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They Choose to Teach

Teaching and education are not the first things you may think about when UMBI or the MBC is mentioned. After all, UMBI does not grant degrees. It was created as a research institute and faculty members are not required to teach. However, most of MBC's primary faculty members do choose to teach—without any special recompense but the fulfillment of interacting with students.

Because UMBI does not have its own courses or students, MBC primary faculty have secondary appointments at our sister institution and neighbor, University of Maryland Baltimore. As discussed in Tim Hughes' history of MBC (*Inside MBC* Vol. 4 No. 6), early on appointments were actually split between the two institutions financially. That began the tradition of teaching when it was required as part of the split appointment arrangement. Teaching continued even after appointments were no longer split administratively, in part because graduate students still had to matriculate at UMB. As mentoring graduate students is a fundamental activity of academic laboratory scientists and few faculty members are willing to give up such mentoring activity, MBC faculty members continued to cultivate secondary appointments that do not require salary support from UMB but give them opportunities to interact with and recruit students.

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Spring Speakers

MBC hosted several interesting seminars this spring. On March 11, 2004, Dr. Zoya Leonenko, a visiting scientist at the Center for Fluorescence Spectroscopy, spoke on "Structure, dynamics and forces of interaction in biomacromolecular assembly: Atomic force microscopy study", introducing many in the audience to this technique which has only recently been applied to biological questions.

April was quite filled with a variety of speakers. Dr. Ernst Niggli from the University of Bern, Switzerland spoke on "Termination and Recovery of Ca-Induced Ca Release in Cardiac Muscle: the Role of SR Ca Content" on April 5, 2004. Dr. Niggli had been a Visiting Assistant Professor with Dr. W. Jonathan Lederer from 1988 to 1990. The end of April was packed beginning with Dr. Les Baillie hosting Dr. Robert Marrero from Motorola Life Science, Pasadena, CA who discussed his work



Dr. Zoya Leonenko



Dr. Ernst Niggli

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UMBI News

BOR Student Representative

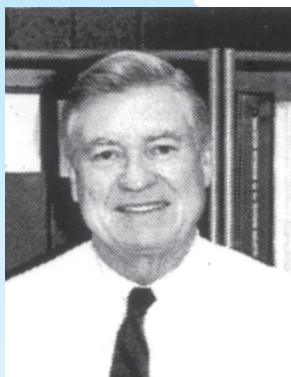
Mr. Peter Shockley, USM Board of Regents (BOR) Student Representative, got a first hand look at UMBI when he was shown all five centers by Dr. Jennie Hunter-Cevera, President, on March 19, 2004. On his visit to MBC, Mr. Shockley saw several laboratories in action, including Dr. Mervyn Monteiro's and Dr. W. Jonathan Lederer's. The visit was arranged after Dr. Hunter-Cevera invited Mr. Shockley to tour UMBI after meeting him during the legislative sessions.



Left: Dr. Mervyn Monteiro discussing his work on Alzheimer's Disease with President Hunter-Cevera and Mr. Shockley. Below, Dr. W. Jonathan Lederer demonstrates confocal imaging of heart cells.



In Memoriam



Dr. Richard Neville passed away on March 2, 2004. Many of us would not recognize the name but older members of the UMBI community remember him well. Tim Hughes, MBC Assistant Director, put it this way in an email circulated on March 2, 2004: "For those who didn't know Dr. Neville, he was Acting Provost of UMBI from 1991-1994. Those years were important in the maturation of UMBI and especially rigorous during the legislative battles for funding for our building. He was a strong advocate for UMBI within USM and, in those early years, applied his strong organizational skills and experience to help establish an effective UMBI Senate. Personally he was a warm and generous man who, by example, taught many of us the meaning of collegiality."

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Congratulations

Leann Massey, a graduate student with Dr. Mervyn Monteiro, has won first place at the University of Maryland Aging and Women's Health Research Poster Day in the Pre-doctoral Bio-Medical/Basic Science Category for her poster entitled "Mechanisms of Presenilin Regulation by Ubiquitin". The Poster Day is sponsored by the Women's Health Research Group and several UMB gerontology programs for individuals within UMB.



Teaching Continued

Generally, teaching activities involve giving several lectures in a class organized by a UMB faculty member. For example, Dr. Shengyun Fang gives lectures for the Department of Molecular and Cell Biology in two different courses, MCB601 and MCB602, and Dr. Bruce Vogel lectures in MPHY720 for the Department of Physiology. Senior faculty members even teach a class by themselves. Dr. W. Jonathan Lederer periodically gives a class for the Department of Physiology entitled Seminar in Cardiology. He also regularly lectures in several other courses and runs small group sessions. Dr. Lederer had to curtail many of his teaching activities when he was appointed Director of the MBC in 2000.

