Graduate School of Biomedical Sciences
Quarterly Alumni Newsletter, Spring 2013
Table of Contents

This web-based version of the GSBS Alumni Newsletter is designed to be easier to select what you wish to read or to view the newsletter article by article. Please select each headline to read the related article or just page down. Your feedback is welcome, so please email your candid opinion to Jo Bremer, director of the GSBS Office of Postgraduate Affairs, or call 409-772-2684. It is published under the auspices of the GSBS Associates, alumni & friends, for the alumni, faculty, staff, students and friends of the Graduate School of Biomedical Sciences; officers are listed below.

UTMB President Emeritus William C. Levin, MD, Dies

Students

- Graduate Student Organization Hosts Mardi Gras Crawfish & Shrimp Boil
- Doctoral Nursing Student Conducts Dissertation Research in Ghana
- Three MD/PhD Students Perform in St. Vincent’s Benefit Concert
- Grad Students Teach High School Students about Science
- 75 Students and Postdocs Attend Career Development Workshops

GSBS

- Do You Have Memories of Dr. Cooper?
- 96 Posters Presented at Inaugural CTSA Poster Session
- NIH Renews Post-Baccalaureate Research Education Program Grant to GSBS

Alumni

- Pathology Chairman Gives Annual Dean’s Lecture at Homecoming
- Important GSBS Dates

Class Notes & News Briefs

- Class Notes
- Students
- Postdoctoral Scientists
- In Memoriam

Research

- 10 Grants Awarded Via John Sealy Memorial Endowment for Biomedical Research
- Rewiring the Serotonin System
GSBS Associates Executive Committee Officers & Staff, 2012-13

The *GSBS Alumni Newsletter* is published quarterly by the Graduate School of Biomedical Sciences Office of Postgraduate Affairs. Inquiries, comments and class notes items may be directed to Jo Bremer by calling 409-772-2684; writing to 301 University Boulevard, Galveston, TX 77555-1050; faxing to 409-772-5420; or by email to jobremer@utmb.edu.

### Officers

<table>
<thead>
<tr>
<th>Name</th>
<th>Office</th>
<th>Program and Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>James Templer, PhD</td>
<td>President</td>
<td>IMH ’02</td>
</tr>
<tr>
<td>Robert Fader, PhD</td>
<td>President Elect</td>
<td>M&amp;I ’80</td>
</tr>
<tr>
<td>Ralph Henderson, PhD</td>
<td>Recording Secretary</td>
<td>HBC&amp;G ‘70</td>
</tr>
<tr>
<td>Barbara Sasser, PhD</td>
<td>Past President</td>
<td>HBC&amp;G ‘83</td>
</tr>
</tbody>
</table>

### Executive Committee

<table>
<thead>
<tr>
<th>Name</th>
<th>Program and Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anthony DiNuzzo, PhD</td>
<td>PMCH 2004</td>
</tr>
<tr>
<td>Carla Kinslow, PhD</td>
<td>Cell 2008</td>
</tr>
<tr>
<td>Shannon Langford, PhD</td>
<td>Ex Path 2001</td>
</tr>
<tr>
<td>Andrew McNees, PhD</td>
<td>HBC&amp;G 1997</td>
</tr>
<tr>
<td>Vicente Santa Cruz, PhD</td>
<td>Ex Path 2001</td>
</tr>
<tr>
<td>H. David Shine, PhD</td>
<td>CPMB 1980</td>
</tr>
<tr>
<td>Kathryn Stream, PhD</td>
<td>PMCH 1982</td>
</tr>
<tr>
<td>Lee Woodson, MD, PhD</td>
<td>Pharm 1977</td>
</tr>
</tbody>
</table>

### Staff

Joanna Bremer, Director of Postdoctoral and Postgraduate Affairs, IMH 2008.
UTMB President Emeritus William C. Levin, MD, dies

A legend, a champion and a revered figure at UTMB, William C. Levin, MD, died January 28 at the age of 95.

President of UTMB from 1974 until 1987, he was the second person to hold that leadership title. In May 1998, Dr. Levin was named President Emeritus by the Board of Regents of the University of Texas System.

Born March 2, 1917, in Waco, Dr. Levin received his BA from the University of Texas at Austin in 1938 and his MD from UTMB in 1941. After an internship in Chicago, a residency at UTMB’s John Sealy Hospital, and postgraduate work in hematology at Washington University Medical School in St. Louis, he joined the UTMB faculty as an instructor in 1944. He rose through the ranks until his appointment as president, succeeding Truman G. Blocker, Jr., MD. Dr. Levin was Warmoth Professor of Hematology, Director of the Hematology Division of the Department of Internal Medicine, Medical Director of the Blood Bank and Director of the Clinical Research Center.

During his tenure as president of UTMB, Dr. Levin was instrumental in securing funding for educational and research programs, and for major construction projects at the University. He was responsible for the construction of 15 buildings and he helped in the renovation and preservation of the Ashbel Smith Building (Old Red). He instituted new academic programs in each school, including the MD/PhD Combined-Degree Program that crosses both the School of Medicine and Graduate School of Biomedical Sciences curricula.

Dr. Levin also established a number of programs to recruit and retain a diverse student body, for which UTMB is widely recognized. When he saw a trend of reduced minority enrollment, he formed an Alumni Advisory Committee for Minority Affairs to determine the cause and devise remedies.

Among his honors, Dr. Levin received the Commandeur des Parmes Academiques (Commander of the Palms) in 1981, the highest honor conferred upon an academician by the French Government. In 1988 he received the National Cancer Institute Outstanding Service Award. The Brown Foundation in 1991 endowed the William C. Levin Chair in Environmental Toxicology, and what had been the Learning Center at UTMB was renamed William C. Levin Hall by the UT System Board of Regents. In 1995 he received the Laureate Award from the American College of Physicians.

