



Inside MBC

"...molecular medicine through biotechnology"

Volume 6, Number 4

July-August, 2003

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More UMBI Layoffs

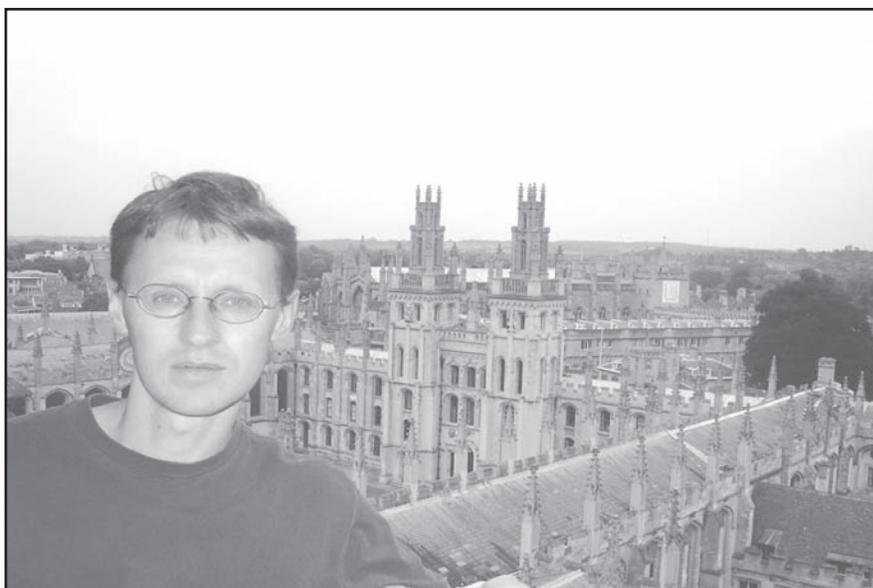
The second round of layoffs have hit UMBI Central, reflecting the continued state budget crisis. Among the hardest hit was the Office of Institutional Affairs, the Office of Communications and the Office of Business Development. Both the Offices of Institutional Affairs and Communications have been eliminated. The Office of Business Development is undergoing reorganization to increase its efficiency and effectiveness. In a July 21, 2003 e-mail to all employees, UMBI's President Dr. Jennie Hunter-Cevera noted that "the deficit is substantial and employee layoffs were a necessary component of our spending reductions...every effort [was made] to maintain functions that support our core activities that bring into UMBI external funding and support the activities of non-State funding."

Institutional affairs are now handled by the Office of the President. Public and media relations, the major function of the Office of Communications, are now coordinated by Marian Jackson, Associate Vice President for Academic Affairs. Each center has designated a liaison to gather information for the UMBI web site or other UMBI publications. Pamela Wright is MBC's public affairs liaison.

MBC Prion Expert at Oxford

Dr. Ilia Baskakov has only been at the MBC a little over a year but already he becoming internationally known. He was invited by Dr. William James at the Sir William Dunn School of Pathology, University of Oxford to lecture and collaborate on some investigations on bovine

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Dr. Ilia Baskakov on the top of St. Mary's University Church overlooking the Oxford University campus.

Record Year for Grants

Fiscal year 2003 ended June 30th but not before MBC had a record year for grant support. Grant monies from resident primary and secondary faculty are shown in the graph on page 3. It demonstrates that UMBI primary faculty members have dramatically increased the total amount of grant monies awarded to them in the last two years. Resident secondary faculty members, Dr. Joseph Lackowicz and Dr. Gerald Rosen, have also held their own and remain securely funded. Secondary faculty members are those researchers whose primary appointments are at UMB. Their grants are funded through that institution. Primary faculty members' grants are funded through UMBI. While the number of primary faculty members have also increased over this time from 10 to 19 (four in the last year alone), these are primarily young investigators. Several senior, well-funded faculty have moved on, most notably

