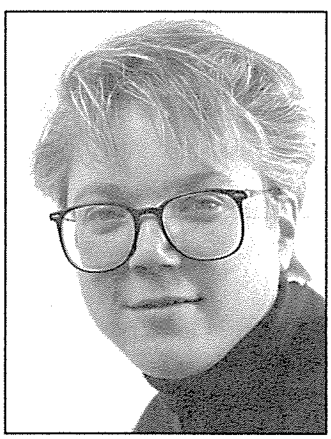
HST in perspective

A newsletter of the Harvard-MIT Division of Health Sciences and Technology

Fall/Winter 1990-1991

Dr. Frederick Schoen Appointed as Henderson Associate Professor

Frederick J. Schoen, M.D., Ph.D. has been appointed as Lawrence J. Henderson Associate Professor of Health Sciences and Technology in the Harvard-MIT Division of Health Sciences and Technology for the period July 1, 1991 through June 30, 1994. Dr. Schoen is Associate Professor of Pathology at Harvard Medical School and head of the Cardiac Pathology Division at Brigham and Women's Hospital. Dr. Schoen's primary interest is in the pathology of cardiac surgery and interventional cardiology, particularly the complications of prosthetic heart valves and other implanted cardiovascular devices. Dr. Schoen is Course Head of HST-030, Human Pathology.



Linda Cima, Ph.D.

Dr. Linda Cima Appointed Ass't Professor of HST and Chemical Engineering

We are pleased to welcome Linda Cima as Assistant Professor of HST. Dr. Cima's primary appointment is in MIT's School of Engineering, Department of Chemical Engineering, with a secondary appointment in HST. Linda Cima received her Ph.D. in Chemical Engineering in 1988 from the University of California at Berkeley, and a B.S. in Chemical Engineering in 1982 from Georgia Institute of Technology. Dr. Cima will be participating in the Endocrinology and Pharmacology courses in HST in the Spring '91 term and will teach a Chemical Engineering course in the fall. Dr. Cima's research interest is in the engineering aspects of *in vivo* organ regeneration using cell transplantation. She is involved in design of polymeric support matrices for use in transplantation of liver and cartilage cells. She is also involved in the characterization of cell interactions with biodegradable polymeric materials. Dr. Cima was serving as a postdoctoral associate in Chemical Engineering with Prof. Robert Langer. Dr. Cima's laboratories will be located on the fifth floor of Building E-25. She will be working in close proximity to Professors Lee Gehrke and Irving London each of whom share with her the passion for research in the biological sciences and dedication to teaching.

Becton-Dickinson Largest Corporate Donor to HST Division

With Becton Dickinson's latest pledge of 300,000 dollars, to endow Research Assistants in HST, they have become HST's most generous corporate donor. Becton Dickinson, founded in 1897, has grown from a two-man, domestic operation selling syringes and thermometers, to a worldwide company manufacturing and selling a wide range of health care products that include medical devices and diagnostic systems. The continued growth of Becton Dickinson's support of HST is no less impressive. Becton Dickinson's combined support to HST over the past seven years has grown to 1,550,000 dollars. Thanks to early and continued giving, Becton Dickinson has been vital in the rapid progress of HST's education and research goals.

As early as 1973, Becton Dickinson jump-started the newly formed HST Division by giving 1 million dollars to endow professorships for HST-Affiliated faculty. This contribution launched the Lawrence J. Henderson Professor of Health Sciences and Technology currently held by Martin Carey, M.D., D.Sc., HMS; the Lawrence J. Henderson Associate Professor of Health Sciences and Technology currently held by Lee Gehrke, Ph.D., HMS,; and the Hermann von Helmholtz Associate Professor of Health Sciences and Technology currently held by Richard J. Cohen, M.D., Ph.D., MIT. In 1979 Becton Dickinson contributed 250,000 dollars for an endowed fellowship in Medical Engineering and Medical Physics in HST. The current Becton Dickinson Fellow in MEMP is Lucene Tong, an M.D./Ph.D. candidate.

HST M.D. Class of 1994

Thirty students have been accepted into the M.D. Class of 1994. The members of the new class and their previous educational backgrounds are identified below. The caliber of students in this class is of the highest quality. Each student possesses remarkable credentials in the quantitative sciences and mathematics. The Admissions Committee was chaired by Dr. Daniel Shannon, Associate Professor of Pediatrics, Harvard Medical School.

