Health Sciences and Technology

Newsletter

Spring/Summer 1995

Directors' Notes:

Center for Biomedical Engineering Created at MIT

MIT has established a Center for Biomedical Engineering (CBE) to coordinate campus-wide research in this field and facilitate new research partnerships between biologists and engineers. Given MIT's international reputation in engineering and biology and its proximity to world-class hospitals, "the Institute is positioned to have the best biomedical engineering program in the world," said **Douglas Lauffenburger,** center director and J.P. Mares Professor in Chemical Engineering. Prof. Lauffenburger, who joined the faculty last January, is jointly appointed in HST. Research in the CBE is organized in three areas: molecular engineering, cell and tissue engineering, and physiological systems engineering.

Robert H. Rubin Named to New HST Osborne Chair

Professor Robert H. Rubin has been named the first holder of a new academic chair--the Gordon and Marjorie Osborne Associate Professorship. Professor Rubin is responsible for the highly successful HST course in Clinical Pharmacology and is a principal director of the HST Clinical Investigation Training Program. He is an active clinician in transplantation and infectious disease at MGH. His research relies on PET imaging and other emerging technologies in the clinical investigation of new pharmaceuticals. We are delighted that this appointment will enable our newest member of the HST primary faculty to flourish in his research and teaching.

Plan to Renovate Countway Library

Judith Messerle, Director of the Francis A. Countway Library, has announced a major renovation of the library, which was built in 1965. In order to plan optimal provisions for the present and anticipated changes in information technology and culture, suggestions are welcome and may be submitted to **Ellen Westling.** e-mail: westling@warren.med.harvard.edu

A gala celebration was held on May 23 in honor of the 30th anniversary of the Countway, featuring exhibits on the Internet, the World Wide Web, photographic portraits by the esteemed artist **Yousuf Karsh,** and a guided tour of the Boston Medical Library portraits. **Paul S. Russell**, chair of the Joint Library Committee, **Grant Rodkey,** President of the Boston Medical Library Board of Trustees, **Judith Messerle**, and **Daniel C. Tosteson** gave remarks at dinner in the Atrium. Nobel Laureate **Dudley Herschbach** made a delightful speech titled, "Roots and Wings".

In Memoriam

Thomas Dudley Cabot, an internationally known industrialist, philanthropist and conservationist, died at his home in Weston on June 8. He was 98. Mr. Cabot had a life-long association with Harvard, Radcliffe, and MIT, serving with distinction on the Harvard Board of Overseers, as trustee of Radcliffe, and life member of the MIT Corporation. He served on the governing board of HST and was a generous benefactor, sponsoring eighteen Thomas D. Cabot Research Scholars from 1988 to the present. We shall miss his wise counsel, insatiable curiosity, and strength of character.

Research Reports:

Elly Trepman M.D. '82, published a study in *Medicine and Science in Sports and Exercise* in Vol. 26, 1994 on an "Electro-myographic Analysis of Standing Posture and Demi-Plié in Ballet and Modern Dance" with coauthors Richard Gellman, Ruth Solomon, K. Ramesh Murthy, Lyle Micheli, and Carlo De Luca. The results support the hypothesis that ballet and modern dancers have different patterns of muscle use in standing posture and demi-plié, which in part may be a result of differences in genu recurvatum and turnout between the two groups.

Some human leukemias, as well as solid tumors, contain increased levels of casein kinase II (CK II) which also exhibits high levels of activity in rapidly proliferating cells. This suggested a potential role of CKII in tumorigenesis to **David C. Seldin, M.D., Ph.D. '86,** who, with **Philip Leder,** reports on "Casein kinase II α Transgene-Induced Murine Lymphoma: Relation to Theileriosis in Cattle" in the Feb. 10, 1995 issue of *Science*. To assess the pathophysiologic role of CKII in the fatal lymphoproliferative syndrome seen in cattle infected with the parasite *Theileria parva*, Seldin and Leder expressed the catalytic subunit of CKII in lymphocytes of transgenic mice. Adult transgenic mice tended to develop lymphoma, and co-expression of a c-myc transgene in addition to CKII resulted in neonatal leukemia, indicating that CKII can serve as an oncogene.