However, two MBC faculty members are far more involved than just lecturing. Besides teaching, Dr. Mervyn Monteiro is the Associate Director of the Graduate Program in Molecular and Cell Biology and is responsible for over 30 students, training them in scientific discussion of papers and seminar discussion, as well as organizing their yearly symposium (*Inside MBC* Vol. 5 No. 2) and retreats. He is a past UMBI nominee for the USM Regents Teaching Award. The second faculty member is Dr. Joseph Kao. Dr. Kao not only teaches in 7 courses, but over the years he has developed a new course (Imaging Methods in Membrane Biology) and organized others. He is currently Director of the Masters Program in Physiology in the department of the same name. He was UMBI's nominee for the Regents Teaching Award this year.

Of course, mentoring students in the laboratory is another form of teaching that often goes unappreciated. It is truly amazing and inspiring the amount of time MBC faculty members devote to teaching, while maintaining full and fully-funded research programs. Many students, however, are glad that “they choose to teach”.

“...most of MBC's primary faculty members do choose to teach—without any special recompense but the fulfillment of interacting with students”

This year's MBC retreat was held on April 23, 2004. See the special Retreat Issue of Inside MBC for pictures and agenda.

Spring Speakers Continued



Dr. Steven Houser

on “Experimental Microfluidic Applications for Microbial Sample Preparation, Genetic Target Detection & Analysis” on April 26. He was followed on April 27 by Dr. Steven Houser, Temple University, who spoke on “Cellular Bases of Abnormal Ca^{2+} Transients in Heart Failure.” Dr. Houser is a collaborator of several faculty members in the Institute of Molecular Cardiology. The month ended with a seminar on April 30 arranged and co-hosted by the Program Project Grant in Heart Failure, Department of Biochemistry and Molecular Biology, UMB. Dr. David M Virshup of the Huntsman Cancer Institute, University of Utah, presented his seminal work on “Wnt Signaling Regulation by Reversible Protein Phosphorylation”.

Between the candidate seminars noted on Page 4 and the regular seminars, MBC hosted 10 seminars in two months! That has got to be a record. This did not even include the annual Symposium in Molecular and Cell Biology which was organized by Dr. Mervyn Monteiro as part of the Graduate Program in Molecular and Cell Biology, UMB. This day-long symposium was held on March 11, 2004 and attended by many of MBC's faculty and students. It also does not include MBC's own annual retreat held on April 23. With so many talks indoors, MBC faculty and staff did not get to enjoy much of the great spring weather the area was having.

MBC Happenings

Honors

Dr. Chris Geddes chaired the Analytical Sensing/Analytical Biochemistry Study section, NIH, March 13-14, 2004.

Comings and Goings

Dr. Leiping Feng joined Dr. Mervyn Monteiro's laboratory as a Research Associate. **Mathias Rieckher** also joined Dr. Monteiro's laboratory as a Laboratory Assistant. **Dr. Yuri Negulaev**, a Visiting Professor in the Institute of Molecular Cardiology, returned to the Institute of Cytology in St. Petersburg. **Dr. N. Leticia Gomez** is a Research Association with Dr. W. Jonathan Lederer.

Grants and Contracts

Dr. Bruce Vogel, NIH, "The Molecular Genetics of Hemocytin," 4/1/04, \$249,480, yr 3 of 5.

Publications

Shen SH, Mascarenhas M, Rahn K, **Kaper JB**, Karmali MA. Evidence for a hybrid genomic island in verocytotoxin-producing *Escherichia coli* CL3 (Serotype O113:H21) containing segments of EDL933 (Serotype O157:H7) O islands 122 and 48. *INFECTION AND IMMUNITY* 72 (3): 1496-1503 MAR 2004.

Ge XD, Tolosa L, **Rao G**. Dual-labeled glucose binding protein for ratiometric measurements of glucose. *ANALYTICAL CHEMISTRY* 76 (5): 1403-1410 MAR 1 2004.

Baskakov IV, Legname G, Gryczynski Z, Prusiner SB. The peculiar nature of unfolding of the human prion protein. *PROTEIN SCIENCE* 13 (3): 586-595 MAR 2004.

duBell WH, Rogers TB. Protein phosphatase 1 and an opposing protein kinase regulate steady-state L-type Ca^{2+} current in mouse cardiac myocytes. *JOURNAL OF PHYSIOLOGY-LONDON* 556 (1): 79-93 APR 1 2004.