Over the years, Dr. Levin and his family established a number of endowments supporting the university’s missions. They include the Edna Seinsheimer Levin Endowed Professorship in Cancer Studies, the Edna S. and William C. Levin Professorship in Internal Medicine, and the Levin Family Lecture in Hematology and Oncology.

Dr. Levin is survived by his daughter and her husband, Gerry Lee and Eugene Hornstein, two grandchildren, William Joseph Hornstein and his wife, Kelly, and Susan Lee Hornstein, two great-granddaughters, Rebecca Kaylee Hornstein and Jennifer Lynn Hornstein, and son-in-law, Armin Cantini.

—from UTMB and online sources

Students

Graduate Student Organization Hosts Mardi Gras Crawfish & Shrimp Boil

Every year the Graduate Student Organization (GSO) hosts the annual Mardi Gras Celebration, which is open to students from the four schools at UTMB. Including students from the Graduate School of Biomedical Sciences, School of Medicine, School of Health Professions and School of Nursing, about 300 people attended the party February 21.
In order to feed this number of people the GSO begins food preparation at 2pm for the 5 o’clock festivities. Crawfish, shrimp, sausage, potatoes, corn and king cake are on the menu for the event. Once serving begins at 5 pm, the students come from across campus to relax and enjoy great food, company, and traditional New Orleans style recorded music. For some, this was the first time in their lives they ever tasted crawfish. For this reason and many others the GSO looks forward every year to hosting this fun event.

– Matt Huante, President, Graduate Student Organization
– Photos by Josh Kamnetz, second-year medical student

Back to Top

Doctoral Nursing Student Conducts Dissertation Research in Ghana

Linda Benskin, a nursing PhD student, traveled throughout Ghana, West Africa, from July through October gathering dissertation data. Her research was a descriptive study of wound management in rural areas of tropical developing countries. Performing this study in Ghana had many advantages for Benskin, who worked with a clinic in a remote area of northern Ghana for five years prior to enrolling in UTMB’s challenging BSN-to-PhD in Nursing Education program.

When Benskin arrived in Ghana at the end of July, the entire country was shrouded in black and red because the popular President John Atta Mills had died of cancer July 24. Rather than disrupt this important time of mourning, she and her husband, Richard Benskin, her research assistant, mechanic, and technology expert, spent the first two weeks practicing their Ghanaian English and reacquainting themselves with the local cultures. She also renewed her Ghanaian nursing license during this time.

Benskin relied heavily upon assistance from Ghanaian friends, who opened their homes to her and Richard, volunteered as interpreters, and provided other support. Traveling across country in Ghana is challenging. Fatal vehicle accidents are common, and using public transportation is very time-consuming. Rental vehicles are extremely difficult to obtain. The clinic at which Benskin formerly worked loaned her an old pickup truck. Benskin was quick to say, “We are so grateful for their generosity, even though the truck had to be repaired quite frequently due to the abuse it received on the pothole-strewn highways and unpaved village roads.”

Greeting chiefs and elders was an important prerequisite to working in their villages. This often involved rather colorful ceremonies with gift exchanges, bowing, and multiple handshakes. The village leaders expressed their gratitude that attention was finally being paid to the problem of wounds in this setting. Up to 20 percent of
villagers in the tropics are disabled by wounds, partly because treatment is largely ineffective. In fact, one of the chiefs displayed a chronic foot wound.

Health professionals are usually absent in rural areas of developing countries. Benskin’s goal was to gather accurate descriptions of the usual wound management practices of a village health worker, a traditional health practitioner and a villager performing self-care in each of 25 villages throughout Ghana (75 participants). She accomplished this by showing each participant laminated photos of seven representative wound patients, related each case history, and then asked the participants to tell how they would manage the wound: to complete the stories. In this story-telling culture, by asking participants to complete the stories instead of asking questions, Benskin was able to avoid directing their answers in any way.

Participants often took her samples of the substances they used on wounds, or used pantomime to demonstrate their procedures. For example, a woman whose local language has no word for sling took off her head covering to demonstrate how she would make one to elevate a swollen hand. One traditional health practitioner showed how he would chew leaves and then spew them out of his mouth directly onto the wound bed. Some showed her their talismans. Others were secretive about the details of their treatments, but still provided enough information to meet the study goals. No one declined to participate. In fact, one participant wanted the interview conducted in front of his entire village.

Benskin had to schedule the research during the rainy season, which meant that travel to the clinic in the north, which normally takes 7 hours, took twice as long because several raging rivers cut through roads on the direct route. Providentially, the heaviest rains always seemed to wait until the day after the research team visited an area.

They inspected many wooden bridges on the village roads on foot to ensure that the truck was driven directly over the strongest supports. “Once we did not bother to check because we thought the bridge was new. A board was missing, but we gunned the engine and managed to get across.” Because they had four-wheel-drive and were willing to wade through mud, Benskin obtained complete data in every targeted village.

Many dissertations are written primarily to demonstrate the student’s capabilities, and are read by few people outside of the student’s committee. Benskin had many requests for her dissertation from wound experts anxious to build upon her work. This trip was funded primarily by friends. She hopes to find more funding to continue this important research.

Back to Top

From left, Jonathan Lee, Dar and Michelle Heinze and Andrew Nelson.

Three MD/PhD Students Perform in St. Vincent’s Benefit Concert
Three students in the MD/PhD combined degree program performed March 6 in the annual concert to benefit St. Vincent’s Free Student Clinic in Galveston, run and staffed by medical students at UTMB.

Of the 15 performances in the concert, four featured or included the MD/PhD students. They are Jonathan Lee on piano, performing “Beethoven’s Appassionata, 3rd Movement in F Minor, Op. 57, No. 23;” Dar Heinze, with his wife, Michelle Heinze, played “Kuhlau’s Three Duets, Op. 80, No. 1” on flutes, and Andrew T. Nelson, performed a solo medley on guitar and with the Spring Time Chicken Family Band, singing “Guantanamera.”

The concert was held at the Grand 1894 Opera House with a sponsorship from the Office of the President. Another 23 Galveston businesses and individuals donated prizes for drawings held throughout the evening.