Drs. Neya, Lee, Guerrero, Lang and Vlahakes from the MGH report successful delivery of thermal energy, by means of a balloon catheter, to the right ventricular outflow tract muscle of lambs (*Circulation*, 1995, 91:2445). This technique merits exploration for application to the non-surgical therapy of Tetralogy of Fallot, in association with pulmonary balloon valvuloplasty. **Gus D. Vlahakes, M.D. '75**, is Associate Professor of Surgery at HMS.

The March 4, 1995 issue of *The Economist* features an update on the International Consortium for Medical Imaging Technology - ICMIT, initials which also recognize the consortium's founders, Imperial College and MIT. It is soon to launch its first products. The Consortium's goal is to make all forms of data generated by diagnostic tests accessible electronically. With the help of Sybase Systems, ICMIT has developed its own database system, the ICMIT Dataserver, and translation systems that are needed to allow digital information from different medical instruments to be stored for comparison. In a project sponsored by Hewlett-Packard, Toshiba and others, ICMIT has produced a storage and retrieval program for still and moving ultrasound images of the heart. **Prof. C. Forbes Dewey, Jr.**, ICMIT's U.S. director, along with Prof. Richard Kitney, Dewey's counterpart at Imperial College, emphasize the importance of new strategies for data compression. Colleagues Murat Kunt, Gosta Granlund, and James Thomas have devised a suitable program to compress data forty-fold by concentrating only on the moving objects in a picture. Other partners are working on image enhancement.

As reported in the February 9, 1995 issue of the *Harvard University Gazette*, HMS and MGH researchers have described a genetic master switch that begins male development. All humans begin life as females. At day 35, they have a brain, heart, fingers, and the beginning of a uterus and vagina. In roughly half of the embryos, a genetic master switch turns on at this point, starting a transition to maleness. Testes begin to develop and release male hormones, and cells that form female organs commit suicide. **Prof. Patricia Donahoe** and her research team at MGH have studied the SRY gene on the male chromosome. SRY turns on other genes, including MIS, which triggers apoptosis, a cell suicide program that dissolves female reproductive organs. This process is important for understanding sexual development and gaining insight into gonadal tumors and infertility. SRY makes an L-shaped protein with a critical isoleucine residue. Using human SRY and MIS genes in rat cells, the group found that a single mutation in SRY in the isoleucine section interrupts normal female-to-male changes, allowing the female organs to continue developing. **Christopher Haqq**, an HST M.D. Ph.D., student has been studying the interaction of SRY and the embryo's MIS gene. Besides doing further basic research into human development, the Donahoe team is pursuing the possibility of designing drugs to control the growth of ovarian and other types of tumors. Ovarian cancer killed an estimated 13,600 women in 1994, and doctors diagnose 24,000 new cases each year.

The 1995 HST Forum was held on March 16, 1995. After opening remarks by **Roger Mark** and **Michael Rosenblatt**, moderators **Amy Adams** and **Kerry J. Ressler** introduced the following speakers:

John B. Reppas
"The Cortical Representation of Real and Illusory Visual Image Motion"

Usha Tedrow
"3-D Imaging of the Microvasculature in Human Breast Carcinoma"

Frederick Y. Chen
"New Device Measures Decreased Transmural Myocardial Pressure in Cardiomyoplasty"

Howard Y. Chang
"Calcineurin Functions in Neurite Outgrowth and Directed Growth Cone Motility"

Thomas D. Wang
"Laser-Induced Fluorescence Endoscopic Imaging for Detection of Colonic Dysplasia"

Dennis H. Kim
"Kinetic Characterization of the Inactivation of MurZ by (Z)-3-Fluorophosphoenolpyruvate"

Ming Lu
"Regulation of Insulin Gene Expression by CCAAT/Enhancer Binding Protein ß"

Michael R. Hee
"Optical Coherence Tomography (OCT) of Ocular Diseases"

Konstantina M. Stankovic
"Medial Olivocochlear Efferent Inhibition of Auditory-Nerve Firing Mediated by Changes in Endocochlear Potential"

Gail V. Benson
"Sexually Dimorphic Sterility Phenotype in *Hoxa-10* Deficient Mice"

We gratefully acknowledge the support of **Abbott Laboratories; Amgen, Inc.; ARIAD Pharmaceuticals, Inc.; BASF Bioresearch Corporation; Glaxo Research Institute; Hoffmann-La Roche, Inc.; Marion Merrell Dow, Inc.; Merck Research Laboratories, Pfizer Inc, and Reed & Carnrick Pharmaceuticals** for the 1995 HST Forum.