Matveeva E, Gryczynski Z, **Gryczynski I, Lakowicz JR**. Immunoassays based on directional surface plasmon-coupled emission. *JOURNAL OF IMMUNOLOGICAL METHODS* 286 (1-2): 133-140 MAR 2004.

Malicka J, **Gryczynski I, Gryczynski Z, Lakowicz JR**. Use of surface plasmon-coupled emission to measure DNA hybridization. *JOURNAL OF BIOMOLECULAR SCREENING* 9 (3): 208-215 APR 2004.

Mical TI, **Luther PW, Monteiro MJ**. Intracellular assembly and sorting of intermediate filament proteins: role of the 42 amino acid lamin insert. *EXPERIMENTAL CELL RESEARCH* 295 (1): 183-193 APR 15 2004.

Badugu R, **Lakowicz JR, Geddes CD**. Excitation and emission wavelength ratiometric cyanide-sensitive probes for physiological sensing. *ANALYTICAL BIOCHEMISTRY* 327 (1): 82-90 APR 1 2004.

Sjogren AC, **Kaper JB**, Caprioli A, Karpman D. Enzyme-linked immunosorbent assay for detection of Shiga toxin-producing *Escherichia coli* infection by antibodies to *Escherichia coli* secreted protein B in children with hemolytic uremic syndrome. *EUROPEAN JOURNAL OF CLINICAL MICROBIOLOGY & INFECTIOUS DISEASES* 23 (3): 208-211 MAR 2004.

Champion HC, Georgakopoulos D, Takimoto E, Isoda T, **Wang YB**, Kass DA. Modulation of in vivo cardiac function by myocyte-specific nitric oxide synthase-3. *CIRCULATION RESEARCH* 94 (5): 657-663 MAR 19 2004.

Galloway D, Liner A, Legutki J, Mateczun A, Barnewall R, Estep J. Genetic immunization against anthrax. *VACCINE* 22 (13-14): 1604-1608 APR 16 2004.

Talks and Travels

Dr. Valeriy Lukyanenko, Invited Speaker, Laboratory of Car-

New Faculty Search

Despite the state hiring freeze, MBC finally received permission to proceed with a search for a new faculty member last fall. This is the last of a series of previously planned and approved hires, which was on hold during the budget crisis. Two earlier searches culminated in the hiring of Dr. Ilia Baskakov (*Inside MBC* Vol. 4 No. 4) and Dr. Shengyun Fang (*Inside MBC* Vol. 5 No. 5).

An advertisement was placed in *Science* last December and applications began to arrive on Tim Hughes' desk. It was his responsibility to organize and track all applications and to make sure the search committee had everything it needed to select the top candidates to invite to the MBC for a visit. Out of 76 applicants, the committee selected 5 candidates to come to the MBC for interviews and seminars.

The research interests of the top candidates reflect the broad interests within the MBC. The first candidate was Patricia Opresko of the National Institute on Aging who spoke on telomere metabolism, then Ravi Ranjan from Harvard University whose work centered on synaptic transmission. Neurology topics continued with Itzhak Mano of Rutgers (excitotoxic neurodegeneration) and Lin Jin, Harvard University (calcineurin signal pathway). The final candidate, Francis Valiyaveetil, was from Rockefeller University and studied potassium channels.

All five interviews were conducted in a span of 5 weeks. The quality of the candidates and the institutions they were from will make the work of choosing one or two finalists extremely difficult for the committee, who is not expected to finish its work until the beginning of May.

divascular Science, National Institute on Aging, NIH, "Dynamic Regulation of the SR Ca^{2+} Content by Lumenal Ca^{2+} -Sensitive Leak through RyRs" March 24, 2004.

Dr. W. Jonathan Lederer, Invited Speaker, Department of Physiology and Cellular Biophysics, Columbia University, New York, NY. "Flickering Light of Calcium Spark in Heart". March 23, 2004.

Dr. W. Jonathan Lederer, The Physiology Society Designated Lecture on Heart & Cardiac Muscle: "SR Calcium in heart: Sparks, 'leak' and heart failure". Glasgow, Scotland, UK. March 29, 2004.

Dr. W. Jonathan Lederer, British Society for Cardiovascular Research Lecturer at meeting on "Frontiers in Cardiovascular Signalling". Special Lecture: "Calcium signaling in the heart: basic mechanisms to heart failure". April 1, 2004. Manchester University, Manchester, England, UK.

Dr. Howard Doong, Guest Speaker, NIDDK Fellows Scientific Retreat, Career Development Session, April 26-27, 2004.

Dr. Bruce Vogel, Seminar Speaker, Epithelial Morphogenesis in *C. elegans*: The role of the extracellular matrix. Max-Planck-Institute for Biomedical Research, Heidelberg, Germany 4/30/04