– Photos by Josh Kamnetz, second-year medical student

Grad Students Teach High School Students about Research

Since its founding in 1998, the Independent Study in Scientific Research & Design: Bench Tutorials Program has grown from five to about 15 Ball High School students who come to campus each year.

Affectionately known as the Bench Tutorials, or Bench, the collaboration between UTMB and Ball High School in Galveston is supported by funds from the NIEHS Center in Environmental Toxicology at UTMB, the Sealy Center for Environmental Health and Medicine and the Bromberg Charitable Trust of Galveston.

The program offers dedicated and academically talented high school juniors and seniors the opportunity to participate in cutting edge scientific research with oversight by graduate students or postdoctoral fellows, who are their mentors, and guidance from a faculty advisor. The high school students earn a year of science credit for four hours per week of supervised instruction and research in a participating laboratory.

Each mentor designs a research project relating to the larger research framework within the laboratory, forecasting completion by the year’s end. Grade is based on professionalism, attendance, homework and two presentations of their research projects.

Christie Hay in Microbiology & Immunology has mentored Rachel Mathers since September. “I have watched Rachel grow in her understanding of her project over the months,” said Hay, “so that during her winter symposium presentation, she could communicate clearly the ‘what’ and ‘why’ of her small study.” After the winter break, Hay said they “started to read more papers, both reviews and research articles, to further her understanding and increase her background knowledge.”

The budding researchers benefit from the opportunity to work hand-in-hand with UTMB’s scientists. The process gives the students a framework for developing the scientific method of learning and for honing their deductive and logical reasoning skills. Beyond that, said Dan Jackson, doctoral candidate in Cell Biology, “My students have learned valuable lessons in critical thinking, time management, as well as experimental design and troubleshooting. … I believe these lessons in critical thinking … will be invaluable in their lives, as well as their future lab/classroom environments.”

Paul Reidy, Rehabilitation Science, agreed. “Both of my students have found research exasperating at times and yet fascinating and compelling other times,” he said. “One student, who has now moved on to college, has come back to tell me how the benchtop research experience has helped her in many ways already.”
High School students considering careers in scientific research can take advantage of this rigorous program that closely mirrors graduate education. “The program is a great way to reach young minds and let them experience the life of the scientist before they have to make any hard commitments,” said Tom Shelite, grad student in Pathology, and it gives “graduate students the opportunity to develop their mentoring skills.”

This glimpse into the rigors of research work helps the teens decide whether this is the right path for them. According to Kimberlee Burckart, Biochemistry & Molecular Biology, “This program also provides a chance to sit down with students preparing for college to help assess their goals concerning their future and, from our own experience, to give suggestions that might help them achieve those goals. I have found being able to expose a student to one possibility for a career to be the most unique and exciting aspect of this program.”

Lauren Scott, director of educational outreach for the NIEHS Center in Environmental Toxicology, said the center has begun to recruit mentors from among the graduate students and postdoctoral scientists on campus. “Our hope is that we can match the accepted students with mentors to do some basic research here on the UTMB campus,” she said.

Scott added that the mentorship pays the student or postdoc mentor $2,000 for the GISD school year that spans roughly from August through May. Mentors schedule three to four hours of lab time per week, grade a short paper and assist in two symposium presentations, either spoken or poster. The Ball High students will complete BSL-II training and an employee health screening before they may join a mentor in a lab. The program requires the support/referral of a faculty advisor.

To find out more, please link to this interview with a FY12 mentor and student: http://www.youtube.com/watch?v=wZz597OsV8&feature=youtu.be

Those who wish to participate should contact Scott at lescott@utmb.edu Even those unsure they will be able to commit or who just want more information about the program should contact Scott. “Merely getting an indication of interest is helpful for me,” she said.

Provide contact information (including lab location & its security level), name of faculty advisor/sponsor, and a brief description of the research and its future direction.

– Lauren Scott, UTMB Center in Environmental Toxicology

75 Students and Postdocs Attend Career Development Workshops

The Committee for Career Development (CCD) held the first two in a series of career development workshops in March. Nearly 75 graduate students and postdoctoral scientists attended the first, Finding Your Career Niche. It featured five GSBS alumni who have successful careers outside academic research. The second, CV-Resume Workshop, was presented by a UTMB professor who also is CEO of a company he founded and the recruiting director from Human Resources.

The alumni who returned March 18 to discuss their career pathways and what their jobs require were:

- **Christopher Allen, PhD**, Professor of Biology, Science & Math Department, and Chair, Phi Theta Kappa Honor Society Texas Advisory Board, College of the Mainland in Texas City.
- **Carla Kinslow, PhD**, Senior Scientist, Toxicologist, Brown and Caldwell consulting, Houston.
- **Andrew McNees, PhD**, Vice Chair Administration, UTMB; and
Vicente Santa Cruz, PhD, Organosulfur Product Manager, Chevron Phillips Chemical Company, The Woodlands.

The campus presenters on March 25, who discussed what to include in a CV or resume, dos and don’ts of the CV that enhance the chance of getting an interview for the job one really wants were:

- Darrell Carney, PhD, Professor, Biochemistry & Molecular Biology, CEO, Chrysalis BioTherapeutics, and Director, Postdoctoral Certificate Program, UTMB;
- Teresa Nangle, MBA, Director, Talent Acquisition & Retention, Human Resources, UTMB.

After Nangle’s presentation, Carla Kantara, PhD, CCD chair, suggested participants upload drafts of their CVs and resumes to the committee’s website (http://gsbs.utmb.edu/ccd/) for the first round of reviews and editing. The CV upload link is https://ispace.utmb.edu/xythoswfs/webview/_xy-4413941_1?stk=4EC34A0DD25647B.

Ms. Nangle reminded participants that she is available for one-on-one consultations through Office of Postdoctoral and Postgraduate Affairs or the GSBS.

