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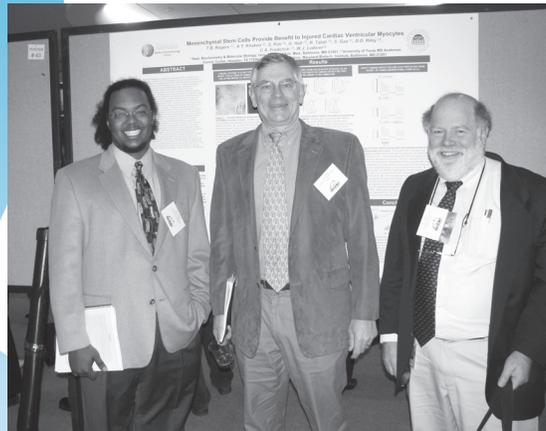
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Left to right: Graduate student Dushon Riley from Dr. Lederer's laboratory, Dr. Terry Rogers from UMB and Dr. Lederer's collaborator, and Dr. W. Jonathan Lederer, MBC Director.

## MBC Well Represented at State Stem Cell Symposium

The Maryland Stem Cell Research Fund held the 1st Annual Maryland Stem Cell Symposium on December 3, 2008. Every grant recipient was expected to have at least one poster or talk. MBC Director and recipient of the only USM Investigator Initiated Grant given in the first round of funding (*Inside MBC*, Vol. 10, No. 3), Dr. W. Jonathan Lederer was on the organizing committee and was a session chair.

After two rounds of funding, MBC has four grants funded and thus had four posters:



- Young Jin Lee, and Iliia V. Baskakov "The role of the normal Prion Protein (PrPC) in controlling Neuronal Fate".
- Valeria Albornoz, Shengyun Fang and Mervyn J. Monteiro, "Characterization of ubiquilin expression in human embryonic stem cells."
- Chao Liu and Shengyun Fang, "Ubiquitination-dependent regulation of Oct4 activity."

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## Dear Dr. Brian

MBC scientists make many presentations of their work, but rarely to the unique group of students that hosted a talk by MBC Research Associate, Dr. Brian Hagen. Dr. Hagen was invited by a teacher friend, Ms. Kathleen Gray, to come to her class of 7th and 8th graders at the Kennedy Krieger School on the 20th of November. These students have a variety of disabilities. He showed the students different fixed organs from a rat and went on to describe how organs are made up of single cells then showed them on a microscope (connected to a TV for group viewing) different type of single cells, including ventricular myocytes (He brought a stimulator to make them contract). He then talked about microscopy and fluorescence by bringing a laser with a fluorescent solution. The students were able to see a color, different from the laser color, of light emitted from the solution when excited by the laser. There was even time for some hands

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Dear Dr. Brian,

Thank You For Coming To Visit Us Yesterday And Talk About Your Job. I Felt Happy About Your Visit. One Thing I Liked was the TV. Another Thing I Liked was showing of the blood cells. My favorite part was when you gave us the droppers. Thanks again for coming.

DEAR DR.BRIAN,

THANK YOU FOR COMING TO VISIT US YESTERDAY AND TALK ABOUT YOUR JOB. HOW DID YOU LIKE IT? ONE OF THE THINGS I LIKED WAS THE TV SHOWING THE CELLS THAT KEEP YOU ALIVE. ANOTHER THING I LIKED WAS THE END OF CLASS WHEN YOU PUT MY OWN SALIVA IN A MICROSCOPE. MY FAVORITE THING I LIKED WAS THE RAT'S ORGANS. THANKS AGAIN FOR COMING AND I HOPE YOU CAN COME AGAIN.

Dear Dr. Brian,

Thank you for coming to visit us yesterday and talk about your job. I thought it was good about it. One thing I liked was the rat brain. It was awesome and a cool thing! Another thing I liked was pulling my hair under the microscope. It was funny! My favorite was the rat brains. Thanks for coming to are class.

Dear Dr. Brian,

Thank you for coming to visit us yesterday and talk about your job. I felt good about it. One thing I liked was when you made a slide of my cheek cells. Another thing I liked was the part when you showed us the body parts of the rat. My favorite part was when I saw the red blood cells move. It was a fantastic experience for me. Thank you.

## First UMBI Graduate Student Retreat

The first ever UMBI wide Graduate Student Retreat was held November 14 on the Shady Grove Campus. Talks by students and invited faculty, as well as mentoring sessions were on the agenda. The feedback was very favorable. MBC students Dushon Riley and Moradeke Bamgboye attended.

## Annual Holiday Party

This year's UMBI holiday party was a potluck held at the Columbus Center on December 19. Given the level of culinary achievement at UMBI, the party was a gastronomic success!

## Missing Issue

Some readers may have noticed that the newsletter went from May-June to September-October. No, MBC has not found a way to accelerate time, but rather one of the stories in July-August had intellectual property considerations. Until they are resolved, that issue is on hold.

