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Chair's Message

The 2009 School of Medicine graduation was particularly uplifting, with a laid-back jovial atmosphere unmatched by any pre-Ike graduation I have attended. The high spirits were also part of the message of support delivered by Chancellor Francisco Cigarroa, who clearly charmed the audience. One source for the upbeat spirit is the recent financial reassurances provided by the Texas Legislature and the Governor, who plans to sign the UTMB portions of the State Budget on our campus. This commitment to UTMB's return to a fully functional state is in sharp contrast to the early decisions of the UT System Board of Regents, which resulted in the loss of jobs for many in the UTMB family at a time when the devastation caused by Ike and the national financial downturn appeared overwhelming.

At the level of BMB, we should know the substance of our budget for next year halfway through the summer. We know it will be impacted by last year's decrease in our teaching effort, but I hope that over the next year we can return to pre-Ike levels.

At the present, there are three major ongoing developments that will impact us. With the arrival of this year's hurricane season, a preparedness plan is being developed to minimize losses

of valuable samples and reagents stored at -80°C due to power losses. One part of the plan as it applies to BMB is to have "Research Emergency Response Coordinators". Having multiple individuals will allow for backup and rotation, and thus limit the time commitment for those involved. I have asked Drs. Marc Morais, Louise Prakash, and Michael Sherman to assume this role. The main task of the coordinators will be to act as first early returners to the campus, determine the damage to individual laboratories, and check and maintain all "critical" freezers. If an individual laboratory is damaged, the coordinator will contact the relevant PI or lab manager for instructions and notify them of the need to return early to their lab. There will also be a repository of orange 'early return' cards off island, so any PI or lab manager who is not on the Emergency Plan for early return will be able to obtain an orange card and cross the causeway and enter our buildings if the early return team identifies a problem. We will discuss this at our next faculty meeting, and a more detailed plan will emerge over the next month.

The need for an appraisal of the role of postdoctoral fellows has long been discussed, and now guidelines are being put in place. Specifically, these address



expectations from both the postdoc and the mentor, career development, compensation and maximum length of appointment as a postdoctoral fellow. Details are to be discussed at our faculty meeting.

The Research Executive Committee (REC) is presently engaged in developing a research strategic plan for UTMB that will guide the administration in its future commitment of resources. At the present time, the goal is to recognize the impacts of the NIH stimulus package, the Texas Cancer Initiative and, sadly, the consequences of losses of faculty during the past months. In addition to soliciting input from Department Chairs and Center Directors, individual suggestions as to visions for the future that take advantage of present strengths and opportunities are very much welcome. Please feel free to contact Vince Hilser or myself with your vision, as we both sit on this committee.

Enjoy the summer months on the Island!

regino

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iSPACE

Awards and Announcements

Dr. Sankar Mitra received the Mark Brothers of South Bend Lecture Award from Indiana University School of Medicine on May 27. He received a plaque from Professor Mark Kelley, Associate Director of Wells Center for Pediatric Research. Dr. Mitra gave two lectures on May 27 and 28 as a requirement for this award.



Congratulations to C. Eric Bailey, graduate student in Dr. Papaconstaninou's lab for successfully defending his PH.D. dissertation on June 9th.

Sarah Hemauer was one of 20 applicants selected to attend the National Institute of Child Health and Human Development (NICHD) of the National Institutes of Health Summer Institutes in Maternal-Fetal Pharmacology in Val-David, Quebec, in July 2009.

Grants

Dr. Junji Iwahara was awarded The National Science Foundation grant for the project entitled "NMR Studies of the DNA Target Search Process by a Multi-zinc-Finger Protein" effective July 1, 2009.

Dr. Werner Braun received a J. Sealy Memorial Endowment Fund entitled "Classification and prediction of the Mechanical Strength of Multidomain Proteins" effective 5/15/09.

Dr. Tapas Hazra received an NIEHS R21 grant entitled "Polymorphic variants of human DNA glycosylase NEIL2 and lung cancer susceptibility".

Dr. Wlodek Bujalowski received an R01 grant from the National Institute of General Medical Sciences entitled "Functional Dynamics of Large Molecular Machines. The Primosome." effective May 1, 2009.



