HSTconnector

Newsletter for graduates and friends of the Harvard-MIT Division of Health Sciences and Technology

HST Graduation Exercises 2000

On June 5, HST held its 26th graduation exercise in a new and spacious venue at the Hyatt Regency Cambridge Hotel. (A list of graduates and their degrees, thesis titles, and future plans was published in the last newsletter, June 2000.)

The traditional Hooding Ceremony of HST-PhD recipients was carried out by co-directors Joseph V. Bonventre, MD, PhD and Martha L. Gray, PhD, with the assistance of MIT Dean Isaac M. Colbert, Dean for Graduate Education; Dennis L. Kasper, MD, Executive Dean for Academic Programs at HMS; Lee Gehrke, PhD; and Frederick Schoen, MD, PhD, Associate Director, HST.

Kenneth I. Shine, MD, President, Institute of Medicine, National Academy of Science, and Professor of Medicine, Emeritus, UCLA School of Medicine, where he is also past Dean and Provost for Medical Sciences, gave the keynote address. Robert S. Lees, MD, a former resident of his at MGH, introduced Shine, who was a member of the HMS Class of 1961. He also served as President of the American Heart Association from 1985 to 1986.

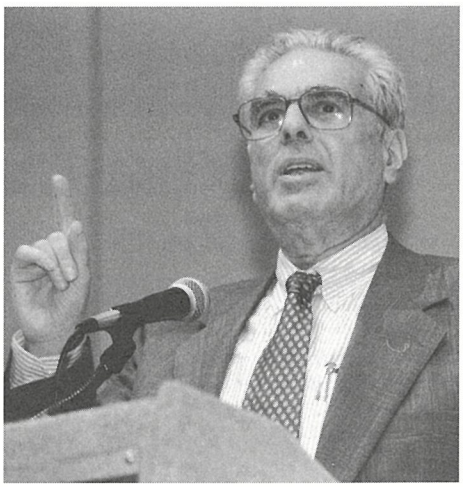
Shine congratulated the degree recipients, pointing out that this is an auspicious time with the 21st century being the century of life sciences, promising increased complexity, but also interactions with environmental sciences, chemistry, social and behavioral sciences-interfaces which have been stressed in the HST curriculum. New approaches and new directions are expected in the life sciences. Whereas the recent tendency has been for research to move away from interactions with patients, we are now seeing a resurgence of clinical research, involving interaction with patients, from whom much can be learned. This interaction allows physician-scientists to ask the right questions. Many things happen in humans and not in animals, such as the successful transplantation of kidneys, which had been a failure in dogs.

Physician-scientists must pay attention to ethical aspects of clinical research, must make the workings of science understandable to the public, and must avoid overselling exaggerated promises, which undermine confidence. Conflicts of interest may arise if the physician and the clinical investigator is the same person for a given patient. Patients need ombudsmen.

At this time, the opportunities for research and the support of research by the public – e.g. by increasing NIH funding – are tremendous, fueled by national optimism about medicine's future. However, we must maintain integrity and quality. The health profession enjoys unique confidence and trust of the public, but this trust must be earned in order to be maintained. At the basis of this trust lies the unique physician-patient relationship, which must be nurtured and not endangered.

Shine charged the graduates to do their best to maintain the public's trust and confidence.

Following Shine's address was the presentation of the Irving M. London Teaching Awards to **David N. Louis, MD,** and **Richard H. Masland, PhD,** by **Lisa Catapano, MD, PhD, '02**.



Kenneth I. Shine, MD, keynote speaker for HST's graduation.

Next was the bestowment of the first Thomas A. McMahon Mentoring Award to **Elazer R. Edelman, MD, PhD, '88** by **Thomas Heldt, MEMP.** The McMahon Award, established in 1999, is presented annually to the person who inspires and nurtures HST students in their scientific and personal growth, and through honest advice and generosity to all students and colleagues sets an admirable example of excellence in mentoring.

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Harvard – MIT Division of

HST

Health Sciences and Technology

September 2000

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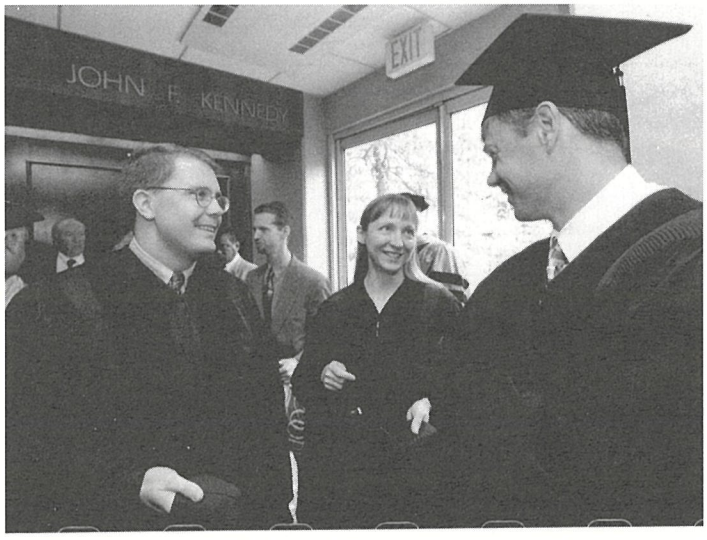


2000 HST Graduation – Michael G. Heinz, PhD (left), Janet L. Slifka, PhD, and Grant Schaffner, PhD chat before the HST graduation ceremony.