We were pleased to welcome **Dr. Robert Johnson** (Merck Research Laboratories) and **Dr. Pieter Timmermans** (DuPont Merck Pharmaceutical) as well as our alumni/ae **Joseph Bonventre, M.D., Ph.D. '76; Patrick Riley, Ph.D. '88; Michael Kita, M.D. '75; Leann Lesperance M.D. '95, Ph.D. '93;** and **Jake Liang, M.D '84.**

Student News:

Susan E. Voss, an HST graduate student in Speech and Hearing Sciences, was one of four winners at MIT of the Morris Joseph Levin Award for Best Masterworks Oral Thesis Presentation for spring 1995.

We congratulate the following graduates of the HST-M.D. Class of 1995 who received the following prizes and awards:

<u>Student Research Award:</u> James Tolbert Shipley Prize for Excellence and Accomplishment in Research, to **ChenWei Lee,** for "Genetic Analysis of the Extracellular Regions of the Parathyroid Hormone Receptor".

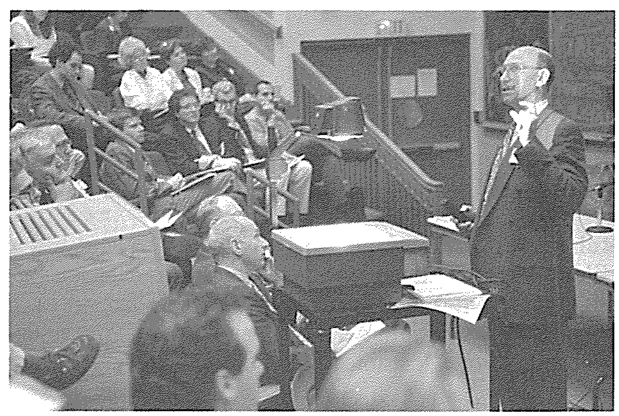
<u>Student Community Service Award:</u> The Multiculturalism and Diversity Award, to **Vernon A. Rosario II.**

Alumni/ae Affairs:

Barbara Smith, M.D., Ph.D. '83, was the guest speaker at the February 28, 1995 HST Dinner Seminar, speaking on "Science and the Evolution of Treatment for Breast Cancer."

She reviewed a century and a half of changing concepts of diagnosis and treatment of cancer of the breast. Dr. Smith admonished students to maintain their questioning and challenging attitudes toward the practices of the day, to permit advances of the future. Dr. Smith is Assistant Professor of Surgery, HMS, and Director, Comprehensive Breast Health Center at MGH.

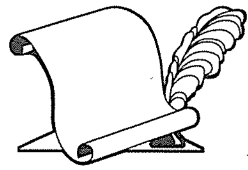
The HST Academic-Industrial Interactions and Technology Transfer Symposium was held on May 4, 1995. **Joseph Bonventre, M.D., Ph.D. '76**, and **James Tananbaum, M.D. '89, M.B.A.**, were co-moderators. Session 1 featured **Thomas Reichert** (Becton Dickinson), **John Parrish** (Wellman Labs, MGH), and **Jack Morgan** (Genetics Inst.). A Roundtable on commercializing technology included licensing directors **Joyce Brinton** (Harvard Univ.), **Nina Green** (HMS), and **Lita Nelsen** (MIT). **James Weaver** (MIT) represented the view of the research scientist. In Session 2, **Charles Hartman** (CW Group) spoke on start-ups, and **Alan Davison, Alun Jones,** and **Timothy Carroll** discussed the R&D, testing, and marketing of Cardiolite©. James Tananbaum described his experience with two new ventures. **Pierre Etienne** (Pfizer) described the Clinical Investigator Training Program. A final Roundtable on future priorities and directions featured **David Jensen** (Dartmouth), **Mark Skaletsky** (Geltex Pharmaceuticals), and **Michael Rosenblatt**.



Thomas Reichert delivers his address on "Health Care in the Year 2000"

We wish to recognize the following HST alumni for their generous service to the Harvard Medical Alumni Association with the 1995 Alumni Week Program:

<u>Alumni Council:</u> **Dana Leifer '85** and **Kenneth Roland Bridges '76**. <u>Class of 1985 Reunion Chair:</u> **Janey L. Wiggs '85**. (Dr. Leifer is at the Yale U. School of Medicine in the Dept. of Neurology, Dr. Bridges is in the Sickle Cell Diseases Unit of Brigham & Women's Hospital and is an Assistant Prof. at HMS, and Dr. Wiggs is at the New England Medical Center in the Dept. of Ophthalmology.)



