Chen wins the Lemelson!

-Lily U. Burns-Hernandez

For the past three years, HST students have risen to the top when it comes to receiving the $30,000 Lemelson-MIT Student Prize Award - 2011 is no exception. Alice A. Chen is the fourth consecutive HST student to receive the $30,000 Lemelson-MIT Student prize; HST students have had the honor of receiving the Lemelson-MIT Student Prize in six of the past fifteen years.

Chen received the $30,000 Lemelson-MIT Student Prize award for her many applications designed to solve problems in the area of health and human disease. Some of Chen's work focuses on tissue engineered mimetics specifically in mice, and she worked on a mouse humanized with a tissue-engineered liver. Chen’s goals are to improve the quality of human health through her research. Her time at HST has allowed her to gain a broader perspective about the research implications on individuals and how her innovations can contribute to industry.

Chen is no stranger to award recognition. In November she received the 2010 Collegiate Inventors Competition Grand Prize Award for her work on tissue engineering. Merely being recognized for her work was an accomplishment in

Save the Date:

MIT150: Open House
Date: April 30, 2011
Time: 11:00 - 4:00pm
Location: MIT Campus
Celebrate MIT’s 150th Anniversary! http://mit150.mit.edu/

HST Graduation:
Date: May 24, 2011
Time: 2:00 - 5:00 pm
Location: MIT Media Lab (E14/15, 20 Ames Street, Cambridge, MA)
itself. The fact that the judges were lead pharmaceutical scientists showed Chen that her innovation could extend beyond her thesis, and her work could be furthered in the area of tissue engineering. Chen expressed both awe and amazement at receiving the Lemelson Student Prize Award, and she attributed much of her success to the support of those around her.

“I have been fortunate to work on exciting projects that have been successful and new technologies developed to make research more efficient, but what’s been meaningful to me is that I have done many of these other projects with collaborators…I am grateful for having had the opportunity to work with them. They helped to turn my story into a story that warrants this level of success.”

Chen is not one to take all of the credit for her recent success, and she explained that her company Sienna Labs (co-founded with HST grads) is also a big part of her life and success. “It is great to be able to share [the award] with my community. Lemelson celebrates the spirit of innovation in much broader terms, and this is all wonderful and an incredible honor.”

Since Chen is surrounded by success it might appear that becoming a scientist and even an inventor were both part of her plan since she was a child. This was not the case. Chen stumbled into science, and in the beginning did not think of science as a possible career. In fact, for a while she worried that she was a bit too indecisive at a young age regarding her career aspirations. Chen wanted to be an artist or even a pop-star, but not necessarily a scientist, never mind an inventor.

Even though the pop-star dream stays alive during Chen’s frequent visits to karaoke bars, biomedical engineering peaked her interests to a level she had not found before in the academic world. She felt the field offered her a little bit of everything. Chen learned so many disparate things, but it was up to her to put all of the pieces together in a way that would make sense and work.

Once in the field, Chen found herself surrounded by interesting questions and projects that informed her research and focused it towards improvement in human health. Chen notes that her mother, a successful hard working single parent who immigrated to the United States, influenced her greatly. She helped Chen understand she should never take any opportunity for granted nor should she pass up any opportunities. “I tend not to do things half-assed. Every opportunity that we have, I want to go for it!”

Chen is driven less by ambition and more by a strong sense of responsibility. She does not want to disappoint herself, her family, or waste the opportunities given to her by those at HST, in particular those by Professor Bhatia. Chen notes that Professor Bhatia sets the bar quite high for her students in a very inspiring way, and Chen has always wanted to exceed that bar. In the lab, everything is done with the goal of the patient in mind. While the research might not translate immediately from the laboratory to the patients, there is a great deal of forward thinking that transpires. Both Professor Bhatia and HST have helped Chen to think this way.

HST trains students to have a broad skill set and range of perspectives for how those skills are used. HST is a unique program that provides students with a strong background in engineering and an intense clinical training element for those students who are not pursuing an MD. Chen explains HST as a transformative experience. It transformed the way she viewed her research training both in its breadth and depth. Moreover, Chen feels HST changed the way its students look at world-wide problems. Most students focus on the small details that occur each and every day in the lab. However, when HST students are in a clinic or surgery, they are forced to think about their research in more expansive terms. They think about the impact of their research outside of the laboratory, and quite often HST students develop biomedical solutions that will have a large impact on the well being of the general public.

