MONTCLAIR STATE UNIVERSITY

Spring 2012

CSAM NEWSLETTER

College of Science and Mathematics

A Spectrum of Possibilities

In this Issue

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

Robert S. Prezant, Dean
Jinan Jaber, Associate Dean & Editor
Lynn F. Schneemeyer, Associate Dean
Raquel Peterson, Administrative Assistant
Susan Brunda, Secretarial Assistant

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Send your comments and news to
jaberj@mail.montclair.edu

BOT Approves New Center for Quantitative Obesity Research

by Diana Thomas, Mathematical Sciences

The 2011 National Institutes of Health Obesity Research strategic plan states that: "New diet and physical activity measures with improved accuracy, precision, reliability, usability, flexibility, and sensitivity to change are needed, especially in the areas of biomarkers, tools for bench to bedside translational research, fitness and functional status, thermogenesis, imaging, body composition, objective measurement systems, environment, mathematical computational and systems modeling, advanced statistical and mathematical approaches, new genetics technology, and bioinformatics and data standardization. Given the complexity of factors that influence obesity, new systems methodologies also need to be employed in conducting next-generation obesity research."

In response to this interdisciplinary research opportunity, the College of Science and Mathematics has opened the Center for Quantitative Obesity Research to offer numerous strategies to integrate quantitative methodology with medical science. Center activities are supported through recent funding from the National Institutes of Health.

The mission of the Montclair State University Center for Quantitative Obesity Research is to facilitate the application of quantitative methods that promote collaborative interdisciplinary research related to obesity related health issues. The Center will work closely with biomedical research institutions and external industries to advance understanding of the underlying physiological mechanisms behind obesity related illnesses and ultimately translate research findings to clinical applications that improve the health of individual patients.

Obesity, like many health problems faced by our world today, is a problem that requires collaboration between multiple disciplines. To prepare students for the interdisciplinary future of medical science, the Center trains Montclair State University students from across disciplines to work collaboratively on clinical trials and projects related to obesity. Research on body weight naturally ties together disciplines often thought of by students as separate entities through personal interest. “Being part of Center activities will give me a chance to learn more about personal health and fitness, through research that I can be involved in,” states Biology undergraduate Mahzabin Tibbi.

In an effort to understand and control the current obesity epidemic, large scale clinical experiments have collected large amounts of data which needs to be reduced, analyzed, and applied. To access data and understand questions that are central to the obesity epidemic, the Center works closely with several leading biomedical research institutions specializing in human body weight regulation experiments. The Center has established ties with the Pennington Biomedical Re-

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From Dean Prezant

There is no shortage of critical issues facing our ever-shrinking planet. Responding to national and international challenges and efforts to keep in front of these, where possible, remains a major goal within the College of Science and Mathematics. Our current CSAM Newsletter reflects CSAM priorities and efforts to keep apace of growing problems that are confronting our society. Lead by Dr. Diana Thomas, CSAM is now home to the Center for Quantitative Obesity Research, a program with scholarship funded by NIH and dedicated to examining and helping to control issues compromising the health of an increasing number of people and in turn impacting our economy. The latter is a new venture within CSAM but our college has always been a leader in environmental studies and now we hope to take the lead in educating students in monitoring and better regulating contamination through a new certificate program in environmental forensics. And, in our efforts to help reduce environmental degradation, our NJ School of Conservation now has a functioning 100,000-watt solar farm. In all of this and with the recognition that mathematical skills are critical to the success of all MSU students, our new Red Hawk Mathematics Learning Center is "open for business". This new facility, located in the newly refurbished Schmidt Hall, offers students an interactive, computer-aided learning experience. But perhaps most telling of the aspirations and priorities within our College (and a major point of pride), in January 2012 a group of 22 CSAM students headed to Honduras as part of the Global Medical Brigades. Trained and primed, these students chose to spend part of their winter break not skiing or working to help their own fiscal health but instead helping others by participating in a mobile clinic set up in a small village in this impoverished nation. The mindset of this dedicated team of students reflects the altruistic attitude we'd love to see invested in all of our MSU students. Participant Crystabel Polanco, summarizes best what our students got out of this venture: the gratitude of the residents, she says, "was a priceless gift every brigader received".

In a Presidential election year, when words flow easily and tensions tend to rise, it is important to reflect on what a college education means to our students. If nothing else there are two essential "take-aways" that I believe every college should instill in students. First on the list, the seemingly inevitable but unendingly important, critical thinking. Students must learn to dissect the constant flow of verbiage flowing in the public venue and tease out the truth from the merely bombastic and then insure they probe deeply enough to insure that their “conclusions” are sound. Programs mentioned above are designed to encourage students to think deeply about what they are learning and often how the microcosm of each individual life reflects more broadly upon the global community, be it in how we treat our very small planet or how we treat each other. Secondly, despite any disciplinary, cultural or financial differences, we are all occupying the same earth and what we each do will impact those around us…the “butterfly effect”. We're never sure how far our individual "ripples" go. A single student trained today in mathematics, alternative energy, environmental monitoring, or health issues related to nutrition and weight regulation, can tomorrow help thousands. And can we ever know at the start what the life touched in that small village in Honduras will mean to the future of planet Earth. ♦

New Graduate Certificate in Environmental Forensics

CSAM will offer New Jersey’s first graduate certificate program in Environmental Forensics (EF) beginning Fall 2012. The 15-credit hour graduate certificate program is designed for environmental consultants, engineers, attorneys, and technical specialists who work at the intersection of environmental science and law. The core objective of this new program is to provide students with the analytical, interpretive, and communication skills needed to enter and advance within the EF profession. The certificate program’s educational activities will complement ongoing faculty EF research.

Program participants will learn the chemical, physical, and statistical techniques to investigate the sources, timing and behavior of contaminants in the environment, and the potentially responsible party or parties and the legal and regulatory framework for environmental investigations.

Due to the hands-on nature of the course material, it will be campus-based. All courses will be scheduled Monday through Thursday evenings to permit attendance by students working off-campus during the day. The curriculum comprises five graduate courses. For more information, contact Dr. Michael Kruge at 973.655.7902 or krugem@montclair.edu. ♦

NJSOC Solar Farm Is On-line

by William Thomas, New Jersey School of Conservation

The New Jersey School of Conservation (NJSOC) – the University's environmental education and field research campus – was awarded a $2.65 million grant by the New Jersey Board of Public Utilities (NJBPU) as part of a competitive grant program for innovative energy efficiency and renewable energy projects at state facilities. The grant originally allowed for the installation of a 300,000-watt solar farm that would have met all of the School's electricity needs as well as generating excess power for use by local utilities. However, deficiencies in the local power grid have made installation of the 300,000-watt system impossible. Instead, the project has been split, with a 100,000-watt system installed at the NJSOC and the remaining funds to be invested in a 200,000-watt system about to be completed on MSU's main campus.

The NJSOC solar farm, which became fully operational on January 26, is comprised of five hundred 200-watt modules on a ½ acre tract site within the NJSOC. The solar arrays feed into a bank of Solectric inverters that convert the DC electricity into AC electricity and feed into the facility's main circuit breaker panels. Rather than clear the forest for this project, the NJSOC received permission from NJDEP to build the project on land already cleared for the waste water treatment plant, further reducing the projects "footprint" and continuing the history of innovation and leadership at the NJSOC.