Most of us do not consider *Inside MBC* to be a publication in the usual sense, but it is distributed online to the public. Thus, information about on-going research projects can be considered public when it is in the newsletter. It was a discussion about a new grant based on unpublished data that raised a red flag for MBC Assistant Director Tim Hughes, who reads through each issue before it is printed and put on line. After checking with the Office of Research, Innovation & Commercialization (ORIC) who handles all UMBI intellectual property and patent issues, it was decided to hold the issue until a preliminary patent was finished. Once that office has finished filing the application and a preliminary patent is issued, then July-August can be distributed.

The ORIC web site (<https://intranet.umbi.umd.edu/bd/idfreqaskquestions.php>) has considerable information about intellectual property and invention disclosure. While the author of the newsletter article thought that the information was insufficient to duplicate the research, ORIC thought that there was enough to warrant the delay in publication.

UMBI is rather unique in that economic development is actually part of our mission, so that the State of Maryland will benefit from research findings funded in part by state dollars. UMBI scientists, therefore, must be cognizant of the commercial possibilities of their research and be prepared to hold off publishing until their intellectual property is secured by an invention disclosure.



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### **Congratulations!**

Dr. W. Jonathan Lederer was elected a Fellow of the American Heart Association.

## Stem Cell Meeting continued

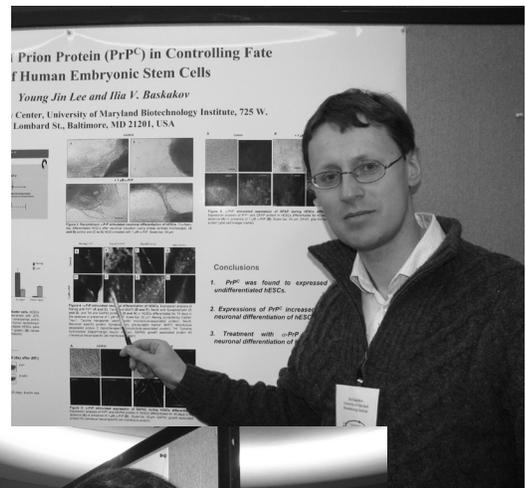
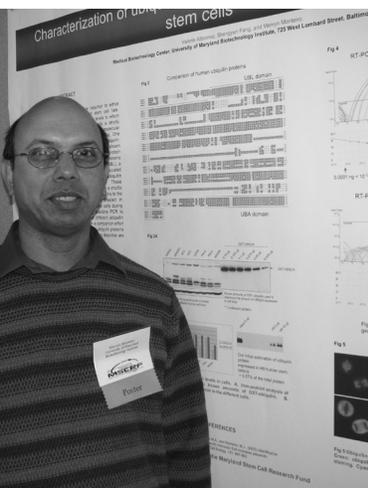
• T.B. Rogers, AY. Khakoo, S. Pati, G. Hall, R. Talati, S. Gaa, D. Riley, C. A. Frederick, W.J. Lederer, “Mesenchymal Stem Cells Provide Benefit to Injured Cardiac Ventricular Myocytes.”

The stem cell field in Maryland is dominated by Johns Hopkins University, where one of the pioneers in stem cell research, Dr. John Gearhart, worked. UMB recently hired another Johns Hopkins stem cell researcher, Dr. Curt Civin, to jump start a new institute on the Medical School campus.

With the strong initial funding that MBC has in the stem cell field and the continuing interest of MBC faculty to apply their expertise to what is really a nascent field of science, MBC is poised to be a pivotal player within USM and in beyond in the burgeoning stem cell research area.

*Far Left: Dr. Mervyn Monteiro;  
Top, Dr. Ilia Baskakov, Right, Dr. Shengyun Fang,*

*Pictures taken by Dr. W. J. Lederer*



## Science as Art Project

Many visitors have commented on the new artwork on the walls in the hallways and second floor conference room. MBC has collected more than sixty images from its scientists, and over 40 are printed and framed ready for hanging. The collection is still growing and there are plans to expand the sources to MBC adjunct faculty and perhaps other UMBI Centers. While the pictures have no more than a title and the “artist’s” name, the background information on the science represented by each picture is being collected with the view to making it available for those interested in the scientific aspects of the “art.”

The method of collecting the information is also unique. Mike Kelly, MBC’s IT coordinator, has designed a web interface for the faculty to access and paste in the scientific information, and note if the picture has been published already. Pamela Wright is in charge of the project. It is she who sometimes manipulates the raw images to produce fascinating designs. Faculty members have been generous with both their time and images. They seem to be surprised and excited about how beautiful the framed pictures have turned out.

Besides the hallways, pictures have been hung in the business office and Jami Kasco’s office. The ladies were permitted to choose and Dr. Chris Geddes’ work was particularly preferred. Please check out the current pictures in the main office and hallways. New pictures are expected to go up the end of February.



