Fall 2004

The Connector

newsletter for graduates, students, faculty and friends of the Harvard-MIT Division of Health Sciences and Technology

New faculty members join HST

HST is proud to welcome new members to its core faculty, all of whose research complements the Division's thrust areas.

Elfar Adalsteinsson

David E. Cohen

Collin M. Stultz

Elfar Adalsteinsson, Assistant Professor of Health Sciences and Technology at HST, specializes in data acquisition for image analysis, focusing on optimal methods for acquisition, reconstruction and processing of *in vivo* imaging data. His interests include techniques for efficient sampling and spatial encoding of spectroscopic magnetic resonance data, whereby small signals yield information not observed with conventional structural imaging. Applications of these and related methods include a study of the progression of Alzheimer's disease and characterization of multiple sclerosis. He was was previously a member of the Richard M. Lucas Center for Magnetic Resonance Spectroscopy and Imaging at Stanford University, where he received his MS and PhD degrees in electrical engineering in 1991 and 1995, respectively. He received his bachelor's degree *summa cum laude* in electrical engineering from the University of Iceland in 1989. Also Assistant Professor of Electrical Engineering and Computer Science at MIT and a member of the Research Laboratory of Electronics, Adalsteinsson will divide his time between the MIT campus and the Martinos Center.

David E. Cohen, MD '88, PhD is an excellent match for the Regenerative Medicine thrust area because of his interests in liver function and "artificial" liver devices. As Associate Professor of Medicine and Biochemistry at Albert Einstein College of Medicine, he conducted research on the molecular mechanisms by which bile salts in the liver promote biliary secretion of cholesterol, important in the pathogenesis of gallstones and of atherosclerosis. His group also explored the impact of obesity upon the body's ability to eliminate cholesterol. Cohen is Associate Professor of Medi-

(continues on page 11)

GRADUATION '04

A record number of graduates received diplomas at the 30th HST Graduation Exercises on June 7.

The 75 awardees included the first four Masters of Science in the Biomedical Enterprise Program (BEP), who also received degrees from the Sloan School of Management.

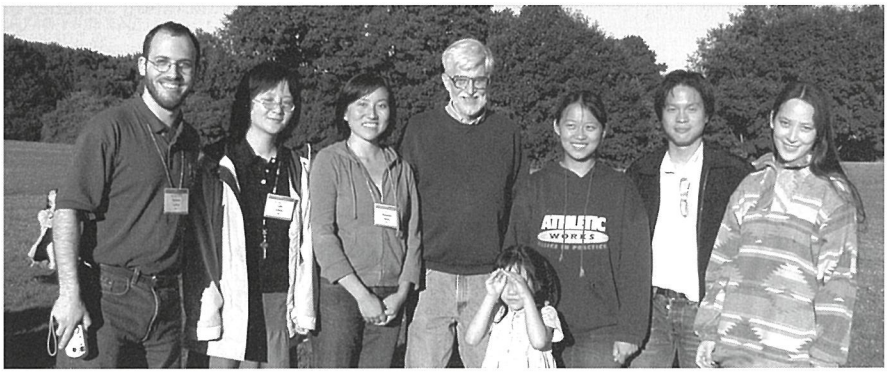
MIT Provost Robert A. Brown, PhD gave the graduation address. In his remarks he stressed the importance of profession, diversity, balance and impact.

Giving the student address was Jeffrey H. Chung, MD '04, who graduated *magna cum laude* and is headed for residency in medicine at MGH. He characterized HST as standing for "Harder, Smarter and Tougher."

Student and teaching awards followed the speeches. Liyun Li, MD '04 recevied HST Society's Multiculturalism and Diversity Award. The Directors' Awards went to Adrian H. Gottschalk, MS '04 for his outstanding contributions

(continues on page 12)

Speech and hearing conference pays homage to Ken Stevens



Honoring Ken Stevens *(center)* at the conference included *(from left)* Steven Lulich, Lan Chen, Xiaomin Mou, Stevens' daughter Kendra, Xuemin Chi, Atiwong Suchato, and Elisabeth Hon.