"We anticipate that the "solar farm" will serve as a sustainability showcase and generate high interest in solar energy among the over 9,000 students and teachers that visit the NJSOC each year," said Dr. William H. Thomas, director of the NJSOC. "It will promote the training of undergraduate and graduate students, expand the number of on-site courses offered by MSU and create research opportunities in keeping with regional priorities for open space, clean energy generation and biodiversity in the most densely populated state in the nation," Thomas added.

In addition to energy cost savings, the U.S. EPA estimates the combination of the NJSOC & MSU's new clean electricity solar system will reduce atmospheric emissions of 3,938 tons of CO2, 22,859 tons of NOx, and 14,730 pounds of SO2 over a 30-year period.

"The NJSOC's solar farm presents Montclair State with a unique opportunity to apply state of the art technology to renewable energy practices, attract and educate new and existing students for potential career opportunities in this sector and contribute to a sustainable New Jersey," said Dr. Michael P. Weinstein, director of the University's PSEG Institute for Sustainability Studies. ♦

The NJSOC Develops an On-Site Laboratory

by William Thomas, New Jersey School of Conservation

A significant impediment to research at NJSOC has been its lack of modern research laboratory facilities. Over the years, CSAM faculty have expressed a desire to conduct research at the School, but were limited in the kinds of research projects, laboratory activities and courses they could engage in.

To address these problems, NJSOC has renovated and equipped classrooms to provide a modern laboratory. The 2,000 sq. ft. space contains both a wet lab and molecular lab space. It has separate storage and lavatory facilities. It features both a chemical and laminar hoods, drying oven and a growing inventory of equipment for field sampling.

With the support of MSU, we are developing a more sophisticated laboratory facility suitable for on-site technique-driven work. The lab space is a big step in overcoming the NJSOC's previous limitations to research training and education. It will facilitate the work of our faculty and enhance the education of MSU students. Those currently engaged in the NSF funded Research Experience for Undergraduates (REU) and the Louis Stokes Alliances for Minority Participation (LSAMP) will find that their experience will be greatly enhanced.

The development of a laboratory at the NJSOC represents the next step in this School's evolution as CSAM's field campus and MSU's growth as a research university. It is an investment in our students and faculty that we expect to pay dividends for years to come. ♦

Advisory Council — Member Profile

(Editor's note: The following is part of a series which features a member of the CSAM Advisory Council.)

Paul Rabinovitch started his unique environmental career in the northern forests of Canada. As a tree-planter and project foreman in the reforestation industry, he personally planted over 750,000 trees and oversaw projects that planted many millions more. This early formative experience instilled a deeply held environmental ethic that has motivated a continuous search for sustainable solutions. Mr. Rabinovitch is a recognized pioneer in conservation and sustainability, an acknowledged thought leader, frequent public speaker, and noted for balancing a well honed business approach with a focus on capturing a sustainable future.

Mr. Rabinovitch received his professional training from the University of Pennsylvania; where he holds a master's degree in a unique program that combined environmental and urban planning courses at the School of Planning with real estate finance coursework at the Wharton Real Estate Program. His education formed the intellectual and technical basis for an enduring pursuit of solutions that bridge the disciplines of real estate, design, resource conservation and finance.

For over a decade Mr. Rabinovitch worked at The Nature Conservancy and oversaw the protection of thousands of acres, the creation of over $800 million in publicly financed conservation programs, and the initiation of one of the country's largest marine shellfish recovery projects. Mr. Rabinovitch is currently leading a diverse array of companies that focus on for-profit approaches to sustainability.

As founder of Terracycle Investments, Mr. Rabinovitch leads a pioneering, socially-conscious real estate firm that specializes in sustainable building, brownfield redevelopment, solar development, and the sustainable redevelopment of urban/downtown sites. Mr. Rabinovitch was recognized in 2008 as a "Best Young Developer" by NJ Real Estate Magazine for his work at Terracycle Investments.

As a Principal and the Executive Vice President of Canus Corp, an iconic Philadelphia urban redevelopment firm noted for neighborhood revitalization of transit oriented sites, Mr. Rabinovitch is on the forefront of developing pioneering approaches to acquiring and retrofitting existing multifamily buildings into energy efficient buildings. Through Buckman, Buckman and Reid, Mr. Rabinovitch is offering financial investment opportunities in securities, socially conscious investments, and private placements to accredited investors, family offices, and institutions. In addition; Mr. Rabinovitch consults with the Investment Banking division in identifying and placing banking opportunities in the Sustainable and Clean Tech space.

Mr. Rabinovitch lives in Montclair, NJ with his wife and two children. ♦

Creating Your Own Business: An Entrepreneurship Workshop

by Gennae Hinson, Career Services

Entrepreneurship offers an important professional path to CSAM students. As technological advances continue and impact the future, starting a business can be an exciting and rewarding experience and one that allows the entrepreneur to be his/her own boss. According to the United States Small Business Association, small businesses represent 99.7 percent of all employer firms and employ just over half of all private sector employees. Of interest then is how does one start their own business?

The College of Science and Mathematics (CSAM) hosted its first Entrepreneurship Workshop to give insights into starting a business. Ann Frechette, Director of External Relations for CSAM, opened the event that featured three guest speakers who offered advice to aspiring entrepreneurs. Dr. Lynn Schneemeyer, CSAM's Associate Dean discussed entrepreneurship basics and how to turn ideas into businesses. As an inductee into the NJ Inventors Hall of Fame, Schneemeyer encouraged entrepreneurs to think about traits inherent to entrepreneurs that include creativity, drive, commitment and more.

The next guest speaker for the event was Dr. Michel M. Bitritto, Director of NJMC Business Accelerator and member of the CSAM Advisory Council. Dr. Bitritto discussed the

Bitritto and Casabona conferring prior to workshop

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CELS — An Update

The continued planning of our 100,000 square foot, 55 million dollar Center for Environmental Life Sciences remains front and center. CSAM is deep into fund raising with a challenge to raise the first $10 million to kick start construction. CSAM teams and MSU Development staff have been visiting our friends and potential donors in our many surround industries and communities presenting the vision, goals, and scope of the new and very much needed building. Importantly, we have a new CSAM Development Officer in Ms. Peggy Harris. Peggy has outstanding depth in fund raising having spent highly successful years in development at The Seeing Eye in Morristown, the Foundation for UMDNJ and also Robert Wood Johnson Medical School, both in New Brunswick, at the YMCA in Somerset Hills and at the Diabetes Treatment Centers of America in Los Angeles. Peggy, who joined MSU in September 2011, came in running and shows no signs of slowing down. ♦

CSAM Students Participate in Global Brigades

by Crystabel Polanco, undergraduate Biology student

The Global Brigades mission is one that has grown to be the largest student-led global health initiative in the world. The Medical Brigades branch of the organization was the first to be developed, and is now one of nine different branches aiming to assist countries through a holistic approach. Every year, over 3,000 student volunteers and health professionals travel to Central America to establish mobile medical clinics in under-resourced communities. Each partnering community receives a brigade every three to four months during which hundreds of patients are treated. Volunteers assist by delivering public health workshops, triaging, obtaining patient vital signs and more. In between brigades, the Global Medical Brigades' Community Health Worker Program facilitates follow-up and communication with local community leaders, empowering them to sustain a consistent level of health care throughout the year.

