

Inside:

- UMBI News
- Fallout from the RFP
- Invaded!
- State Budget Still Problematic
- Plasmonix Spun Out
- Baltic Blast

On Sabbatical

Visitors are well known at the MBC, but rarely do they stay for long periods of time. However, Dr. Saleet Jafri, Professor and Chair of the Department of Bioinformatics and Computational Biology at George Mason University, has come to the MBC to do a year-long sabbatical in the laboratory of Dr. W. Jonathan Lederer, a long-time collaborator. Dr. Jafri specializes in mathematical modeling of biological processes, focusing on calcium signaling in heart. He and Dr. Lederer expect to combine their expertise to develop computational models to study how dysfunction in cardiac calcium handling can give rise to arrhythmias. To this end they will be developing stochastic spatial models of calcium release in collaboration with Dr. Raimond Winslow of Johns Hopkins University. Dr. Jafri expects to have one of his postdoctoral fellows join him in Baltimore.



Experts Teaching ExPERTs



MBC Assistant Professor Bruce Vogel is an expert in using the round worm *C. elegans* as a model organism for his work on the molecular biology of extracellular matrix proteins. This summer he lent his expertise to another ExPERT, the Extended Professional Experiences in Research for Teachers. From July 1-31, biology teachers from Prince George's County high schools spent 4 days a week in a laboratory and one day in a workshop. Dr. Vogel hosted Stephanie Hammond from Largo High School in Upper Marlboro, Maryland. The program "has been developed to provide teachers with unique opportunity to work directly with researchers...." Ms. Hammond's project was to purify cleaved fibulin-1D, a common matrix protein, and identify the cleavage site.

In addition to the ExPERT program, Dr. Vogel also participated in a curriculum development workshop held July 22-23 and organized by Dr. Mary Stapleton, UMBI Director of Education and Outreach. Dr. Stapleton is developing a module based on Dr. Vogel's work for the UMBI SciTech education program. *C. elegans* is an excellent model organism for a variety of basic biology topics. The workshop was held to develop the outlines for two new modules, one of which was based on Dr. Vogel's work, to make sure they met the requirements of the Maryland curriculum and determine what would be needed to develop and implement the final form of the modules.

Acting President Takes Office

Dr. Ed Eisenstein, former CARB director, formally took charge of UMBI on July 1, 2009 as Acting President. He will oversee daily operations and the disaggregation of UMBI mandated by the USM Board of Regents.

Stem Cell Oversight Committee

With the advent of federal funding for stem cell research, NIH has issued new guidelines for conducting such work separate from the standard human research requirements. The guidelines published July 7 include a provision for an additional oversight committee, called the Embryonic Stem Cell Research Oversight (ESCRO) committee. The Maryland Stem Cell Research Commission has endorsed the NIH requirements and made compliance with them mandatory for recent state funded stem cell grants. UMBI has created its own ESCRO committee, organized by UMBI's compliance officer, Dr. Richard Gilpin. As the MBC is the only center with grants that deal with stem cells, though not all use embryonic stem cells, all recent and future grants will require review for compliance by the new committee. When MBC moves to UMB next year, UMB has its own ESCRO committee, as must all institutions receiving stem cell funding.

Fallout from the RFP

Even before the Regent's ad Hoc committee had finished its work and the Regent's determined the fate of UMBI, people began to leave UMBI. Kathy Magruder, then President Jennie Hunter-Cevera's chief of staff, left in May, even before Dr. Hunter-Cevera had gone. UMBI's HR office lost Karen Stukes soon after. Since the results of the Request for Proposal (RFP) process were finalized (*Inside MBC*, Vol. 12 No. 3), a slow trickle has started. Marcos Garza, Grants Specialist, in the Office of Research, Innovation and Commercialization announced his move to UMB as of September 1, and Shaun Koenig, Director of Intellectual Property and Agreement Management, has also left that office. These are the ones that have been announced so far.

Personnel losses at the other Centers are unknown, but MBC's HR person, Dannielle Watkins will be leaving the end of August, also moving to UMB. Even though the exact fate of each center will not be known until the MOU process is completed in December, the uncertainty for administrative personnel is extremely high. For Central Administration, there is no doubt that their positions will not remain after June 30, 2010, when UMBI is set to be dissolved administratively.



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Congratulations!

Scott Burks successfully defended thesis entitled "*In Vivo* cellular imaging of overexpressing breast tumor cells through electron paramagnetic resonance (EPR)" August 12, 2009 Dr. Joseph Kao was his advisor.

Invaded!

