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Editor's Note: Summer is always a slow news time. Our regular 4-page format will resume in the next issue.

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



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

All Shook Up



Maryland certainly had an event on August 23! A 5.9 earthquake rattled windows, shook walls and generally surprised everyone. With fire alarms going off, everyone piled out onto the streets. It was nearly 90 minutes later when people were allowed back into the building. The unprecedented event will have future ramifications as the emergency responses are evaluated. After all, UM did not have a written earthquake emergency response plan-not something one usually thinks of when in Maryland! As seen to the left, *BioMET Now* designer, Pamela Wright, had fun modifying an old movie poster to commemorate the rare event.

Just as Marylanders were getting over the shock of the earth quake, Hurricane Irene struck on August 28th. While the winds and rain were considerable, they did not come anywhere near the last major hurricane to strike Maryland, Isabelle in 2003. However, the winds were more

than sufficient to disrupt power significantly with many areas dark for five days or more. BioMET had prepared for the possibility of power outages by placing critical equipment on emergency circuits.

BioMET Welcomes New Member

BioMET administrative staff has been short-handed for sometime, but that has finally changed. Lynnel Thompson has joined BioMET as an Accounting Associate. She replaces Mary Graham who resigned for health reasons. Lynnel comes to BioMET with an extensive background in university accounting, having spent nearly five years at Florida A&M University. Previously she had been at several state government agencies.

A Florida native, Lynnel followed her fiancé to Maryland. She has a 6 year old son, Mekhi. She is also working on her B.S. degree in Sociology and Criminal Justice.



BIOMET HAPPENINGS

Comings and Goings

Dr. Yongwang Zhong has left Dr. Fang's laboratory.

Publications

Dong, G; Ferguson, JM; Duling, AJ; Nicholas, RG; Zhang, D; Rezvani, K; **Fang, S; Monteiro, MJ**; Li, S; Li, XJ; Wang, H. 2011. Modeling Pathogenesis of Huntington's Disease with Inducible Neuroprogenitor Cells. *Cell. Mol. Neurobiol.* 31 (5): 737-747.

Chikando AC, Kettlewell S, Williams GS, Smith G, **Lederer WJ**. Ca^{2+} dynamics in the mitochondria - state of the art. *J Mol Cell Cardiol.* 2011 Aug 16. [Epub ahead of print]

Gonzalez-Montalban N, Makarava N, Savtchenko R, **Baskakov IV**. Relationship between Conformational Stability and Amplification Efficiency of Prions. *Biochemistry.* 2011 Sep 20;50(37):7933-40

Zhong Y, Wang Y, Yang H, Ballar P, Lee JG, Ye Y, **Monteiro MJ, Fang S**. Importin {beta} interacts with the ER-associated degradation machinery and promotes ubiquitination and degradation of mutant {alpha}1-antitrypsin. *J Biol Chem.* 2011 Aug 8. [Epub ahead of print]

Karbowski M, Youle RJ. Regulating mitochondrial outer membrane proteins by ubiquitination and proteasomal degradation. *Curr Opin Cell Biol.* 2011 Aug;23(4):476-82.

Ke Z, Wang X, Liu Y, Fan Z, Chen G, Xu M, Bower KA, Frank JA, Li M, **Fang S**, Shi X, Luo J. Ethanol Induces Endoplasmic Reticulum Stress in the Developing Brain. *Alcohol Clin Exp Res.* 2011 Sep;35(9):1574-1583.

Grants and Contracts

Lee, Young Jin. 7/1/11, Maryland Technology Development Corporation, Maryland Stem Cell Commission Postdoctoral Fellowship, "Evaluating the Role of Prion Protein in Self-renewal and Differentiation of Human Embryonic Stem Cells for Neuronal Regenerative Therapy," \$55,000, yr 2 of 2.

Zhao, Guiling, 7/1/11, American Heart Association Scientist Development Award, "IP3RI activates Ca^{2+} -activated K^{+} channel through direct coupling in arterial smooth muscle cells," \$77,000, yr 2 of 4.

Baskakov, Ilia, 8/1/2011, NIH, "Elucidating molecular structure of mammalian prions," \$405,459, bridge funding.

Talks and Travels

W. J. Lederer, Annual Totman Trust Meeting, University of Vermont, August 3, 2011

We Need to Stick Together

Dr. W. Jonathan Lederer has had a very successful year. Not only has he received two R01 grant awards from NIH, but he and his co-workers have finalized licensing of one of their inventions to two different companies. Dr. Lederer's field of expertise is biophysics and molecular cardiology, but the patent is for a glue! Not just any glue, though, but a bioglue—one that can flexibly but reliably attach a cell to a smooth surface. The product, called MyoTak, was developed in the Lederer lab to stick an individual heart cell to an apparatus that can stretch the cell while measurements are being taken on the effect of this stretching on signalling pathways. The stretch mimics what happens to an individual heart cell while the cells around it are contracting.

The two companies that have licensed the product are World Precision Instruments (WPI) and IonOptix. Both companies produce equipment for biophysical applications. In addition to selling the glue, WPI also sells the original stretch apparatus.

PARTNERS' NEWS



UNIVERSITY of MARYLAND

The University of Maryland has begun a new green initiative, emphasizing sustainability and environmental stewardship. Called UM Go Green, the University has brought together online a wealth of green resources for faculty, staff and students. The site can be found at <http://gogreen.umaryland.edu>.



UMCP

The Fischell Department of Bioengineering will hold its annual Fischell Festival October 20. BioMET faculty are encouraged to attend. This year, BioMET will have a table in the exhibit area.

Congratulations!

Dr. Ben Prosser in Dr. Lederer's laboratory has been named the GPILS Outstanding Postdoctoral Scholar for 2011. The formal award will be made at the 2011 GPILS Awards Ceremony to be held on Monday, November 7, 2011

Graduate student **Sunan Li** in Dr. Mariusz Karboski's laboratory received a Travel Award to attend a scientific meeting entitled "Mitochondrial dynamics: from mechanism to disease" to be held in Chia Laguna, Sardinia, Italy, September 11-15, 2012. The award amounts to €1100. She will present a poster entitled "Regulation of mitochondrial fission complexes and mitochondrial division by deubiquitinase USP30." Awards are made based on the scientific merit and promises of the abstract.

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