Since November, Chen gained a better understanding of the impact her research will have once it is brought to industry. “I have always wanted to think about bringing ideas to impact…There is a clearer path now towards commercialization for Sienna Labs.”

There is no program in the world like HST – the opportunity to be on the MIT campus, the HMS campus, and in clinics would not present itself through a traditional MD/PhD route. Chen understands the importance of having an HST education. Boston is a Mecca of greatness in the areas of science and academics, and the HST community contributes to this greatness. She feels exceptionally lucky to be a part of HST.
**RESEARCH:**

**Sangeeta Bhatia**, MD ’99, PhD ’97, HHMI Investigator and John and Dorothy Wilson Professor at MIT co-authored “Nanoparticle-mediated delivery of siRNA targeting Parp1 extends survival of mice bearing tumors derived from Brca1-deficient ovarian cancer cells.”

Abstract: Inhibition of the DNA repair enzyme poly(ADP-ribose) polymerase 1 (PARP1) with small molecules has been shown to be an effective treatment for ovarian cancer with BRCA mutations. Here, we report the in vivo administration of siRNA to Parp1 in mouse models of ovarian cancer. A unique member of the PARP family, the inherent complementarity of RNA affords a high level of specificity for therapeutically addressing Parp1 in the context of impaired homologous recombination. (Goldberg et al. PNAS January 11, 2011 vol. 108 no. 2, 745-750)

**Emery Brown**, MD, PhD, Professor of Computational Neuroscience and Health Sciences and Technology, Warren M. Zapol Professor of Anaesthesia, Harvard Medical School, Massachusetts General Hospital is the first author of “General Anesthesia, Sleep, and Coma.”

Summary: In United States, nearly 60,000 patients per day receive general anesthesia for surgery. General anesthesia is a drug-induced, reversible condition that includes specific behavioral and physiological traits — unconsciousness, amnesia, analgesia, and Akinesia — with concomitant stability of the autonomic, cardiovascular, respiratory, and thermoregulatory systems. Humans spend approximately one third of their lives asleep. Sleep, a state of decreased arousal that is actively generated by nuclei in the hypothalamus, brainstem, and basal forebrain, is crucial for the maintenance of health. Coma is a state of profound unresponsiveness, usually the result of a severe brain injury. This review discusses the clinical and neurophysiological features of general anesthesia and their relationships to sleep and coma, focusing on the neural mechanismof unconsciousness induced by selected intravenous anesthetic drugs.


**Joseph V. Bonventre**, MD ’76, PhD, Samuel. A. Levine Professor of Medicine and Health Sciences and Technology, Harvard Medical School, Brigham & Women's Hospital, is co-author of “Improved performance of urinary biomarkers of acute kidney injury in the critically ill by stratification for injury duration and baseline renal function.”

Abstract: To better understand the diagnostic and predictive performance of urinary biomarkers of kidney injury, we evaluated γ-glutamyltranspeptidase (GGT), alkaline phosphatase (AP), neutrophil-gelatinase-associated lipocalin (NGAL), cystatin C (CysC), kidney injury molecule-1 (KIM-1), and interleukin-18 (IL-18) in a prospective observational study of 529 patients in 2 general intensive care units (ICUs). Comparisons were made using the area under the receiver operator characteristic curve (AUC) for diagnosis or prediction of acute kidney injury (AKI), dialysis, or death, and reassessed after patient stratification by baseline renal function (estimated glomerular filtration rate, eGFR) and time after renal insult. On ICU entry, no biomarker had an AUC above 0.7 in the diagnosis or prediction of AKI. Several biomarkers (NGAL, CysC, and IL-18) predicted dialysis (AUC over 0.7), and all except KIM-1 predicted death at 7 days (AUC between 0.61 and 0.69). Performance was improved by stratification for eGFR or time or both. With eGFR <60 ml/min, CysC and KIM-1 had AUCs of 0.69 and 0.73, respectively, within 6 h of injury, and between 12 and 36 h, CysC (0.88), NGAL (0.85), and IL-18 (0.94) had utility. With eGFR >60 ml/min, GGT (0.73), CysC (0.68), and NGAL (0.68) had the highest AUCs within 6 h of injury, and between 6 and 12 h, all AUCs except AP were between 0.68 and 0.78. Beyond 12 h, NGAL (0.71) and KIM-1 (0.66) performed best. Thus, the duration of injury and baseline renal function should be considered in evaluating biomarker performance to diagnose AKI. (Endre et al. Kidney International, 9 February 2011 | doi:10.1038/ki.2010.555)