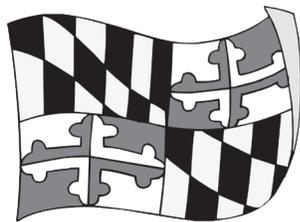
For one weekend every summer, a strange phenomenon occurs near the Baltimore Convention Center, spreading out for several blocks in all directions. Bizarre looking creatures, blue haired enchantresses, and Japanese warriors invade the city. Otakon! For the uninitiated, Otakon is the annual Baltimore anime convention. Anime are Japanese cartoons, but the convention includes video games and Manga (Japanese style graphic novels), as well as Japanese originated staples of Saturday morning TV. Those with younger children will recognize Pokemon and Yu-Gi-Oh, just two of the Japanese originated American TV shows among others. However, there is a much larger number of shows, books and games than most parents are aware, some that have yet to be imported to the States but are known via the internet. Just like Star Trek and other fan based conventions, “cosplay” (short for costume play) is part of the attraction. Groups of like minded friends will coordinate costumes based on a set of characters.

This year, Otakon got as far as the MBC. Angela Wright, who was manning the front desk for the summer, is an avid anime fan. She and her friends Kelsey Highcove and Richard Pavis visited the MBC in costumes based on a popular Japanese Manga series named “Lovely Complex” in English. Angela (left in the picture) plays Risa Koizume, Kelsey (center, in a wig, playing a boy) plays her erstwhile boyfriend Atsushi Ootuni, and Richard (right) her would-be boyfriend Haruka Fukagawa. The costumes are the high school uniforms portrayed in the book, though the series is animated as well in Japan.



Angela has been going to anime conventions for 6 years, and her interest in Japanese culture led her to take Japanese in college and travel there last summer with a group from her school, Elizabethtown College in Pennsylvania. Angela is a theater major (very useful in cosplay!) and will be starting her Junior year in September. She is the daughter of Pamela Wright, MBC’s Assistant to the Director.

State Budget Still Problematic



With the national fiscal crisis still ongoing, albeit with signs that it has bottomed out, the State of Maryland announced a round a budget cuts for the current fiscal year. USM Chancellor Brit Kirwan sent a message out August 26, detailing the cuts to the University System. As before (see *Inside MBC* Vol. 12 No. 1), USM can handle the cuts in its own fashion, while State Offices have mandated layoffs and furloughs. The

shortfall for UMBI has not yet been released, though Acting President Ed Eisenstein has already begun reducing costs. Courier service between centers has been curtailed to 2 days a week, for instance. A hiring freeze and elimination of all raises, including merit, have already been in effect since last year.

Any direct effect, such as furloughs, on UMBI staff will not be known until September at the earliest, but is expected to be instituted along the same lines as before, with lower paid staff and those paid completely from grants being exempted from furloughs. A tiered system based on salary level was used then to makeup the shortfall. However, until the exact amount is known, little can be done.

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MBC Happenings

Comings and Goings

Dr. Kadir Aslan has left to accept a faculty position at Morgan State University. Dr. Christine Harman as left Dr. Monteiro's laboratory to take a position with the FDA. Dr. Ben Prosser and Dr. Liping He have joined Dr. W. Jonathan Lederer's laboratory. Angela Wright (Office), Stephanie Sarbanes (Monteiro Lab), and Olugbenga Dada (Kao Lab) have returned to school. Zhiliang Chen is now a graduate student with Dr. Shengyun Fang. Shan Xu is a research assistant with Dr. Mariusz Karbowski.

Grants and Contracts

Dr. Mariusz Karbowski, 7/1/2009, Tedco - MSCRF, "Maintenance Of Mitochondrial Fusion And Fission As A Critical Factor In Stem Cell Viability, Differentiation Capacity And Differentiation-Induced Mitochondrial Biogenesis," \$115,000 yr 1 of 2.

Dr. Julio Altamirano, 7/1/2009, Tedco - MSCRF, MSCRF, "Calcium signaling in hESC-derived cardiac myocytes - Fellowship," \$55,000, yr 1 of 2.

Dr. Xuehong Xu, 7/1/2009, Tedco - MSCRF, "P-QD hESC Labeling and Its Application on Cell Transdifferentiation," \$115,000, yr 1 of 2.

Dr. Kadir Aslan, 7/1/2009, NIH, Ultra Fast and Sensitive Fluorescence-Based Clinical Assays," \$155,520, yr 2 of 2.

Publications

Aslan K, Zhang Y, **Geddes CD**. Sonication-assisted metal-enhanced fluorescence-based bioassays. *Anal Chem*. 2009 Jun 15;81(12):4713-9.