Alumni/ae News:

Diane Chen, M.D. '90, wrote us from New York where she was in her last week in the 3-year anaesthesia residency. In the last year, she was doing cardiac/thoracic anaesthesia at New York Hospital-Cornell Medical Center and Memorial Sloan-Kettering Cancer Institute.

David B. Farley, M.D. '86, let us know that he is "doing well" in West Linn, Oregon.

Martha L. Gray, Ph.D. '86, and her husband Julius Pereli, are the proud parents of a baby boy, George Julius, born June 15. Only this could keep Martha from attending the HST M.D. Curriculum Retreat! Congratulations!

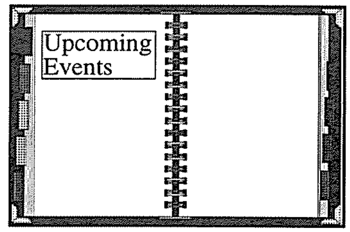
Jeffrey D. Macklis, M.D. '84, is an associate professor of neurology, an associate physician in medicine at BWH and an assistant in neurology at Children's Hospital. He is co-director of the Parkinson's Disease and Related Disorders Program at BWH. In research, he is focussing on cellular and molecular controls over neuronal specification, migration, and differentiation during neocortical development, toward eventual therapy by neural transplantation.

Robert C. McKinstry, M.D., Ph.D '92, and his wife Hilarie have a sixteen month old daughter Meagan (at the time of his note) and were expecting their second child in May. Bob is a radiology resident and postdoctoral fellow at the Mallinckrodt Institute of Radiology.

Robert Sege, M.D., Ph.D. '88, is a pediatrician at New England Medical Center and Assistant Professor of Pediatrics at Tufts University School of Medicine. He addressed a conference on Youth Violence on April 13, 1995, jointly sponsored by the Massachusetts Medical Society and the American Academy of Pediatrics. He spoke on the Pediatrics and Adolescent Violence Prevention Project which he directs.

Albert Shaw, M.D., Ph.D '91, is beginning the research portion of his fellowship in infectious disease at MGH; he is working in Fred Alt's lab at Children's Hospital as a HHMI research associate.

Elly Trepman, M.D. '82, is associate director of the Boston Foot and Ankle Center, New England Baptist Hospital, after having spent three years as assistant professor in orthopaedics and rehabilitation at Yale University. He also serves as an associate editor of *Foot and Ankle International*, the official journal of the American Orthopaedic Foot and Ankle Society, and was recently presented with an award for "editorial excellence" by journal editor-in-chief Lowell D. Lutter.



25th Anniversary Celebration for HST, Thursday, December 7, 1995:

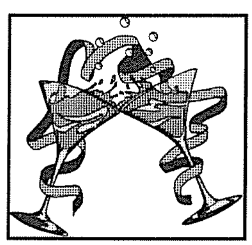
Alumni/ae Reception and Dinner

We invite our alumni/ae and their guests to join us at the **Boston Museum of Science** for a fun-filled evening to kick off our gala silver jubilee events. We will gather at 7:00 p.m. for a reception in the East Wing for cocktails, conversation and hors d'oeuvres. The East Wing Exhibit Halls will be open for our casual enjoyment. At 8:00 p.m., we will move upstairs to the Skyline Room, with a spectacular view of Boston and Cambridge above the Charles River, for a wonderful buffet dinner. There will be plenty of opportunity to catch up with former classmates and enjoy remarks by **Dr. Irving M. London,** HST's first Director, on the early days and evolution of the Division.

Friday, December 8, 1995:

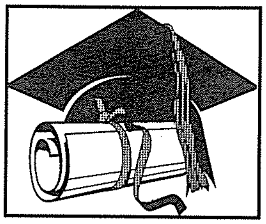
HST Silver Jubilee Symposium and Dinner

We will celebrate the first 25 years of HST by gathering for an exciting scientific sampling of the work of our illustrious HST graduates from 8:00 a.m.-5:30 p.m. Twelve of our distinguished alumni/ae will update us on their research spanning human genetics, immunology and infectious disease, neurosciences, oncology, health care policy, imaging, and structural biology. We look forward to a stimulating day on the frontiers of medicine with our community of faculty, students, and graduates.