**Elazer Edelman**, MD ’83, PhD ’84, Thomas D. and Virginia W. Cabot Professor of Health Sciences and Technology, Professor of Medicine, Harvard Medical School and Physician, Brigham and Women's Hospital and Joseph Franses, HST MEMP and MD student, are co-authors of “Stromal Endothelial Cells Directly Influence Cancer Progression.”

Abstract: Cancer growth and metastasis are regulated in part by stromal cells such as fibroblasts and immune cells within the tumor microenvironment.
Endothelial cells (ECs) are also ubiquitous within tumors because tumors are vascular, and yet, the impact of tumor-resident ECs is less well understood. Through paracrine regulation, ECs modulate a diverse spectrum of pathophysiologic processes in normal and hyperplastic tissues. We hypothesized that ECs offer similar paracrine regulatory control of cancer biology. Indeed, secretions from quiescent ECs muted the proliferative and invasive phenotype of lung and breast cancer cells in vitro and reduced cancer cell protumorigenic and proinflammatory signaling. EC perlecan silencing significantly changed this regulatory relationship, eliminating the ability of ECs to inhibit cancer cell invasiveness via increased interleukin-6 secretion. Moreover, implanting ECs embedded within porous matrices slowed adjacent xenograft tumor growth and prevented architectural degeneration, with a concomitant reduction in proliferative and tumorigenic markers. Finally, lung carcinoma cells pretreated with intact EC-conditioned media, but not media conditioned with perlecan-silenced ECs, exhibited reduced micrometastatic burden after tail vein injection. These findings add to an emerging appreciation of EC-regulatory effects that transcend their structural roles and pave the way for improved characterization and control of EC-cancer cross-talk interactions for diagnosis, prognosis, and treatment of cancer.


John D. Gabrieli, PhD, Grover Hermann Professor in Health Sciences and Technology and Cognitive Neuroscience, Department of Brain and Cognitive Sciences Harvard-MIT Division of Health Sciences and Technology co-authored “Entorhinal cortex volume is associated with episodic memory related brain activation in normal aging and amnestic mild cognitive impairment.”

Abstract: The present study examined the relationship between entorhinal cortex and hippocampal volume with fMRI activation during episodic memory function in elderly controls with no cognitive impairment and individuals with amnestic mild cognitive impairment (aMCI). Both groups displayed limited evidence for a relationship between hippocampal volume and fMRI activation. Smaller right entorhinal cortex volume was correlated with reduced activation in left and right medial frontal cortex (BA 8) during incidental encoding for both aMCI and elderly controls. However, during recognition, smaller left entorhinal cortex volume correlated with reduced activation in right BA 8 for the control group, but greater activation for the aMCI group. There was no significant relationship between entorhinal cortex volume and activation during intentional encoding in either group. The recognition-related dissociation in structure/function relationships in aMCI paralleled our behavioral findings, where individuals with aMCI displayed poorer performance relative to controls during recognition, but not encoding. Taken together, these results suggest that the relationship between entorhinal cortex volume and fMRI activation during episodic memory function is altered in individuals with aMCI. (Trivedi et al. Brain Imaging and Behavior February 17, 2011, Springer New York, pp.1-11.)

Robert Langer, PhD, David H. Koch Institute Professor, MIT, and member of the HST faculty, and Jeffrey M. Karp, PhD, Assistant Professor in Medicine and Health Sciences and Technology, Harvard Medical School, Brigham & Women's Hospital, Director, Laboratory for Advanced Biomaterials and Stem-Cell-Based Therapeutics, Brigham & Women's Hospital are co-authors of “A ‘Self-Pinning’ Adhesive Based on Responsive Surface Wrinkles.”