Sanjay Aggarwal
Johns Hopkins
Biomedical Engineering

Marc Awobuluyi ++
Harvard
Chemistry / Biology

Charles Baker
MIT
Chemistry

Gail Benson ++
MIT
Biology

Sandip Biswal
California Institute of Technology
Biology

Adam Brook
Harvard College
Biology

Charlene Chiang
University of Southern California
Biomedical Engineering

Richard Chin
Harvard College
Biology

Daniel DiLorenzo
MIT
Electrical Engineering (MS)

Bernard Fine ++**
McGill University
Physics

Marcelo Fogaca++**
MIT
Biology
Electrical Eng. (MS)

Robert Gipe
Point Loma College
Chemistry
U.C. at San Diego
Organic Chemistry (PhD)

Theresa Hadlock
Bowdin
Biochemistry / Mathematics

Robert Hurford++
Harvard University
Biochemistry

Betty Lee
U.C. at Berkeley
Biochemistry

Richard Lee
Yale
Molecular Biophysics /
Biochemistry

Terence McGovern
N.Y.U., Cooper Union
Energetics/Mech. Engineering

John McHugh
Columbia
Chemistry

Benjamin Medoff
Yale
Molecular Biology

Elizabeth Murphy
Wellesley College
Chemistry

Anh Nguyen-Huynh
Harvard College
Biochemistry

Anju Nohria
Harvard College
Biochemical Sciences (BA, MA)

Wendell Ocasio
Harvard College
Engineering

Kerry Ressler ++
MIT
Biology

Yoriko Saito
University of Alabama
Mathematics

Volney Sheen
Johns Hopkins University
Mathematics (BA)
Biomedical Engineering (BS)
Electrical Engineering (MS)

John Wilson
MIT
Aerospace Engineering
(BS, MS, PhD)

Mary Wu
University of Washington
Bioengineering

Hyunsuk Yoon
Harvard College
Chemistry/Physics

Henry Zhu
Harvard College
Chemistry

++ = MD/PhD student

** = MD/MEMP student

September 1990 MEMP Class

Ten new graduate students from ten different institutions joined the HST Medical Engineering/Medical Physics Program (MEMP) in September 1990. All MEMP students are admitted jointly by HST and a Graduate Department at MIT or by the Division of Applied Sciences of the Graduate School of Arts and Sciences at Harvard University. The MEMP Admissions Committee is chaired by Dr. Richard Cohen, Herman Von Helmholtz Associate Professor of HST.

Marie-José Bélanger
Queens University, Ontario
Engineering/Physics

Brian Benda
Purdue/Stanford
Aeronautics/Civil Eng. (MS)

Marcelo Fogaca ++
MIT
Biology/Electrical Eng. (MS)

Catherine Ford
University of Pennsylvania
Bioengineering

Tobi Nagel
Stanford University
Chemical Engineering

Edwin Ozawa
U.C. at San Diego
Mechanical Engineering

Sharon Peled
Hebrew University, Jerusalem
Physics

Stephen Robinovitch
U. of British Columbia/MIT
Mechanical Engineering (BS/MS)

Frank Rybicki ++
University of Pennsylvania
Mathematics

Robert Stadler
Case Western Reserve University
Mechanical Engineering

++ = Joint MEMP & MD/PhD

Athena for HST at Harvard Medical School

Project Athena recently extended its reach to a new location beyond the MIT campus. An Athena workstation has been installed at HST's Longwood Office at Harvard Medical School. "Off-site clusters are an important part of the Athena experiment," explains Professor Earll M. Murman, Director of Project Athena. "A truly remote site represents another step forward. In the future it will be common for educators and students at geographically separated locations to be linked together". The Athena workstation at HST-HMS is an IBM RT/PC with a file server. The workstation is also testing the use of NEARnet (the New England Academic and Research Network) for remote support of Athena. HST students have responded very positively to the new Athena site. The benefit students have mentioned most has been the reduction in time spent traveling back and forth to Cambridge to do some of their computing tasks. HST is planning on expanding their off-site Athena cluster with new workstations being added in the future. In addition to Athena, HST at HMS offers four Hewlett Packard workstations and two Macintosh II workstations.