Nearly 300 participants from more than 15 countries attended "From Sound to Sense: 50+ Years of Discoveries in Speech Communication," held at MIT's new Stata Center June 11-13. *(See also Connector, Spring 2004, p2)*

This conference was held in honor of Kenneth M. Stevens, ScD, the Clarence J. Lebel Professor of Electrical Engineering at MIT and HST, who celebrates his 89th birthday this year and will celebrate 50 years on the MIT Faculty in 2005.

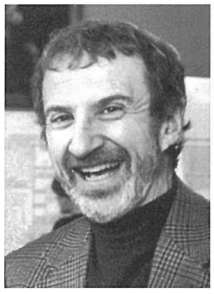
Oral presentations and posters addressed all aspects of speech and hearing, including phonetics, acoustics, perception, development, disorders, synthesis and recognition. Stevens,

(continues on page 9)

HST News

HST Board has new leadership

Josh Tolkoff (Harvard AB '70, MIT AM '71), a founding member of HST's Advisory Board, has succeeded Dick Thomas as the Board's chair.



Josh Tolkoff

A venture capitalist and inventor specializing in medical devices, Tolkoff is a Principal in the Ironwood Equity Fund, which invests in growth-stage health-care companies. He has more than 30 years of experience in the medical devices industry, from founding companies to developing new products. He holds more than 20 patents, and cultivates new technologies with start-up funds. His other non-profit work included chairing MASSMedic, a consortium of more than 300 medical device companies in Massachusetts.

The HST Advisory Council also welcomes five new members. Each brings much experience and skills to the work of the Council that will be of great value to the Division in the years ahead.

ANTHONY K. ASNES

Tony Asnes continues a family tradition of involvement with HST. His father, Marvin, was a strong supporter in the early days of the Division and was instrumental in establishing two named professorships. His mother, Norma, was a driving force in establishing the Council. Asnes is Managing Director of Eagle Capital Management, an equity investment manager for pension funds, endowments, foundations and individuals, based in New York City. He holds an MS in Management from MIT and a BA in Computer Sciences from Yale University.

JOSHUA MAKOWER, MD

Makower is a Venture Partner at New Enterprise Associates and also the founder and CEO of ExploraMed II, Inc., a medical device incubator based on the West Coast. He has been involved in the development of numerous medical device business ventures and hold more than three dozen patents in the

(continues on page 12)

Division appoints associate director, academic director

After serving as the chair of the HST Faculty Search Committee for more than three years, Lee Gehrke, PhD was appointed the new Associate Director for Faculty in August.

Lee Gehrke

In his new role, he will oversee faculty affairs within HST, with a special emphasis on raising public awareness of the faculty's unique and broad-based research capabilities.

Gehrke is the Hermann von Helmholtz Professor of Health Sciences and Technology at HMS and MIT, and Professor of Microbiology and Molecular Genetics at HMS.

In September 2002 he assumed responsibility for directing HST 010/011: Human Functional Anatomy, which he continues to teach. He is also a member of the HST Personnel Committee.

Julie E. Greenberg, PhD '94, became the new Director of Education and Academic Affairs in July. In her new administrative role, she will oversee all educational activities in HST, including strategic planning for educational initiatives and inspiring the continual evolution of curricular offerings.

Earlier this year she was promoted to Principal Research Scientist in the Research Laboratory of Electronics with a a joint appointment in HST. She will also continue to be course director for HST582J/6.555J: Biomedical Signal and Image Processing.

As a project leader in the VaNTH Engineering Research Center, Greenberg directed an educational research project that consisted of developing novel materials for teaching biomedical signal processing. (VaNTH is a consortium of Vanderbilt, Northwestern, University of Texas at Austin, and HST.) These materials have been used in teaching HST582J for the past three years.

Julie E. Greenberg

A formal assessment has shown that students taught with these new materials demonstrate better understanding of the subject matter when compared to students who learned it "the old way." This work resulted in two peer-reviewed publications.