Incoming Students

First-Year M.D. Candidates Class of 2004

Andrew James Aguirre	University of Michigan, Ann Arbor	Cell and Molecular Biology
Lea Marcie Alhilali	Columbia University	Chemistry
Jeffrey Abraham Bander	Yeshiva University	Biology
David Arthur Berry	MIT	Neuroscience
Christina Louise Boulton	University of California, Davis	Genetics
Allen Wayne Bryan, Jr.	Mississippi State University	Physics
Jeffrey Hyo Chung	Harvard University	Biology
Tomas Cvrk, PhD	Charles University	Biochemistry
Jairam Rao Eswara	Johns Hopkins University	Biophysics
Brian Barkley Graham	MIT	Electrical Engineering
John Richard Greenland	Stanford University	Chemistry
Brian Palmer Hafler	Princeton University	Biology
Colleen Marie Hanna	University of Nebraska, Lincoln	Biology
Todd Michael Herrington	Stanford University	Biology
Brook Jacob Hill	Florida State University	Biochemistry/Biology
Kevin Sam King	University of Southern California	Chemistry
Amy Chenting Lee	MIT	Chemistry/English
Liyun Li	MIT	Biology
Rajeev Malhotra, MA	Harvard University	Chemistry
Shana Erin McCormack	Harvard University	Biochemistry
Robert Shigeo Ohgami	Princeton University	Molecular Biology
Wojciech H. Przylecki	Yale University	Biology/Chemical Engineering
Joshua Shen Shulman	Harvard University	Biochemical Sciences
Deborah Beth Sternlight	Harvard University	Biology
Anna Lea Stevens	MIT	Chemistry
Leo Lee Tsai, MS	Williams College	Physics/Chemistry/Economics
Cristina Cunha Vieira	Harvard University	Romance Languages & Literature
Vladimir Vinarsky	University of California, Berkeley	Biochemistry
Nikhil Wagle	Harvard University	Biochemistry
Griffin M. Weber	Harvard University	Engineering
Glenn Chungwing Yiu	Columbia University	Biochemistry/Physics
Sarvenaz Zand	Johns Hopkins University	Biomedical Engineering
Hao Zhu	Duke University	Biology

Medical Engineering/Medical Physics Graduate Program

Aaron Dominic Aguirre	University of Michigan, Ann Arbor	Electrical Engineering
Gil Alterovitz	Carnegie Mellon University	Electrical and Computer Engineering
Aaron Blair Baker, MSE	University of Washington	Bioengineering
Joaquin Andres Blaya	University of Miami	Mechanical Engineering
Atul Janardhan Butte, MD	Brown University	Computer Science
Vincent Chi-Kwan Cheung	University of British Columbia	Mathematics
David Michah Cochran, SM	Georgia Tech	Chemical Engineering
David Alan Eaverone	Case Western University	Biomedical Engineering
Georg Kurt Gerber, MPH	University of California, Berkeley	Mathematics
Michael Scott Christopher Hemond	Harvard University	Physics
Kevin Robert King, MS	University of Illinois	Electrical Engineering
Peter Taeyun Lee, SM	MIT	Mechanical Engineering
Chunyao Jenny Mu	Johns Hopkins University	Biomedical Engineering
Sripriya Natarajan	MIT	Electrical Engineering & Computer Science
Andrew Garmory Richardson	Case Western University	Biomedical Engineering
Christina Elise Silcox	Boston University	Biomedical Engineering
Zhendi Su	CalTech	Chemical Engineering
Ricky Tsee-Wai Tong	CalTech	Chemical Engineering
Roxanna Marie Webber	Southern Methodist University	Electrical Engineering
Peter I-Kung Wu	University of California at Berkeley	Mechanical Engineering
Martin Zalesak, MSc	University of Pennsylvania	Chemical Engineering

Radiological Sciences Joint Program

Tie Liu, M.Eng.	Tsinghua University	Biomedical Engineering/Industrial Eng.
Zhe (Phillip) Sun	Peking University	Technical Physics

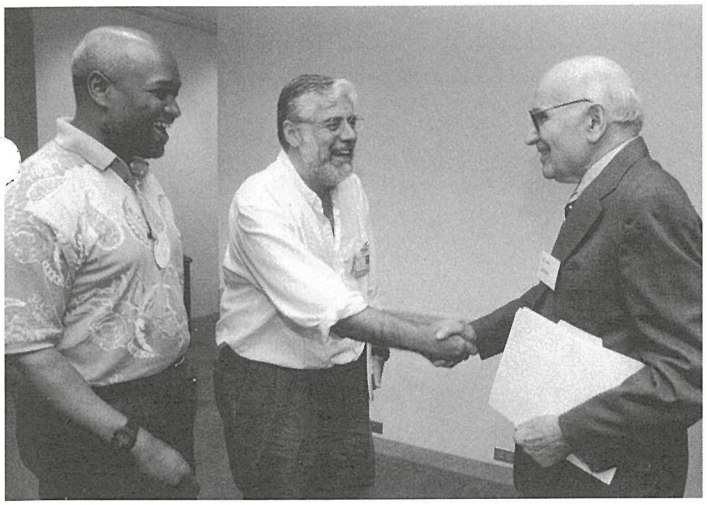
Speech and Hearing Sciences Graduate Program

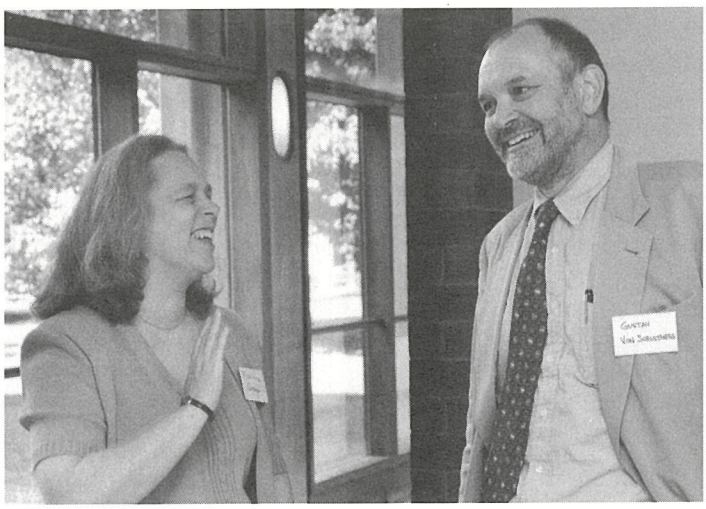
Joshua Gary Bernstein (entered 6/00)	Cornell University	Electrical Engineering
Holden Cheng	University of California, Berkeley	Physics
Joseph Feingold	Harvard University	Philosophy, Physics
Rory D. Kirchner (entered 6/00)	Rochester Institute of Technology	Biotechnology
Anthony Okobi (entered 6/00)	Cornell University	Neurobiology and Behavior
Hector Luis Penagos	Universidad de Las Americas	Physics
Hwa Jung Son	Cooper Union	Electrical Engineering
Ryuji Suzuki, MS	University of Massachusetts at Dartmouth	Electrical Engineering
Darren Mark Whiten	Boston University	Biomedical Engineering
Julie Jungyon Yoo, MASc	University of Waterloo	Computer Engineering
Yining Zhou, MS	Guangzhou Institute of Medicine	Neuroscience

Medical Informatics Master's Program

Nacman Ash, MD	Tel Aviv University
Frederic S. Resnic, MD	Mount Sinai School of Medicine

Incoming students to the Clinical Investigating Training Program will be listed in the next issue.