Abstract: Surface wrinkles are interesting since they form spontaneously into well-defined patterns. The mechanism of formation is well-studied and is associated with the development of a critical compressive stress that induces the elastic instability. In this work, we demonstrate surface wrinkles that dynamically change in response to a stimulus can improve interfacial adhesion with a hydrogel surface through the dynamic evolution of the wrinkle morphology. We observe that this control is related to the local pinning of the crack separation pathway facilitated by the surface wrinkles during debonding, which is dependent on the contact time with the hydrogel. (Chen et al. J Polym Sci B Polym Phys, Jan 1, 2011; 49 (1) P 40-44)

Leonid A. Mirny, PhD, Samuel A. Goldblith Career Development Associate Professor of Health Sciences and Technology and Physics, Massachusetts Institute of Technology, authored the paper “Nucleosome-mediated cooperativity between transcription factors.”

Abstract: Cooperative binding of transcription factors (TFs) to promoters and other regulatory regions is essential for precise gene expression. The classical model of cooperativity requires direct interactions between TFs, thus constraining the arrangement of TF sites in regulatory regions. Recent genomic and functional studies, however, demonstrate a great deal of flexibility in such arrangements with variable distances, numbers of sites, and identities of TF sites located in cis-regulatory regions. Such flexibility is inconsistent with cooperativity by direct interactions between TFs. Here, we demonstrate that strong cooperativity among noninteracting TFs can be achieved by their competition with nucleosomes. We find that the mechanism of nucleosome-mediated cooperativity is analogous to cooperativity in another multimolecular complex: hemoglobin. This surprising analogy provides deep insights, with parallels between the heterotropic regulation of hemoglobin (e.g., the Bohr effect) and the roles of nucleosome-positioning sequences and chromatin modifications in gene expression. Nucleosome-mediated cooperativity is consistent with several experimental studies, is equally applicable to repressors and activators, allows substantial flexibility in and modularity of regulatory regions, and provides a rationale for a broad range of genomic and evolutionary observations. Striking parallels between cooperativity in hemoglobin and in transcriptional regulation point to a general mechanism that can be used in various biological systems. (Mirny, PNAS December 28, 2010 vol. 107 no. 32, p. 22534-22539)
is a relationship between gender and tissue outcome in human ischemic stroke. We sought to identify whether the proportion of initially ischemic to eventually infarcted tissue was different between men and women with ischemic stroke.

Methods: We studied 141 consecutive patients with acute ischemic stroke who had a baseline MRI obtained within 12 hours of symptom onset, a follow-up imaging on Day 4 or later, and diffusion-weighted imaging/mean transmit time mismatch on initial MRI. Lesion growth was calculated as percentage of mismatch tissue that underwent infarction on follow-up (percentage mismatch lost). Multivariable analyses explored the effect of gender and other predictors of tissue outcome on percentage mismatch lost.

Results: There was no difference in median percentage mismatch lost between men (19%) and women (11%; $P=0.720$). There was, however, an interaction between gender and age; median percentage mismatch lost was 7% (0% to 12%) in women and 18% (1% to 35%) in men younger than the population median (71 years, $P=0.061$). The percentage mismatch lost was not different between men and women ≥71 years old (25% in both groups). The linear regression model revealed gender ($P=0.027$) and the interaction between age and gender ($P=0.023$) as independent predictors of percentage mismatch lost.

Conclusions: There is an age-by-gender interaction in tissue outcome after ischemic stroke; brain infarcts in women <70 years grow approximately 50% less than infarcts in their male counterparts. These findings extend the well-known concept that there is a differential age-by-gender effect on stroke incidence, mortality, and functional outcome to the tissue level.

---

Rebecca Richard-Kortum, PhD ’90, Professor of Bioengineering at Rice University, co-authored “Prospective evaluation of a portable depth-sensitive optical spectroscopy device to identify oral neoplasia.”

Abstract: A portable, depth-sensitive clinical spectroscopy device for noninvasive early diagnosis of oral cancer is described. We carried out a pilot study to evaluate the ability of the device to identify oral neoplasia using a previously developed diagnostic algorithm. A total of 79 oral sites in 33 subjects, including 28 patients with oral lesions and 5 healthy volunteers, were measured and analyzed. Measurements of 54 nonkeratinized oral sites yielded an area under the receiver operating characteristic curve of 0.90. Measurements of 25 keratinized oral sites yielded an area under the receiver operating characteristic curve of 0.83. (Schwarz et al. Biomed Opt Express. 2011 January 1; 2(1): 89–99.)