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Summer Visitors

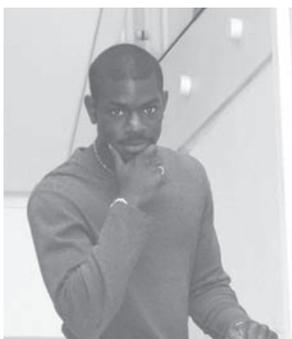
This summer brings back some familiar faces and a newcomer to MBC labs. Jamie Miller, who had worked with Dr. Mervyn Monteiro while in high school (*Inside MBC* Vol. 5, No. 2) and has just finished her freshman year at UMBC, was back to finish up some experiments. Ms. Miller is a premedical student majoring in Biochemistry.



Jaime Miller and Lisa Ostrowski

In addition to her, Dr. Monteiro also had another returnee in Lisa Ostrowski. Ms. Ostrowski had worked as a research technician for Dr. Monteiro from 1997 to 1999 years before starting a teaching career at Mount de Sales Catholic High School in Catonsville. She teaches science at this small girls school. She has been back every summer except last when she gave birth to twin boys.

The Minority Research Program at the UMB School of Medicine, run by Dr. Jordan Warnick, brought Kelechi Aguwa to work in Dr. Gerald Rosen's laboratory this summer. Mr. Aguwa, a Nigerian-American, is a prepharmacy student at University of Maryland, Eastern Shore. He is studying nitrous oxide in macrophages with Kim Raines, a graduate student from the School of Pharmacy. He thought that this was a "great experience."



Kelechi Aguwa

Tricks of the Trade

By Pamela Wright

Cutting and Pasting Tricks

How many times have you cut and pasted text and then had to reformat it to make it look like the rest of the document? This annoying artifact occurs in all programs. While it may not be a problem if you have to do it once, it is a major time waster when there is a lot to move and the format of your document is complex. There are solutions and which one works depends upon which program you are using.

Microsoft programs have two versions of Paste—Paste and Paste Special. Excel users often employ Paste Special to move just the value of a cell into a new cell instead of the underlying formula. In Word and PowerPoint, there is also a Paste Special and it, too, allows you to decide what format the pasted text will take. In Word, cut the text as usual and place the cursor where you want to paste. Select Paste Special under Edit. In the small dialog box that comes up, select Unformatted Text. This will strip all formatting from the text that has been cut. When the text is inserted, it takes the formatting from the text around it. This includes tabs, margins, indents, justification—everything. This eliminates reformatting and some of those weird ghost codes that mess up the formatting of your document.

PowerPoint is different because text is pasted into a text box. If you have formatted your document, including font selection, justification, size etc., *before* you have created any text boxes, then whenever you create a text box it will have the format you have already set up. You can then use Paste Special, Unformatted Text to have the pasted text take on the formatting you have already created. Otherwise it will take on the default format.

Adobe graphic products—Photoshop and Illustrator—automatically override all pasted text formatting. However, Adobe InDesign does not. It operates similar to PowerPoint, but the command is Paste in Place. If you are cutting from a Word document and pasting into an InDesign document, InDesign will override the Word formatting automatically. However, if you are pasting from one InDesign document to another, you will have to Paste in Place to have the formatting from the pasted document override the formatting from the cut document.

When you import text documents into InDesign, using Place, the formatting from the original document will be retained unless you change the import options. This is done by selecting the Show Import Options check box on the navigation window that opens using Place. Once you select a file to import, the next dialog box will list the import options. Check "Remove Text and Table Formatting." When you place the file in the InDesign