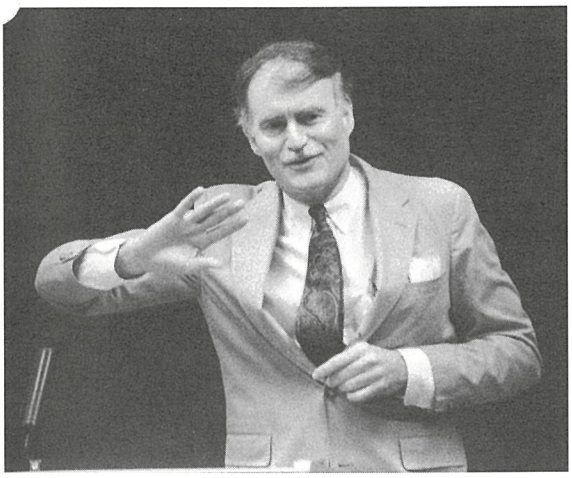
25th Reunion of the first HST-MD Class

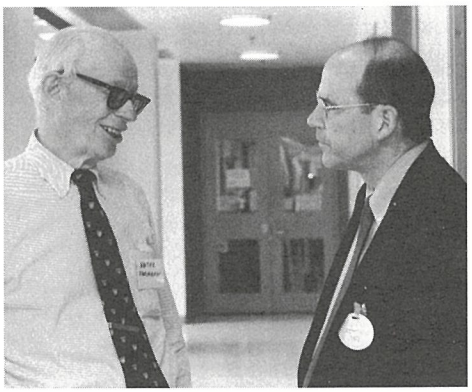
On the occasion of the 25th reunion of the first HST MD Class, there was an "Update on HST" for alumni on the last day of HMS' alumni week, Saturday, June 10, in Building E25 at MIT. In attendance were 20 alumni and 16 others.

With Walter Abelmann moderating, Irving M. London, the first Director of HST and the Grover Hermann Professor of HST, Emeritus, addressed "The Original Vision: A Look Back," leading the group through the formative and early years of HST. Then followed a spirited talk by Farish Jenkins, Professor of Anatomy, HST and Alexander Agassiz Professor of Zoology at Harvard. He defined "Human Functional Anatomy" and described the scientific as well as social goals and accomplishments of this course, which has launched several marriages. "Whoever is across from you (in the dissecting room) is bound to look better than what is on the table," he quipped.

Fred Schoen, Professor of Pathology and Associate Director of HST, presented a comprehensive overview of "HST Today," a multicultural and multidisciplinary enterprise. Physical and biological sciences, as well as health care, are on equal footing, allowing movement from bench to bedside and reverse, increasingly also interfacing with progress in the commercial sector.

Finally, Martha Gray, HST's Co-Director and the Edward Hood Taplin Professor of Medical and Electrical Engineering, spoke on "HST in the 21st Century," predicting a bright albeit increasingly complex future.





Clockwise from top left: Ray Hammond and Ellis Reinherz greet Irving London; Martha Gray shares a laugh with Gustav von Schulthess; Walter Abelmann and Steve Calderwood chat in the hallways of E25; Farish Jenkins talks about his long career as a leader of Human Functional Anatomy.

HST Website Expanded

Thanks to the efforts of **Richard N. Mitchell**, MD, PhD, Associate Master and Associate Director of HST, and **Safa Sadeghpour**, HST MD student, the HST website has been updated and expanded.

Visits to the website this spring have averaged 187 per day, or 5700 per month. The most popular sections of the website are (1) Academic Programs, (2) Admissions and (3) Faculty. Please visit the site at harvard-mit-hst.org. Suggestions are welcome.

A New Graduate Administrator

We are pleased to welcome **Domingo Altarejos** to the HST Office as Administrator of Graduate Students, succeeding Keiko Oh who retired this year. Altarejos is the former Assistant Director of Student Aid at the University of Massachusetts, Boston. He holds a BS in Chemical Engineering from the Manuel L. Quezon Univeristy in Manila as well as an MS in Mathematics. He taught both disciplines for several years.

Dean Federman in a New Role

Daniel Federman, outgoing Dean for Medical Education, will continue to make his many talents available to HMS students in his new role as Senior Dean for Clinical Teaching and Alumni Relations. He is working with hospital faculty and medical staff to enrich clinical learning and the teaching experience. He is also committed to raising funds for student scholarships to help reduce the burden of debt after graduation.

HST Graduation 2000

Continued from page one

Frederick J. Schoen, MD, PhD announced the award of the Edward Hood Taplin Professorship to **Martha L. Gray, PhD, '86.**

After the Presentation of Certificates by Bonventre and Gray, the following honors were announced:

MD *Magna Cum Laude*
Sharon B. Chang
Whitney B. Edmister
Ravi V. Joshi
Maureen An-Ping Su
Benjamin C. Sun

MD *Cum Laude*

Stephen A. Boppart
Rodney Chan
Timothy A. Jackson
Robert F. Padera
John F. Strasser

The following prizes were awarded at HMS' graduation exercises:

Amy E. Adams: the Kurt Isselbacher Prize to the senior demonstrating humanitarian values and dedication to science.