On January 6th, 2012, twenty-two MSU students had the opportunity to embark on this life changing adventure. The students, also known as brigaders, had been working diligently all year to raise the funds and gather the medications necessary for the trip. After participating in multiple icebreakers, biweekly meetings, fundraisers, and on-campus events, the brigaders were able to make their way to Honduras for a weeklong trip.

During our stay there, we set up a mobile clinic for three days in Sabana Redonda, Honduras, a small community consisting of a little over 500 residents. The mobile clinic contained the following stations: Triage, Consultation, Dental, Gynecology, Adult and Children Charla (public health workshop), and Pharmacy. The brigaders actively participated in each station by performing various roles including, but not limited to, assisting in tooth fillings and extractions as well as assisting the pharmacist to prepare medication packets for patients. From the first day of our brigade, we saw the impact we made on the community. The sincere humility and gratitude the residents of Sabana Redonda demonstrated was a priceless gift every brigader received.

CSAM students at a dental clinic

Apart from working hard, the brigaders also had the privilege of emersion in the Honduran culture. During our stay, the staff at the hotel did everything in their power to accommodate us. All meals consisted of both American and traditional Honduran dishes. It was comforting to know that not only were we treated with respect and kindness in a foreign country, but that we were also well protected. Brigaders were never alone, and under constant watch by a hired law enforcement officer and/or military personnel. On our last day, our coordinator planned a memorable day of touring during which we visited various attractions including Picachu park, where we saw monuments and beautiful views of Tegucigalpa.

If you were to ask brigaders about their favorite part of the experience, their answers would vary. But regardless of the response, there is no doubt that this experience made a positive impact and truly changed the lives of twenty-two MSU students. ♦

New Math Learning Center Opened

by Cathy Holl-Cross, Red Hawk Mathematics Learning Center

The Red Hawk Mathematics Learning Center opened its doors on January 17, 2012 to nearly

330 students in Intermediate Algebra and Basic Skills Math II: Algebra. The semester began smoothly and students in both courses are working productively on course material.

With the creation of the Red Hawk Mathematics Learning Center (RHMLC), Montclair State University has implemented an innovative, exciting and successful approach to mathematics education. The RHMLC is a mathematics "emporium" style computer-aided learning facility. In basic terms, a mathematics emporium is a computer classroom where students attend class and get personalized assistance while working on computers to learn objectives in the course.

Building on successful emporium designs at other universities and colleges around the nation, the RHMLC is committed to providing a superior learning environment by coupling advanced, user-friendly mathematics technology with personal, on-demand assistance from highly qualified instructors, graduate assistants and advanced undergraduate tutors. Students can signal for help from staff by placing a red cup on their monitors; blue cups signify that students are testing. This low tech solution has proven to be a great compliment to the high tech environment.

Courses in the RHMLC are designed to encourage active learning and problem solving skills as students learn mathematics most effectively when "doing mathematics." Both courses are using MyMathLab (www.mymathlab.com) as the software for the course. Included in MyMathLab is an interactive Ebook, videos lessons and other useful learning objects. In addition, assignments in MyMathLab have the ability to be personalized based on students' prior knowledge of the topic.

Students also have small group breakout sessions with an instructor and graduate assistants on a regular basis to keep them on target and to enable a stronger connection to their classmates, instructors and course material.

In this pilot semester, the RHMLC is staffed five days per week by eight graduate assistants in the Mathematics Department, Patti D'Emidio, and Cathy Holl-Cross, the Director of the Center. Beginning in Fall 2012, three additional courses (The Development of Math, Statistics and Math for Business II: Calculus) will move into the RHMLC and, in addition to graduate assistants and staff, many advanced undergraduate students will be hired to assist students as they move through their course material. Please encourage your talented CSAM students to apply for these positions!

When asked about their experience so far, student comments include: *"It's a really cool area. I like the way the university is moving from the analog teacher and blackboard setting to the digital area, with the teacher and assistants moving around to provide help as needed. I think the whole lab*

setup emphasizes independent learning as opposed to guided." And, *"I am really enjoying the extra help that is being provided by Ms. Holl-Cross and the TA's as well, the personal attention really aids in a better understanding to each question!"*

Please come by and visit us. The RHMLC is located on the 3rd floor of Conrad J. Schmitt Hall. For more information about the Red Hawk Mathematics Learning Center, visit our website (http://csam.montclair.edu/redhawkmath). ♦

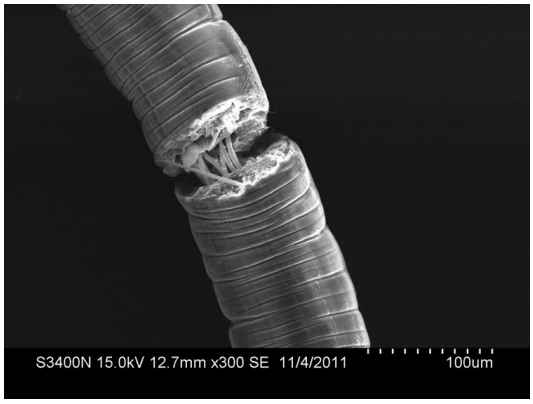
MMRL Opens Doors to External Customers

by Laying Wu, Microscopy and Microanalysis Research Laboratory

In Fall 2012, CSAM's state-of-the-art electron microscopy facilities were renamed the Microscopy and Microanalysis Research Laboratory (MMRL) and began offering services to external academic and industrial customers. An interdisciplinary research, teaching and service facility for microscopic imaging and chemical analysis, the MMRL is equipped with two Scanning Electron Microscopes (SEM), a Transmission Electron Microscope (TEM) and ancillary sample preparation equipment housed on the first floor of Mallory Hall. Montclair State University's imaging capabilities also include an Atomic Force Microscope (AFM) shared by the Departments of Chemistry and Biochemistry and Mathematical Sciences.

While the electron microscopy facilities formally opened in Mallory Hall in 2008 to provide microscopic imaging, X-ray analysis, and specimen preparation services for teaching and research, CSAM appointed a full-time director for MMRL – Dr. Laying Wu – to expand the operations of the facility into a full service laboratory for use by external customers. Under the direction of Dr. Wu, a series of updates and upgrades have been accomplished within the MMRL facility including a new informational MMRL website that is now online at http://csam.montclair.edu/mmrl/. Users can view the status of electron microscopes and reserve instrument time online. The image gallery and useful web links point students, faculty and customers to sample preparation and analysis methods and materials and supplies used in electron microscopy research as well as lab safety manuals. In addition, an MMRL-based local network was set up to remove the potential threat of computer viruses from USB flash drives infecting the SEM and TEM systems. The local network provides a safe data transfer link from a central desktop computer in ML-154A, through which users can access their files on the SEM and TEM. Finally, an archive of user data has been created and is available in ML-154A.

MMRL has the capability to work with biological, pharmaceutical, geological, and other natural and synthetic materials. The MMRL director and affiliated faculty provide teaching support, research support, training, and outreach. Teaching support includes demonstrations in the lab, safety orientations, instrument maintenance, acquisition of lab supplies and materials, and providing a well-organized lab environment. Research support includes assistance with experimental design to suit the investigators' needs, and technical support in sample preparation and image acquisition. The training component provides students and faculty with on-site instrument operational training and background instruction in the principles of electron microscopy. The MMRL also offers workshops and outreach programs in support of education in local and regional K-12 schools, area colleges, and the New Jersey community.