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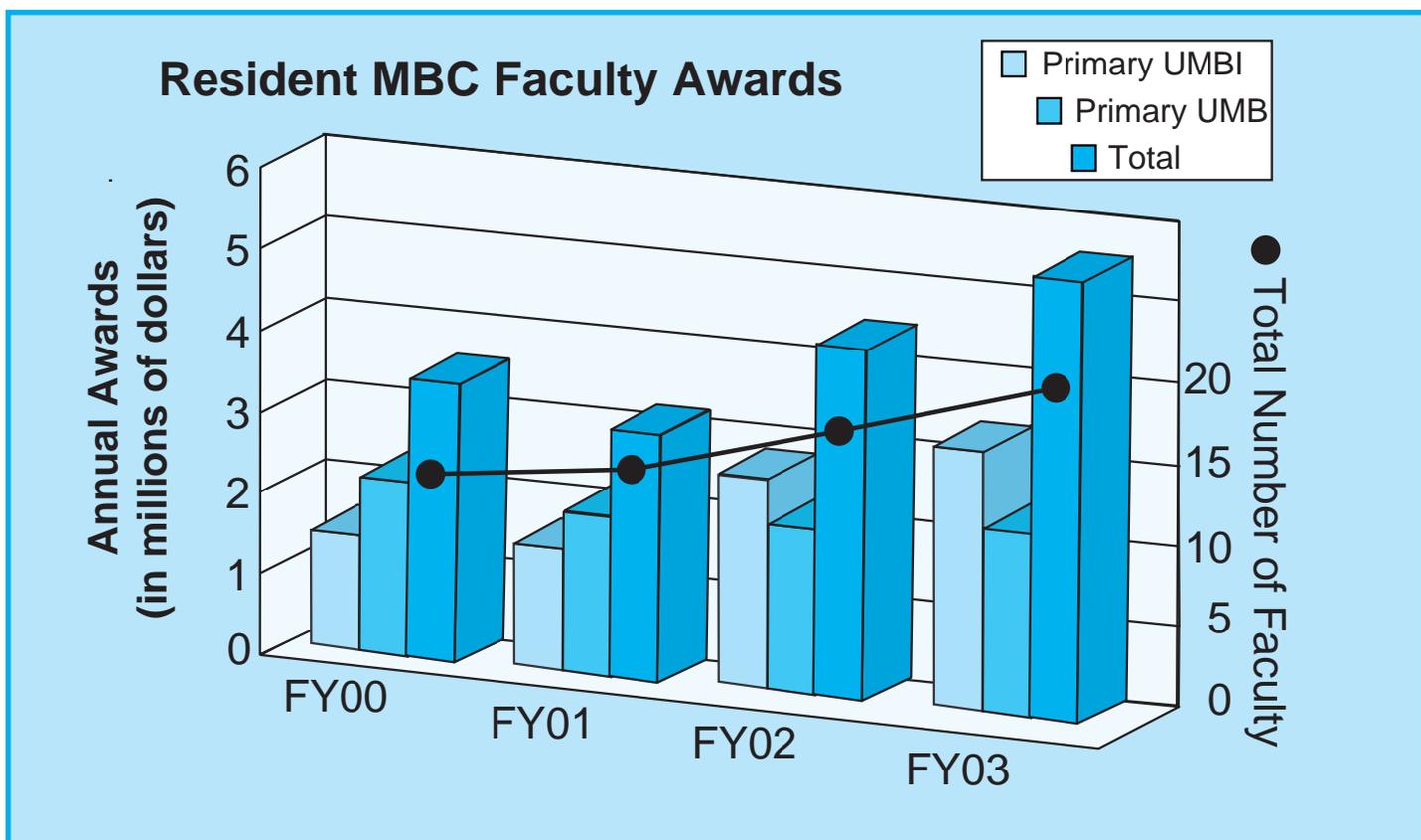
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Back issues of *Inside MBC* are available on the web at:

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Dr. Govind Rao, now Chair of the Department of Chemical Engineering at UMBC and Dr. Russell Digate, now Associate Dean of the School of Pharmacy, UMB. In general, one would expect the shift to younger investigators to be reflected in a decrease in funding per faculty until these new researchers become better established. However, from 2002 to 2003 we had a 27% increase in faculty but a 38% increase in grant support.

MBC's young faculty has been unusually successful in being awarded grants after only one or two submissions. Dr. Bruce Vogel received a 5 year NIH R01 grant on his first try, just months after he arrived at the MBC. Drs. Iliia Baskakov and Chris Geddes have also attracted funding within a year of their arrival. When even seasoned investigators must expect to resubmit 2 and 3 times, the success of MBC's young faculty is truly remarkable.