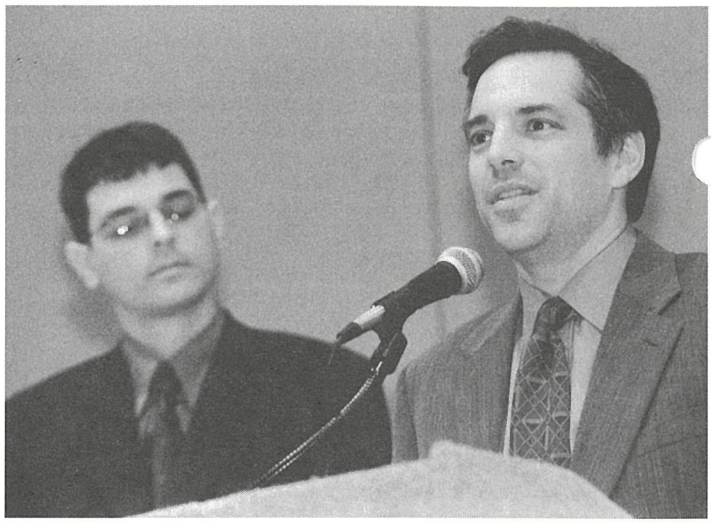
Howard Y. Chang: the Leon Reznick Memorial Prize for excellence and accomplishment in research.

Anthony Chen: the Multiculturalism Award to the senior in each Academic Society who has done the most to exemplify and/or promote the spirit and practice of multiculturalism and diversity.

Rose Du: the James Tolbert Shipley Prize for excellence and accomplishment in research.

Whitney B. Edmister: the Sirjay Sanger Award for excellence and accomplishment in research, clinical investigation and scholarship in psychiatry.

Marcus L. Ware: the Harold Lamport Biomedical Research Prize for the best paper reporting original research in the biomedical sciences.



Elazer R. Edelman, MD, PhD, Associate Professor of Health Sciences and Technology, receives the Thomas A. McMahon Mentoring Award. The award was presented by Thomas Heldt (left), a MEMP student.

HST Announces Taplin Award Winners for 2000-2001

HST is proud to announce the new John F. and Virginia B. Taplin Award Winners. These awards will be made over three years, and will each contribute to strengthening the infrastructure of the Division.

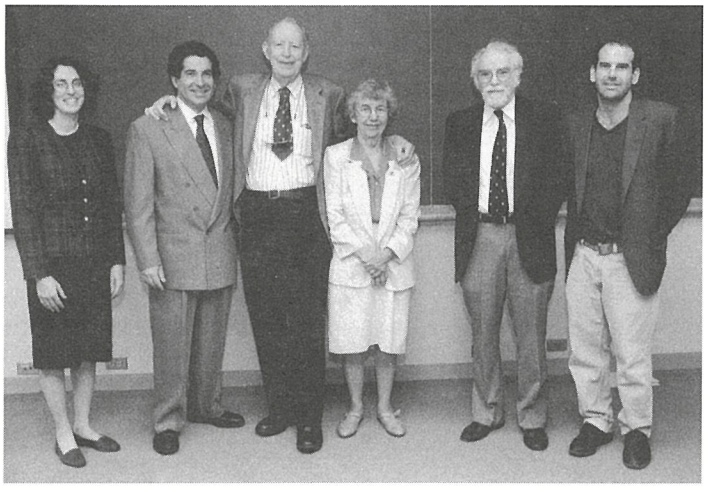
Donald E. Ingber, MD, PhD, will work on creating a new initiative within HST in Biocomplexity.

Isaac S. Kohane, MD and **Gregory Stephanopoulos, PhD** will develop a multi institutional, HST-based Training Grant in Functional Genomics and Bioinformatics.

Lucila Ohno-Machado, MD, PhD, will build a curriculum for Biomedical Informatics.

Bertrand Delgutte DSc, PhD, will develop laboratory exercises in Neural Modeling for Speech and Hearing Sciences.

Pictured below are last year's Taplin Award winners who gathered with John and Virginia on May 24th for the third annual Taplin Symposium.



At the Taplin Symposium gathering are, from left, Julie E. Greenberg, PhD; Jose G. Venegas, PhD; John and Virginia Taplin; Thomas F. Weiss, PhD; and Seth Teller, PhD. Missing is Taplin Award recipient Dava J. Newman, PhD.

News from the HST MD Curriculum

We are pleased to welcome the following new course directors to the HST MD preclinical curriculum:

Dennis Brown, PhD, took over the reins for HST 110, Renal Pathophysiology, in fall 1999. Brown is associate professor of pathology, Harvard Medical School, and Director of the Massachusetts General Hospital Program in Membrane Biology.

Joseph A. Majzoub, MD, will assume leadership of the course HST 060, Endocrinology, in spring 2001. Majzoub is a professor of pediatrics, HMS, and the Chief of the Endocrinology Division at Children's Hospital.

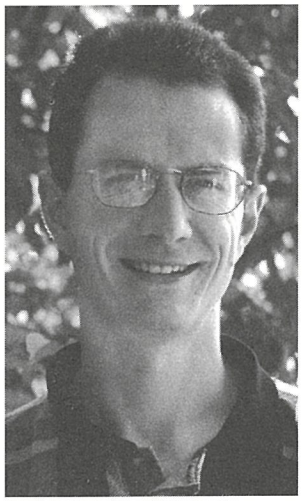
Elazer R. Edelman, MD, PhD, an alumus of the HST MD and MEMP programs, undertook a major revamping of the format of HST 090, Cardiovascular Pathophysiology, when he assumed command of the course in spring 2000. Edelman oversaw implementation of the first web-enabled course in the HST MD Curriculum.

Martha Montello, PhD, returned to Harvard Medical School in January 2000 after a three year hiatus to once again offer her popular course, Narrative Ethics: Literary Texts and Moral Issues in Medicine. This course, which fulfills the Social Medicine requirement at Harvard Medical School, is now offered under the auspices of the HST Division. Montello is an instructor in social medicine at HMS, and an assistant professor in the Department of History and Philosophy of Medicine at the University of Kansas Medical School.

HST is extremely grateful for the exemplary service of **Cecil H. (Pete) Coggins**, and **Jeffrey S. Flier**, who directed HST 110 and 060, respectively, before the recent transitions. Coggins continues to be heavily involved in clinical teaching and patient care at the Massachusetts General Hospital, while Flier has recently been appointed as Faculty Dean for Academic Programs at the Beth Israel Deaconess Medical Center.

