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Delegate Morhaim Visits

MBC welcomed Baltimore County Delegate Dr. Dan Morhaim on July 15. Dr. Morhaim represents the 11th district which includes Pikesville and Owings Mills. As a new *ex officio* member of UMBI's Board of Visitors (*Inside MBC* Volume 8, Number 3) and a practicing physician, Dr. Morhaim was interested in seeing the MBC in action.

After briefing him on MBC in general, Director W. Jonathan Lederer introduced Dr. Morhaim to Dr. Mervyn Monteiro, who explained his work on Alzheimer's. Dr. Morhaim's specialty is geriatrics and he is very familiar with the devastating toll this has on patients and families. Dr. Ilia Baskakov then explained his laboratory's work on prion proteins.

The highlight of the tour was watching Dr. Long-Sheng Song and graduate student Andy Ziman from the Institute of Molecular Cardiology image cardiac cells on a new Zeiss LIVE 5 confocal microscope that is currently on loan to MBC (see *Mysterious Boxes* on page 4). The amazing precision with which living cells can be visualized is quite fascinating which made Dr. Morhaim somewhat

late for his next appointment. However, he did not seem to mind it and indicated that he was quite anxious to make his colleagues in the legislature aware of the exciting research going on at the MBC.



Delegate
Dr. Dan Morhaim



Dr. W. Jonathan Lederer (left) explains to Dr. Morhaim what Dr. Song (foreground) is doing, while Assistant Director Tim Hughes (standing) and graduate student Andy Ziman (seated) look on.

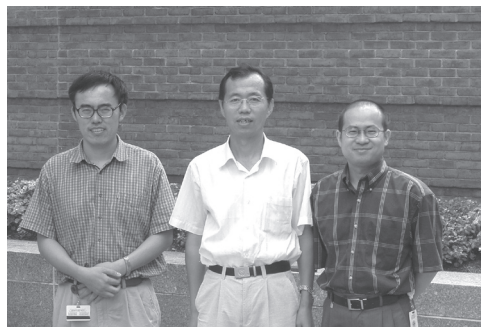
UMBI Kicks-off Anniversary Year

July 2005 through June 2006 represents UMBI's anniversary year, having been officially founded in July, 1985. A number of events, celebrating all facets of UMBI, are planned. Entrepreneur Day was the first (see the story below) with several more events in the works, including a Research Day, Convocation, and Education Stakeholders Day. A formal gala and fund-raising event is also planned. As the dates for these events are confirmed, the details can be found on the UMBI web site, www.umbi.umd.edu.

International Visitors

MBC was fortunate to host Dr. Shoulin Wu, President of Affiliated Kailuan University General Hospital of North China Medical College for Coal Industry, Tangshan, China. President Wu, along with Dr. Lin Lu, Director of National Institute on Drug Dependence, Peking University School of Medicine, came to visit Assistant Professor Dr. Long-Sheng Song and tour the facilities of the Institute of Molecular Cardiology. Dr. Song is a graduate of North China Medical College for Coal Industry and a classmate of Dr. Lu's. The MBC was one of several stops to visit institutions and former students in the United States.

Dr. Song said, "I am very honored to have both Dr. Wu and Dr. Lu visit my laboratory." He went on to say that his visitors were very impressed by the facilities at the MBC.



From left to right: Dr. Lu, Dr. Wu and Dr. Long-Sheng Song

Entrepreneurial Spirit

One of the first events for UMBI anniversary year was Entrepreneur Day. The event was designed to highlight the intellectual property—potential inventions, inventions and spin-offs—that UMBI has. The morning started with a talk by Dr. Karen Bernstein, Editor-in-Chief of BioCentruy publications, who talked about the trends in funding and types of commercialization within the biotechnology community. She pointed out one interesting trend that many small companies were being founded on technologies originally pioneered by larger companies, particularly pharmaceuticals, but had been abandoned for a variety of reasons. The morning continued with a panel of UMBI researchers who

Continued on next page

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Back issues of *Inside MBC* are available on the web at:
<http://www.umbi.umd.edu/~mbc>

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Congratulations!