Tondera D, Grandemange S, Jourdain A, **Karbowski M**, Matzenberger Y, Herzog S, Da Cruz S, Clerc P, Raschke I, Merkwirth C, Ehses S, Krause F, Chan DC, Alexander C, Bauer C, Youle R, Langer T, Martinou JC. SLP-2 is required for stress-induced mitochondrial hyperfusion. *EMBO J*. 2009 Jun 3;28(11):1589-600.

Riplinger C, **Kao JP**, Rosen GM, Kathirvelu V, Eaton GR, Eaton SS, Kutateladze A, Neese F. Interaction of radical pairs through-bond and through-space: scope and limitations of the point-dipole approximation in electron paramagnetic resonance spectroscopy. *J Am Chem Soc*. 2009 Jul 9;131(29):10092-106.

Lukyanenko V, Lukyanenko Y. Oxysterols in heart failure. *Future Cardiol*. 2009 Jul;5(4):343-54.

Baskakov IV. Switching in amyloid structure within individual fibrils: implication for strain adaptation, species barrier and strain classification. *FEBS Lett*. 2009 Aug 20;583(16):2618-22.

Trafford AW, **Lederer WJ**, Sobie EA. Keeping the beat: life without SERCA--is it possible? *J Mol Cell Cardiol*. 2009 Aug;47(2):171-3.

Lindegger N, Hagen BM, Marks AR, **Lederer WJ**, Kass RS. Diastolic transient inward current in long QT syndrome type 3 is caused by Ca²⁺ overload and inhibited by ranolazine. *J Mol Cell Cardiol*. 2009 Aug;47(2):326-34.

Talks and Travels

Dr. W. Jonathan Lederer, Session Speaker, 2009 FASEB Summer Research Conference, "Blood flow control in the heart," Lucca, Italy, August 2-7, 2009.

Dr. W. Jonathan Lederer, Session Speaker, Annual Meeting, Scandinavian Physiological Society, "Ca²⁺ sparks and Ca²⁺ leak in heart," Uppsala, Sweden, August 13-16, 2009.

Dr. W. Jonathan Lederer, Invited speaker, Department of Physiology, University of Copenhagen, "Ca²⁺ sparks and Ca²⁺ leak in heart," Copenhagen, Denmark, August 20, 2009.

Plasmonix Spun Out

Dr. Chris Geddes, head of the Institute of Fluorescence, has finally had his significant patent portfolio spun out as a start-up company, headed by two veteran entrepreneurs, William M. Gust, President and CEO and John W. Holaday, Ph.D., Chairman of the Board. Both gentlemen have been active members of UMBI's Board of Visitors. Dr. Geddes will be Chief Scientific Officer of the new company. The company name is a take off on the term plasmon, a quasiparticle resulting from the quantization of plasma oscillations, that underlie the theoretical explanation of Dr. Geddes' work on metal enhanced fluorescence technology. This new technology that radically improves the fluorescence signal should prove valuable to a variety of assays and diagnostics.

Baltic Blast

MBC Director, Dr. W. Jonathan Lederer, bounced around the Baltic Sea, visiting Sweden, Norway and Denmark in a 10 day trip the included two talks and several stops to organize future collaborations. Dr. Lederer was invited to the annual meeting of the Scandinavian Physiological Society, August 13-16 in Uppsala, Sweden. After giving a session talk entitled "Ca²⁺ sparks and Ca²⁺ leak in heart," He went by boat to the University of Oslo in Norway to set up collaborations with colleagues. From there he traveled to Copenhagen, Denmark, giving a talk in the Department of Physiology, University of Copenhagen. He also visited NeuroSearch, Inc. to discuss the possibility of collaborations with its scientists. It is common for faculty members to make multiple presentations and contacts when traveling such distances. This was the second European trip for Dr. Lederer in August. He was invited to speak at the FASEB Summer Conference on Smooth Muscle in Lucca, Italy, August 2-7.

Dr. W. Jonathan Lederer, Invited speaker, Cardiac Bioelectricity and Arrhythmia Center, Washington University in St. Louis, "Losing the spark: calcium sparks and calcium leak in heart," August 31, 2009.

Newsfeed Articles

7/10/09: Dr. Lederer Speaks at ISHR Meeting

8/10/2009: Visiting Cornell College Fellow Blogs about Experience in Dr. Kao's Lab

8/11/2009: Drs. Aslan and Geddes Publish Invited Article for Chemical Society Reviews

8/18/2009: MBC Installs New Confocal Microscope

8/19/2009: UMBI Announces Formation of Plasmonix, Inc. to Commercialize Metal-Enhanced Fluorescence Technology

8/21/2009: 50th Issue of *Inside MBC* Published