Profile of a MEMP Alumnus

Robert W. Stadler, PhD, '96, is now a Staff Scientist at Medtronic, Inc. in Minneapolis. After high school in Pittsburgh, Rob followed his brother as the first generation of his family to attend college. As a high school junior, he learned of Biomedical Engineering through a member of his church. At Case Western Reserve, he majored in Biomedical Engineering and has never wavered. Two summer internships at the Pittsburgh NMR Institute introduced him to research in imaging, which included animal models.



In 1990, Rob received the BS in Biomedical Engineering. His thesis was entitled "Particle size and concentration as parameters for maximum efficacy of magnetite particles in magnetic resonance imaging."

Together with his girlfriend, Bethanie Hills, he applied to graduate schools. Hills was admitted to the Materials Science Department at MIT, and Stadler was accepted by the MEMP program for 1990. Within a year they were married.

His research under Dr. W. M. Rabinowitz in the Research Laboratory of Electronics dealt with signal processing. His Master's thesis was entitled "Optimally Directive Microphones for Hearing Aids." Stadler also developed a digital quantitative physiology laboratory for the HST course "Quantitative Physiology" and designed and built a respirator for rabbits. Later, he was a teaching assistant in "Signals and Systems" and in "Discrete-time Signal Processing."

Thinking back to his MEMP years, Stadler states, "I can't imagine a better experience, can't place enough value on the clinical experience." He found that the exposure to "Introduction to the Clinic" and the clerkships were most helpful in making the decision whether to go to medical school. He decided against it, because he perceived the field as not as fulfilling as he had expected. "Doctors did many tests without helping or curing the patient." Biomedical Engineering, on the other hand, held the promise of clinically useful applications.

Stadler did his doctoral thesis research in the laboratory of Professor Robert Lees at the Boston Heart Foundation, exploring the use of ultrasound to detect early evidence of atherosclerosis in peripheral arteries, in the hope of developing a screening test for arterial disease. That expectation was not fulfilled, because the method developed was not sensitive enough to be applicable to individual patients. However, it could distinguish between groups.

After receiving his PhD degree in 1996, Rob stayed on in Lees' laboratory, as a postdoc, struggling with the choice of academia versus industry. He tried his hand at grant writing but found the process "intolerable." Then, an old friend who worked at Medtronic, Inc. urged him to come to Minneapolis for an interview. While he could not conceive of living in Minnesota, he nonetheless decided to accept the invitation for the sake of experience.

In March 1997, he started work at Medtronic, where he has remained. Stadler began in the Bradycardia Research Group, developing new methods of hemodynamic monitoring by means of implanted devices and then evaluating their performance in animal models. Since May 1999, he has been Staff Scientist in the Tachycardia Research Group which is led **by Dr. Walter Olson**, formerly a member of the HST faculty, 1979 to 1986. This group also includes two HST MEMP Alumni: **Thomas J. Mullen, PhD, '98**, and **Paul A. Belk, PhD, '98**, a strong and congenial HST enclave. Here he designs adaptive algorithms for implanted devices to discriminate heart rhythms and to monitor hemodynamics. Recent publications include "Stadler, RW et al. A new VT/VF discriminator for implantable cardioverter defribillators, PACE 1999; 22: 850," and "Stadler, RW et al. Adaptive algorithm to withhold ICD therapy during sinus tachycardia, PACE 2000, 23: 677."

At this time, Stadler feels committed to industry, enjoys his work and looks forward to the eventual clinical applications. He has accepted that progress is slow, especially at a conservative company where safety is a prime concern. Work he started three years ago has progressed to studies in animals, but it may take another two years before the devices are ready for clinical trials. Rob is also active in Medtronic's internal teaching program, in charge of a course on pacemakers.

In the meantime, Stadler has also started a collaboration with Professor Roger Mark in HST on ECG data banks. He also makes regular visits to HST to interview and – if appropriate – recruit HST students to Medtronic.

Stadler's family has grown; it now includes 3-year-old Noelle and 1-year-old Andrew. After a fellowship in Boston, Bethanie is a part-time Adjunct Professor at the University of Minnesota. The couple spends most of their spare time and week-ends with the family. They take advantage of the Minnesota lakes, swimming and boating. Rob keeps up with running and bicycling. Activities in his church are meaningful to him.

Please help us locate the following alumni!

Zoltan P. Arany, '88
Jonathan G. Bliss, '91
Diane Lianging Chen, '90
David Chen, '98
Wing Sze Cheung, '99
Susanna Isabel Ho Chou, '99
James C.Y. Dunn, '88
Linda S. Haigh, '88
Joshua Helman '93
Philip Huang, '94
Jeffrey Kowsowsky, '88
Linh U. Le, '96
Karen L. Lee, '98
Kathleen S. Lee, '90
Christopher Leffler, '93
Edmundo Marroquin, '91
Sanjay Patel, '96
Sharon Peled, '97
Timothy D. Shafman, '89
Chandrasekhar Ramanathan, '96
Tueng Shen, '97
Alan Silverberg, '78
Gregory J. Spangler, '88
Jason Sroka, '99
Alice Pei-Mei Tsang, '99
Patricia Walicke '88
John M. Wilson, '94
Cassandra Wolcott, '97
June Wu '98
Li Zhang, '98

Help us make the *HST Connector* more informative and interesting by sending us reports of your recent activities, contributions and personal news. Many thanks.

Walter H. Abelmann, MD
HST
77 Massachusetts Ave., E25-519
Cambridge, MA 02139

phone: (617) 253-4418
fax: (617) 253-7498
eMail: cac@mit.edu

Awards

Shunmugavelu Sokka is the recipient of the 2000 MEMP Student Leadership Award. Given out between 1985 and 1990, the Student Leadership Award "was bestowed annually upon that student who contributed the most to the personal growth and professional development of his/her fellow students in the Medical Engineering/Medical Physics Program of the Harvard University-MIT Division of Health Sciences and Technology."