SEM image of a female *Brugia malayi* parasite (from Dr. Siekierka's lab) showing the internal developing microfilaria (larvae). *Brugia malayi* is a human pathogen causing lymphatic filariasis.

Formal electron microscopy and microanalysis courses are offered at the undergraduate and graduate levels on the theory and application of electron microscopy, imaging, and compositional analysis. BIO411, Transmission Electron Microscopy and BIO406, Scanning Electron Microscopy provide theoretical knowledge of the physical and chemical principles of electron microscopy, the components of TEM and SEM instruments, and the basics of imaging. BIOL586, Advanced Topics in Biology, is a hands-on technique-oriented class on tissue histology and tissue thick/thin sectioning. GEO547, X-ray Microanalysis is a graduate level course that provides students engaged in research with theoretical background and hands-on experience in qualitative and quantitative compositional analysis of materials.

New and experienced users are encouraged to visit MMRL, and contact Dr. Laying Wu with any questions they may have about adding electron microscopy activities to their teaching and research. ♦

Using S-3400N SEM in gaphene nanosheets research

Two Veteran CSAM Professors to Retire

by Mika Munakata, Mathematical Sciences

Professor Mary Lou West of the Department of Mathematical Sciences will be retiring in June 2012. She began her career at Montclair State College (as it was called at the time) in the fall of 1970, soon after earning her Ph.D. in Astrophysics from Columbia University. She has been an active and visible member of the campus community as an enthusiastic promoter of the sciences.

Over the years, Dr. West has mentored over 60 undergraduate students on their independent study research projects and was the coordinator of the physics and astronomy clubs. In outreach efforts, she was co-director (with Frank Kelland from Earth and Environmental Studies) of a training course for elementary and middle school teachers in the mid-80's called "The Earth and Other Planets: Their Weather and Surfaces," funded by the New Jersey Department of Higher Education, and principal investigator of NASA's IDEAS (Initiative to Develop Education through Astronomy and Space Science) grant "It's All in Motion" with Charles Liu and Kevin Conod in the late 90's. In 1994, she was the organizer of "The Best Astronomy Day in the USA." On campus, a visible aspect of her work can be appreciated near Sprague Library where the sculpture "Ophiuchus", produced in collaboration with sculptor MacAdams in 1998, stands.

For the past five years, Dr. West has been co-director of the $2.8 million NSF-funded GK12 program at MSU, which involves work with CSAM graduate students and local middle school students and teachers. Though her retirement will be noticed by all in CSAM, she has assured us that she will arrange to have the popular Public Telescope Night in front of Richardson Hall continued. I recently had a chance to sit down to chat with her.

MM: What have been some of the highlights of your career?
MLW: Having the concentration in Astronomy within the Physics major approved. Also, I have particularly enjoyed working with enthusiastic physics students, many of whom have continued on to graduate school in physics or astronomy. In fact, one is returning today, to give a seminar to our current students. I especially enjoyed them

Ken Wolff, professor of mathematics, will be retiring this June from MSU, his alma mater. Prior to receiving his BS from MSU in 1963, his undergraduate advisor Tony Pettofrezzo encouraged him to seek graduate degrees and then to come back to teach at MSU, because it's "a great place to start a career." Well, here we are 45 years later, looking back on a career that began as a mathematics teacher at Ridgewood High School and included positions as associate chair of the MSU mathematics department, chair, interim dean of CSAM and member of the doctoral faculty.

Professor Wolff is happy he stayed at MSU. As you can imagine, he has taught many courses over the years, but his favorite course to teach was linear algebra. He especially enjoyed the blend of procedures, theory, and applications that are intrinsic to the subject. As technology became an increasingly integral part of mathematics education, he and Dr. John Stevens received an $88,750 NJ DHE High Tech grant in 1987 for hardware and software to introduce the use of computer algebra systems (CAS) software into the teaching of Linear Algebra and Differential Equations. This provided the groundwork for further funding of $25,000 for a NSF ILI grant to support the use of CAS in the teaching of calculus. Together with secondary school colleagues from the Wayne school district, Ken obtained $167,000 in external funding from a variety of sources that brought MSU, in the 1990's, to the forefront of institutions that provided training on the use of graphing calculators to support the teaching and learning of mathematics. During the same time period, as part of a cooperative effort with Rutgers University, he was the senior MSU faculty member for the $150,000 NSF Discrete Mathematics in the Middle Grades Leadership Program.

In the late 1990's Ken was a principal contributor to and a project manager for the $2.5 million Middle Grade Mathematics Science Teacher Education Project (MGM-STEP), a High-Tech Workforce Excellence Grant funded by the NJ Department of Higher Education. This project led to the development of the middle grades certificate program, which in turn led to the middle grades MA program, a popular program for local middle school teachers. Dr. Wolff looks back on the middle school programs as having opened his eyes to opportunities and

Continued on next page

West…...

on projects that involved experimentation and mathematical modeling. I will miss interacting with these very promising students.

MM: How did you become interested in astronomy and physics?
MLW: I read a lot of science fiction books in middle school. I enjoyed considering the "what if" questions. When I was a child, I would often experiment with kitchen chemistry and enjoyed taking apart clocks just to put them back together. I never thought that I could go into science because back then, girls didn't do science. Math, however, was more accessible to girls, so I went into mathematics, which I also loved. In my sophomore year of college, I asked a mathematics professor what good the mathematics we were studying was. He immediately pointed me to the physics department, so I became a double major. I became fascinated with astronomy during my senior year of college when I took my first astronomy course - magneto-hydrodynamics in the solar system. In graduate school, my interests in cosmic rays interacting with magnetic fields in space led to my studies of star motions in the galaxy.

MM: Who inspired you?
MLW: Marie Curie was an inspiration for many female students and scientists. As an undergraduate, I was usually the only female student in the science classes. This changed in graduate school, where often there were two or three of us. So, it was inspirational to see how much Marie Curie had accomplished. Ian Axford and Ken Greisen, my undergraduate mentors, were also inspirational figures for me.

MM: If you could study anything, what would it be?
MLW: Meteorites, to find out about the earliest days of the solar system, four and a half billion years ago. There is nothing else you can hold in your hand that is anywhere near that old. Black holes are also fascinating and mysterious. They are the engines of quasars and affect their environment in powerful non-linear ways. I've started these projects with some students, so I'd like to continue it.

MM: What else will you pursue upon retirement?
MLW: I would like to play with my grandchildren and hike and quilt more. I want to write about demos and PER (physics education research) and continue with AAPT (American Association of Physics Teachers). I will definitely miss my interactions with good students but will not miss grading lab reports! ♦

Wolff……

the need for delivering more content and pedagogical content knowledge to middle school math teachers.

In the early 2000's, Dr. Wolff, was instrumental in developing the Ed.D. in Pedagogy, MSU's first doctoral program (with concentrations in Mathematics Education and the Philosophy for Children), with colleague Drs. Anthony Piccolino and Evan Maletsky, the faculty in the Department of Mathematical Sciences and the College of Education and Human Services as well as by college and university administrators. Ken has advised numerous students on their dissertations, another experience he reflects upon fondly.

More recently, Dr. Wolff has been co-director of the NSF-funded GK12 program, a 5-year $2.8 million project, another highlight of his career. He found it interesting, challenging, and rewarding, with the effort leading to great opportunities for CSAM graduate students, local middle school teachers, middle school students and project staff.