Other members of the CCD are Alice Bittar, Anjana Kalita, Mridul Kalita, Maithri Krishnamurthy, Mary Ann Manavalan, Barsam Mirfattah, Stephanie M. Moya, Michael J. Patterson, Jonathan A. Paul, Sergio E. Rodriguez, Barbara A. Rolls and Christina J. van Lier. Anthony DiNuzzo, Assistant Professor of Geriatrics, is the GSBS Associates’ representative to the committee.

The CCD plans to organize more workshops and events to help improve the students’ and postdocs’ interviewing and negotiating skills, to help build their portfolios and other events to promote their professional careers.

Do You Have Memories of Dr. Cooper?

Head of the Graduate School since 1996, first as interim dean and then dean, Dr. Cary W. Cooper was chair of the Department of Pharmacology and Toxicology beginning in 1982. For the intervening 30-plus years, he has been a teacher, mentor, advisor, counselor, friend and advocate for dozens of students, postdocs, faculty members and other colleagues. If you recall an incident, fond memory or anecdote of an experience with Dr. Cooper, we’d love to publish it later this year, upon his retirement from UTMB. Would you please limit your recollection to about 100 words and send it to jobremer@utmb.edu or Joanna Bremer, GSBS, 301 University Blvd., Galveston, TX 77555-1050?

96 Posters Presented at Inaugural CTSA Poster Session

UTMB’s Institute for Translational Sciences (ITS) sponsored its inaugural Clinical Translational Science Award (CTSA) Poster Session in February in the Levin Hall Dining Room. Nearly 100 posters were presented to an audience of more than 150 scientists who discussed novel, translational and collaborative research at this campus-wide event.

Five awards were presented for Excellence in Research Posters. The winner of the $150 award for Overall Excellence, sponsored by the UTMB chapter of Sigma Xi, was Dr. Sara Dann, assistant professor in Internal Medicine-Infectious Disease and Microbiology & Immunology. Her poster was “A Multi-Omics Strategy for Identifying Novel Biomarkers and Disease Mechanisms of Recurrent Clostridium Difficile Infection.”

The other winners were:

- Charles Chesson, graduate student in the ITS: “Self-Assembling Peptides as Novel Vaccine Adjuvants;”
Winners in the inaugural CTSA Poster Session were, from left, William Miller, Dr. Sara Dann, Charles Chesson, Dr. Abhishek Parmar and Dr. Yuejin Liang.

“Quality of Post-Treatment Surveillance of Early Stage Breast Cancer in Texas.”

Dr. Yuejin Liang, postdoctoral fellow in the Department of Microbiology & Immunology, “IL-33 Induces Nuocytes and Modulates Liver Injury In Viral Hepatitis;”

William R. Miller, graduate student in Neuroscience & Cell Biology, “PPARγ AS A Therapeutic Target in Cocaine Relapse,” and

Dr. Abhishek D. Parmar, postdoctoral fellow in surgery, “Quality of Post-Treatment Surveillance of Early Stage Breast Cancer in Texas.”

NIH Renews Post-Baccalaureate Research Education Program Grant to GSBS

The National Institutes of Health recently informed the Graduate School that it will renew its grant to support the Post-Baccalaureate Research Education Program (PREP).

The PREP program is designed for students graduating from regional colleges and universities who have an aptitude for science, to offer them the motivation, academic tools, research skills, and self-confidence to pursue a PhD in biomedical science. Students enter the PREP for a one-year experience that provides extensive laboratory research training and special learning opportunities that build not only knowledge but also analytical and thinking skills.

The PREP program, which has openings for seven scholars, received more than 50 applications to date, from students in 15 states who wish to study at UTMB. Candidates are applying from such schools as Baylor University, Brown University, City University of New York, Johns Hopkins, University of Georgia and University of Pittsburgh.

A major part of this experience is the opportunity to earn a graduate certificate upon completion of the Post-Baccalaureate Research Training Curriculum. The certificate is accompanied by an official UTMB transcript.

This curriculum provides critical biosafety and scientific ethics training as well as exposure to broad based research seminars and current research across the breadth of biomedical science. This training provides seven hours of instruction at the graduate level to enhance the background of students and to build confidence as they consider doctoral training in the biomedical sciences.

The student’s immersion in the PREP curriculum complements laboratory, departmental and graduate student social and other enrichment activities. The program also offers extensive counseling, close mentoring and the option for successful PREP Scholars to enter a doctoral program of study at UTMB or other “top tier” graduate school in advanced standing.

Trainees accepted to PREP must have earned a biological, quantitative or computational science bachelor’s degree, must have some experience with research or successfully completed laboratory-based coursework and an interest in biomedical science. They also need to graduate with a grade point average of 3.0 or greater within the last three years. Successful applicants also must be from a group underrepresented in science as defined by the NIH (African American, Hispanic, Native American, Pacific Islanders). Economically or educationally disadvantaged individuals (determined from answers on the application form) or those with disabilities also are considered.

PREP scholars experience a variety of learning experiences that will instill in them knowledge about responsible conduct of research and scientific ethics generally.

Students receive advice and guidance throughout the course of the program, including:
• Regular meetings with the PREP directors,
• Graduate students who are "peer mentors,"
• Group educational and social meetings with fellow PREP scholars and
• Counseling by PREP directors and the PREP coordinator at any time to help with issues or problems and provide resources as needed.

Dr. David Niesel is principal investigator on the grant and assists the program directors. The program directors are Drs. Clifford Houston and Fernanda Laezza. Aneth Zertuche is the PREP coordinator. The grant is sponsored by the National Institute of General Medical Sciences.

Back to Top

Alumni

Pathology Chairman Gives Annual Dean’s Lecture at Homecoming

David H. Walker, MD, Professor and Chairman, UTMB Department of Pathology, gave the Graduate School of Biomedical Sciences’ annual Dean’s Lecture during Homecoming March 22 at Levin Hall South.