IT Briefs - Lisa Pipper

iSPACE



How many times have you tried to send a collaborator a draft document, only to have it bounce back as undeliverable by either UTMB email server or the recipient server for being “too big”? Have you ever wanted to share large amounts of data with collaborators off campus?

To address many of those issues, UTMB Information Services has recently implemented a new application, available to students, faculty and staff called [iSPACE](http://www.ispace.utmb.edu). It is a collaborative resource for file storage, file sharing and Web publishing. You can use iSpace to store copies of important documents such as grants, manuscripts, assignments, research papers, e-learning materials, graphics, joint projects, etc. and have these files available anywhere you have an Internet connection and a Web browser. This web application will also allow you share files with other users and gives you a place to publish a personal home page. This resource is offered to help students, faculty, and staff conduct University-related business.

The site is located at <http://www.ispace.utmb.edu>, all you need is your UTMB login. There are links to training documents, which contains detailed instructions with screen shots to help guide you to use this tool effectively.

Important information from the iSpace home page:

System Use

iSpace accounts are available only to students, faculty and staff. As an account owner, you may assign access privileges to others. You are responsible for the integrity and availability of your data files. Always keep backup copies of your data on additional media, such as a local hard drive, CD-ROM, flash drive, etc. Your iSpace account expires and hence is inaccessible once your official affiliation with the university ends. Your files will be deleted 30 days after your affiliation with the university ceases. Before leaving the university, copy your data to other media. iSpace is licensed to UTMB. For the integrity of the system and to comply with state and federal mandates, policy and practice standards govern its use.

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Prior to accessing this information system you should be thoroughly familiar with UTMB's policies and practice standards, accessible at <http://www.utmb.edu/infosec/PoliciesStandards/Index.htm>. By using this information system, you acknowledge that you understand these issues and will comply with these policies.

Graduate Program News

The GSBS Commencement was held on May 2, 2009.

The BMB Doctor of Philosophy graduates are: Pavani Gangavarapu, Rajarathnam laboratory; Tieying Hou and Ping Liu, Brasier laboratory; Sergio Santa Maria Guerra, Prakash laboratory; Anthony Manson, Hilser laboratory; Corey Theriot, Mitra laboratory; Diana Ferrari, Perez-Polo laboratory.

The MBET Doctor of Philosophy graduates are: Jason Vertrees and Suwei Wang, Hilser laboratory; Kerry Fuson, Sutton laboratory.

The BMB MD/PhD Combined degree graduates are: Leechuan Andy Chen, Evers laboratory; Kashyap Choksi, Papaconstantinou laboratory; Courtney Lockhart, C. Elferink laboratory.

The BMB Masters of Science graduates are: Keerthi Gottipati, Choi laboratory and Lichieh Chen, Iwahara laboratory.

We are extremely proud of all our graduates and wish all of them the very best of luck!!

We are also especially proud of Dr. Bryan Sutton, this year's recipient of the Graduate Student Organization Distinguished Teaching Award.

BMB/MBET Admissions Committees worked tirelessly this spring and accepted 6 BMB and 3 MBET students for matriculation in the Fall 2009 year.

The BMB/MBET Admissions and Recruitment Committees held a retreat at the home of Dr. Darrell Carney on May 15, 2009. Several new ideas for recruitment were suggested and discussed. A BMB/MBET educational retreat is planned for September 2009.

Sarah Hemauer, M Ahmed laboratory, is the student co-director of the National Student Research Forum. The NSRF celebrated their 50th annual meeting which is an event that is organized and run by students, intended for the presentation of research by medical students, residents, and graduate students in the biomedical sciences. This is a unique setting giving graduate and medical students a chance not only to present in a scientific atmosphere, but to receive feedback from professionals in their field. It was held April 23- 25th at the Galveston Island Convention Center and Hilton Galveston Island Resort, and hosted US and international students from over 60 universities and awarded over \$9000 in prizes.