Research News

MIT's Clinical Research Center Integrated into HST Division

In September, 1990, the Clinical Research Center (CRC) was made a component of the HST Division. This integration provides access to superb outpatient facilities for a large number of MIT faculty and research staff who are committed to research on humans, and also provides opportunities for CRC staff to obtain faculty appointments at MIT/HST in parallel with their appointments in teaching hospitals. It enhances the availability of CRC facilities to the HST community for conducting research and offers new training opportunities. Finally, by the joining of the two MIT components most concerned with research on humans, it reaffirms the Institute's commitments in this domain.

The CRC with full support from MIT and National Institutes of Health was established in 1964 to provide a facility in which the MIT community's expertise in basic biological mechanisms could be applied to the study of human physiology and disease. For most of its history, the CRC was administratively located within MIT's Department of Nutrition and Food Science (renamed the Department of Applied Biological Sciences in 1985). In 1981 the CRC was made an administratively independent entity no longer located within a specific department and reporting instead to the Dean of the School of Science. In 1984 the CRC was authorized by MIT to appoint research staff, administer research activities, and develop its own training programs. In 1987 administration of the CRC was transferred to MIT's Whitaker College. Since its integration with HST the CRC no longer reports to Whitaker College concerning academic and research matters. However, it does not change the CRC's relationship with the MIT Medical Department to which it reports concerning medical care matters.

From its inception the CRC has sponsored active programs in the clinical neurosciences; Professor Hans-Lukas Teuber initiated a still on-going study on cognitive, sensory, and motor consequences of brain trauma. Today most of the research conducted at the CRC relates to clinical neuroscience or to nutritional biochemistry/metabolism. Numerous protocols bridge these research areas, such as those exploring disease states with disturbances in both behavior and metabolism, (e.g., the Seasonal Affective Disorder Syndrome; and the Premenstrual Syndrome). Other areas currently under investigation include: Alzheimer's disease, in which some encouraging tests are being carried out; studies of brain serotonin and its role in appetite and mood disturbances; and metabolic studies including the fate of amino acids and their effects on aging.

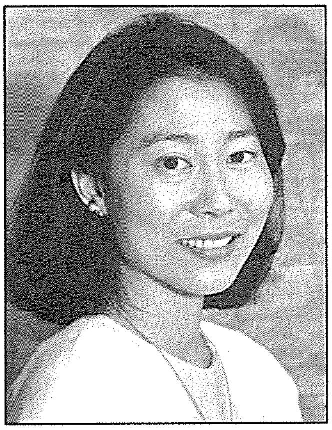
Dr. Richard Wurtman, Director of the CRC, in commenting on the integration of the CRC with HST, stated he expects added career opportunities for persons via junior faculty positions. He foresees expanded high-quality research work, some of which would encompass the study of physiology in normal subjects. Dr. Wurtman is also eager for the CRC to participate in the HST Forum, in the education of graduate students in HST, as well as providing further research opportunities for UROP students at MIT. He also would like to recruit additional CRC Advisory Board members from HST.

HST FORUM - April 25, 1991

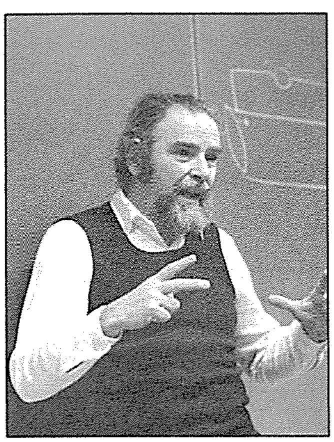
The HST Forum, first held in 1987, is a one day event featuring research presentations by HST students. HST is again honored to have Dr. Lee Gehrke in charge of the Forum. One of the Forum's goals is to provide the opportunity for the HST Community-at-Large to gather and address the diverse research tackled within the Division. This year the HST Forum, rescheduled from an eariler date, will be held on Thursday, April 25th, 1991. It will take place on the MIT Campus in the Center for Advanced Engineering Study—9-150. Registration and Coffee Hour will begin at 9 AM in the lobby of 9-150. The morning session will include platform presentations and will be followed by a buffet luncheon and poster viewing in the Grier Room 34-401 from 12:15 to 2:00 p.m. The afternoon session features platform presentations and a panel discussion. At 6:30 p.m. the Forum changes pace and moves to the MIT Faculty Club for a cocktail hour followed by dinner and dancing. The HST Forum is not open to the public; registration material will be sent to HST students, faculty, and alumni in March. Meanwhile, questions can be addressed to Ms. Barbara Jaskela, MIT E25-519, Cambridge, MA 02139; (617) 253-1554.