The Connector

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Editor: Walter H. Abelmann, MD

Managing Editor/Designer: Becky Sun

Editorial Assistant: Carol A. Campbell

Contact Information:
Harvard-MIT Division of
Health Sciences and Technology
77 Massachusetts Ave., E25-519
Cambridge, MA 02139-4307
P: (617) 253-4418 F: (617) 253-7498
E: cac@mit.edu http://hst.mit.edu

The Connector is a quarterly publication of the Harvard-MIT Division of Health Sciences and Technology. The staff and board of The Connector would like to thank the HST alumni, faculty, staff, and students who contributed to this issue. Please send reports of your recent activities and personal news to the above address or email. Previous issues of The Connector can be found at http://hst.mit.edu.

Norwegian colleagues plan collaborations with HST

Ralph Lindenfeld

HST Directors Martha L. Gray and Joseph V. Bonventre *(center)* and the faculty welcomed representatives from the Norwegian University of Science and Technology.

HST was pleased to host colleagues from the Norwegian University of Science and Technology (NTNU) in Trondheim, Norway, during the week of June 7.

HST and NTNU have an agreement focused on exchanges of students and staff to promote research and development within the field of medical technology. Representatives from several areas of NTNU were in attendance to talk about their specific interests and to discuss possible collaborations.

After a plenary session Monday morning with the directors and various representatives of HST's major educational programs, members of the delegation met in small groups with faculty and students throughout the week.

One of the highlights of the visit was a festive dinner at the MIT Faculty Club on Monday night, capped by matching toasts offered by Gunnar Bovim, Dean of the Faculty of Medicine of NTNU, and HST Director Martha L. Gray, PhD.

The members of the NTNU delegation and their areas of expertise included:

Gunnar Bovim
Dean, Faculty of Medicine; Chairman, Medical Technology

Roar Arntzen
Director, University Hospital in Trondheim

Olav Haraldseth
Biomedical imaging

Toril Nagelhus Hernes
Biomedical imaging, operating room of the future

Berit Johansen
Biotechnology

Finn Drabløs
Bioinformatics

Arild Faxvaag
Health informatics

Øystein Nytrø
Health informatics

Ann Rudinow Sætnan
Societal aspects of new medical technology

Eivind Andersen
Biomedical innovation

Jan Eirik Thoresen
Chief Medical Officer, Regional Health Services

Bjørn Torger Stokke
Biophysics, bio-nano-technology

Espen Aspnes
Biomedical imaging, operating room of the future

Asbjørn Støylen
Cardiac ultrasound

Judith Rodsten
ICT

Esten Ødegaard
Coordinator for Medical Technology, NTNU

New faculty appointments

JUNIOR FACULTY

Elfar Adalsteinsson, PhD
Asst. Professor of Electrical Engineering and Computer Science, MIT; Asst. Professor of Health Sciences and Technology, HST

Collin M. Stultz, MD, PhD '97
Asst. Professor of Electrical Engineering and Computer Science, MIT; Asst. Professor of Health Sciences and Technology, HST

JOINT/SECOND APPOINTEES

David E. Cohen, MD, PhD '88
Assoc. Professor of Medicine and Health Sciences and Technology, HMS/HST; Director of Hepatology, BWH

Lucila Ohno-Machado, MD, PhD
Assoc. Professor of Radiology, HMS/BWH

Brian Seed, PhD
Professor of Genetics, HMS/MGH

Anthony J. Sinskey, PhD
Professor of Biology, MIT

Daniel K. Sodickson, MD, PhD '94
Asst. Professor of Medicine, HMS/BIDMC

A. Gregory Sorensen, MD '89
Asst. Professor of Radiology, HMS/MGH; Associate Director, Athinoula A. Martinos Center

AFFILIATED FACULTY

Bonnie Berger, PhD
Professor of Applied Mathematics, MIT

Paolo Bonato, PhD
Asst. Professor of Physical Medicine and Rehabilitation, HMS/Spaulding Hospital

David K. Gifford, PhD
Professor of Electrical Engineering and Computer Science, MIT

Matthew L. Meyerson, MD, PhD '93
Asst. Professor of Pathology, HMS/DFCI

Michael F. Murphy, MD, PhD
Lecturer, HST; Chief Medical and Scientific Officer, Ingenix Pharmaceutical Services