The Student Council renewed this tradition to recognize outstanding contributions HST students have made to student life. The award includes a commemorative plaque and an honorarium of $500. The 1999 award was bestowed belatedly to **Jagesh Shah, MEMP, PhD, '99**, currently a Research Associate at the Ludwig Institute for Cancer Research and at the Howard Hughes Medical Institute at the University of California, San Diego.

Richard N. Mitchell, MD, PhD, Associate Professor of Pathology and Associate Master of HST Society, was awarded the Faculty Prize for Excellence in Teaching at Harvard Medical School. These awards are conferred annually upon those faculty members who exhibit exemplary teaching in either the preclinical or clinical curricula at HMS. Solicitations for nominations are invited from students and faculty; a selection committee chooses the recipients.

Mitchell was recognized for his excellence in directing and lecturing in the course HST 030, Human Pathology, a first-year course taken by HST MD and MEMP students. He also received the 1995 Irving M. London Teaching Award.

Trevor Burt, HST '01, has been awarded a Sarnoff Fellowship for the current academic year. This prestigious fellowship, given to an "individual who demonstrated intellectual and academic achievement and leadership ability," includes a stipend, moving and travelling expenses to conduct one year of cardiovascular research in an U.S. institution other than the medical school attended. Trevor has chosen to spend this year at UCSF.

Lee Gehrke, professor of Health Sciences and Technology, has received a mentoring award from the Biological and Biomedical Sciences (BBS) PhD Program at Harvard University.

The BBS awards were started three years ago by a BBS student who felt that it was important to recognize those who contribute to the program. BBS students make nominations throughout the year, and the winners this year were recognized at Harvard Medical School on October 3.

Graduating HST-MD students, although constituting only one-fifth of all MD graduates, earned approximately half of the degrees with honors (10 of 21), as well as more than a quarter of the awards (6 of 22).

Greg Koski Accepts Appointment at NIH

Greg Koski, MD, PhD, '77, Associate Professor of Anesthesia at HMS and Director of the Human-Research Program at MGH, accepted the Directorship of the new NIH Office of Human Research Protection. He assumed this national role in September. Jeffrey Brainard writes in the July 21 *Chronicle of Higher Education*: "His written comments suggest he will try to reconcile the competing pressures by promoting a more cooperative relationship among researchers, universities, and the government. He has said that the current system of protecting human subjects is hampered by an adversarial environment that is counterproductive. Scientists, not university review boards, bear primary responsibility for protecting human subjects, he has said, and he wants to help educate researchers about their responsibilities."

Promotions

Raphael Bueno, MD, '85, Associate Surgeon in the Division of Thoracic Surgery at BWH and Assistant in Surgery at MGH, has been promoted to Assistant Professor of Surgery at HMS. Bueno's practice in general thoracic surgery focuses on pulmonary and esophageal malignancies. His primary research interest is in the molecular biology of mesothelioma and its clinical implications.

Dennis Orgill, MD, PhD, '85, has been promoted to Associate Professor of Surgery at HMS. He is the Associate Chief of the Division of Plastic Surgery at Brigham and Women's Hospital. His research focus has been to combine biodegradable polymers with cells to provide tissue-engineered constructs for reconstructive surgery. He also collaborates with Dr. Peter So at MIT on Two Photon Confocal Microscopy and with Professor Fujimoto at MIT on Optical Confocal Microscopy to Study Wound Healing.

Stephen B. Calderwood, MD, '75 has been promoted to Professor of Medicine at HMS. He is Chief of the Division of Infectious Diseases at MGH. His major research interests include the study of the molecular pathogenesis of bacterial infections and the development of vaccines. He also has initiated a collaboration with investigators in Bangladesh to fight cholera.

Drazen Is New Editor, NE Journal of Medicine

Jeffrey M. Drazen, MD, HMS '72, the Parker B. Francis Professor of Medicine at HMS and Chief of the Combined Pulmonary Service at BWH and BIDMC, is the new Editor-in-Chief of the New England Journal of Medicine. Drazen, a member of the Affiliate Faculty of HST, has been the course head of HST 100, Respiratory Pathophysiology since 1993. Drazen's principal contributions have dealt with asthma and its therapy.

Appointments

Steven E. Weinberger, MD, Professor of Medicine, HMS and Vice-Chairman of the Department of Medicine at BIDMC, is the developer and Course Head of the successful course HST-330, "Everything you wanted to know from core medicine but were afraid to ask." He has been appointed Executive Director of the Carl J. Shapiro Institute for Education and Research at BIDMC, recognizing his strong commitment to innovative teaching.

Gustav K. von Schulthess, MD, PhD, '80, attended the June 10th HST Reunion. He is Director of the Division of Nuclear Medicine and Co-Director of the MR-Center at the University Hospital in Zurich, Switzerland, where he is also Professor of Nuclear Medicine.

He writes, "It was quite enjoyable to visit the HST environment after a substantial time and see how HST is doing. I have indeed substantially profited from this environment and feel that there is in fact no better way to combine medicine and physics than being in medical imaging."

His latest book, *Positron Emission Tomography, Correlation with Morphological Cross-sectional Imaging,* is being published this year by Lippincott-Raven.

Michael Rosenblatt, MD, Co-Director of HST from 1992 to 1998, was appointed President of the Beth Israel Deaconess Medical Center on July 31, having served in this capacity on an interim basis since January 2000. Dr. Rosenblatt is the George Richards Minot Professor of Medicine at the Harvard Medical School.

William M. Kettyle, MD, Assistant Clinical Professor of Medicine at HMS and member of the HST Faculty, has been appointed Director of the MIT Medical Service, to succeed Arnold Weinberg, who recently retired. Kettyle, an internist and endocrinologist, has been Associate Medical Director since 1995. He has taught in HST 060 (Endocrinology) since 1978, and is course head of HST 220, *Introduction to the Care of Patients*.

HST Student Invited to International Summit

Rebecca Reichert, HST '02, has been invited to participate in the 2000 International Achievement Summit Program of the American Academy of Achievement in London, England, October 26-29.

This summit brings together "40 men and women of exceptional accomplishment to share their wisdom and experience with 125 of the world's most outstanding graduate students in international affairs."