Honors and Awards

Dr. Karen Hsiao Receives Culpeper Scholarship


Karen Hsiao, M.D., Ph.D.

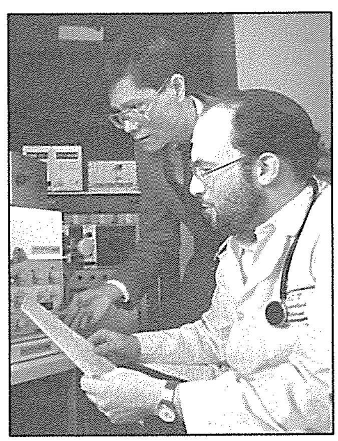
Karen Hsiao, who received her M.D. (HST) and Ph.D (MIT) in 1982, has been named a recipient of the Charles E. Culpeper Foundation Scholarships in Medical Science for 1990. Dr. Hsiao and two additional investigators were selected for the scholarship awards from a competitive field of applicants nominated by their medical schools. Francis J. McNamara, Jr., Chairman of the Culpeper foundation remarked, "The awards are among the most generous of their kind." He added, "The Foundation's objective with this scholarship program is to provide significant support to young physicians of high potential achievement like Dr. Hsiao, who are committed to careers in academic medicine." Dr. Hsiao will be awarded $100,000 a year for three years to fund her research at The University of California in San Francisco, where she is currently an Assistant Professor in the Department of Neurology. Dr. Hsiao's research focuses on the investigation of the molecular genetics of inherited human prion diseases in order to better understand the mechanism by which transmissible cerebral amyloidosis occurs.


Thomas F. Weiss, Ph.D.

Weiss, Trevisian, and Huang — Best Engineering Software Award

Thomas F. Weiss, Professor of Electrical Engineering and Computer Science at MIT, Giancarlo Trevisan, and David Huang an MD/MEMP student in HST, won a Best Engineering Software award for their entry, "Hodgkin-Huxley", in the 1990 EDUCOM/NCRIPTAL (National Center for Research to Improve Postsecondary Teaching and Learning) Higher Education Software Awards competition.The software allows users to explore the 1963 Nobel Prize winning Hodgkin-Huxley model of nerve-cell membrane response to electrical simulation for different environmental variables. Because the model is complex, it is rarely taught in a manner that allows students to acquire an understanding of electrical excitability in cells. The program overcomes this problem by giving students direct access to the model and an ability to explore the model by performing simulation experiments. The user can manipulate the electrical stimulus, the model parameters, and the environmental variables to observe responses using powerful graphic tools. A reasonable starting parameter set encourages initial exploration and supports gradual learning. Later, students can explore all the parameters and observe results. These results can be saved, compared with other results, and included in documents. The software encourages a deeper understanding of electrical excitability, and is a vehicle for teaching students how to formulate and execute a research project.

Dr. Howard Lebowitz Receives DuPont Investigator Award


Dr. Lebowitz, right, and Dr. Chi-Sang Poon

Howard Lebowitz, M.D., HST '90, was chosen to receive one of this year's Du Pont Critical Care/ACCP Young Investigator Awards. He presented the paper, "Negative Impedance Ventilation (NIV): An Improved Inspiratory Pressure Support Mode", in October at the 56th Annual Scientific Assembly of the American College of Chest Physicians in Toronto, Canada. The paper is based upon Lebowitz's M.D. thesis. As a student in HST, Dr. Lebowitz worked with Dr. Chi-Sang Poon to improve methods of ventilator therapy by lowering the risk of barotrauma. Barotrauma is a major source of morbidity and mortality in ventilator therapy.