Jonathon J. Rosen, PhD
Instructor in Dermatology, HMS; Director, Office of Technology Implementation, CIMIT

Subra Suresh, ScD
Head of the Department of Materials Science and Engineering (DMSE); Professor of DMSE, MIT

Steven M. Zeitels, MD
Associate Professor of Otology and Laryngology, HMS/MEEI

HST teams with FDA in clinical trial conference

In keeping with the mission of bringing advances from the bench to the bedside, HST is co-sponsoring a conference with the Food and Drug Administration on clinical trials.

The conference—"Adaptive Clinical Trial Design: Ready for Primetime?"—focuses on the benefits and challenges of implementing new approaches in clinical trial design, and how these changes could increase the efficiency of product development and regulatory review.

The conference will be held on October 19 at the University of Maryland. The topics to be addressed will include:

- New types of adaptive clinical designs vs. more traditional trials
- Pros and cons of new adaptive designs
- Regulatory perspectives on the use of adaptive designs

For more information, go to FDA-HST-ACTs.org or email btarlin@mit.edu. Participants will include professionals from government, industry and academia:

Christy Chuang-Stein, PhD
Vice President, Research & Development, Pfizer Inc.

Ralph B. D'Agostino, Sr., PhD
Director, Statistics and Consulting Unit, Mathematics and Statistics Dept., Boston University

Susan S. Ellenberg, PhD
Director, Office of Biostatistics and Epidemiology, Center for Biologics Evaluation and Research, FDA

Scott Emerson, MD, PhD
Dept. of Biostatistics, University of Washington

Thomas R. Fleming, PhD
Chair, Dept. of Biostatistics, University of Washington School of Public Health

Howard L. Golub, MD, PhD
Senior Lecturer, HST; President, Carestat, Inc.,

Hsien-Ming James Hung, PhD
Mathematical Statistician, Center for Drug Evaluation and Research

Cyrus R. Mehta, PhD
President, Cytel Software Corporation

Jay Siegel, MD
President, Research & Development, Centocor, Inc.

Robert Temple, MD
Assoc. Director, Medical Policy Center for Drug Evaluation and Research, FDA

Butch Tsiatis, PhD
Professor of Biostatistics, North Carolina State Univ.

MD curriculum retreat focuses on updates on ongoing programs

HST's annual MD Curriculum Retreat on June 22 had broad representation from faculty and students, guaranteeing lively discussions of several topics.

Susanne Klingenstein, PhD, lecturer in HST, reported on the implementation of last year's Retreat's recommendation for an HST communications requirement of eight credits. Six credits may be obtained from modules inserted into several courses, while two credits can be acquired from additional opportunities, such as taking her course, HST 960: Writing for Physicians.

Greg Koski, MD '77, PhD, Associate Professor of Anesthesia at HMS and MGH, addressed "Ethics in the HST Curriculum." He outlined the requirements for responsible conduct of research as well as for the delivery of health care. There are multiple opportunities in existing courses to address these issues, he said. There is, however, a need to create qualified faculty.

Lori Breslow, Dean for Undergraduate Education at MIT, gave a stimulating overview of learning theories and effective ways to teach.

HST Directors Joseph V. Bonventre, MD '76, PhD and Martha L Gray, PhD '86, with Julie Greenberg, PhD '94, HST Director of Education and Academic Affairs, highlighted the five-year experiences of the Vanderbilt–Northwestern–Texas–Harvard-MIT (VaNTH) Engineering Research Center in Bioengineering Education and Technology, as well as the Glomerular Filtration Module of HST 110: Renal Pathophysiology.

Martha L. Bulyk, PhD, Assistant Professor of Medicine and Pathology at HMS, HST and BWH, addressed the experience with pretesting and tutoring in the attempt to narrow the gap between students with backgrounds in biology versus quantitative sciences. Bulyk directs HST 160: Molecular Biology and Genetics in Modern Medicine.

Record number of MD-PhD students matriculate this year

Warm welcomes go to this year's MD-PhD class, the largest in HST history!