Reichert will enroll for the MS in Biomedical Sciences at the University of Ulster in Ireland on a George Mitchell Scholarship.

Margaret H. Baron, MD, PhD, '83, has been elected to membership in the prestigious American Society for Clinical Investigation. aron is Associate Professor of Medicine, Biochemistry and Molecular Biology at the Ruttenberg Cancer Center and the Institute of Gene Therapy and Molecular Medicine at the Mt. Sinai School of Medicine. Her laboratory recently identified two groups of extracellular signaling molecules, which are required for the activation of hematopoiesis and vasculogenesis in the mouse embryo.

David D. Ho, MD, '78, in his Harvard School of Public Health's graduation address on June 8, stressed the importance of science and scientists to public health and urged the graduates to "bring back the spark of wonder about nature that lies deep in each member of our society." He reminded graduates that good research requires a combination of bold decision making and a willingness to take informed risks.

Brian E. Jaski, MD, '79, is Medical Director, Advanced Heart Failure and Cardiac Transplant Programs, at Sharp Memorial Hospital in San Diego, CA, as well as an Associate Clinical Professor of Medicine, University of California, San Diego School of Medicine. Jaski just published *Basics of Heart Failure, A Problem Solving Approach*, (Kluwer, Boston). Part of this publication is also available online at www.heartfailure.org. This clear and superbly 'ustrated volume includes questions and an-wers and is well referenced. It is suited for students at all levels.

Elly Trepman, MD, '82, writes: "I spent the last year as Chief of the Foot and Ankle Service, NYU Hospital for Joint Diseases, and Associate Professor of Clinical Orthopedics at NYU. I have now moved back to Boston." (8 Gale Meadow Way, Westborough, MA 01581). Trepman is at the Foot and Ankle Center, New England Baptist Hospital. Elly's wife, **Pamela S. Becker, MD, PhD, '86**, is Director of the Division of Gene Therapy at the University of Massachusetts Medical School.

Michael A. Weiss, MD, '85, PhD, '86, was elected to membership in the Association of American Physicians. Weiss is Professor and Chairman of Biochemistry, as well as the Dale H. Cowan and Ruth Goodman Blum Professor of Cancer Research at Case Western Reserve in Cleveland, OH.

Loren J. Borud, MD, '90, writes: "I'm happy to report that I'm coming back to Boston after circuitous forays to UCLA for general surgery, NYU for plastic surgery, and NYU for hand surgery, joining the faculty in the Division of Plastic Surgery at the Beth Israel Deaconess and Children's Hospitals, where I'll be doing hand and plastic surgery. My laboratory will focus on investigating limb development. I'm eager to see my old friends in Boston!"

Scott D. Greenwald, PhD, '90, writes: "Since graduating (1990), I met and married my wife, Bridget, at the Newton Presbyterian Church (1992). We have been blessed with 2 wonderful girls, Victoria (4) and Laura (2), and currently reside in Norfolk, MA. I have worked for HP (2 years) and Aspect Medical Systems (8 years), where I am currently Director of Research. Aspect (www.aspectms.com) has developed a novel parameter, the EEG Bispectral Index (BIS), to measure the consciousness state of patients. BIS received FDA approval (1996) and has been used to help titrate anesthestics in over 1 million procedures in the OR, ICU and conscious sedation arenas."

Reed E. Drew, MD, '83, Assistant Professor of Medicine, HMS, and member of the Division of Hematology and Oncology at BIDMC, will speak on "Hematopoesis: Advances at the Physiologic and Therapeutic Level" at "Update in Internal Medicine 2000" at the Westin Copley Place in Boston on December 14, 2000.

A Test Predictive of Vulnerability to Acoustic Injury

Stephane F. Maison and **M. Charles Liberman**, Professor of Physiology in the Department of Otology and Laryngology, HMS, Director of the Eaton-Peabody Laboratory, MEEI, and Course Head of HST 7230: Physiology of the Ear, have developed a test for the predisposition to hearing loss.

Knowing that noise-induced hearing loss is quite variable among individuals, Maison and Liberman measured, in albino guinea pigs, the strength of a sound-evoked neuronal feedback pathway to the inner ear, the olivocochlear efferent. They found that the strength of this reflex was inversely correlated with the degree of loss of hearing after subsequent exposure to noise.

Application of this assay method to humans should make it possible to screen for individuals most at risk in noisy environments. (S.F. Maison and M.C. Liberman, Predicting vulnerability to acoustic injury with a non-invasive assay of olivocochlear reflex strength. *J. Neuroscience* 20: 4701, June 15, 2000.)

HST and Alumni/ae Websites

Have you seen the HST web site recently? Go to and bookmark the web page:
harvard-mit-hst.org

Additional URLs of interest to alumni:

HMS alumni information
www.hms.harvard.edu/alumni

MIT alumni information
web.mit.edu/alum

New Kind of Phototherapy for Psoriasis

Rox Anderson, MD, '84, Associate Professor of Dermatology and Research Director of the MGH Laser Center, Wellman Laboratories, is co-author of "308mm Excimer Laser for the Treatment of Psoriasis," which appeared in the *Archives of Dermatology* in May '00 (136:619). Whereas in conventional phototherapy, unaffected skin is exposed to undesirable complications, including the risk of carcinogenesis, this laser beam is highly focused. Plaques in 13 patients, treated with 1-20 treatments, were improved significantly and remained in remission for at least 6 1/2 months. Single exposures to high doses or repeated exposures to moderate doses appear effective

A New Indication for Prozac

In July, fluoxetine hydrochloride (Prozac), under the name of "Sarafem," was approved by the FDA for the treatment of Premenstrual Dysphoric Disorder (PMDD), which affects 3-5% of menstruating women in the U.S. PMDD manifests as PMS severe enough to disable the patient.

This new indication for fluoxetine was developed by **Richard Wurtman, MD**, who is the C.H. Green Distinguished Professor and Professor of Neuroscience in the Department of Brain and Cognitive Sciences at MIT, as well as the Director of the Clinical Research Center in HST. Two double blind placebo-controlled studies found Sarafem significantly more effective than a placebo in reducing the symptoms of PMDD.