In the evening, we invite you to join us for a concluding banquet at the MIT Faculty Club, where we will honor the founders of the Division. We'll try to squeeze in a dance floor, so bring those dancing shoes and join the party!

We will be sending out a formal invitation when the agenda is finalized, and are arranging for a block of rooms at one of the local hotels. For now, just clear these important dates on your calendar. You won't want to miss it!



HST Graduates 1995

Doctoral Curriculum in Medicine

Mark William Albers, B.S., M.S.
Also Receiving Ph.D. from Harvard GSAS
Albia, Iowa
"Mechanisms of Action of Immunosuppressive Agents."

Anne Catherine Celi, B.A.
Wellesley, Massachusetts
"Myocardial Ultrasonic Tissue Characterization Using the Autocorrelation Function."

Deborah Ann Faryniarz, B.S.
Rancho Cordova, California
"The Contractile Mechanisms in the Healing Medial Ligament: An Immunohistochemical and Ultrastructural Study in Rabbits."

Marcelo Figueiredo Fogaça, B.S., B.S., M.S.
Boston, Massachusetts
"Cartilage Immunology and Transplantation."

John Vincent Frangioni, A.B., Ph.D.
Arlington, Massachusetts
"Intracellular Characterization of Protein Tyrosine Photophase lB Tumor Biology."

David N. Helman, B.S., M.S.
Urbana, Illinois
"Characterization of a Myelin PO-Like cDNA Clone in the Central Nervous System."

Albert Yung-Pai Hung, B.A.
Also Receiving Ph.D. from Harvard GSAS
Wheaton, Illinois
"Regulation of Expression and Processing of the ß-Amyloid Precursor Protein of Alzheimer's Disease."

Keita Ito, S.B., S.M., Sc.D.
Yokohama, Japan
"Movement Induced Orientation of Collagen Fibers in Cartilaginous Tissues."

Jeffrey J. Kosowsky, A.B.
Also Receiving Ph.D. from Harvard GSAS
Brookline, Massachusetts
"Optimization with Smooth Dynamical Systems."

ChenWei Lee, B.A.
Elmhurst, New York
"Mutational Analysis of the Parathyroid Hormone Receptor: An Examination into the Structural Basis of the Ligand-Receptor Interaction." (Magna Cum Laude)

Richard S. Lee, B.S.
Bay Village, Ohio
"Studies of Skin Graft Rejection Using MHC Class II-Deficient and MHC-Deficient Mice." (Cum Laude)

Leann Marie Lesperance, B.S.E., M.S., Ph.D.
Cambridge, Massachusetts
"Compositional Studies of Cartilage Matrix Using NMR Spectroscopy."

Herbert Yih-Fuu Lin, A.B., Ph.D.
San Francisco, California
"Expression Cloning and Characterization of the Type II and Type III TGF-Beta Receptors."

Camilo Martinez, B.S.
Also Receiving Ph.D. from Harvard GSAS
Los Angeles, California
"Molecular Regulation of Corticotropin-Releasing Hormone Gene Expression by the Protein Kinase-A Pathway and Glucocorticoids."

John Paul McHugh, B.A.
Philadelphia, Pennsylvania
"Photoaffinity Derivatized Local Anesthetics Which Label the Voltage-Dependent Sodium Channel." (Cum Laude)

Thomas J. Povsic, B.S.
Bowling Green, Ohio
"Syndecans Are Regulated by a cAMP Mediated Mechanism During Wound Repair."

Chitra Kalyan Raman, B.S.
Peoria, Illinois
"Proton Diffusivity in Cartilage and Cartilage Macromolecules Using Nuclear Magnetic Resonance."

Vernon A. Rosario, II, Sc.B.
Also Receiving Ph.D. from Harvard GSAS
Stamford, Connecticut
"Sexual Psychopaths: Doctors, Patients, and Novelists Narrating the Erotic Imagination in 19th-Century France."

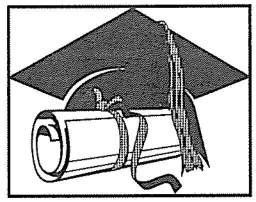
Yoriko Saito, B.S.
Birmingham, Alabama
"The Role of Erythropoietin and Erythropoietin Receptor in the Pathogenesis of Murine and Human Erythroleukemia."
(Cum Laude)

Stanley Yang Shaw, A.B.
Also Receiving Ph.D. from Harvard GSAS
East Amherst, New York
"DNA Knotting In-vitro and In-vivo."