Leann Massey, from Dr. Mervyn Monteiro's laboratory, successfully defended her thesis, "Ubiquitin Modulates Presenilin Protein Biogenesis and Shuttles Misfolded Proteins to Aggresomes Through Microtubule-Based Motility" on August 9, 2005.

had new discoveries that had potential commercial value. Drs. Mervyn Monteiro and Chris Geddes from the MBC were included. Dr. Monteiro discussed his work on ubiquilin, a protein that may be involved in Alzheimer's disease. Dr. Geddes discussed his work on metal enhanced fluorescence as a platform in biosensing.

After a short talk by Christopher Foster from the Maryland Department of Business and Economic Development, a panel of four UMBI researchers who had actually spun-off companies discussed the trials and tribulations of the process. The afternoon was devoted to the more practical aspects of technology transfer, particularly funding, which is always the biggest stumbling block to successful commercialization. According to the participants, it is not just the amount of funding but the timing of the funding which can make or break the development of commercial products from biotechnology research.

In between talks and panels, participants from all sectors—academia, government and industry—mixed and mingled. Dr. Geddes was particularly mobbed after the panel he was on broke for a coffee break. Dr. Monteiro also elicited some interest in his work and noted that the day had been far more interesting than he had expected.

The meeting was quite well attended. In addition to Dr. Monteiro and Dr. Geddes, the MBC was represented by Assistant Director Tim Hughes and Research Coordinator Pamela Wright, who won one of the door prizes. It was a good start for UMBI's anniversary year.

A more detailed account can be found on UMBI's web site at http://www.umbi.umd.edu/nande/news/072505_entrepreneurday.html.



Dr. Mervyn Monteiro (third from left) and Dr. Chris Geddes (sixth from left) on a panel of UMBI scientists with available intellectual property to license.



Monteiro New Senate Chair

MBC's own Dr. Mervyn Monteiro is chair-elect of the UMBI Faculty Staff Senate. He replaces Dr. John Collins, also from MBC. This continues a long tradition of institution wide service from the MBC faculty. Previous MBC-based chairs include Dr. Marian Jackson, now UMBI Vice President of Academic Affairs, and an earlier stint by Dr. Collins.

The Faculty Staff Senate is a representative body that advises the UMBI president on issues that directly affect both the faculty and staff. It consists of two faculty representatives and one staff representative from each of the five centers, along with two representatives from central administration and one each from the students and research associates. MBC is represented by Drs. Bruce Vogel and Hali Hartmann as the faculty representatives and Tim Hughes as the staff representative.

More information about the senate and copies of the minutes can be found on the senate web site, <http://www.umbi.umd.edu/senate/>.

MBC Happenings

Comings and Goings

Gregory Hitz has joined Dr. Baskakov's laboratory as a general assistant. Research Associate **Dr. Olga Bacharova** has left the MBC. **Lisa Ostrowski**, Dr. Monteiro's research assistant has also left, along with **Maighdlin Anderson** from Dr. Baskakov's laboratory. Research Associate **Dr. Elena Alexandrova** is no longer in Dr. Lederer's laboratory.

Grants and Contracts

Dr. Shengyun Fang, 7/1/2005, NIH, "Novel Functions for gp78 in ER-associated Degradation," \$297,000, yr 2 of 5.

Dr. Joseph Kao, 7/1/2005, NIH, "Caged Probes for Cellular Physiology (with supplement for disabled individual)", \$336,400, Yr 4 of 4.

Dr. W. Jonathan Lederer, 8/1/2005, NIH/Columbia University, "Calcium Dependent Cardiac Arrhythmias," \$378,433, yr 5 of 5.

Dr. Chris Geddes, 8/1/2005, NIH, "Metal Enhanced Fluorescence RNA Sensing", \$126,255, yr 2 of 2.