MGH Department of Biomedical Engineering News

Putting the Engineering Back in Biomedical Engineering

Too often, as engineers working in the field of biomedical engineering, we become obsessed with the biomedical aspects of the field and we overlook the engineering aspects. Because the biomedical aspects are often the more challenging to us as engineers, we tend to focus our efforts there rather than on the engineering dimensions of the problem. As a result, some of the more important aspects of the problem are neglected and overall performance and outcome suffers. We biomedical engineers must remember that what we "bring to the table" is not only a sound understanding of the fundamental concepts of the biomedical sciences and their quantitative behavior, but more importantly, the ability to engineer those products and devices that are important to the execution of "good life science" and the delivery of quality patient care. The engineering that we do is not only in the realm of design and analysis, but also in the fabrication and manufacture of these new technologies.

In the Department of Bioengineering (DBE) at the Massachusetts General Hospital (MGH), we take pride in our design and manufacturing capabilities. Our staff includes four full-time design engineers and four full-time model makers who employ the most modern design and manufacturing technology to produce the hardware and software necessary for research in the biomedical sciences in the Harvard-MIT community. Perhaps even more importantly, we design and fabricate new technologies used in patient care not only at the MGH, but in all the teaching hospitals that are part of the Harvard system.

In the course of this work, we regularly develop and patent new devices and instruments that aid both research investigators in the pursuit of their goals and clinicians in the delivery of the very best quality patient care that modern technology has to offer. The staff are led in this effort by Alan Shapiro, Manager of the Design and Development group, and Iain Wright, Manager of the Model Shop. Each of these managers has more than 25 years of experience in biomedical engineering.

The Design and Development group specializes in electronic design, both digital and analog, and software engineering. Their resources include the latest in computer aided design (CAD) technology as well as the capability to fabricate prototype electronic instrumentation and devices. The engineers, Carol Bertrand, David Wrightson, and Andrew Wieckiewicz, have broad design experience tempered by many years of work in the hospital setting as well as in the biomedical industry.

The manufacturing group in the Model Shop, on the other hand, tends to specialize in mechanical technologies with the capability to fabricate devices in virtually any material including plastics, aluminum, steels of every type, and exotic metals, such as titanium and its alloys, and even composite materials. The model makers, Robert Ribeiro, Arnold George, and Richard Sproul, have extensive experience in the health care industry, including the hospital setting and the commercial sector. Through their initiative, the staff is rapidly expanding the computer aided manufacturing (CAM) capability of the department. The work of the model makers is typically carried out in the extensive facilities of the shop, soon to be supplemented with computerized numerical control technology, but often their work takes them out of the model shop and into the research laboratories and the clinical units of the MGH and neighboring hospitals.

Some recent examples of the engineering projects completed for research investigators and clinicians are as follows:

THERMAL STIMULATOR
A researcher in pain physiology needed a system for measuring a rat's response time to a thermal stimulus. DBE developed a system with a digital display response time, and precise control and display of start and stop temperatures. With this system the researcher now can test 10 rats in 1.5 hours instead of 14 hours.

LUNG SOUNDS ANALYZER
A clinician requested a portable instrument that could be used in ICU's and clinics for gathering research data for the analysis of abnormal lung sounds. DBE designed and constructed a 2-channel amplifier-filter circuit board which plugged into a lightweight portable computer. A custom control panel was installed on the computer to provide microphone input jacks, audio level indicators, filter switches , and headphone and speaker volume controls. The amplified sounds are input to an on-board analog-to-digital converter card. The software, developed by DBE in collaboration with the clinician, interprets and displays the quantities and types of sounds.

(article continues on the following page)

REFLECTOMETER
A researcher needed an instrument that could measure the reflectance of skin over the visible spectrum. DBE developed a system incorporating a Hewlett-Packard spectrophotometer and a lap-top computer with custom software, light source, power supply and fiberoptics. The system is packaged neatly on a 16"x24" cart, with an isolation transformer for safety, and will be tested in the Neonatal ICU for measuring hyperbilirubinemia noninvasively. Other possible applications include the measurement of organ perfusion and inflammatory response.

PATIENT IDENTIFICATION DISPLAY
Radiologists dictate their notes into a custom pushbutton telephone system while viewing x-ray films. Formerly, if an incorrect number was accidentally punched in, notes could easily become misfiled. DBE designed and constructed a digital display system which is connected to the dictation system and visually displays the patient ID number as it is punched in. The visual feedback significantly reduces the number of misfiled records.

