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Baby, It's Cold Outside!

November is not exactly the warmest month to be visiting the Czech Republic, as MBC Visiting Professor Kim Collins found out! Originally, he wasn't even going to take a winter jacket! However, it came in handy when he spent a month in and around Prague, attending a scientific meeting and giving seminars, all arranged by Dr. Pavel Jungwirth at the Institute of Organic Chemistry and Biochemistry, Academy of Sciences of the Czech Republic. Dr. Collins and Dr. Jungwirth share a passion for studying ions at biological and chemical interfaces. This field of study, long considered an esoteric backwater in chemistry and biochemistry, is just now being recognized as critical for understanding the physical forces within biological structures. This in turn has implications for the emerging area of nanotechnology.

Dr. Collins gave the opening talk entitled "Ion-Protein Interactions" at the Minisymposium on Ions at Biological Interfaces held on November 6-7, 2007 in Prague which Dr. Jungwirth had organized. After the meeting, Dr. Collins gave a seminar at the Institute and "hung around" for daily discussions on ion specific effects which will lay the foundation for future collaborations.

The Institute has some unusual amenities for visitors, by US standards. It maintains two *penzions* to house both short-term and long-term visitors at nominal cost to the hosts. Dr. Collins said he found it particularly stimulating to be living with a wide variety of scientists who were visiting the Institute, never knowing who would show up for breakfast. In addition, Dr. Jungwirth, several members of his laboratory and Dr. Collins spent the weekend on the nearby mountains in a large chalet also owned by the Institute. Conditions were warm but Spartan, and everyone was expected to pitch-in with chores. Dr. Collins became the chief dishwasher of the group!

According to Dr. Collins, Prague is a beautiful old city with many cultural attractions. However, the real purpose of his trip was to outline a very ambitious research effort and to continue spreading the word about ions in biology. Dr. Collins expects to be back in Prague in November 2008 to lecture on the physical chemistry of water, ions, and proteins in the Max-Planck School for Physics Students and to work with Dr. Jungwirth on ions at biological interfaces.

After being somewhat marginalized for his 20+ years of work on what many thought was an unpromising area of research, Dr. Collins has now become a sought after speaker. As he puts it, "Specific ion effects are now being recognized as the heart and core of understanding electrostatic effects in aqueous solutions" That is one of the most amazing things about science, you never know what will become important nor when.



Dr. Kim Collins (left) and Dr. Pavel Jungwirth (right) hiking in the mountains near Prague.

Issues in IP Seminar Series Initiated

The first seminar/discussion meeting on Intellectual Property (IP) issues was held on November 27, 2007. Initiated by UMBI VP Ted Roumel, it was facilitated by Mr. Steven Hultquist and touched on several topics including recent changes in the patent law. Faculty are under increasing pressure to commercialize their findings but are often unfamiliar with IP issues. This series is aimed at educating UMBI faculty and staff on relevant IP issues.

UMBI Town Hall Meeting

The second all UMBI Town Hall Meeting was held December 14, 2007 at the Columbus Center, followed by the annual UMBI holiday party. Several MBC faculty members and staff attended.

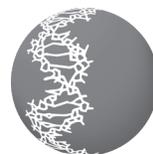
External Review Process Starts

UMBI, with encouragement from the USM's Chancellor's office, has begun organizing an external review. An external review done by experts from outside the institution who will determine both our strengths and weaknesses, both scientifically and administratively. The process is long and requires the accumulation of large amounts of data on everything from how many grants are submitted to how finances are managed. All aspects of UMBI's operations will be scrutinized.

In conjunction with the institutional review, each center is doing a self-evaluation and generating center-based data as well. Since MBC collects most of this data monthly to generate its monthly reports, Assistant Director Tim Hughes and Research Coordinator Pamela Wright can pull the data together readily. Only specific questions about scientific programs need go to the faculty. Combined with MBC's recently completed strategic plan, MBC's self-evaluation is well on its way to being complete.