Publications

Kanack KJ, Crawford JA, Tatsuno I, Karmali MA, **Kaper JB**. SepZ/EspZ is secreted and translocated into HeLa cells by the enteropathogenic *Escherichia coli* type III secretion system. *INFECTION AND IMMUNITY* 73 (7): 4327-4337 JUL 2005

Makarava N, Parfenov A, **Baskakov IV**. Water-soluble hybrid nanoclusters with extra bright and photostable emissions: A new tool for biological imaging. *BIOPHYSICAL JOURNAL* 89 (1): 572-580 JUL 2005

Gigena MS, Ito A, Nojima H, **Rogers TB**. A B56 regulatory subunit of protein phosphatase 2A localizes to nuclear speckles in cardiomyocytes. *AMERICAN JOURNAL OF PHYSIOLOGY-HEART AND CIRCULATORY PHYSIOLOGY* 289 (1): H285-H294 JUL 2005

Baillie LWJ. *Bacillus anthracis*, a story of nature subverted by man. *LETTERS IN APPLIED MICROBIOLOGY* 41 (3): 227-229 2005

Buskiewicz I, Peske F, Wieden HJ, **Gryczynski I**, Rodnina MV, Wintermeyer W. Conformations of the signal recognition particle protein Ffh from *Escherichia coli* as determined by FRET. *JOURNAL OF MOLECULAR BIOLOGY* 351 (2): 417-430 AUG 12 2005

Scaletsky ICA, Michalski J, Torres AG, Dulguer MV, **Kaper JB**. Identification and characterization of the locus for diffuse adherence, which encodes a novel afimbrial adhesin found in atypical enteropathogenic *Escherichia coli*. *INFECTION AND IMMUNITY* 73 (8): 4753-4765 AUG 2005

Aslan K, Holley P, Davies L, **Lakowicz JR**, **Geddes CD**. Angular-ratiometric plasmon-resonance based light scattering for bioaffinity sensing. *JOURNAL OF THE AMERICAN CHEMICAL SOCIETY* 127 (34): 12115-12121 AUG 31 2005

Gong WD, Jiang YX, Wang LW, Wei DY, Yao J, Huang SY, **Fang SY**, Xie KP. Expression of autocrine motility factor correlates with the angiogenic phenotype of and poor prognosis for human gastric cancer. *CLINICAL CANCER RESEARCH* 11 (16): 5778-5783 AUG 15 2005

Talks and Travels

Dr. W. Jonathan Lederer, Invited speaker and participant, "Spatial effects in signal transduction", Aspen Center for Physics Workshop, August 21-28, 2006

MBC Researchers Featured

Dr. Ilia Baskakov and his colleagues, Natallia Makarava and Alexander Parfenov, had their work featured in the July issue of *Biophotonics International*, a journal specializing in light based applications for biosensing. The journal selects interesting technologies published elsewhere, conducts interviews and writes the article. The MBC researchers developed a new method for creating fluorescent nanoclusters using silver, which can be done in aqueous solution at room temperature, using thioflavin T as the fluorophore. Unlike thioflavin T alone, the silver stabilized the fluorescence and actually increased intensity with time. Other fluorophores do not work, limiting the applications to those using thioflavin. Thioflavin is used to detect amyloids, like those associated with a number of neurodegenerative diseases including prion diseases and Alzheimer's. This new method eliminates some of the drawbacks of currently used staining methods.

Mysterious Boxes



Visitors and residents on the second floor south may be wondering about the two very large packing crates that appeared there in July 11. MBC's Institute of Molecular Cardiology (IMC) is hosting an extended demonstration of a Zeiss Live 5 confocal microscope. The demonstration has two purposes. One is to enable MBC researchers and others in the area to test the microscope on their own samples before buying one and the second is to generate enough data to justify the purchase of the machine for an equipment grant. With the price tag of the set-up at over \$350,000, grants are generally necessary to finance the purchase. Dr. W. Jonathan Lederer, head of the IMC, is expecting to submit a grant this fall, if the microscope does everything they hope it will do. In the meantime, local researchers are enjoying having a new tool to "play" with.