Newcomers Bring International Feel to MBC

Our newest faculty members come from all over the globe, increasing the cosmopolitan feel of MBC's laboratories and hallways. Dr. Xuehong Xu, fresh from a post-doctoral fellowship at Indiana University School of Medicine, is originally from China. He has joined the Program for Cell Structure and Development headed by Dr. Bruce Vogel. This program has also recruited Dr. Joaquin Muriel, originally from Spain, who had been at the University of Chicago before his arrival here in August. However, the most distant faculty member is Dr. Mark Cannell. He is a new Adjunct Professor who makes his home in Auckland, New Zealand, where he is professor and chair of the Department of Physiology at the University of Auckland. He was visiting here recently (*Inside MBC*, Vol. 6, No. 3)

With the exception of Antarctica, MBC faculty members now have ties to every continent on earth, whether they were born there, went to school there or now live there. No matter what the connection, MBC is really a global enterprise.

Did You Know....

....that there were originally six UMBI centers? During the budget crises in the 1990's, the Center for Public Issues in Biotechnology (CPIB), and the Center for Biotechnology Manufacturing (CBM) were eliminated. CPIB and CBM were both located at UMBC. That gave UMBI four centers until the separation of the IHV from the MBC in 1998...and then there were five.

MBC Happenings

Comings and Goings

Yvonne Koch, a visiting Research Assistant in Dr. Monteiro's laboratory, finished her work and returned to Germany. **Dr. Vadym Degtyar** joined the Institute of Molecular Cardiology as an Assistant Professor. **Dr. Xuehong Xu** and **Dr. Joaquin Muriel** joined Dr. Bruce Vogel's laboratory as Assistant Professors. **Dr. Alexandr Parfenov** moved from Dr. Joseph Lakowicz's laboratory to Dr. Iliia Baskakov's. **Dr. Mark Cannell** became an Adjunct Professor.

Grants and Contracts

Dr. W. J. Lederer, NIH, Columbia University, "Calcium Dependent Cardiac Arrhythmias," 8/1/03, \$351,054, yr 2 of 5.

Publications

Murata S, Herman B, Mochizuki K, Nakazawa T, Kondo T, Nakamura N, Lakowicz JR, Katoh R. Spatial distribution analysis of AT- and GC-rich regions in nuclei using corrected fluorescence resonance energy transfer. *J. HISTOCHEM. CYTOCHEM.* 51 (7): 951-958 JUL 2003

Kramer SE, Kostov Y, **Rao G**, Bentley WE. *Ex vivo* monitoring of protein production in baculovirus-infected *Trichoplusia ni* larvae with a GFP-specific optical probe. *BIOTECH. BIOENGIN.* 83 (2): 241-247 JUL 20 2003

Doong H, Rizzo K, **Fang SY**, Kulpa V, Weissman AM, Kohn EC. CAIR-1/BAG-3 abrogates heat shock protein-70 chaperone complex-mediated protein degradation - Accumulation of polyubiquitinated Hsp90 client proteins. *J. BIOL. CHEM.* 278 (31): 28490-28500 AUG 1 2003

Geddes CD, Parfenov A, Roll D, Fang JY, **Lakowicz JR**. Electrochemical and laser deposition of silver for use in metal-enhanced fluorescence. *LANGMUIR* 19 (15): 6236-6241 JUL 22 2003

Lakowicz JR, Malicka J, **Gryczynski I**, Gryczynski Z. Directional surface plasmon-coupled emission: a new method for high sensitivity detection. *BIOCHEM. BIOPHYSIC. RES. COMM.* 307 (3): 435-439 AUG 1 2003

Schulze DH, Muqhal M, **Lederer WJ**, **Ruknudin AM**. Sodium/calcium exchanger (NCX1) macromolecular complex. *J. BIOL. CHEM.* 278 (31): 28849-28855 AUG 1 2003