James Andrew Smith, B.S.
Weston, Massachusetts
"A Biologically Plausible Model for Transparent Motion/Computational Neuroscience."
(In Memoriam) 1963-1995

Joshua Robert Trob, A.B.
Wilmette, Illinois
"Insulin Stimulation of MAP and S6 Kinases in Liver and Muscle of Intact Rat."

Heidi Lisa Wald, B.S., M.S.
Elkins Park, Pennsylvania
"The Retina in Diabetes: Biochemical and Physiologic Markers of Dysfunction."



Ph.D. in Medical Eng./Medical Physics

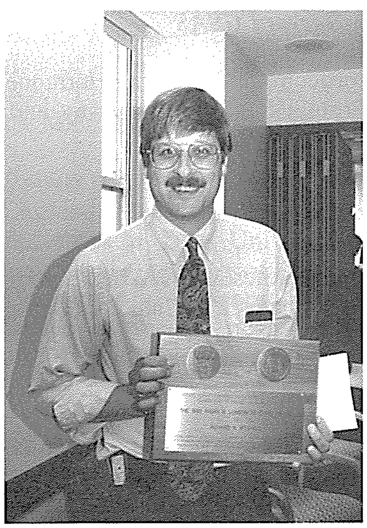
Jerrold L. Boxerman, S.B., S.M.
St. Louis, Missouri
"Non-Invasive Measurement of Physiology Using Dynamic Susceptibility Contrast NMR Imaging."

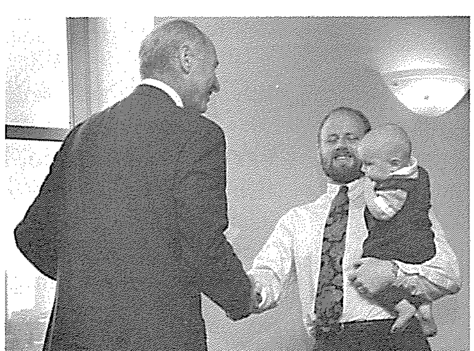
Julie Greenberg, B.S.E., M.S.
Farmington Hills, Michigan
"Improved Design of Microphone-Array Hearing Aids."

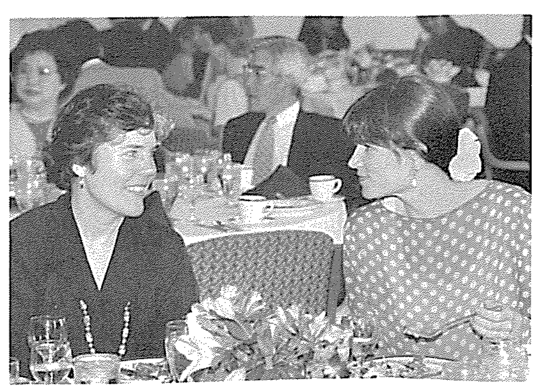
Antony John Hodgson, B. Appl. Sci., M.A.Sc.
Vancouver, British Columbia, Canada
"Inferring Central Motor Plans From Attractor Trajectory Measurements."

Steven Robinovitch, B. Appl. Sci., S.M.
San Francisco, California
"Hip Fracture and Fall Impact Biomechanics."

Lisa Y. Shieh, B.S.
West Lafayette, Indiana
"Erosion and Release from Biodegradable Polyanhydrides."