Over the fourth of July weekend, the new MD/PhD students arrived at HMS to begin their program with the summer course "The Molecular Biology of Human Disease." Of special note this year is that 10 of the 12 MD-PhD students are members of the HST MD program.

The HMS MD-PhD, sponsored primarily by the National Institutes of Health through its Medical Scientist Training Program, provides fellowship support for selected and highly qualified students who have elected to pursue combined degrees. Participating PhD programs are offered by Harvard University and MIT.

Our new MD-PhD students, their undergraduate institutions and their majors:

Lauren Barr	University of Pennsylvania	Biochemistry
Daniel Herman	MIT	Biology
Peggy Hsu	Princeton	Molecular Biology
Mai Anh Huynh	Harvard University	Biochemistry
Martin Kurtev	MIT	Biology
Craig Mermel	Washington University	Biochemistry
Benjamin Rapoport	Harvard University	Physics
Sol Schulman	Brandeis University	Biochemistry
Michael Tibbetts	Princeton University	Molecular Biology
Srinivas Viswanathan	Yale University	Molecular Biology

HST News

CZEISLER HOLDS NEWLY ENDOWED CHAIR

Charles A. Czeisler, MD, PhD, HST affiliated faculty and Professor of Medicine at HMS and BWH, will hold the newly endowed Frank Baldino, Jr., PhD Professorship of Sleep Medicine. Baldino is the founder and CEO of Cephalon, a biopharmaceutical company. Czeisler also heads the Division of Sleep Medicine at HMS. In June he was chosen as president-elect of the Sleep Research Society, a 1,000 plus-member organization that fosters scientific investigation of sleep disorders.

PROMOTION

Richard L. Maas, MD, PhD, HST affiliated faculty, has been promoted to Professor of Medicine at HMS and BWH. He is also Chief of the Division of Genetics in the Department of Medicine at BWH.

MOSES HAS NEW APPOINTMENT

HST affiliated faculty **Alan C. Moses, MD** was appointed Associate Vice President of Medical Affairs in the U.S. at Novo Nordisk Pharmaceuticals, Inc., a healthcare company focused on diabetes. He will be based out of the Novo Nordisk U.S. office in Princeton, N.J. Moses had served as Chief Medical Officer and Senior Vice President at Joslin Diabetes Center in Boston. From its inception in 1993 until his appointment in April, Moses was co-director of HST's Clinical Investigators Training Program.

STUDENTS RECEIVE FELLOWSHIPS IN PEDIATRIC ONCOLOGY

The Alex's Team Foundation has awarded the Alexandra J. Miliotis Summer Research Fellowship in Pediatric Oncology to three MD Students: Steven M. Corsell, Navid Redjal and Annemarie Stroustrup Smith.

Alex's Team Foundation supports medical research in pediatric oncology, and educational and respite opportunities for pediatric oncology care staff at the Children's Hospital Boston and the Dana Farber Jimmy Fund Clinic. One source of support of these fellowships is an annual fund-raising golf outing at Ipswich Country Club.

HST HOSTS WEB-BASED COURSES

Robert H. Rubin, MD is co-director of several free e-learning courses that were launched last September. A combination of video-archived lectures in English, Spanish and Mandarin Chinese—as well as interactive case studies—the courses can be found at HSTelearning.mit.edu. The course on good clinical practices will be used as partial fulfillment of the certification program required of all clinical researchers in China.

Rubin is the Gordon and Marjorie Osborne Professor of Health Sciences and Technology at HMS, and Director of HST's Clinical Investigator Training Program (CITP). Working with Rubin on this project is **Melinda Cerny**, who manages web education for HST's Center of Experimental Pharmacology and Therapeutics.

NEW BIOMATERIALS TEXT

Frederick J. Schoen, MD, PhD, Professor of Pathology and Health Sciences and Technology at HMS and BWH, is co-editor of the second edition of *Biomaterials Science: An Introduction to Materials in Medicine*, published by Elsevier/Academic Press in July. This volume addresses the properties and applications of materials (synthetic and natural) that are used in biological systems. It highlights the science and engineering fundamentals behind biomaterials and their applications.