Huang CC, Hall DH, Hedgecock EM, Kao G, Karantz V, **Vogel BE**, Hutter H, Chisholms AD, Yurchenco PD, Wadsworth WG. Laminin alpha subunits and their role in *C. elegans* development. *DEVELOPMENT* 130 (14): 3343-3358 JUL 2003

Sperandio V, Torres AG, Jarvis B, Nataro JP, **Kaper JB**. Bacteria-host communication: The language of hormones. *PNAS* 100 (15): 8951-8956 JUL 22 2003

Malicka J, **Gryczynski I**, **Geddes CD**, **Lakowicz JR**. Metal-enhanced emission from indocyanine green: a new approach to *in vivo* imaging. *J. BIOMED. OPTICS* 8 (3): 472-478 JUL 2003

Roll D, Malicka J, **Gryczynski I**, Gryczynski Z, **Lakowicz JR**. Metallic colloid wavelength-ratiometric scattering sensors. *ANAL. CHEM.* 75 (14): 3440-3445 JUL 15 2003

Plonka PM, Wisniewska M, Chlopicki S, Elas M, Rosen GM. X-band and S-band EPR detection of nitric oxide in murine endotoxemia using spin trapping by ferro-di(*N*-(dithiocarboxy)sarcosine). *ACTA BIOCHIMICA POLONICA* 50 (3): 799-806 2003

Parfenov A, **Gryczynski I**, Malicka J, **Geddes CD**, **Lakowicz JR**. Enhanced fluorescence from fluorophores on fractal silver surfaces. *J PHYS CHEM B* 107 (34): 8829-8833 AUG 28 2003

Oxford continued.

spongiform encephalitis or "mad cow disease". Dr. Baskakov is an expert on the conformational changes of the prion protein that produce the disease state. He has developed an *in vitro* model system that can mimic the conformational changes of the protein found *in vivo*. Dr. James' laboratory is interested in the variants of the infectious form of the prion protein that affect the susceptibility of humans to acquire the bovine disease. Dr. Baskakov's model system allows researchers to screen the effects of genetic variation on the possible transmissibility of variants quickly and safely. Previous work had to be done in mice where the disease may take two years to develop. This is both expensive and requires high levels of biosafety. The *in vitro* system that Dr. Baskakov has developed allows researchers to reduce the number of variants that must eventually be tested *in vivo* to confirm the effects of the genetic variation. This greatly speeds up the discovery process.

Whenever a scientist travels as far away as the United Kingdom, he tries to meet as many of his colleagues as he can and they in turn invite him to talk. This trip was no exception for Dr. Baskakov. He gave 5 lectures going from south and west of London to as far away as Edinburgh, Scotland in the north. He spoke on two different topics, the first discussed the prion protein in the broader context of protein folding; the other focused on his model system. The list of lectures Dr. Baskakov gave is included below. Lecturing and experiments left little time to sight-see, though he did enjoy wandering around Oxford.

Paste Tricks continued

document, it will take on the current formatting you have set up.

One of the most important points to remember is that formatting documents before entering text, in whatever way, saves a lot of trouble later. Try changing those settings ahead of time, before you start typing. You'll be amazed at how much easier it will be to make the document look perfect the first time.

Talks and Travels

Dr. Iliia Baskakov, "Conformational Transition of the Prion Protein: Exception or Rule in Protein Folding?": 7/19/03, Department of Pathology, Oxford University, 7/22/03, Department of Biological Sciences, University of Warwick, England and 7/30/03, Institute for Animal Health, Compton, England. "In Vitro Conversion of Recombinant PrP into PrP^{Sc}-like Isoform" 7/18/03, MRC Center for Developmental Neurobiology, King's College, London and 8/7/03, Institute for Animal Health, Edinburgh, Scotland.

Andrew Ziman, 7/25/03, UMB Muscle Biology Training Program Student Seminar, "The Effects of Spatial Limitation on the Development of Neonatal Cardiomyocytes."