol Seminar Room

October 12, 2006
CSAM Seminar in Earth and Environmental Studies
Dr. Harold Tobin, New Mexico Institute of Mining and Technology “Getting inside the plate boundary: Subduction Zone Megathrusts in IODP”
4:00 p.m. - Sokol Seminar Room

October 13, 2006
Passaic River Institute Symposium
8:00 a.m.-7:00 p.m.
University Conference Center

October 19, 2006
CSAM Seminar in Chemistry & Biochemistry
Dr. Ulf Dolling, (Retired) Executive Director Merck Research Laboratories
"From Bench to Manufacturing Process: Aprepitant NK1 Receptor Antagonist"
4:00 p.m. - Sokol Seminar Room

November 2, 2006
CSAM Seminar in Science Informatics
Dr. Karen Thum, New York University
“An integrated genetic, genomic and systems approach defines gene networks regulated by the interaction of light and carbon signaling pathways in Arabidopsis Thaliana”
4:00 p.m. - Sokol Seminar Room

November 9, 2006
CSAM Seminar in Biology & Molecular Biology
Dr. Jennifer Fox, Drew University
“Origin and Significance of Variations in Populations of Water Fleas Over Space and Time”
4:00 p.m. - Sokol Seminar Room

November 16, 2006
CSAM Seminar in Computer Science
Dr. Xiannong Meng, Bucknell University
“A Comparative Study of Performance Measures for Information Retrieval Systems”
4:00 p.m. - Sokol Seminar Room

December 4, 2006
Professional Speakers Series
Mr. Dennis Petrocelli, Sr. Vice President Matrix New World Engineer
6:30 p.m. - Sokol Seminar Room

March 29, 2007
Margaret & Herman Sokol Science Lecture
Mr. Robert Hazen
“Genesis: The Scientific Quest for Life’s Origin”
8:00 p.m. - Kasser Theater