Promising New Approach to Cancer Chemotherapy

Chiang J. Li, MD, '98, and co-workers in Professor Arthur B. Pardee's laboratory in the Department of Biochemistry and Molecular Pharmacology, HMS, explored a new direction for the development of anti-cancer therapy, by exploiting apoptosis-prone "collisions" at cell cycle checkpoints in order to improve the efficiency of anti-cancer therapy. This work sought out optimal combination regimes of chemotherapeutic agents. A combination of β lapachone and taxol resulted in synergism of treatment of tumor colonies of different human cancer cells, including cultured ovary, breast, prostate, melanoma, lung, colon and pancreatic carcinoma cells. This combination therapy was also shown to have potent anti-tumor activity against human ovarian and prostate tumors in prexenografted mice (Chiang J. Li, et al, Potent Inhibition of Tumor Survival *in-vivo* by β lapachone Plus Taxol: Combining Drugs Imposes Different Artificial Checkpoints, *Proc. Natl. Acad. Sci.* 96: 13369, Nov. 9, 1999).

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MIT E25-519
Cambridge, MA 02139
(617) 253-4418

Editors: Walter H. Abelmann, MD
Cliff Kolovson (hst@pointed.com)
Becky Sun (rwsun@mit.edu)
Editorial Assistant: Carol A. Campbell (cac@mit.edu)

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Directors' Notes

Fall is always exciting. New students arrive with some trepidation and a wide-eyed, infectious enthusiasm. Our PhD class is the largest ever with 21 students enrolled in the MEMP program, 12 in Speech and Hearing Sciences, and two in Radiological Sciences. Our MD class of 34 students is the second largest in HST history. These students reflect the best and brightest, and we feel very fortunate to have them join the HST family.

HST is a growing and unifying force in a healthcare environment that is under a great deal of pressure and prone to fragmenting influences. The synergy among Harvard and MIT faculty located at various institutions, and joint ventures with our colleagues at other universities (in the context of the National Space Biology Research Institute and the NSF-funded ERC in bioengineering education), are important proof that faculty who aim to achieve the highest research and educational goals can transcend institutional barriers. With the Martinos Center evolving as an example of this, we are constantly reminded of the enthusiasm of the many HST friends throughout the community.

Another example emerged last year, when several MIT- and Harvard-based faculty members joined forces to launch the HST Neuroengineering Research Collaborative (NERC), a concert of researchers and laboratories from MIT, Harvard College and Medical School, Howard University College of Medicine, and Morehouse School of Medicine. The Collaborative's goal is to produce both biomedical applications and technologies that will interact with and mimic neurological functions by integrating research, development and education at the interface of neuroscience and engineering. As a characteristic HST effort, the NERC concentrates more on biomedical science than do some other 'neuromorphic systems engineering' programs, and more on technological applications than many 'computational neuroscience' programs. There is, for example, a strong emphasis on the real-time analysis of neural signals and neuroimaging, and neuroprosthetics.

Not only is the NERC pioneering collaborative research efforts, but also –in keeping with HST's educational focus– the consortium is developing a cohesive neuroengineering curriculum by reorganizing, coordinating and augmenting existing courses at Harvard and MIT. Our students will also benefit from the research opportunities that unfold at participating labs. The budding activities of the NERC promise students an unparalleled educational opportunity, with complementary research and training efforts in the same collaborative spirit that is an HST hallmark.

Last fall (1999), HST faculty member Steve Massaquoi worked with several colleagues to organize and host a flagship symposium for the NERC, entitled "Neuroengineering I: Research and Directions." We were pleased to witness the lively intellectual interchange among participating researchers and students galvanized around this dynamic field.

We would love to hear from any members of our extended community for whom these activities spark an interest and a desire to engage in HST. In fact, we urge you to write to us at any time to let us how you are doing. Best wishes for a productive year!

– Martha Gray and Joe Bonventre

On the Training of Physicians

In the May 9, 2000 *New York Times*, **David A. Shaywitz, MD, PhD, '99**, Research Fellow at MGH and Dennis A. Ausiello, Physician-in-Chief at MGH, deplored the "frenetic environment that makes it difficult for teaching hospitals to turn out innovative doctors who will question accepted doctrine, seek new knowledge and establish higher standards of care for the next generation of patients."

The article praises the efficiency and effectiveness of evidence and outcome-based medicine, but states that "in the current preoccupation with speed something vital to medical education has been lost," including the ability to perform a basic physical exam and the loss of valuable time with patients.

The authors stated that the loss of time to think may be the most significant casualty of the current training experience. "Desperately required now are more clinical champions, passionate physicians who have the expertise, imagination and perseverance necessary to ensure that the scientific progress finds expression in the care and treatment of patients."

MEMP ANNIVERSARY ACTIVITIES SAVE THE DATES: MARCH 11-13, 2001

Hold the dates on your calendar for the MEMP anniversary celebration, scheduled for Sunday through Tuesday, March 11-13, 2001.

Plans include the HST Forum, an evening gala on Sunday, March 11th, and a day and a half Symposium, *Experiencing the Frontiers of Biomedical Technology,* beginning on Monday, March 12.

This Symposium, directed by MEMP alumnus and HST Faculty member Elazer R. Edelman, MD, PhD, will feature six hands-on workshops that explore:

- Drug Delivery: Polymeric, Cell and Tissue-based Systems
- The Hybrid Human: Human-Machine Systems
- Informatics: Extracting the New Medicine from the Human Genome Project

HST Society Leads in Number of Incoming MD-PhD Students

Of 13 incoming MD – PhD Students at HMS, 7 are HST Students:

Zarini R. Balsara of Lafayette Hill, PA, AB, Harvard '98.

Jakob Begun of Wantagh, NY, BS, Cornell '97.

Rita Khodosh of Sunnyvale, CA, BS UCD, '97.

Rahul M. Kohli of Bloomfield Hills, MI, BS, U. of Michigan, '98.

John Ng of New York, NY, BS, Columbia, '98.

Douglas A. Robinson of Suffern, NY, BS/MS, Yale, '98.

Eric S. Williams of Brooklyn, NY, BS, Cornell, '98.