His work over the years has also led to recognition outside of MSU. In 2003, he was awarded the Outstanding Mathematics Educator award from the Association of Mathematics Teachers of New Jersey. He served as president of that organization in 1981-82 and was the 1993 Conference co-Chair for the 6th International Conference on Technology in Collegiate Mathematics. Earlier in his career he co-authored several textbooks. He has continued to present at numerous local, national, and international venues and has published papers in professional journals. He continues to be a reviewer for NCTM publications and has been a member of several NSF review panels.

As he looks back, he appreciates the variety of experiences he has had as a full-time faculty member, department chair and interim dean. Through these various roles, he was able to see three different aspects of university life. Upon retirement, Professor Wolff looks forward to additional travel, hiking, canoeing and boating, photography and spending more time with his grandchildren. ♦

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Professor Hani Y. Awadallah Is Mourned

Mr. Hani Y. Awadallah, an Assistant Professor of Chemistry and Biochemistry, died suddenly on Tuesday, January 9 at age 70. A memorial service is scheduled for March 21.

Professor Awadallah began his career in science as a student of Chemistry and Geology at Cairo University and earned a Bachelor of Science in those subjects in 1964. After two years as an Instructor at the Teachers Institute in Riyah, Saudi Arabia, he began his graduate studies in Chemistry at Bowling Green State University in Ohio. He earned his Master of Science degree in June of 1968 and became an Instructor in the Science Department at Montclair State in September 1968. In 1970, Professor Awadallah was one of the founding members of the Department of Chemistry and was promoted to Assistant Professor.

During his first ten years at Montclair, he was the principal instructor for the introductory chemistry courses for the non-science majors. Over time, Professor Awadallah has taught everything from Introductory Chemistry to Physical Chemistry and has been a stalwart contributor to the growth and development of the Department of Chemistry and Biochemistry. For approximately 15 years, Professor Awadallah has been an instructor in the Saturday Gifted and Talented Program. Dr. Willard Gingerich, provost and vice president for academic affairs, and Dr. Robert Prezant, dean of the College of Science and Mathematics, praised Awadallah for his years of service and academic dedication to Montclair State. Gingerich called Awadallah "a stalwart contributor to the growth and development of the Department of Chemistry and Biochemistry" who taught everything from Introductory Chemistry to Physical Chemistry. "Awadallah was almost an academic fixture we came to count on. Over the years, he has touched and influenced many hundreds of student lives," Prezant added.

Awadallah, who headed the Arab American Civic Organization in Paterson, was a fiery leader of the Arab American community there. "All those who knew him know he was a passionate and unwavering defender of our Arab-American communities and their rights to involvement and respect in every aspect of citizenship and American life," Gingerich said. ♦

From page 1 (BOT Approves New Center)

search Center, The New York Obesity Research Center, University of South Carolina, and St. Barnabas Medical Health Center. "The Center promises to bridge the gap between quantitative experts and clinical researchers. Bridging this gap is critical to promoting discoveries that can change the health of individuals," says Dr. Corby Martin, Director of the Ingestive Behavior Laboratory at Pennington Biomedical Research Center. Similarly Dr. Steve Blair, Professor of Exercise Science at the Arnold School of Public Health, University of South Carolina says "In order to successfully address the problem of obesity, more academic institutions must organize centers and research projects to investigate the complex factors related to the obesity epidemic. Until this is done, and we get better data, it will not be possible to develop strategies, tactics, and policies to address, and hopefully solve, the problem. The new Center at Montclair State University is a welcome addition to our efforts to address scientifically the obesity problem."

The Center is committed to providing the latest state of the art individualized weight management information to the Montclair State University community. Initial services will include reports on individual body fat percentage, analysis of daily expenditures assessed through accelerometers, and access to Center developed health calculators (http://csam.montclair.edu/cqor/links.html). Announcements on services and how to set up appointments will be made on the Center website http://csam.montclair.edu/cqor as these services are fully developed.

The Center is currently comprised of faculty members across campus that share research interests related to obesity. Center faculty will share expertise, co-develop research projects, and seek funding to support Center-related research activities. If you are interested in a Center affiliation or want more information, please contact me at thomasdia@mail.montclair.edu. ♦

Upcoming Center Activities

March 7: Amy Davidow, Ph.D, UMD NJ will present on the epidemiology of tuberculosis.

March 12: Center students travel to Pennington Biomedical Research Center to receive training on clinical measurements related to body weight regulation.

April 26: Neil Johannsen, Ph.D, Pennington Biomedical Research Center will train MSU students on collecting metabolic and physiological measurements.

Center Developed Health Calculators
Weight Loss Calculator
Gestational Weight Gain Calculator

Faculty Notable Achievements Recognized

CSAM's faculty and staff achievements are numerous and frequent. They are often recognized and acknowledged. In December, 2011, CSAM held a special award ceremony highlighting the outstanding achievements of a few such faculty.

Dr. **Angel Gutierrez** was selected as Faculty Advisor of the year by the Center for Academic Advising and Adult Learning (CAAAL). He was recognized for his excellent service and outstanding work in the area of academic advising at Montclair State University's 3rd Annual Academic Awards reception. He will compete at the national level through the National Academic Advising Association's (NACADA) annual awards program.

Dr. **Scott Kight** is the recipient of the 2011-12 University Distinguished Teacher Award. As part of this award, Dr. Kight received support to develop and teach a new course on evolutionary biology—*Evolution: Darwin's Dangerous Idea,* a course designed for non-science majors interested in the fundamental processes that underlie evolution and the study of the many ways in which the evolution impacts every human being, past and present.

UMDNJ has filed a patent on "Methods for Modulating Ovulation" on behalf of Dr. **Carlos Molina's** research using transgenic animals generated in his laboratory. This invention is based, at least in part, on unexpected discoveries that ovulation, a complex biological process controlled by the cyclical action of hormones, can be modulated by a group of inducible cAMP early repressor (ICER) polypeptides.

Dr. **Dibyendu Sarkar** has been awarded a Geological Society of America Fellowship. The GSA notes that this recognition is bestowed as "...an honor...on the best of our profession once per year at the GSA Spring Council meeting... in recognition of distinguished contributions to the geosciences" and for outstanding research, publications, and outreach in the geosciences.

Dr. **Lynn Schneemeyer** has been inducted into the NJ Inventors Hall of Fame. She was honored for her pioneering and world-class research in the fields of superconducting, magnetic, electronic, and optical materials and devices with over 250 publications, and 21 patents issued or pending. Of particular note was Lynn's invention of a unique single crystal material that is a critical component in telecommunications optical transmission.

Dr. **John Siekierka** has been inducted into the NJ Inventors Hall of Fame. His early research in the mechanism of action of several immunosuppressive drugs ultimately played a role in the identification of an immunosuppressive drug that would enhance the efficacy of cardiovascular metal stents by preventing reblockages of arteries following angioplasty. Based on his research, the drug *sirolimus* was selected by a transdisciplinary development team for incorporation into a polymeric coating on metal stents. The resulting Cypher® Stent was the first of a generation of drug-coated heart stents and a major advance over bare-metal stents. Within two years of its launched, it became the global leader in the coronary artery stent market with $2.59 billion in sales.