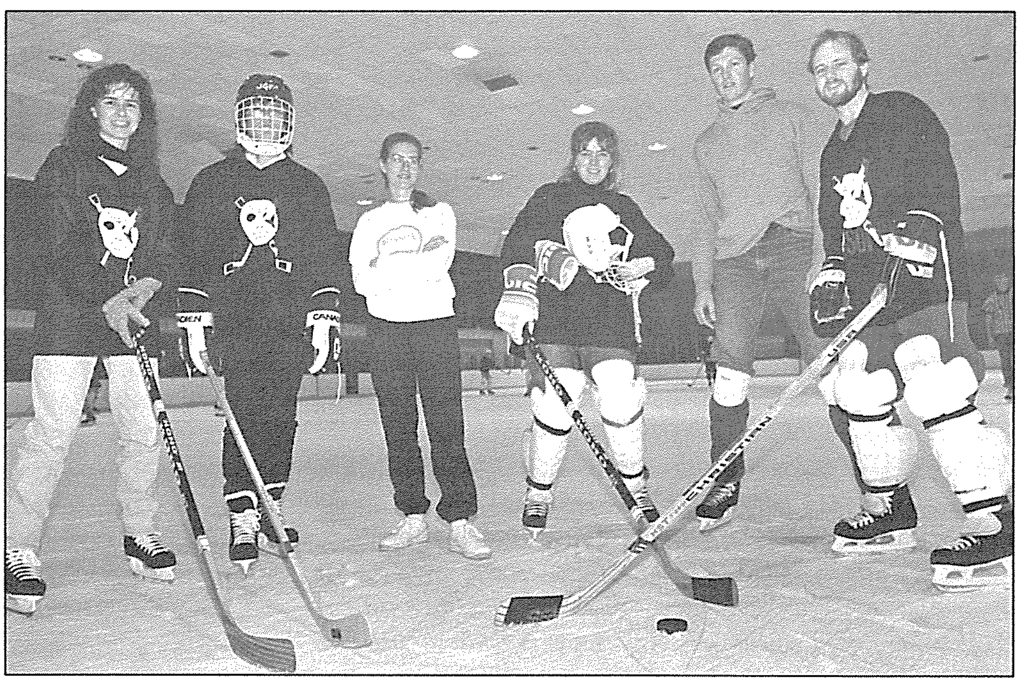
CELL STRESSER
As part of her research, Prof. Martha Gray of MIT and HST needs to grow cells in a stress field. Working with the support of the design engineers and model makers, Prof. Gray was able to develop a new system for growing cells in culture in a time varying stress field. This system is now being evaluated in Prof. Gray's laboratories at the MGH and at another orthopaedics research laboratory at Washington University in St. Louis.

PENILE INFUSION SYSTEM
As part of his research, Prof. Jose Venegas of HMS and HST needed a system that permits controlled infusion of biological fluids in human organs. Working with the design engineers of the DBE, Prof. Venegas has been able to construct a system that fulfills the need. This system is now in clinical trials at the VA Hospital, West Roxbury.

The Department of Biomedical Engineering at the MGH is a valuable engineering resource available to all research investigators and clinicians throughout the Harvard-MIT Community. The experienced staff of this department is prepared to provide engineering support for a wide spectrum of biomedical projects. For further information call:
Design and Development, Alan Shapiro, 726-2453
Model Shop, Iain Wright, 726-2457

HST's Ice Jasons

HST's hockey team, the Ice Jasons, was created by the Medical Engineering and Medical Physics (MEMP) Class of '89. This year the team is continuing in the same tradition and spirit. The team is composed of students from various classes of HST MEMP, HST MD, and friends. The Ice Jasons play in the Intramural D-League of MIT. So far this year, the team has one win one loss and two ties. If you would like to watch and cheer them, the next game will be held Sunday, March 3, 1991, at 8:00 p.m. at the Johnson Athletic Center at MIT. If you would like to play, please call the team's Captain, Marie-José Bélanger, at 577-8076.



The Ice Jasons in the photo from left to right are: Cathy Ford, Jim Reardon, Sharon Peled, Marie-José Bélanger, Forrest Patterson, and Tony Hodgson. Not pictured are Ice Jasons: Naomi Chesler, Chris Haqq, Peter Joe O'Shea, Yuan Qiu and Rosina Samadani.