His topic was “The never ending discovery of previously unknown infectious diseases.” During the 50-minute presentation, Dr. Walker showed that dozens of infectious diseases have been identified in the 45 years since the U.S. Surgeon General declared “… it is time to close the book on infectious diseases …” in 1967. He talked about his role in some of them, including *Anaplasma phagocytophilum*, which was identified by Drs. Steve Dumler and Sheng Min Chen, consecutive postdoctoral fellows in Dr. Walker’s lab in the early 1990s, after hearing from a physician in Minnesota whose patient died of the disease, at that time unidentified.

“Dr. Walker is a preeminent pathologist and investigator in the today’s critical field of infectious diseases,” said Dr. Cary Cooper, Dean of the Graduate School and Lawrence E. Ethridge, Jr. Professor. “He is responsible for building a strong investigative team and for bringing to UTMB many of the current scientists who conduct their research in the Galveston National Laboratory.”

He was valedictorian of his graduating class at Davidson (N.C.) College, where he earned his BA in history, and went on to Vanderbilt University School of Medicine in Nashville, Tenn., for his MD. Dr. Walker was matched to Peter Bent Brigham Hospital in Boston for a residency in pathology. During his residency years, Dr. Walker also pursued research at the Gorgas Memorial Laboratory in Panama City, Panama, and at Harvard University, where he held research and clinical fellow appointments.

His research interests center around obligately intracellular bacteria transmitted by arthropod vectors. Two NIH-funded research projects examine immune mechanisms against rickettsiae and ehrlichiae with the goal of identifying the protein antigens that stimulate immunity.

Back to Top

Important GSBS Dates

May 3 Commencement, 4 pm
August 17-21 Orientation for New Graduate Students
August 21 Community of Scholars Ceremony, Basic Science Building Auditorium, 9:30-11 am
GSBS Open House – Lunch Reception, 4.429 Levin Hall, 11 am-12:30 pm
August 26 Classes begin for Academic Year 2014
November 22 Scholarships and Awards Luncheon, San Luis Hotel, 12-1:30 pm
March 27-29 Homecoming 2014
March 28 Dean’s Lecture, Levin Hall, 4-5 pm
Class Notes

2000s

Craig Bush, PhD (Biochemistry & Molecular Biology, 2007), is currently a manager at Huron Consulting Group in New York. As a management consultant in the Life Sciences and Healthcare, he specializes in Clinical Operations strategy, process optimization, and regulatory compliance. He was an officer in the United States Army for five years.

Craig Klugman, PhD (Medical Humanities, 2001), is Reuter Professor of Medical Humanities and Assistant Director, Ethics Education, at the Center for Medical Humanities and Ethics, UT Health Science Center at San Antonio. Will give a talk titled “Ethical Issues in Rural Healthcare” at UTMB on April 10 for the Rural Health Care Track in the School of Medicine. He recently was named blog editor for bioethics.net, the online portal for the American Journal of Bioethics. Besides coordinating and editing the blogs, he is also making his own weekly contributions at http://www.bioethics.net/blog/. – Donna Vickers, Medical Humanities Graduate Program

Alison Rutledge, PhD (Medical Humanities, 2005), recently accepted a position in the Clear Lake/Houston area at Senior PsychCare, where she is providing mental health services in nursing homes. The private company deploys mental health professionals into nursing homes, of which she is responsible for three. “It’s the most wonderful job I’ve ever had,” she said. “And talk about humanistic! I see patients and consult with staff and supervise MA-level counselors. … You could say that I use both my fields of study. I have consulted with families and staff about patients choosing hospice care or changing over from Full Code to a DNR. Also, about 15% of NH residents are between 30 and 60 years old (and 60 is YOUNG); also there are plain old mental illnesses in there; so my practice is surprisingly varied.” – Donna Vickers, Medical Humanities Graduate Program

Robin Solomon, PhD (Medical Humanities, 2006), is a science teacher at Leonardtown (Md.) High School, where she created a course titled Introduction to Bioethics that was approved by the St. Mary’s County Board of Education. The year-long course for 11th and 12th graders is “designed to engage students interested in careers in medicine or the biological sciences, as well as other students who are interested in learning about and discussing topical issues in the biological science fields.” She said she is “really excited about this and so far it appears that there is a lot of student interest. We start registration in April. The pilot year will help refine the curriculum and then in my dreams I hope to have it in every school in the U.S.” – Donna Vickers, Medical Humanities Graduate Program

Suzanne Tomlinson, PhD (Biochemistry & Molecular Biology, 2010), BMB postdoctoral scholar, received an award for her poster presentation at the 2012 Keck Annual Research Conference in Houston. Her title was “Multi-Conformation Docking of Aldose Reductase Improves Binder Discrimination.” The award was accompanied by an invitation to give a presentation on her research at the monthly Keck Seminar in March. Also presenting was the graduate student poster award recipient, Gilbert Huang of Baylor College of Medicine.

News Briefs

Students

Jacqueline Genovese (Medical Humanities) will present a paper at the Narrative-Making in the Aftermath of War Conference April 25-26 at the Interdisciplinary Humanities Center at the University of California at Santa Barbara. The title of her presentation is “Post-Traumatic Story Disorder: Using the Power of Narrative to Heal the Invisible Wounds of War.” The conference will focus on the capacity of narrative-making to help
returning service members deal with the after-effects of war and to reintegrate into their communities. – Donna Vickers, Medical Humanities Graduate Program

Dwayne Jones (Medical Humanities) is co-author of a new book, Galveston: Playground of the Southwest, Arcadia Publishing, 2013. A recent review in The Galveston Daily News said “the book boosts more than 200 vintage images and memories of days gone by.” Dwayne, who joined the medical humanities graduate program in fall 2012, is executive director of the Galveston Historical Foundation (GHF). His co-author, Jamie Durham, is a Galveston historian and employed by the GHF. – Donna Vickers, Medical Humanities Graduate Program

Christopher Wild (Pharmacology/Toxicology) received a travel award to attend the conference on Behavior, Biology, and Chemistry: Translational Research in Addiction at the University of Texas Health Science Center in San Antonio. While at the meeting in March, he earned the Outstanding Poster Presentation Award for his poster, “Developing Novel Positive Allosteric Modulators of 5-HT2C Receptor as Pharmacotherapy for Psychostimulant Addiction.”