*Top: Pictures in the inner main office hallway, Bottom: The hallway outside the business office.*

## MBC Happenings

### Comings and Goings

Dr. Guihong Peng, Research Associate, has joined Dr. Mariusz Karbowski's laboratory. Emily Cheng, a UMB graduate student, is doing a rotation with Dr. Mervyn Monteiro.

### Grants and Contracts

Dr. Joseph Kao, 12/1/2008, UMBI Intercenter Grant, "Development of light-induced in vivo gene expression technology in an animal system," \$50,000, yr 2 of 2.

Dr. Shengyun Fang, 12/1/2008, UMBI Intercenter Grant, "A transgenic zebrafish model for monitoring ER stress," \$50,000, yr 1 of 2.

### Publications

Wang H, Lim PJ, **Karbowski M, Monteiro MJ**. Effects of over-expression of Huntingtin proteins on mitochondrial integrity. *Hum Mol Genet.* 2008 Nov 27. [Epub ahead of print]

**Geddes CD**. The journal of the fluorescence moves to a new home. *J Fluoresc.* 2008 Nov;18(6):1027

Neutzner A, Benard G, Youle RJ, **Karbowski M**. Role of the ubiquitin conjugation system in the maintenance of mitochondrial homeostasis. *Ann N Y Acad Sci.* 2008 Dec;1147:242-53.

### Talks and Travels

**Dr. W. J. Lederer**, session speaker, American Heart Association Scientific Sessions, New Orleans, November 8-12.

**Dr. Joe Kao**, invited seminar, CARB: "Electron Paramagnetic Resonance Imaging of Tumors," November 10, 2008.

**Dr. Bruce Vogel**, invited speaker, "Extracellular Matrix and Morphogenesis in Model Organisms." MBC, UMBI, November 13, 2008.

**Dr. Joe Kao**, Instructor (one of seven) for Short Course entitled "Optical Control of Neural Excitability," Society for Neuroscience Meeting (Washington, DC), November 14, 2008

**Kadir Aslan and Chris D. Geddes**, invited speakers "STD detection in less than 1 minute", Johns Hopkins University, Department of Infectious diseases, December 12, 2008.

## Bits and Pieces

➤ MBC's annual potluck was held November 20, 2008. The usual collection of culinary delights was on display—at least for a few minutes before being devoured! It is one of the favorite events for MBC to get together socially.

➤ Dr. John Collins was feted at his retirement party hosted by Dr. Joe Kao on November 22, 2008. Dr. Collins retired the end of October (*Inside MBC*, Vol. 11, No. 5). Besides a gift certificate from his co-workers, he received smaller versions of the scientific artwork he has contributed to decorate MBC walls.

➤ Every year the Board of Regents recognizes significant faculty contributions to the University System in a variety of categories. UMBI can put forward one nomination in each category, which are selected from nominations sent by the Centers. This year MBC nominated Dr. Mervyn Monteiro for the Mentoring/Teaching Award and Dr. Joe Kao and Dr. Gerald Rosen for the Research Collaboration Award. While UMBI declined to forward Dr. Monteiro, it did forward the Kao/Rosen nomination to the Board of Regents. Good luck, Drs. Kao and Rosen!

➤ MBC was featured in the UMBI newsfeed on the following days: 11/19/2008 (Metal Enhanced Fluorescence), 12/2/2008 (Aslan/Geddes highlighted article), 12/9/2008 (Lederer Fellowship), and 12/12/2008 (Muralidharan cookbook). Past newsfeeds can be found at <https://intranet.umbi.umd.edu/index.php>. You must have a UMBI login to access the site.

➤ Dr. Chris Geddes' laboratory moved from the second floor of the MBC building to space in the Columbus Center, where the Institute of Fluorescence will have significantly more space. MBC currently has limited space for expansion.

## UMBI Intercenter Grants, Round 2

The second annual UMBI Intercenter Grants were awarded in December. Dr. Shengyun Fang was co-PI on one of the awards. The PI was Shao-Jun Du from COMB of the grant entitled "A transgenic zebrafish model for monitoring ER stress." Dr. Du is an expert in transgenic zebrafish and maintains one of the world's largest zebrafish transgenic facilities. Dr. Fang is an expert in ERAD, endoplasmic reticulum associated degradation. This is one of the principle pathways for recycling misfolded and unwanted proteins in the cell. It is also one of the pathways disrupted in disease. When the ER becomes stressed due to disruption of its normal processes, several other pathways are activated, one of which is apoptosis, or programmed cell death.

The UMBI Intercenter Grant program is unique to UMBI (*Inside MBC*, Vol. 10 No. 5). It is designed to foster collaboration between centers, but also between faculty members who may not have worked together previously. The research is expected to lay the ground work for federal funding.



Dr. Brian continued

on fun as well, using their own cells. After his visit, Dr. Hagen commented; "I was pleased with interest that the kids took in my presentation and also surprised with the education received and knowledge expressed by the children; one child knew the anatomy of the gastrointestinal tract on a level of a graduate student." All of the students wrote him thank you notes addressed to "Dr. Brian."