Dr. **Diana Thomas** created "The Center for Quantitative Obesity Research". Stimulated by a national research study funded by an R15 National Institutes of Health award, the Center will provide predictions of actual food consumption during weight loss experiments collected in clinical trials from Pennington Biomedical Research Center, the University of Wisconsin–Madison, the University of Maastricht–Netherlands, and the Mayo Clinic. A second U01 National Institute of Health grant to manage weight gain during pregnancy will complement the early work of the Center. The Center will be the first of its kind to provide service to monitor weight regulation clinical trials and patient clinics with data being obtained from accelerometers. ♦

Kudos

CSAM's National Science Foundation GK12 project (Co-PIs Drs. **Mika Munakata, Mary Lou West and Kenneth Wolff**, Mathematical Sciences) received a no-cost extension for the AY 2012-2013. The funds will support two mathematics and two science master's students to work with local middle school students and teachers. The goal of the project is to improve graduate students' communication skills through their work presenting interdisciplinary and research-based lessons to middle school students.

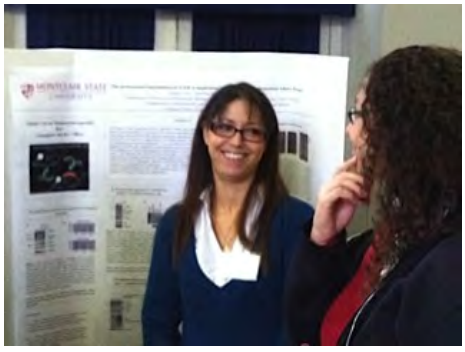
Dr. **Mark Chopping** (Earth and Environmental Studies) received an additional $19,975 for the project entitled: "Forest and Shrub Mapping with MISR." This project involves work being performed on mapping of forest and shrub canopy structure (height, crown shape and fractional cover) and aboveground woody biomass for diverse environments, over limited sites and larger areas and for multiple orbits and years, using data from MISR.

Dr. **Yang Deng** (Earth and Environmental Studies) received a $14,966 subaward from NJ Water Resources

Continued on page 14

Student News

Dr. Molina's master student, **Marni Crow** (pictured below left) was awarded Best Poster at Master level at the 44th Annual Conference of the Metropolitan Association of College for her presentation entitled: "The



proteasomal degradation of ICER is implicated in melanoma transformation where Ras is mutated."

Agnieszka Chojnowski, **Akruti Patel**, Dr. John Siekierka (pictured below) and Dr. Ronald Goldberg (Chemistry and Biochemistry) pre-

sented "Characterization of a c-Jun N-terminal kinase pathway in the parasitic nematode, *Brugia malayi*" at the Graduate School of Biomedical Sciences at UMDNJ 18th Annual Student Symposium and "Characterization of a c-Jun N-terminal kinase pathway in the parasitic nematode, *Brugia malayi*" at the 60th Annual Meeting of the American Society of Tropical Diseases and Hygiene.

Department of Chemistry and Biochemistry student, **Katie Gaskill**, presented a poster entitled "The Role of *Brugia malayi* Stress-Activated Protein Kinases, Bm-MPK1 and Bm-JNK1, in Parasite Anti-Oxidative Stress Responses" (authored by Agnieszka Chojnowski, William De Martini, Akruti Patel, Katie Gaskill, Ronald Goldberg and John Siekierka) at The Gordon Research Conference on Tropical Infectious Diseases.

Doctoral student **Paola Dolcemascolo** received a NJ Water Resources Research Institute at Rutgers University $5,000 award. The project is entitled: "Assessment of the water-borne pathogen, batrachochytrium dendrobatidis, in NJ amphibians and their habitat." Dr. Kirsten Monsen, (Biology and Molecular Biology) is the faculty sponsor.

The doctoral program in Mathematics Education congratulates Dr. **Marius Petric**, who received his Ed.D. in Mathematics Education in May 2011. His dissertation was entitled "Reform in Mathematics Education—Teaching for Social Justice."

Jonathan Tancer, a B.S. student of Information Technology in the Department of Computer Science is working with Dr. Aparna Varde as his faculty mentor on a SHIP project (Science Honors Innovations Program, funded by Roche, Merck et al.) in the area of Health Informatics. An important outcome of this SHIP effort is a paper published in IEEE's International Conference on Data Mining, ICDM in their KDCloud workshop titled "The Deployment of MML for Data Analytics over the Cloud." The paper has also been accepted as a full paper in the ICDM proceedings, a notable achievement for the SHIP project. ♦

Faculty Activity

Dr. **Mahmood Barbooti** (Earth and Environmental Studies) presented "Removal of sulfur dioxide from gas streams by absorption into dilute urea dilute solutions" at the 2nd International Conference on Air Pollution and Control (CAPAC-II) in Antalya, Turkey.

Dr. **Thomas Devlin** (Mathematical Sciences) served as a reviewer of proposals submitted to the NSF Transforming Undergraduate Education in Science, Technology, Engineering and Mathematics (TUES) program.

Dr. **Lisa Hazard** (Biology and Molecular Biology) along with students J. Sierra, H. Terodemos and L. Caro presented "Limited sensitivity to aldosterone in salt glands of two lizard species with minimal variation in cation secretion" at the Society for Integrative and Comparative Biology Annual Meeting. Dr. Hazard served as judge for Best Student Paper competition, Comparative Biochemistry and Physiology section of the Society for Integrative and Comparative Biology 2012 and is also serving as Student Support Committee member, Society for Integrative and Comparative Biology.

Dr. **Shifeng Hou** (Chemistry and Biochemistry) presented "High Activity and Capability Graphene Based Support Materials for Fuel Cell Anode Against CO Poison Tolerance," authored with M.S. Wietecha and M.L. Kasner at the 220th ECS Meeting of the Electrochemical Society. He also delivered an invited presentation, "Introduction of Bionanotechnology" at Jining Medical College.

Dr. **Kirsten Monsen** is faculty advisor for a CSAM club, Global Medical Brigades. This organization raises funds to sponsor medical brigades in

Continued on next page

From previous page (Faculty Activity)

remote rural areas of economically depressed countries.

Dr. **Michael Oudshoorn** (Computer Science) was an invited participant in an NSF Workshop on Interdisciplinary Computing in Washington DC - serving on 3 panels: Experience with/ desire to engage in interdisciplinary computing; Obstacles to making the vision of Interdisciplinary Computing an reality; and Overcoming the obstacles, recommendations to the NSF. The 3-day workshop focused on success stories and impediments to the creation of a climate for interdisciplinary computing.

In September 2011, Dr. **Sandra Passchier** (Earth and Environmental Studies) was an invited speaker at the geochemistry department of Lamont Doherty Earth Observatory of Columbia University. From November 2011 until February 2012 Dr. Passchier was a visiting scientist at the Institute of Paleoclimate and Paleoenvironments Utrecht (IPPU), at Utrecht University, where she collaborates on the results of her most recent Antarctic expedition to the Wilkes Land margin of Antarctica. Dr. Passchier's research on the Wilkes Land cores (2010-2014) is supported by $237k in funds from the Joint Oceanographic Institutions and the National Science Foundation. The visiting scientist position is funded by the Netherlands National Science Foundation (NWO).

Dr. **John Siekierka** (Chemistry and Biochemistry) presented two invited talks: "Parasite Mitogen-Activated Protein Kinases as Potential Therapeutic Targets" at Louisiana State University, Baton Rouge and "Stressing out parasites: parasitic stress-activated protein kinases as potential therapeutic targets" at Richard Stockton College.