Postdoctoral Scientists

Nicole L. Bjorklund (Neuroscience & Cell Biology) received a grant from the Alzheimer’s Art Quilt Initiative for her study called “Protective Mechanisms Against Alzheimer’s Disease.” The study will investigate why some individuals remain cognitively intact despite the presence of abundant plaques and tangles in their brains. Amyloid beta plaques and neurofibrillary tangles are the two hallmark lesions found in the brains of people with Alzheimer’s disease. In addition to the grant, Nicole received a quilt made by Kathy Kennedy-Dennis. It contains names of people who have or had Alzheimer’s or a related dementia on the opposite side of purple patches. The names were submitted by supporters of the AAQI honoring their loved ones and the 5.4 million Americans with Alzheimer’s. “We will cherish it,” she wrote in an email thanking the AAQI for the grant. “I have already hung it up.”

Melissa Markofski, PhD (Sealy Center on Aging), is one of the winners of the American Society for Nutrition Energy & Macronutrient Research Interest Section student-postdoc award competition, based on abstracts submitted for the Experimental Biology annual meeting in April in Boston. The title of her abstract is “The acute aerobic exercise-induced increase in amino acid transporter expression adapts to exercise training in older adults.”

Back to Top

In Memoriam

Henry F. Epstein, MD
Cecil H. and Ida Green Distinguished University Chair
Professor, Department of Neuroscience and Cell Biology

Dr. Epstein, 68, professor and former chair of the Department of Neuroscience and Cell Biology, was a native of Bronx, NY. He earned his BA in 1964 from Columbia University and his MD at Stanford University four years later. Dr. Epstein came to Texas in 1978 when he joined the faculty at Baylor College of Medicine and was there for 25 years, before coming to UTMB in 2004. He led the creation of the Department of Neuroscience and Cell Biology, a consolidation of the Departments of Anatomy, Neurosciences, Physiology and Biophysics. He contributed to the work leading to two Nobel Prizes: Dr. Christian B. Anfinsen's 1972 Nobel Prize in Chemistry and Dr. Sydney Brenner's 2002 Nobel Prize in Physiology or Medicine. Dr. Epstein pioneered work on the mechanisms of protein folding and helped establish the molecular genetics of muscle development and cell motility.

Dr. Epstein is survived by his wife, Dr. Maxine W. Epstein, two sons, Adam and Daniel, two step-daughters, Jennifer Henderson and Veronica Zisman, one grandchild, and seven step-grandchildren. October 13, 1944 – February 2, 2013; died in Houston.
Daniel L. Traber, PhD
Charles Robert Allen Professor of Anesthesiology
Professor, Neuroscience and Cell Biology
Director of the Investigational Intensive Care Unit
Physiology and Biochemistry, MA, Class of 1962
Physiology and Pharmacology, PhD, Class of 1965

Dr. Traber, 74, was at UTMB as a student, professor and research scientist of anesthesiology and physiology for more than 50 years. With over 500 publications, he was internationally recognized as the foremost authority on smoke inhalation injury and burns. Born in Victoria, Texas, he graduated from St. Joseph's High School and St. Mary's University in San Antonio with a BA before coming to UTMB for his graduate degrees, followed by postdoctoral work at Ohio State University. He returned in 1966 to UTMB, where he quickly advanced from assistant to associate to full professor.

In 1970, not long after arriving back in Galveston, Traber was appointed director of the Intensive Investigational Care Unit, the largest large-animal research facility in the world, and was consistently funded for his research. He received the GSBS Distinguished Alumnus Award at Commencement in May 2012.

He is survived by his wife of more than 50 years, Lillian; their son, Daniel, and his wife, Julia; his brother, James; and sister, Betty.

Memorials may be made to the Daniel L. Traber Endowment Fund and sent to UTMB, Office of Development, 301 University Blvd, Galveston, TX 77555-0148.

April 28, 1938 - September 19, 2012; died in Galveston.

Back to Top

Research

10 Grants Awarded Via John Sealy Memorial Endowment for Biomedical Research

The UTMB president and provost announced recently that 10 faculty members will each receive $50,000 awards from the John Sealy Memorial Endowment for Biomedical Research Pilot Innovation and Bridging Grant Program for calendar year 2013.

The Pilot Innovation and Bridging Grant Program was created to stimulate new research initiatives by supporting pilot projects that have a high probability of attracting external grant funding to the university. These awards will enable UTMB investigators to perform the work needed to submit or resubmit fundable grant applications.

<table>
<thead>
<tr>
<th>Principal Investigator</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yinzi Cong, PhD, Associate Professor Department of Microbiology &amp; Immunology</td>
<td>&quot;TH17 IgA axis in regulation of inflammatory bowel diseases&quot;</td>
</tr>
<tr>
<td>Mark Hellmich, PhD, Professor Department of Surgery</td>
<td>&quot;Role of hydrogen sulfide in tumor angiogenesis&quot;</td>
</tr>
<tr>
<td>Gregg Milligan, PhD, Professor Department of Pediatrics</td>
<td>“Therapeutic immunization for modulation of recurrent HSV-2 shedding&quot;</td>
</tr>
<tr>
<td>Sankar Mitra, PhD, Professor Department of Biochemistry &amp; Molecular Biology</td>
<td>&quot;Repair of oxidative genome damage associated with gene activation&quot;</td>
</tr>
</tbody>
</table>

April 28, 1938 - September 19, 2012; died in Galveston.