Winner of the Poster Award in Immunology and the American Medical Association Foundation Award for Excellence in Basic Research is Marlene Starr, Saito laboratory

The Biological Chemistry Student Organization has remained active this year and is enjoying a full summer lineup of events:

Friday, June 12 – Schlitterbahn

Saturday, June 20 – Houston Dynamo v. Real Salt Lake

Thursday, July 2 – BCSO Meeting

Friday, July 10 – Party for Dr. Chan at Fisherman's Warf

Saturday, July 18 – BCSO Summer Party

Thursday, August 6 – BCSO Meeting

Wednesday, August 12 – Rock Climbing

-Debora Botting

School Of Medicine Teaching

Our department has many faculty members that are going to serve as first time facilitators in the Problem Based Learning (PBL) module of the SOM. I would like to bring to your attention that the Office of Educational Development offers a workshop to prepare faculty for PBL and small-group work. This workshop is highly recommended for all new Integrated Medical Curriculum facilitators. Some of the topics of the **Introduction to Problem-based Learning Workshop** are: What is PBL; features of PBL; PBL case process and session structure; developing and using ground rules; role of the facilitator (facilitating the tutorial process, facilitating group dynamics, serving as a resource, evaluating performance); facilitation skills of an effective PBL tutor and common pitfalls to avoid; developmental stages of groups; group maintenance; facilitator responsibilities at UTMB SOM; evaluating students. Other workshops offered are: **Beginning facilitation skills** focuses on applying and practicing key facilitation skills. This course is designed to extend and refine new facilitators' skills, it can be beneficial to anyone wishing to enhance their facilitation skills within or outside of the PBL format. Workshop topics include: Distinction between facilitation group content (the task the group is working on) and group process (how the group works on that task); group roles related both to task and group process; methods of effective communication to develop the trust and support of others; questioning skills; listening skills/empathy; giving feedback (positive and constructive); maintaining effective group discussions. **Advanced Facilitator Training Workshop** is designed for faculty members who have facilitated groups for at least 4 months. Facilitators will discuss successes and challenges they have experienced and practice skills to help them overcome their challenges. Facilitators will be asked to provide topics and issues which should be addressed in advance of the class. Workshop topics include: facilitating conflicts and difficult situations; practice - diagnoses a situation and determine how to intervene.

To register for the following workshop(s), contact Catherine Cavazos in the Office of Educational Development at cacavazo@utmb.edu or ext. 22791. Workshops with insufficient registration 3 days before the workshop date are subject to cancellation.

Workshop Introduction to Problem-based Learning is scheduled for Thursday, June 18, 1:00 - 5:00 p.m. Location - Marvin Graves Building, Room 2.230, RSVP by June 15, 2009.

If you are unable to attend the workshops and will be facilitating an upcoming PBL group, please contact Oma Morey at ommorey@utmb.edu or ext 23235 to see about setting up a one-on-one training session.

Dragoslava Zivadinovic

BMB SOM Year I and II activities coordinator

Publications

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Featured Abstract by BMB Faculty

Mechanism of NTP Hydrolysis by the Escherichia coli Primary Replicative Helicase DnaB Protein. II. Nucleotide and Nucleic Acid Specificities

[Biochemistry, Just Accepted Manuscript, Publication Date \(Web\): May 12, 2009](#)

Anasuya Roychowdhury , Michal R. Szymanski , Maria J Jezewska and Wlodzimierz Bujalowski

The kinetic mechanism of NTP binding and hydrolysis by the E. coli replicative helicase, the DnaB protein, in the absence and presence of the ssDNA, has been quantitatively examined using the rapid quench-flow technique, under single-turnover conditions. In the case of both the free helicase and the enzyme - ssDNA complexes, the mechanism is independent of the type of base of the cofactor or the DNA; the bimolecular association is followed by the reversible chemical hydrolysis and subsequent conformational transition of the enzyme-product complex. The NTP hydrolysis step is significantly faster for the purine than for the pyrimidine cofactor, both in the absence and presence of the DNA. Temperature effect indicates that the nature of intermediates of the purine nucleotide, ATP, is different from the nature of the analogous intermediates of the pyrimidine nucleotide, CTP. Nevertheless, both types of cofactors seem to approach a similar "exit" state at the end of the reaction. The ssDNA effect on the kinetics of NTP hydrolysis depends on the type of nucleotide cofactor and the base composition of the DNA, and is centered at the hydrolysis step. Homo-adenosine ssDNA oligomers are particularly effective in increasing the hydrolysis rate. The allosteric signal from the DNA, which activates the NTP hydrolysis, comes predominantly from the strong DNA-binding subsite. The role of the weak DNA-binding subsite is to modulate the allosteric effect of the strong subsite. The significance of these results for the mechanism of the free energy transduction by the DnaB helicase is discussed.