Alumni News

Lost Alumni Search Continues

For the past few months, the HST MD Curriculum Office at Harvard Medical School has been engaged in a survey of HST MD alumni from the classes of 1975 through 1986. In the course of the survey we have been unable to locate several alumni. Following is a list of ten graduates with their last known address. If anyone has any information on these people, please contact Pat Cunningham in the HST Office at HMS, telephone (617) 432-1738. You may call collect. Thank you!

Dr. Daniel J. Knighton, '76
1333 Woodland Ave.
Menlo Park, CA 94025

Dr. Cavelle Maria Kelsick, '81
8 Ferndale Ter Fondes Amandes
St. Ann, Trinidad

Dr. Jin S. Hahn, '82
4725 Tarantella Lane
San Diego, CA 92130

Dr. Sundeep Khosla, '82
24 Ledgewood Drive
Burlington, MA 01803

Dr. Ali Jafari Naini, '83
828 NE Glen Oak, #203
Peoria, IL 61603

Dr. Alexander Shaknovich, '83
445 East 68th Street Apt. 12F
New York , N.Y. 10021

Dr. Richard S. Baker, '84
6214 S. Compton Ave.
Los Angeles, CA 90059

Dr. Mark M. Stecker, '84
7545 Brookhaven Rd.
Philadelphia, PA 19151

Dr. Bengt Ivarsson, '85
54 Forrest Street., Apt. 323
Medford, MA 02153

Dr. Bing Ho Ko, '86
96-C Charles River Rd.
Waltham, MA 02154

Two Books to Note

Dr. Gustav K. von Schulthess, HST' 80, and Dr. Melvin Konner, HST '84, have each written books that are receiving praise. Dr. von Schulthess' monograph, "*Morphology and Function in MRI*", Springer-Verlag, New York (1989),144 pages, illustrated, ISBN: 3-450-19061-9 was favorably reviewed in *Clinical Cardiology*. The book was reccommended as an excellent introduction to a difficult subject. The book addresses the important, evolving technique of magnetic resonance imaging (MRI). This book deals with MRI used as a powerful tool in the assessment of the structure and function of the cardiovascular and renal systems. The review also makes special mention of the numerous high-quality illustrations (155 in 144 pages) that explain the subject well.

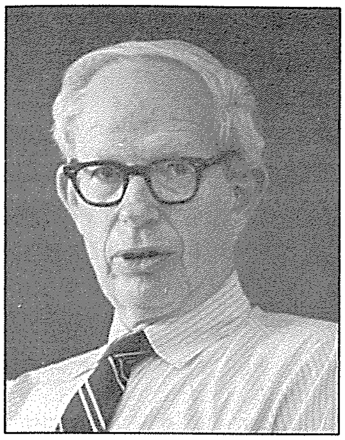
Dr. Melvin Konner's, "*Why the Reckless Survive, and Other Secrets of Human Nature*", Viking Penguin, 1990, is Dr. Konner's latest book. In this book he describes the latest findings about human nature in fields as molecular genetics and sociobiology, and explains human behavoir in its innumerable aspects: from African healing trances to childbirth customs, from the right-left dichotomy to the occasion of a smile, from the relation of mental illness and responsibility to our aspiration for utopia. Dr. Konner is Professor of Anthropology and Associate Professor of Psychiatry at Emory University. He is author of *The Tangled Wing* and *Becoming a Doctor*, and co-author of *The Paleolithic Prescription*. He has written frequently for *The New York Times*, the *Los Angeles Times* and *The Sciences*. Edward O. Wilson, Baird Professor of Science, Harvard University has this to say about Dr. Konner's most recent book, "Konner is one of the most skilled and professionally qualified science expositors working today. He addresses questions of the human condition in an entertaining manner that draws deep."

Dr. Warren Anderson '83 Serving in Mid-East

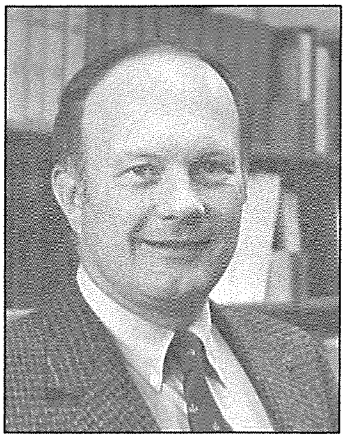
Warren Anderson, one of HST's finest, is currently serving as a flight surgeon in Operation Desert Storm. We have been informed that, at this time, it is best to send letters and cards but not packages because they are subject to long delays in delivery. Correspondence to Dr. Anderson should be addressed:

Dr. Warren Anderson
Operation Desert Storm
VMFA 212 Medical
F.P.O. San Francisco 96608-6018

A Message from Dr. Roger Mark



Dr. Walter Abelmann, HST Interim Co-Director



Dr. Roger Mark, HST Co-Director

The Summer and Fall of 1990 have been times of ferment and growth in HST and in our parent institutions. We have witnessed the selection and installation of a new chief executive at MIT, and a new administration is currently taking shape. While such change is necessary in order to assure institutional continuity and vigor, it is not without regrets. HST has been well served by the administration of Provost John Deutch, and I am particularly grateful for the support of Prof. Kenneth Smith, MIT's Associate Provost and Vice President for Research. Ken was, until January 15th, responsible for HST at MIT, and he was my direct superior in the administrative chain. Over the past five years of our association, he has provided insightful, sympathetic, and supportive guidance to the HST Co-Directors, and has done much to stabilize and consolidate the Division.

Dr. Richard Kitz, after five incredibly fruitful years of association with HST as its Co-Director, relinquished that role in order to devote his full-time attention to the direction of the Department of Anesthesia at the Massachusetts General Hospital. We are enormously grateful to him for the strength, wisdom, and dedication of his leadership of HST. We are stronger and richer as a result of his time with us! He will be missed greatly, particularly by me!

We are all fortunate, indeed, that Dr. Walter Abelmann has been willing to accept the responsibility of interim Co-Director of the HST Division. In addition to his prominence as a clinician and investigator, he has been playing a crucial role in the guidance of HST since it was founded in 1970. He has been a major course director (HST- 090, Cardiovascular Pathophysiology), he has headed the HST/MD Curriculum Committee, he has administered the HST/MD thesis program, and he has organized and administered the HST/MD advisory structure as chairman of our board of Tutors and Advisors. Thus, Dr. Abelmann is intimately familiar with the HST Division, and he is emminently qualified to take the helm during this interim period. I am particularly pleased that Walter has chosen to work with me in this role, since our close working association goes back to the first days of my own faculty association with MIT and Harvard. Walter has been my mentor, my friend, and my most esteemed colleague.

We are gratified by the evidence of new strength and continuing excitement within the Division. Our ranks were invigorated by an outstanding group of new students entering the MEMP, RSGP, and MD degree programs this Fall. Welcome to you all! We are pleased to welcome Dr. Linda Cima as a new Assistant Professor of Health Sciences and Technology and Chemical Engineering, and we are pleased that Dr. Elazer Edelman will join us as Assistant Professor of HST in Medicine. We welcome the recent inclusion into the HST Division of MIT Clinical Research Center directed by Prof. Richard Wurtman. We anticipate that this new association will stimulate increased utilization of the excellent facilities of the CRC by members of the HST affiliated faculty both at MIT and Harvard. We are pleased to announce that Dr. Peter Reich (Prof. of Psychiatry-HMS and Psychiatrist-in-chief of the MIT Medical Department), has agreed to coordinate our faculty advisors for MD students. A well-functioning board of faculty advisors is essential in order to assure that our students make maximum use of the extensive educational opportunities available to them, and are able to navigate the program with optimal efficiency.

HST is now entering its third decade and continues to be a dynamic and exciting community in which to work and study! There are plenty of challenges and opportunities ahead, and we solicit the creative input from you all in guiding the further evolution of the Division.

Roger G. Mark, M.D., Ph.D.

Calendar of Events

February	28, 1991	HST Dinner Seminar
March	1&2, 1991	Second Year Show
March	9&10, 1991	Parents Weekend at HMS
April	9, 1991	Soma Weiss Undergraduate Research Assembly at HMS
April	25, 1991	HST FORUM
May	9, 1991	HST Curriculum Retreat
June	3, 1991	MIT Commencement
June	6, 1991	Harvard Commencement

HST in Perspective is published twice a year by the Harvard-MIT Division of Health Sciences and Technology.
News items and editorial comments are welcome.

HST in perspective

Harvard-MIT Division of Health Sciences and Technology
MIT E25-518
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(617) 253-7426

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