HST Internships 1995

	Internship/Residency	Hospital/Location	
Mark Albers	Internal Medicine	MGH	Boston, MA
Ann Celi	Medicine/Pediatrics	MGH	Boston, MA
Deborah Faryniarz	Orthopedic Surgery	Hospital for Special Surgery	NYC, NY
	Preliminary Surgery	The New York Hospital	NYC, NY
Marcelo Fogaca	Plastic Surgery	UCLA Medical Center	Los Angeles, CA
John Frangioni	Internal Medicine	Brigham & Women's Hosp.	Boston, MA
David Helman	Preliminary Surgery	MGH	Boston, MA
Albert Hung	Internal Medicine	Brigham & Women's Hosp.	Boston, MA
Keita Ito	Research Fellowship	AO/ASIF Research Institute	Davos, Switzerland
Jeffrey Kosowsky	General Surgery	New England Deaconess H.	Boston, MA
ChenWei Lee	Radiology/Preliminary Medicine	MGH	Boston, MA
Richard Lee	General Surgery	MGH	Boston, MA
Leann Lesperance	Pediatrics	Children's Hospital	Boston, MA
Herbert Lin	Research Fellowship	MGH	Boston, MA
Camilo Martinez	Radiology	UCLA Medical Center	Los Angeles, CA
	Preliminary Medicine	UCLA-San Fernando Valley	Sepulveda, CA
Pietro Mazzoni	Psychiatry	Presbyterian Hospital	NYC, NY
John McHugh	Obstetrics/Gynecology	University of California	San Francisco, CA
Thomas Povsic	Internal Medicine	Duke Univ. Medical Center	Durham, NC
Chitra Raman	Internal Medicine	Univ. of Chicago Hospital	Chicago,IL
Vernon Rosario	Research Fellowship	Humanities Research Institute	UC-Irvine, CA
Yoriko Saito	Internal Medicine	Brigham & Women's Hosp.	Boston, MA
Stanley Shaw	Internal Medicine	MGH	Boston, MA
Joshua Trob	Internal Medicine	Barnes Hospital	St. Louis, MO
Heidi Wald	Ophthalmology	Wills Eye Hospital	Philadelphia, PA
	Preliminary Medicine	Hosp. of the Univ. of PA	Philadelphia, PA
Kang Zhang	Ophthalmology	Wilmer Institute	Baltimore, MD
	Transitional	Presbyterian/St. Lukes Hosp.	Denver, CO

Roger G. Mark, M.D., Ph.D. Addressed the Graduating Classes on June 7, 1995

The 1995 graduating HST M.D. and MEMP classes and their proud families were treated to a thoughtful address by **Dr. Roger Mark**, Co-Director of HST since 1985, who has announced his impending retirement from this administrative role to devote himself more fully to research and education. He spoke about models we all use to construct our views of the world. "You enter the health care professions motivated to meet the world's needs. By now, your model has been tested, to some extent modified, but I hope your desire to meet those needs has not changed." After an overview of the 25-year history of HST and its goals, Dr. Mark asked, "How has the model fared? Extremely well, given the constraints of the differences in goals and styles of the two universities." The model evolved to include new developments in biological as well as physical sciences, thanks to an enthusiastic faculty and the outstanding students it attracted. This year, 50% of the graduating students have two degrees. Over 80% of the past graduates have continued scientific pursuits: the model remains essentially intact. We must ask, however, whether our personal models and those of the founders of HST are still valid in the face of the major changes in the health care arena, changes dictated by economics, increased cost and decreased funding for health care as well as research, leading to increased competitiveness. Successful investigators in the next decade will have to be more and more dedicated to research; part time research will become increasingly difficult, success will require dedication of 80 to 90% of time to research. In the medical care arena, changes are occurring with incredible speed, comprising consolidation of institutions, vertical reorganization, physician gatekeepers and managers. Dr. Mark's own Urban Medical Group, delivering care in nursing homes and to home-bound patients, has long addressed ethical aspects of managing financial resources and health care, especially at the end of life. Increasingly, the dollar sign has been inserted between physician and patient, especially so for the indigent, the population without advocates. Notwithstanding these changes, the core of our model remains a personal one, a life dedicated to service. For our institutional model, there are new challenges: more effective use of medical technology, for our students more experience in longitudinal care of patients, better personal mentoring, better guidance in career building, and teaching of ethics.

In preparation for the production of our HST Alumni Directory, we would like to take one last opportunity to update our records.

Please help us to locate the following alumni (listed by year of graduation):

1975	David W. Kurtz
1976	Daniel J. Knighton
1977	Richard N. Gray
1979	Barry N. Swerdlow
1983	Jeffrey S. Dunham
1984	Richard S. Baker
	Bengt L.W. Ivarsson
1988	John C. Eagon
	William Rogers
1989	Peter Diamandis
	Maria Elena Lara
1991	Malvina B. Eydelman
1992	Sterling C. Johnston
	Ben Lam Nguyen
1993	Peter Mark Li

We want to hear from you!
Please send us your latest news.

(Also, photographs are welcome but send us copies only; they cannot be returned.....)

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