Another facet of the process has been collecting faculty data online. MBC's IT Coordinator Mike Kelly helped design the online interface that faculty are expected to use to upload information or fill in, as required. This has not gone as smoothly as one would hope and the data entry ended up far more time consuming than most faculty liked.

The entire review process will not end until the beginning of summer. The outside reviewers are expected to start their work in the spring. Interested UMBI staff members can log on to <https://review.umbi.umd.edu>. This site requires an active UMBI email account for access.



UMBI

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Congratulations!

On November 3, 2007, Dr. W. Jonathan Lederer gave 18th Annual Gordon Moe Lecture at the Cardiac Electrophysiology Society Annual Meeting in Orlando, Florida. The title of his talk was "From Calcium Sparks to Cell Electrophysiology."

GE Visits MBC

The heightened interest in industry-academia partnerships has led to increase contacts between basic research scientists and commercial entities. However, MBC has rarely had the opportunity to talk with one of the giants of American companies, General Electric. The meeting was a culmination of many months of trying to find a date that worked for everyone.

The GE contingent was headed by Dr. Barbara Grossmann, GE's Business Development Manager Global Technology R&D. Since GE is interested in MBC's imaging research, she brought along Dr. Christoph Hergersber, Global Bioscience technology Leader, who outlined GE's many faceted operations involving imaging. It was quite an eye opener, as many consumers are only aware of GE's household products! In addition to Drs. Grossmann and Hergersberg, Dr. Siavash Yazdanfar, an optical imaging technologist and Dr. Cindy Davis, Therapy Advanced Technology Leader, also attended. UMBI was represented by UMBI President Dr. Jennie Hunter-Cevera, VP for Research, Innovation & Commercialization Dr. Ted Roumel, and Bradley Peganoff, UMBI Senior Manager for Corporate and Government Affairs. MBC Associate Director Joseph Kao, Assistant Director Tim Hughes and Affiliate Professor Gerald Rosen represented the MBC. It was Drs. Kao and Rosen's work that GE was most interested in discussing.

The meeting was a huge success. The discussion was so animated that a tour of the imaging facilities at the MBC had to be jettisoned. In addition, plans were made for both Dr. Kao and Dr. Rosen to visit GE in Albany, NY. Both sides seem to feel that this was time well spent.



MBC's Annual Potluck

by Kyleen Graham

Every year around the holidays, the MBC holds a potluck luncheon; this year it was nearly forgotten! With so much going on within the Center, the holidays seemed to sneak up on everyone. Usually it is held before Thanksgiving but due to scheduling issues (and some forgetfulness) it was held a little later. Everyone was encouraged to bring a favorite ethnic dish. Finally, on December 7 the tables were set up and ready to go. Slowly people began to fill the third floor light well and exotic and not so exotic dishes began to cover the tables. As usual, there was plenty of food and conversation. MBC Director Dr. Jon Lederer brought his spicy beans, which has become an MBC tradition. The luncheon might have been hastily organized but it allowed the various laboratories to interact with each other, as well as introduce some new faces that have become part of the MBC over the past year.

MBC Happenings

Comings and Goings

Dr. Heping Cheng is a Visiting Professor in the Institute of Molecular Cardiology. He will be coming periodically from the Peking University where he heads an institute. **Dr. Brian Hagen** finished his NIH Postdoctoral Fellowship on UMB's Muscle Training Grant and is now officially a UMBI Postdoctoral Research Associate. **Dr. George Rodney**, Assistant Professor, has left to join the faculty at UMB's School of Nursing. He maintains an affiliate position in the MBC. **Dr. Ying Sun** has left Dr. Baskakov's laboratory. **Minghao Liu**, a volunteer with Dr. Fang, has left to resume his studies. **Jill Young**, an intern from Catonsville High School, is working with Dr. Chris Geddes.

