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BioMET

Center for Biomedical Engineering and Technology - University of Maryland School of Medicine
in conjunction with the Fischell Department of Bioengineering, School of Engineering, University of Maryland, College Park

Paddling Away

Mike McCrea, our long-term facilities manager, retired. His official last day was December 31. His tenure in the University System of Maryland started on January 3, 1977, upon being hired by the Center for Vaccine

Development (CVD). His relationship with the CVD, however, started earlier when he volunteered to be a human guinea pig in many of the CVD clinical research projects. Through the CVD, he met former Assistant Director Tim Hughes, who brought Mike along as Tim moved to various positions at UMB. When BioMET's former incarnation, the Medical Biomedical Center, finally got authorization to purchase and renovate a building, Mike began his long association with the building that would become his major responsibility. Mike was instrumental in both the early design phase through construction. Thus, there was nothing that Mike did not know about the building at 725 West Lombard Street.

Mike was instantly recognizable by the ever present white lab coat and tie. With a raft of ID badges dangling from the pocket, Mike could be seen in every corner of the building, making sure things were running smoothly. He was usually the first to arrive in the mornings, generally around 6:30 am. It was a good time to make sure all systems were go. However, Mike was also there through floods (several major ones when the sprinklers went off erroneously), car crashes, and chiller outages. He always said: "My standard analogy for describing my job has long been: 'Envision that your house is 100,000 square feet. And it has 700 rooms, all of them kitchens and

bathrooms. And you have 400 children.'" Because he helped design the building and was here throughout the construction process, Mike was intimately acquainted with every pipe, faucet and outlet.

Mike was also a canoe enthusiast, almost a professional guide. He authored numerous articles and reviews for paddlers. He was the driving force behind the Duckhead Canoe Club and knew everything there was to know about paddling in Maryland. He was a regular visitor to Assateague Island at all times of the year, one of his favorite camping spots.

Working with Mike did have its drawbacks, since he was an inveterate prankster. From spur of the moment pranks to elaborate practical jokes, Mike had a lot of fun with his fellow workers. However, these were never mean, and if someone did not enjoy the game, they were left alone. He had an irreverent, earthy, and lively wit. He was ever helpful with a deep breadth of knowledge of the facility but also of science, his original college major. He has promised to visit once he has shortened his retirement bucket list. In the meantime, BioMET will struggle through moving and construction pains without him. We wish him a grand retirement.



*Dress Like Mike Day!
Left to right: Business
Manager, Jami
Kasco; Mike McCrea;
Assistant Director,
Brian Hockenberry and
Research Coordinator,
Pamela Wright*

BIOMET SCIENTIFIC PROGRAMS

LABORATORY OF
MOLECULAR CARDIOLOGY

LABORATORY OF
NANOBIOLGY

LABORATORY FOR
NEURODEGENERATIVE DISEASES

LABORATORY FOR
PRION DISEASES

PROGRAM IN
CANCER BIOLOGY

PROGRAM IN
CELL STRUCTURE AND
DEVELOPMENT

PROGRAM IN
MITOCHONDRIAL DYNAMICS



UNIVERSITY of MARYLAND
SCHOOL OF MEDICINE

University of Maryland School of Medicine Dean E. Albert Reece, M.D., Ph.D., M.B.A., appointed Michael S. Donnenberg, M.D., as the new director of the Medical Scientist Training Program and Achsah D. Keegan, Ph.D., as the program's associate director. The program is usually called the MD-PhD program. Drs. Donnenberg and Keegan replace long-time director Dr. Terry Rogers.

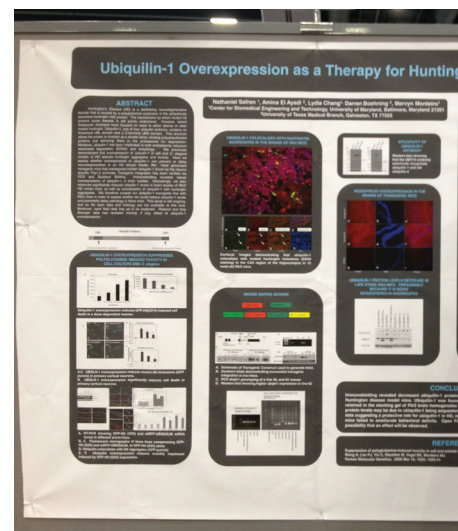
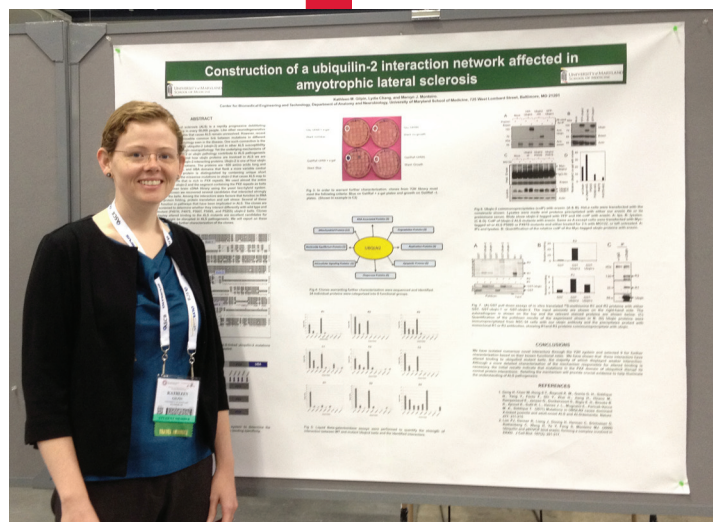
Congratulations to Associate Professor Silvia Muro, the only molecular and cell biologist in the Fischell Department of Bioengineering, on winning the Junior Faculty Outstanding Research Award. Dr. Muro has established herself as an innovator in the field of targeted therapeutic and drug delivery. She is a former BioMET Retreat speaker, and members of her lab regularly attend the Annual Retreat.