Dr. **Diana Thomas** (Mathematical Sciences) presented her work on mathematical models for body weight regulation at Rutgers University Nutritional Sciences Seminar. She gave a second presentation at the Public Health & Preventive Medicine Grand Rounds at UMDNJ. ♦

From page 15 (Publications)

Patel, A., **A.N. Chojnowski**, **K. Gaskill**, **W. De Martini**, **R.L. Goldberg** and **J.J. Siekierka** (2011). "The role of a *Brugia Malayi* p38 MAP kinase ortholog (BmMPK1) in parasite anti-oxidative stress responses." *Molecular Biochemistry Parasitology*, 176:2, pp. 90-97.

Song Z., K.W. Jones, N. Marinkovic, X.M. Xiao, **H. Feng** and E. Tchouparova (2011). "Characterization of organic contaminants in New York/ New Jersey Harbor sediments using FTIR-ATR and synchrotron FTIR. *CLEAN - Soil, Air, Water*, 39, pp. 1041-1049.

Tancer, J. and **A. Varde** (2011). "The Deployment of MML for data analytics over the cloud." In IEEE's International Conference on Data Mining – KDCloud Workshop IEEE's *ICDM*, 166, pp.188-195.

Thomas D.M., J.E. Navarro-Barrientos, D.E. Rivera, S.B. Heymsfield, C. Bredlau, L.M. Redman, C.K. Martin, S.A. Lederman, L. Collins and N.F. Butte, (2012). "A dynamic energy balance model predicting gestational weight gain." *American Journal of Clinial Nutrition* , 95:1, pp. 115 -122.

Wietecha, M.S., J. Zhu, G. Gao, N. Wang, **H. Feng**, **M.L. Gorring**, **M.L. Kasner** and **S. Hou** (2012). "Platinum nanoparticles anchored on chelating group-modified graphene for methanol oxidation." *Journal of Power Sources,* 198, pp. 30-35.

Zhang, X,, Y. Hong and **A. Li**, (2012). "Optimization of Axial Symmetrical FGM under the Transient-state Temperate Field." *International Journal of Minerals, Metallurgy and Materials,* 19:1, pp. 59-63. ♦

From page 4 (Creating Your Own Business: An Entrepreneurship Workshop)

steps for starting a business and developing growth plans for new businesses. Mr. Mario Casabona, CEO of Casabona Ventures, an angel investor and also a member of the CSAM Advisory Council, spoke about other important steps in starting a business including starting small, identifying resources to finance a small business, and the characteristics needed to be a successful entrepreneur. Ms. Frechette discussed how to write the initial draft of a business plan, and some of the resources available to help the entrepreneur with the process.

This Entrepreneurship Workshop was the first of its kind for CSAM. CSAM plans to follow this initial workshop with lectures and presentations from venture capitalists, investors, entrepreneurs, and other leaders in the science and technology entrepreneurship community. As science and technology continue to play an integral role in cutting-edge innovation, CSAM students have promising futures creating start-up companies. ♦

From page 11 (Kudos)

Research Institute at Rutgers University for "Scrap Tire and Water Treatment Residuals as Novel "Green" Sorbents for Removal of Common Metals from polluted Urban Storm Water Runoff" to evaluate the performance of two recycled wastes in the absorption of 3 major runoff metals and to assess potential leaching of metals from spent sorbents. Dr. Deng also received a $5,000 award from NJ Water Environment Association for "Formation of Disinfection By-Products During Co-Treatment of Sewage and Landfill Leachate: Integrated Research and Education at Montclair State University" to preliminarily evaluate formation potentials of various disinfection by-products contributed from landfill leachate organics through a series of research and education activities planned at MSU.

Dr. **Huan Feng** (Earth and Environmental Studies) was recently named second-term foreign advisor to the Tianjin Bohai Monitoring & Surveillance Management Base (TBMSMB). The first-term foreign advisor to TMBSMB was Dr. Michael P. Weinstein.

Dr. **Shifeng Hou** (Chemistry and Biochemistry) received a $14,868 grant support from the New Jersey Water Resources Research Institute (NJWRRI) for the "Application of Graphene-based Sorbents for Arsenic and Lead Removal from Drinking Water Resources."

Dr. **Jennifer Krumins** (Biology and Molecular Biology) received a $25,156 subaward from the Ocean County Soil Conservation District for "Barnegat Bay Partnership-Soil Health Improvement Program" to evaluate the biological aspects of soil restoration. The research will inform practices to restore biodiverse and healthy soil communities that can provide valuable ecosystems services.

Dr. **Aihua Li** (Mathematical Sciences) is appointed as a research mentor by the American Association for Women in Mathematics (AWM).

Dr. **Jing Peng** (Computer Science) received $10,000 from the Air Force Research Lab for the project entitled: "ShareBoost: Boosting for Robust Data Fusion with Applications to Wide Area Image Exploitation." The research involves the development of a novel algorithm, called ShareBoost, for robust data fusion with performance guarantees.

Drs. **Dibyendu Sarkar**, **Yang Deng** (Joint-PIs) and **Sudipta Rakshit** (Co-PI) from Earth and Environmental Studies Department won a research grant ($344,286) from DuPont entitled "Remediation of Mixed Contaminated Plumes using Ferrate (VI)." The 2.5 yr study is to develop an innovative environmental remediation method to address multiple contaminants in groundwater.

Dr. **John Siekierka**, Sokol Professor of Medicinal Chemistry and Director, the Sokol Institute of Pharmaceutical Life Sciences has been awarded $75,786.00 from the Celgene Corporation, Division of Global Health for continued support of a collaborative effort to identify novel anti-filarial parasite drugs.

Dr. **Diana Thomas** (Mathematical Sciences) is the recipient of the 2012 Mathematical Association of America NJ Section Distinguished College or University Teaching Award. Recipients of the section awards then become nominees for the national Deborah and Franklin Tepper Haimo Award for Distinguished College or University Teaching of Mathematics.

Dr. **Michael Weinstein** (PSEG Institute for Sustainability Studies) received a $24,819 subaward from the University of Rhode Island for the project entitled: "The Availability of Bioaccumulation of Sedimentary 2,3,7,8-TCDD and other persistent Bioaccumulative Toxic Compounds in the Lower Passaic River" to measure chemicals in sediment pore water and fish tissue. This project will produce valuable results related to ecological impacts of these contaminants.

Dr. **Corey Webel** (Mathematical Sciences) is the recipient of the annual "Linking Research and Practice Outstanding Publication Award" from the National Council of Teachers of Mathematics for his article titled "Shifting mathematical authority from teacher to community," published in 2010 in *Mathematics Teacher*.

Dr. **Kenneth Wolff** (Mathematical Sciences) was awarded a contract from Newark Public School in the amount of $54,000 for the project entitled: "Professional Development Services for Middle School Mathematics Teachers" for Newark middle school teachers. Proportional reasoning topics from the secondary algebra and geometry curricula will be investigated and teachers will gain a deep understanding of these topics and an enriched appreciation of their responsibility to prepare their students for secondary mathematics coursework.