Robert L. Sah MD ’91, ScD ’90, Director, Cartilage Tissue Engineering Lab at the University of California - San Diego is co-author of “An Arthroscopic Device to Assess Articular Cartilage Defects and Treatment with a Hydrogel.”

Abstract: The hydraulic resistance $R$ across osteochondral tissue, especially articular cartilage, decreases with degeneration and erosion. Clinically useful measures to quantify and diagnose the extent of cartilage degeneration and efficacy of repair strategies, especially with regard to pressure maintenance, are still developing. The hypothesis of this study was that hydraulic resistance provides a quantitative measure of osteochondral tissue that could be used to evaluate the state of cartilage damage and repair. The aims were to (1) develop a device to measure $R$ in an arthroscopic setting, (2) determine whether the device could detect differences in $R$ for cartilage, an osteochondral defect, and cartilage treated using a hydrogel ex vivo, and (3) determine how quickly such differences could be discerned. The apparent hydraulic resistance of defect samples was ~35% less than intact cartilage controls, while the resistance of hydrogel-filled groups was not statistically different than controls, suggesting some restoration of fluid pressurization in the defect region by the hydrogel. Differences in hydraulic resistance between control and defect groups were apparent after 4 s. The results indicate that the measurement of $R$ is feasible for rapid and quantitative functional assessment of the extent of osteochondral defects and repair. The arthroscopic compatibility of the device demonstrates the potential for this measurement to be made in a clinical setting. (McCarty et al. Annal of Biomedical Engineering, Volume 39, Number 4, p.1306-131)

A. Gregory Sorenson, MD ’89, Professor of Radiology and Health Sciences & Technology, Harvard Medical School, Massachusetts General Hospital, co-authored the paper “Age-Dependent Susceptibility to Infarct Growth in Women.”

Abstract: Background and Purpose: It is not known if there is a relationship between gender and tissue outcome in
HONORS & AWARDS:

James Ankrum, HST MEMP student, has been selected to attend the 61st Lindau Meeting of Nobel Laureates Germany this summer.

Melis Anahtar, an MD/PhD, received a 2011 Paul & Daisy Soros Fellowship Award for New Americans. These fellowships are awarded annually to the most accomplished and promising immigrants and children of immigrants in American graduate education.

Alexander Bagley, an MD/PhD student at Harvard Medical School, is the founder of Sports Legacy Institute Community Educators (SLICE), a medical student-run organization that educates student athletes about concussions through free, interactive presentations.

The NSF Graduate Research Fellowship Program (http://www.nsfgrfp.org/) has announced this year’s fellowship recipients, and HST students are well represented! Five current MEMP students received NSF Fellowships: Kendall Clement (BIG), Jesse Engreitz (BIG), Alexandra German, and Luvena Ong, and Meena Siddiqui.

Professor Khademhosseini was awarded a Sloan fellowship (http://www.sloan.org/fellowships/). Annually the Sloan fellowship is given by the Alfred P. Sloan Foundation to scientists, mathematicians and economists who are at an early stage of their research careers. The Sloan Research Fellowships have been awarded since 1955, and 38 of the fellows have gone on to win the Nobel Prize. Current or former Sloan Fellows have been chosen to receive the National Medal of Science 57 times, the Fields Medal 14 times, and the John Bates Clark Medal—the most prestigious honor for young economists—nine times.

BEP students Anand Mehrotra and Jeff Blake along with Vikram Anreddy and Romero Hayman from MIT’s Sloan School of Management won MIT’s Venture Capital competition. The team went to New York - Columbia Business School, on March 4, to represent MIT in the regional VC competition. The competition simulated the challenge of venture capital investing: digging through business ideas and pitches to find a winner. The competition provided an opportunity for students to evaluate real business pitches by Entrepreneurs who are currently seeking funding.