Grants and Contracts

Dr. Joseph Kao, UMBI - Inter-Center Collaborative Grant Program, Development of Light-induced *in vivo* Gene Expression Technology in an Animal System, 12/1/07, \$50,000, yr 1 of 1.

Dr. W. Jonathan Lederer, TEDCO - Maryland Stem Cell Research Fund, Human Mesenchymal Stem Cell Treatment for Heart Damage, 12/18/07, \$574,996, yr 1 of 3.

Dr. Shengyun Fang, TEDCO - Maryland Stem Cell Research Fund, Ubiquitination-dependent Regulation of Oct-4 Activity, 12/18/07, \$100,170, yr 1 of 2.

Dr. Chris Geddes, NIH - Supplemental Funding, Plasmonic Detection of Free-Bilirubin in Neonates - Supplement for Equipment, 12/1/07, \$20,122, yr 1 of 1.

Publications

Lehnart SE, Ackerman MJ, Benson DW Jr, Brugada R, Clancy CE, Donahue JK, George AL Jr, Grant AO, Groft SC, January CT, Lathrop DA, **Lederer WJ**, Makielski JC, Mohler PJ, Moss A, Nerbonne JM, Olson TM, Przywara DA, Towbin JA, Wang LH, Marks AR. Inherited arrhythmias: a National Heart, Lung, and Blood Institute and Office of Rare Diseases workshop consensus report about the diagnosis, phenotyping, molecular mechanisms, and therapeutic approaches for primary cardiomyopathies of gene mutations affecting ion channel function. *Circulation*. 2007 Nov 13;116(20):2325-45.

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Makarava N, Lee CI, Ostapchenko VG, **Baskakov IV**. Highly promiscuous nature of prion polymerization. *J Biol Chem*. 2007 Dec 14;282(50):36704-13.

Lukyanenko V. Delivery of nano-objects to functional subdomains of healthy and failing cardiac myocytes. *Nanomed*. 2007 Dec;2(6):831-46

Bits and Pieces

UMBI Lecture

On November 19, Dr. Joseph Kao represented MBC at the UMBI wide lecture series given by G. Steven Burrill and entitled "Biotech 2007: A Global Transformation." Mr. Burrill is a leading investor and investment advisor in biotechnology.

Legislative Budget Analyst Visits

Because UMBI is a state institution, the legislature in its oversight capacity regularly assigns a budget analyst to each institution that receives state funds (See *Inside MBC*, Vol. 7, No. 5). Ms. Sara Baker is newly assigned to look at UMBI. She visited the MBC on November 26. MBC Director Dr. W. Jonathan Lederer and Assistant Director Tim Hughes gave her an overview and tour.



TEDCO VP at Faculty Meeting

Dr. Jim Poulos, Vice President of Technology Transfer and Commercialization at TEDCO, discussed funding opportunities at the December 11 Faculty Meeting.

Life Sciences Summit

The Comptroller of the State of Maryland, Peter Franchot, held the first Maryland Life Sciences Summit on December 13, 2007 in Columbia, Maryland. Dr. W. Jonathan Lederer, MBC Director, attended.



Talks and Travels

Dr. W. Jonathan Lederer, Lecturer, 18th Annual Gordon Moe Lecture, Cardiac Electrophysiology Society Annual Meeting, Orlando, FL, "From Calcium Sparks to Cell Electrophysiology," November 3, 2007.

Dr. Chris Geddes, seminar speaker, Center for Advanced Research in Biotechnology, UMBI, "Microwave-Accelerated Metal-enhanced Fluorescence," November 19, 2007.

Dr. Shengyun Fang, seminar speaker, Medical Biotechnology Center, UMBI, "Molecular Mechanisms of ER-Associated Degradation," December 18, 2007.

Dr. Mariusz Karbowski, seminar speaker, Hematology Branch, National Heart, Lung, and Blood Institute, Bethesda, MD, "Ubiquitin-dependent regulation of mitochondrial membranes," December 21, 2007.