Dr. **MeiYin Wu** (Biology and Molecular Biology) received two $3,500 awards from the NJ Department of Environmental Protection. The first, "Status of the Common Snapping Turtles in New Jersey: Sustainability Assessment," will access the sustainability of the current NJ snapping turtle harvesting program. The second, "Status of the Common Snapping Turtles in New Jersey: Assessment of Human Consumption Safety," will assess the risk of NJ snapping turtles for human consumption, as the turtles are harvested for meat in NJ due to their large body size. ♦

Publications

Barbooti, M.M. (2011). "Turbidimetric determination of hydrocarbon contamination in Passaic River sediments and refinery polluted soils." *Journal of Environmental Protection,* 2, pp. 915-922.

Barbooti, M.M., B.A. Abid and N.M. Al-ShuwaikI (2011). "Removal of heavy metals using chemical precipitation." *Engineering & Technology,* 29:3, pp. 595-612.

Baracos V, P. Caserotti, C.P. Earthman, D. Fields, D. Gallagher, K. Hall, S.B. Heymsfield, M.J. Müller, A. Napolitano, C. Pichard, L.M. Redman. W. Shen, J.A. Shephard and **D. Thomas** (2012). "Advances in the science and application of body composition measurement." *Journal of Parenteral and Enteral Nutrition,* 36:1 pp. 96-107.

Brumlik, M.J., S. Nkhoma, M.J. Kious, G. Thompson, T. Patterson, **J.J. Siekierka**, T.C.J. Anderson, and T. Curiel (2011). "Human p38 mitogen-activated protein kinase inhibitor drugs inhibit *Plasmodium falciparum* replication." *Experimental Parasitology*, 128:2, pp. 170-175.

Feng H., H. Zhao, W. Zhang, Q. Li, X. Wang, **M.P. Weinstein**, L. Yu and J. Yao (2011). "Distribution and assessment of ΣDDT, ΣPCB and ΣPAH contaminants in sediments of western Bohai Bay and adjacent urban-industrial estuaries, China." *Global Journal of Environmental Science and Technology,* 1: 15. p.1-13.

Fielding, C.R., G.H. Browne, B. Field, F. Florindo, D.M. Harwood, L.A. Krissek, R. Levy, K.S. Panter, **S. Passchier** and S.F. Pekar (2011). "Sequence stratigraphy of the ANDRILL AND-2A drillcore, Antarctica: A long-term, ice-proximal record of early to mid-Miocene climate, sea-level and glacial dynamism." *Palaeogeography, Palaeoclimatology, Palaeoecology,* 305:1-4, pp. 337-351.

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Heymsfield, S.B., **D.M. Thomas**, C.K. Martin, L. Redman, B. Strauss, A. Bosy-Westphal, M.J. Müller, W. Shen and A.M. Ngyuen, (2012). "Energy content of weight loss: Kinetic features during voluntary caloric restriction, metabolism." http://dx.doi.org/10.1016/*j.metabol.*2011.11.012.

Korky, J.K. and **J.A. Smallwood** (2011). "Geographic variation in northern green frog larvae, *Lithobates clamitans melanotus*, in northwestern New Jersey." *Bulletin of the Maryland Herpetological Society*, 47:1-4, pp. 1-10.

Korky, J.K. (2011). "2011 natter–jack toad (epidalea *calamita laurneti*, 1768) breeding habitat survey, North Dingle Peninsula, Co. Kerry, Ireland." *Bulletin of the Irish Biogeographical Society,* 35, pp. 10-20.

Liu, Z., H. Zhang, H. Ma and **S. Hou** (2011). "Selective determination of p-nitrophenol based on its unique voltammetric behavior on nanoporous gold." *Electroanalysis,* 23:12, pp. 2851 – 2861.

Genzale, M. E., M., M. Crow and **C.A. Molina** (2011). "Evidence that phosphorylation by the mitotic kinase Cdk1 promotes ICER monoubuiquitination and nuclear delocalization." *Experimental Cell Research*, 317: pp. 2490-2502.

Nwachukwu M.A., **H. Feng** and J. Alinnor (2011). "Trace metal dispersion in soil from auto-mechanic village to urban residential areas in Owerri, Nigeria. *Procedia Environmental Sciences,* 4, 310–322.

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Continued on page 13

Calendar of Events

March 5: Women in Science Symposium
8:00 a.m. to 1:00 p.m. - Cafes B & C, Student Center
http://csam.montclair.edu/womeninscience/

March 22: Lecture: Congressman Rush Holt
"The Politics of Science and the Science of Politics"
8:00 p.m. - University Hall 1070
http://csam.montclair.edu/holtlecture

March 22: Biology Seminar - Dirk Vanderklein, MSU
"Beware the knotweed plant - It will suck you dry!"
4:00 p.m. - Sokol Seminar Room (SH 102)

April 3: PharmFest
8:30 a.m. to 5:15 p.m. - University Conference Center
http://www.montclair.edu/pharmfest/

April 19: Biology Seminar - Dr. Toshinori Hoshi, University of Pennsylvania. "Modulation of potassium channels important in neuronal and cardiovascular functions by fish oil"
4:00 p.m. - Sokol Seminar Room (SH 102)

April 22: Annual Student Research Symposium
8:00 a.m. - University Conference Center
http://csam.montclair.edu/srs/

May 12: CSAM Convocation
3:00 p.m. - Sprague Field
http://csam.montclair.edu/convocation/

May 17: University Commencement
9:00 a.m. - IZOD Center, Meadowlands Sports Complex
http://www.montclair.edu/commencement/

PharmFest at Montclair State University

The Changing Landscape
April 3, 2012
University Hall 7th Floor
http://www.montclair.edu/

8:30 a.m. ***Opening Remarks***: Mr. Dean J. Paranicas, President and CEO – HealthCare Institute of New Jersey
Opening Session: *Overcoming Today's Pharma Challenge: Building on Past Successes with a Focus on Science, People and Partnerships*
Moderator: Dr. Francis Cuss, Senior VP – Bristol-Myers Squibb

10:00 a.m. ***Session A-1***: *Start-up Enterprises and the Pharmaceutical Sector: Challenges and Innovations in Today's Marketplace*
Moderator: Ms. Jeanmarie Tenuto, Chief Executive Officer – Healthcare Technical Solutions, LLC

Session A-2: *The Convergence of the Biotech, Pharma, Medical Devices and Diagnostics Industries: Challenges and Opportunities*
Moderator: Mr. Christopher Bowe, US Healthcare Analyst – Scrip Intelligence

11:30 a.m. ***Complimentary Lunch*** *(Sponsored by the Sokol Institute – MSU)*
Welcoming Remarks: Dr. Susan Cole, President – MSU
Keynote Address: Mr. Robert Hugin, President – Celgene

1:00 p.m. ***Session B-1***: *New Trends in Pharmaceutical Sales and Market Research*
Moderator: Dr. Avinandan Mukherjee, Chairperson Department of Marketing – MSU

Session B-2: *Computational Drug Design*
Moderator: Dr. Terry Stouch, President – Science for Solutions, LLC

2:30 p.m. ***Session C-1***: *Drilling Down: New Jersey's Life Sciences Vendor Community*
Moderator: Mr. Dean J. Paranicas, President and CEO – HealthCare Institute of New Jersey

Session C-2: *Small Molecule and Biologic Drug Discovery and Development*
Moderator: Dr. David Rotella, Sokol Professor of Chemistry – MSU

4:00 p.m. ***Session D***: *Careers in Pharma*
Moderator: Ms. Carolyn D. Jones, Executive Director, Center for Career Services and Cooperative Education – MSU