Travel Pays Off

Going to scientific meetings is one of the ways research is disseminated. The process starts early in a young scientist's training. Generally, just after starting their thesis research, a graduate student will present a poster at whichever meeting their faculty advisor regularly attends. To be able to present, an abstract of the project is submitted months in advance. At that time, young scientists can also ask to be considered for various awards based on the research they propose to present. One of these is called a Travel Award. They help defray the expense of getting to the meeting. Only a limited number of these awards are available, and a young scientist may go through their entire graduate school and postdoctoral experience without every receiving one. That is why it was incredibly exciting when two of Dr. Mervyn Monteiro's students received travel awards for the annual meeting of the American Society for Cell Biology (ASCB).

Graduate students, Kathleen Gilpin (left) and Nathaniel Safren (right below), both PhD students from the Program in Neuroscience, won ASCB Travel Awards to attend and present their work at the 2012 annual meeting held from December 15-19, 2012 in San Francisco, CA. While one award is prestigious, to have two awards from the same

laboratory is almost unheard of! Kathleen presented her poster entitled "Construction of a Ubiquilin-2 Interaction Network Affected in Amyotrophic Lateral Sclerosis." Nathaniel's poster was entitled "Ubiquilin-1 Overexpression as a Therapy for Huntington's Disease." Dr. Monteiro's laboratory studies neurodegenerative diseases. Besides ALS and Huntington's Disease, Dr. Monteiro's work includes research on Alzheimer's and Parkinson's. The common thread is Dr. Monteiro's discovery of ubiquilin, a protein involved in protein degradation pathways. It is the disruption of these pathways due to a variety of reasons that cause the abnormal accumulation of proteins in the brain that underlie these and many other neurodegenerative diseases.



Editor and Designer: Pamela B. Wright
Assistant Editor: Brian Hockenberry

Publisher: W. Jonathan Lederer, Acting Director
BioMET
Assistant Publisher: Joseph Kao, Acting Associate
Director BioMET

Contact us at: pbwright@umaryland.edu
or 1-410-706-8181

BioMET
725 West Lombard Street, Rm 340
Baltimore, MD 21201 USA

Back issues of BioMET NOW are available on the web
at: <http://biomet.umaryland.edu>

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Moving Update



Dr. Mervyn Monteiro's laboratory began packing up the last week of December, though some things started even earlier. The move required coordinating with UMB Environmental Health Services (EHS) to handle hazardous chemicals, radioactive materials and other issues related to moving equipment and supplies that may have contamination issues. Once the equipment was certified by EHS, it moved over and was in place by December 27.

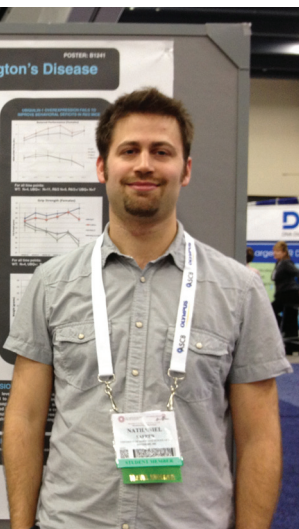
The move did not go as smoothly as was hoped. Some space in the sixth floor of Pharmacy South was still under construction as of December 26, even as Dr. Monteiro's current laboratory was being packed up. However, the construction crews were busy through the 31st to finish up last minute installations.

Dr. Monteiro was essentially the guinea pig. His experience will be invaluable once the other faculty members begin their moves. Already, lessons were learned. One of the most valuable lessons was to have sorted through everything in the laboratory before the movers got there and to know where things were going so that containers were placed in the right spots in the new laboratories.



Congratulations

Assistant Professor Benjamin [Name] was highlighted in the [Month] issue of the Biophysical Society Newsletter.



Finally Finished



BioMET congratulates our human resources associate, Olivia Sterrett, on completing her Bachelor of Science degree in Business Administration with a specialization in Human Resources Management, at the University of Baltimore, Merrick School of Business. It is a slow process working full time and trying to complete a bachelor's degree. Olivia first went to Baltimore City Community College, receiving an Associate's Degree in 2009. She then transferred to the University of Baltimore. By going year-round and taking 2-3 classes each semester, Olivia managed to finish up, graduating on December 17.