Back to Top
Pilot Grants:

<table>
<thead>
<tr>
<th>Principal Investigator</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xiaoyong Bao, PhD, Assistant Professor, Department of Pediatrics</td>
<td>&quot;Characterization of tRNA-derived RNA fragments (tRFs) in respiratory syncytial virus infection&quot;</td>
</tr>
<tr>
<td>Alexander Bukreyev, PhD, Professor, Department of Pathology</td>
<td>&quot;Mechanisms of ‘immune paralysis’ in Ebola infection&quot;</td>
</tr>
<tr>
<td>Deepthi Kolli, PhD, Assistant Professor, Department of Pediatrics</td>
<td>&quot;Mechanisms of impaired antiviral responses in allergic lung inflammation&quot;</td>
</tr>
<tr>
<td>Shinji Makino, PhD, Professor, Department of Microbiology &amp; Immunology</td>
<td>&quot;Development of a new vaccine platform based on a segmented RNA virus&quot;</td>
</tr>
<tr>
<td>Erik Rytting, PhD, Assistant Professor, Department of Obstetrics &amp; Gynecology</td>
<td>&quot;Nanomedicine for anticancer therapy during pregnancy&quot;</td>
</tr>
<tr>
<td>Labros Sidossis, PhD, Professor, Department of Internal Medicine</td>
<td>&quot;Role of brown adipose tissue on metabolic control in humans&quot;</td>
</tr>
</tbody>
</table>

The John Sealy Memorial Endowment for Biomedical Research supports research projects that hold tremendous promise for improving health in Texas and around the world.

– Denise Gonzalez, Office of the Provost

Rewiring the Serotonin System

An interdisciplinary team of researchers from UTMB and the University of Houston has found a new way to influence the vital serotonin signaling system – possibly leading to more effective medications with fewer side effects.

Scientists have linked malfunctions in serotonin signaling to a wide range of health issues, from depression and addictions to epilepsy and obesity and eating disorders. Much of their attention has focused on complex proteins called serotonin receptors, located in cell membranes. Each receptor has a so-called “active site” specially suited to bond with a serotonin molecule; when that bond is formed, the receptor changes shape, transmitting a signal to the cell’s interior.

Traditional drug discovery efforts target interactions that take place at such active sites. But a receptor’s behavior can also be changed by additional proteins that bind to the receptor at locations quite distant (in molecular terms) from the active site, in a process called “allosteric regulation” — the mechanism examined by the UTMB-UH team for one specific and highly significant kind of serotonin receptor, designated the 5-HT2C.

“This is a whole new way of thinking about this system, targeting these interactions,” said UTMB professor Kathryn Cunningham, senior author of a paper on the research now online in the *Journal of Neuroscience*. “Basically, we’ve created a new series of molecules and validated that we can use them to change the way the receptor functions both in vitro and in vivo, through an allosteric effect.”

The UTMB-UH group’s approach centers on the natural interaction between the 5-HT2C receptor, serotonin, and another molecule called PTEN. Like serotonin, PTEN controls 5-HT2C receptor function; because it does so at a location distant from the active site, it’s possible — and in fact common — for a receptor to bind to serotonin and PTEN simultaneously. When this happens, an allosteric effect is produced: serotonin signaling is weakened.

“We want to maintain signaling through 5-HT2C receptors to gain therapeutic benefits, and to do that we had to reduce the number of receptors that were binding to PTEN molecules,” said UH professor Scott Gilbertson, another senior author on the paper. “One way to do that is to develop an inhibitor that competes with the receptor for binding to PTEN.”
The candidate inhibitor chosen by the researchers was a fragment of the receptor itself—specifically, the part of the receptor where PTEN attaches. Such sub-protein structures are known as “peptides,” this one was previously dubbed “3L4F.” Test-tube and cell-culture experiments showed that 3L4F boosted 5-HT2C response significantly; that it acted by binding to PTEN; and that it had no effect at all on another type of serotonin receptor, designated 5-HT2A.

Behavioral studies in laboratory rats also indicated that 3L4F increased 5-HT2C responses.

“We looked at both human cells and rats because ultimately we want to translate this research into therapeutics,” said UTMB postdoctoral fellow Noelle Anastasio, lead author of the paper. “The idea of targeting these interactions to produce drug and research tools is truly new and has great potential.”

The team took a step toward realizing that potential by trimming 3L4F down to a peptide roughly half its size that retains similar efficacy. Using computational molecular modeling, they determined which elements of this peptide were important to bonding with PTEN—information they will use to design smaller molecules with the same or better activity.

“We’ve got the basics down now, so we can use the chemistry to make new molecules that we think might be potentially useful for treatment of addictions, for example,” Cunningham said. “But there’s also an intense interest in figuring out the biology of this interaction between 5-HT2C and PTEN, what it means in terms of disease states like the addictions, alcoholism, depression and obesity and eating disorders. I think in a broader sense this is really going to help us understand the neurobiology of these disorders.”

Other authors of the paper from UTMB include research development coordinator Marcy Bubar, research associates Nicole Bremer, Sonja Stutz and Robert Fox, research scientists Thressa Smith and Yowjuun Jeng, graduate assistant Sarah Swinford, senior scientific manager Patricia Seitz, assistant professor Fernanda Laezza and professor Cheryl Watson. Authors from UH include research scientist Anton Agarkov, postdoctoral fellows Marc Charendoff and John Craft and associate professor James Briggs.

Support for this research was provided by the Klarman Family Foundation, the Foundation for Prader-Willi Research and the National Institute on Drug Abuse.

— Jim Kelly, Public Affairs Office

Recovery for Aging Patients Is Related to Their Activity Levels

A new study has found a link between the activity levels of elderly people who have just been released from the hospital and the risk that they will require readmission within 30 days.

The investigation draws on data collected from 111 patients aged 65 and older, each of whom was fitted with a “step activity monitor” during his or her hospital stay. Worn on the patient’s ankle, the pager-sized device counted every step the person took during hospitalization and for a week after discharge.

“We’re using activity here as a biomarker, similar to the way you might use blood pressure,” said assistant professor Steve R. Fisher, lead author of a paper in Journals of Gerontology A. “While we can’t say whether activity is a cause or effect in these cases, we can use it as a marker to tell us whether a person is at high risk and we need to intervene.”