SHBT student Tianyu Wang and affiliated faculty member Thomas F. Quatieri recently received the MIT Lincoln Laboratory 2010 Best Paper Award for their publication: “High-Pitch Formant Estimation by Exploiting Temporal Change of Pitch,” published in the IEEE Transactions on Audio, Speech, and Language Processing, January 2010. The Best Paper Award recognizes the Lincoln Laboratory author(s) of the most outstanding published paper appearing in a peer-reviewed journal or peer-selected conference publication during an approximate one-year period preceding the award announcement. At a recent MIT Lincoln Laboratory awards ceremony, Tian and Tom received plaques with a citation that reads: "Recognized for creativity, technical and seminal importance, and rigorous analysis in spectral-temporal processing and representation of speech."

HST MD students Yunxiang Chu, Christine Eckhardt, Grace Hsieh, and Valeriy Shubinets are part of the 2011-12 Medical Research Fellows Program of the Howard Hughes Medical Institute. http://www.hhmi.org/grants/individuals/medfellows.html

HST MEMP student Zach Wissner-Gross won the 2011 Biophysical Society's Student Research Achievement Award.
HST ALUMNI UPDATES

1980s
David Moskowitz, MD ’80, got remarried in October, 2010 to the very lovely Susan J. Forrest of Miami, FL and moved to Miami after a 30 year sojourn in St Louis. With 10% of the nation’s retirees, David is hoping that Miami’s media will put patients ahead of nephrologists. He is still trying to publicize his 2002 paper showing how to prevent 90% of dialysis (http://www.genomed.com/images/guyot_dec09nl.pdf). In following where the genes take him, David is a nephrologist-turned-general internist. His biotech company, GenoMed, has been studying cancer for the past decade.

Scott Greenwald, MEMP ’90, recently joined Covidien, a large medical device manufacturer, following their acquisition of Aspect Medical Systems where he worked for 18 years. His new role is Director of Advanced Research, and is focused on developing novel patient monitoring technologies.

1990s
Mary (Wu) Coday, MD ’94, reports that she is doing well. She is busy with her children and ophthalmology practice. Mary just finished up a year as president of Washington Academy of Eye Physicians and Surgeons. She hopes everyone is well.

Anthony Forster, MD ’96, has been recruited from Vanderbilt University to a professorship in chemical biology at Scandinavia’s oldest university, Uppsala University in Sweden. Tony hopes for many visitors, noting that the nearby airport is a major target for aspiring scientists; Stockholm!

2000s
Jim Graham, BEP ’05 is a Principal at Sante Ventures, an early stage life-science venture capital firm based in Austin, TX.

Michael G. Heinz, PhD (SHBT) ’00 has been elected as a Fellow of the Acoustical Society of America “for contributions to understanding the relation between physiology and psychophysics in hearing.”

Rehan Khan, BEP ’07, is in India working for Abbott Labs as the Managing Director & General Manager of Abbott Nutrition’s India business. Rehan notes that last 2 years at Abbott have been fantastic - they have scaled up the team from 150 to over 600 people and sales have more than doubled. Rehan encourages HST’ alums passing by or thru India to contact him: +91 976 900 0694 or rehan.khan@alum.MIT.edu

Amy Kerdock, PhD ’06, bought a house in San Jose CA. She is still trying to find the time to publish from her grad work, and just got one published this week! So it is somewhat possible to stay in touch with Academia and be in industry at the same time.

Winston Patrick Kuo, SM ’01, Medical Informatics, is Assistant Professor in the Department of Developmental Biology, Harvard School of Dental Medicine and Director of the Harvard Catalyst | The Harvard Clinical and Translational Science Center - Laboratory for Innovative Translational Technologies. His vision is to create a marketplace for identifying and evaluating new ideas (inventions), innovative approaches, and leading-edge technologies; and fostering entrepreneurship, all with the goal of moving science forward and impacting critical unmet needs of the Harvard research community. He also recently was awarded a Department of Defense grant for Label-Free Magnetophoretic/Laser Processing and Analysis of Blood.

Eric C. Liao, MD ’02, PhD, is currently an Assistant Professor of Surgery at Harvard Medical School / Massachusetts General Hospital and Principal Investigator at the Center for Regenerative Medicine. Laboratory research investigates genetic regulation of craniofacial development, with projects geared toward translation to...
clinical impact. Clinical practice focuses on tissue transplantation using microsurgery and repair of congenital anomalies such as cleft lip and palate malformation. Active in teaching of residents, advisor to HST students. Currently, HST 3rd yr student Valeriy Shubinets is in the lab, who was just awarded a HHMI Fellowship.