Olivia will continue to help BioMET's faculty and staff with all of their human resource needs. Her studies have been a real plus for BioMET. Olivia said she would be taking a few months off of school before going back to earn a certificate in Spanish at Catonsville Community College. Eventually, she would like to relocate someplace warmer, but for now BioMET will continue to enjoy her expertise. Congratulations again!

BIOMET HAPPENINGS

Comings and Goings

Mike McCrea officially retired on 12/31/12.

Publications

Prosser BL, Khairallah RJ, Ziman AP, Ward CW, **Lederer WJ**. X-ROS signaling in the heart and skeletal muscle: Stretch-dependent local ROS regulates $[Ca^{2+}]_i$. *J Mol Cell Cardiol*. 2012 Dec 6. [Epub ahead of print]

Makarava N, Savtchenko R, **Baskakov IV**. Selective amplification of classical and atypical prions using modified protein misfolding cyclic amplification. *J Biol Chem*. 2013 Jan 4;288(1):33-41. Epub 2012 Nov 20.

Muriel JM, Dong C, **Vogel BE**. Distinct regions within fibulin-1D modulate interactions with hemicentin. *Exp Cell Res*. 2012 Dec 10;318(20):2543-7.

Grants and Contracts

Awards

Dr. W. Jonathan Lederer, 12/1/12, NIH-NHLBI, "Stretch-Dependent Calcium Signaling in Heart," \$337,500, yr 3 of 5.

Dr. Shengyun Fang, 12/1/12, NSF, "Regulation of the ER-associated degradation by importin beta," \$225,114, yr 2 of 2.

Submissions

Dr. Joseph Kao, 11/5/12, TEDCO, MII Innovation Commercialization Program, "Contrast Agents for Electron Paramagnetic Resonance Imaging." Total Request: \$99,922.

Talks and Travels

Dr. W. Jonathan Lederer, Seminar speaker, "New signaling pathway in muscle: X-ROS," Department of Physiology and Neurobiology, Ben Gurion University, Beer Sheva, Israel, November 6, 2012.

Dr. W. Jonathan Lederer, Seminar speaker, "New signaling pathway in muscle: X-ROS," Rappaport Family Institute, Technion: Israel Institute of Technology, Haifa, Israel, November 11, 2012.

Dr. Shengyun Fang, symposium speaker, "Study Protein Dislocation from Endoplasmic Reticulum in Live Cells" FEBS Special Meeting on Protein Quality Control and Ubiquitin System in Health and Diseases, Kusadasi, Turkey, November 15, 2012.

Dr. Shengyun Fang, seminar speaker, "Live cell imaging of protein dislocation from the endoplasmic reticulum," Turkish Biochemical Society, Izmir, Turkey, November 20, 2012.

Dr. Shengyun Fang, seminar speaker, "Live cell imaging of protein dislocation from the endoplasmic reticulum," Anhui Medical University School of Basic Medical Sciences, Hefei, Anhui, China, December 5, 2012.

Dr. W. Jonathan Lederer, Seminar speaker, "New signaling pathway in muscle: X-ROS," Center for Free Radical Biology and the Comprehensive Cancer Center, Division of Environmental Health Sciences, University of Alabama at Birmingham, Dec 6, 2012).

Dr. W. Jonathan Lederer, Seminar speaker, "New signaling pathway in muscle: X-ROS," Soft Condensed Matter and Biophysics Series, School of Physics, Georgia Institute of Technology, December 11, 2012.

Potluck Again

Savory smells and laughter greeted BioMET faculty and staff as they gathered for the annual potluck the Friday before Thanksgiving. This annual event has been going on nearly 10 years now. Organized by the administrative staff, it has taken on a life of its own. This year before Jami Kasco could even get a notice out, people were asking about the date! This is one of the few times BioMET gets together just for conversation and good times. Since the center seems to be blessed with wonderful cooks, the potluck is also a time to get together to enjoy culinary delights. New dishes mingle with old favorites for a truly enjoyable meal with colleagues. Every year it just gets better! See you there next year!



MPower Update

Editor's Note: While BioMET may not participate in all activities relating to the new initiative, the success of the entire enterprise benefits everyone. Thus, all activities of the new initiative will be highlighted in BioMET Now. As before, all members of the BioMET community are encouraged to look at the MPower web site at mpowermaryland.com for current information.

UM Ventures, the joint intellectual property commercialization effort, finally has a permanent director. James L. Hughes, formerly chief enterprise and economic development officer and vice president of UMB. Mr. Hughes was named to the position on November 16.

A joint bioinformatics and bioimaging center has been established between UMB and UMCP. Called the Center for Health-related Informatics and Bioimaging (CHIB), the effort includes computer scientists, biologists, engineers, physicists, biostatisticians and others at UMCP with imaging specialists, physicians, clinicians and additional health experts at UMB.