Geriatricians want to reduce readmissions among the elderly because hospitalization can actually endanger their health by reducing activity levels and contributing to debilitating muscle loss. Hospitals have an additional motivation: in October 2012, Medicare began financially penalizing hospitals with higher than expected 30-day readmission rates for certain diagnoses.

Patients in the study who were re-hospitalized also walked markedly less during their hospital stay.

Fisher envisions hospitals using inexpensive electronic pedometers to monitor elderly patient activity in the hospital and for a brief period after discharge.

“If you suffer congestive heart failure, a nurse will call you during the first week home to ask how whether you’ve gained any weight, because an increase in water retention can be a sign that CHF is exacerbating,” Fisher said. “This is the same kind of principle: we want to know how much people are moving around, because
we want to know whether they’re going downhill. The key is to avoid re-hospitalization that often starts a cascade of events that leads to debility.”

Other authors of the paper include Yong-Fang Kuo, Mukaila A. Raji, James S. Goodwin, Glenn V. Ostir, Gulshan Sharma, Amit Kumar and Kenneth J. Ottenbacher. This research was supported by the National Institutes of Health.

— Jim Kelly, Public Affairs Office

### One in Four Colonoscopies in Medicare Patients Found to Be Potentially Inappropriate

Colonoscopy is one of the most effective cancer screening procedures available. Colon cancer grows slowly and can be treated if caught early. But, perhaps because of this success, older Americans are undergoing screening colonoscopies despite recommendations against screening in those age 76 and older.

A new study by UTMB researchers, published online in JAMA Internal Medicine, shows that one out of four colonoscopies paid for by Medicare is potentially inappropriate under current screening guidelines set forth by the United States Preventive Services Task Force (USPSTF).

A screening procedure for cancer, as opposed to a diagnostic one, is done at certain recommended ages and intervals to find cancers early, before symptoms emerge. The PAP smear, the mammogram and the PSA test are examples. A diagnostic test is done when a patient experiences symptoms that indicate an abnormality such as bleeding, pain or a lump.

The USPSTF says a colonoscopy is inappropriate within 10 years after a negative screening result in a patient 70 to 75 who is not experiencing symptoms. Routine screening colonoscopy is not recommended for patients 76 to 85 years, and is totally discouraged in patients older than 85.

The UTMB researchers looked at claims data on all Medicare patients in Texas age 70 and older who had colonoscopies during a one-year period between 2008 and 2009. The researchers also looked at data on five percent of the 70 and older Medicare patients throughout the United States who had colonoscopies during that same time period. The researchers found that 23.4 percent of colonoscopies paid for by Medicare were potentially inappropriate, based on USPSTF guidelines.

“Screening colonoscopy comes with a real risk of complications for older adults, such as perforation, bleeding or incontinence,” said lead researcher Dr. Kristin Sheffield, assistant professor of surgery at UTMB.

The researchers are not saying that patients who have symptoms such as anemia, gastrointestinal bleeding or abdominal pain should forgo colonoscopies. In fact, they insist that patients with relevant diagnoses should receive further testing. “At the same time, however, older adults are less likely to benefit from early detection because the natural history of colon cancer usually involves a slow progression from polyp to cancer,” said Sheffield.

The other authors on the study include Yimei Han, Yong-Fang Kuo, Dr. Taylor Riall and Dr. James Goodwin.

The research was supported by a grant from Comparative Effectiveness Research on Cancer in Texas, Cancer Prevention and Research Institute of Texas and the National Institutes of Health.

— Molly Dannenmaier, Public Affairs Office

### Muscle Building Gets a Boost with Blend of Soy and Dairy

Drinking a beverage made from a blend of soy and dairy proteins after exercise can increase muscle growth, according to a study now online in the Journal of Nutrition. The study is the first to look at the effects of this combination of proteins on muscle protein synthesis.

UTMB researchers worked with human subjects who drank a protein blend of soy, whey and casein (a protein derived from milk) after resistance exercise. The three protein sources have complementary amino-acid
profiles since they are digested at different rates. Results showed a more prolonged delivery of amino acids to muscles and extended muscle protein synthesis when subjects consumed the blend compared to a single source of protein alone.

“Sources of high-quality protein each have individual characteristics thought to offer unique advantages for muscle growth,” said Dr. Blake Rasmussen, interim chairman of the Department of Nutrition and Metabolism at UTMB and principal investigator of the study. “This is the first study to test the effects of combining soy with the dairy proteins whey and casein for promotion of lean body mass gain.”

Researchers based the composition of the protein blend on results from a recent pre-clinical study that demonstrated enhanced muscle protein synthesis in rats compared to another blend of soy or whey protein sources alone. The new human study used a blend of 25 percent isolated soy protein, 25 percent isolated whey protein and 50 percent caseinate.

This blend stimulated muscle growth to a similar extent as whey protein by elevating muscle protein synthesis and muscle cell growth signaling. The blend, however, increased the subjects’ anabolic window, extending the higher rate of muscle protein synthesis longer than whey alone.

The beverages provided approximately 20 grams of protein from either the soy-dairy blend or whey protein containing similar amounts of leucine, a key amino acid involved in regulating muscle protein synthesis rates. The volunteers consumed the beverages after high-intensity leg resistance exercise. Researchers collected multiple leg muscle samples from each subject to determine changes in muscle protein synthesis over time (at rest and three and five hours after exercise).

“Previous research examined only single sources of proteins and did not match the protein sources for leucine content, which is thought to trigger muscle protein synthesis,” said Paul Reidy, a graduate student in Rasmussen’s lab and first author on the study. “The extension of the anabolic window may also be important for the aging muscle.”

Nineteen healthy young adults participated in the randomized, double-blind trial. The study was funded by DuPont Nutrition & Health, makers of the soy ingredient included in the protein blend studied.

– Molly Dannenmaier, Public Affairs Office