**Benjamin Sun**, MD ’00, will be joining the Oregon Health and Science University faculty as an associate professor in the Center for Policy Research- Emergency Medicine in fall 2011.

**Connor Walsh**, GEMS ’10, graduated from the GEMS program last year and is now an Instructor at Mass General and a Lecturer at the Harvard School of Engineering. He started teaching course on Medical device design at the Harvard’s School of Engineering and Applied Sciences.

**Martin Zalesak**, MD ’08, PhD ’06, notes that after years at L.E.K. Consulting, he joined the boutique life science strategy and management consulting company Trinity Partners based in Waltham, MA, in September 2010 as a Senior Consultant. In his new role, Martin manages projects in drug development and launch strategy, corporate strategy, M&A screening and prioritization, product and company revenue forecasts, and pricing and reimbursement analysis, across many therapeutic areas. Thanks to the rigor of the HST MD/PhD education, he is able to provide his clients, ranging from small biotechs to the largest pharmaceutical companies, with valued scientific input into their strategic decisions.

Stay in Touch with HST!

HST Alumni:
We want to hear from you! Please send us your alumni updates by June 10, 2011 for the Summer issue of the Connector. hst-news@mit.edu

**Drucilla J. Roberts**, MD ’85, is the course director for an upcoming Harvard Medical School, Department of Continuing Education conference, which is designed to highlight the importance of pathology in helping meet the United Nations' Millennium Developmental Goals to reduce maternal and childhood mortality. The format includes didactic lectures mixed with informal working seminars to foster interaction among attendees and to encourage collaborative projects. Faculty includes Massachusetts General Hospital Anatomic Pathology physicians and guest faculty from the United States, Canada, Ethiopia, and South Africa and involves surgical, autopsy, and cytopathology experts.

**Hilton Addis Ababa Hotel, Ethiopia**

The Contribution of Anatomic Pathology to the Health of Women and Children

June 12, 2011 - June 16, 2011

The goals of this unique conference are:

- To provide state of the art teaching of diagnostic criteria for the pathologies of women and infants and to ensure competence of these skills among attendees;

- To facilitate interaction among pathologists of many backgrounds and from different nations to foster international collaborative research projects;

- To formulate templates for maternal, fetal, and pediatric autopsies; and placenta, breast, thyroid, gastrointestinal, and gynecologic surgical pathology and cytology to facilitate consistency (uniformity) of pathology practice;

- And to encourage mentorship of junior pathologists and pathologists-in-training by senior pathologists.

For complete course and registration information visit:

www.cme.hms.harvard.edu/courses/anatomicpathology

Offered by:
Massachusetts General Hospital Department of Pathology
Course Director: Drucilla J. Roberts, MD (HST ’85)

Full and partial scholarships will be provided based on application to encourage participation of pathologists from low-resource countries especially from sub-Saharan Africa.
In Memorium:

The HST Community was saddened to learn of the death of Ronald P. Smith on March 15, 2011. For many years, Ron worked in the Registrar's Office at MIT, where he was instrumental in establishing the systems that allow HST students earning Harvard degrees to hold dual citizenship at MIT. Ron later became the Special Assistant for Registration and Student Records in HST, where he helped generations of HST students navigate the complexities of our inter-institutional programs. Former students who knew Ron will recall the heart of gold that lay beneath his sometimes gruff exterior. Ron retired in 2006, which gave him an opportunity to spend more time doing the things he loved, including traveling with his wife, Jane, throughout the US and following the Red Sox.


WELCOME KARROL!

Please welcome our new staff assistant in the HST Office at HMS! Ms. Karrol Altarejos started on Thursday, April 7. Karrol is already known to some of our staff and students from her temporary support roles in the HST@MIT headquarters and academic offices. Karrol graduated from Regis College in Weston, MA with a bachelors degree in Biology. In her spare time, she enjoys studying languages, cooking and eating good food, and blogging; one of her blogs was awarded a spot in the "Top 100 Blogs" in the "Blog Korea, Visit Korea" contest sponsored by the Korean Tourism Organization.

HST Giving

The HST Founder's Fund supports HST student research. Your gift plays a critical role in helping support our students. To find out more about giving to the HST Program, please contact us:

hst-giving@mit.edu

HST Connector Archives

Stay in Touch with HST!