NEW COURSES FOR 2004-05

HST 205: Enterprise Experience in Medical Engineering and Medical Physics
J. C. Weaver

HST 452 J: Statistical Physics in Biology
M. Kardar and L. Mirny

HST 540 J: Human Physiology
R.D. Rosenberg, M. Krieger, D. Sabatini

HST 855: Biomedical Enterprise–Clinical Experience 2
R. Anderson

AWARDS

Patricia Donahoe, MD, HST affiliated faculty and Director of the Pediatric Surgical Unit at MGH, was recently honored on three occasions. In April she received the Flance-Karl Award from the American Surgical Associates, recognizing her contributions to basic resesarch that are applicable to clinical surgery. She also received the Fred Conrad Koch Award, the Endocrine Society's highest honor. And, on June 18, she received an honorary degree of Doctor of Science at Northwestern University's commencement. Donahoe is the Marshall K. Bartlett Professor of Surgery at HMS and MGH.

Minhaj Siddiqui (MD '05) won a Howard Hughes Medical Institute Fellowship for his last two years of study and research.

Robert S. Langer, Jr., ScD, HST faculty and the Germeshausen Professor of Chemical and Biomedical Engineering at MIT, was awarded one of three Charles F. Kettering Prizes from the General Motors Cancer Research Foundation. The $250,000 annual award recognizes the most outstanding recent contributions to cancer diagnosis and treatment. Langer was cited for his work on sustained-release drug delivery systems.

Lucila Ohno-Machado, MD, PhD, HST faculty and Associate Professor of Radiology at HMS and BWH, received an A. Clifford Barger Excellence in Mentoring Award from HMS.

M. Judah Folkman, MD, HST affiliated faculty and the Julia Dyckman Andrus Professor of Pediatric Surgery at HMS and Children's Hospital, received an Innovator Award from the Department of Defense Breast Cancer Research Program. The $5 million award is for his project "Prevention of the Angiogenic Switch in Human Breast Cancer."

IN MEMORIAM

John A. Badwey, PhD, co-director of HST 146: Human Biochemistry and Metabolic Diseases, and a principal investigator in the Center for Experimental Therapeutics and Reperfusion Injury at BWH, died suddenly in July. Badwey is remembered for his significant contributions to the reorganization and teaching of HST's biochemistry course, as well as his participation on the HST MD Curriculum Committee.

He will be sorely missed by his colleagues in HST and at BWH.

HST Matriculants

HST offers a warm welcome to our new matriculants: 30 MD candidates, 28 PhD candidates, 16 SM candidates, and 11 CITP fellows. Welcome to the HST family!

MEDICAL SCIENCE PROGRAM

Joshua Paul Aronson
MIT
Biology

Lauren Kaye Barr
University of Pennsylvania
Biochemistry

Pavan Kumar Cheruvu
Duke University
Biomedical Engineering; Chemistry; Electrical Engineering

Patrick James Codd
California Institute of Technology
Biology

Emily Frances Collier
Yale University
Molecular, Cellular and Developmental Biology

Matthew Blake Greenblat
Yale University
Molecular Biophysics and Biochemistry

Daniel Steven Herman
MIT
Biology

Peggy Ping Hsu
Princeton University
Molecular Biology

Mai Anh Huynh
Harvard University
Biochemical Sciences

Martin Vasilev Kurtev
MIT
Biology; Neuroscience

Brittany Louise Lee
University of Kansas
Chemistry

Yao Liu
Harvard University
Chemistry

Maria Lucia Lagade Madariaga
Harvard University
Biochemistry

Craig Harold Mermel
Washington University
Biochemistry; Mathematics

Mark Leland Miller
Stanford University
Chemical Engineering

Adam Lawrence Numis
Pennsylvania State University
Chemistry

Vikram Pattanayak
University of Pennsylvania
Biochemistry; Biophysics

Benjamin Isaac Rapoport
Harvard University
Physics; Mathematics

Sol Schulman
Brandeis University
Biochemistry; Chemistry

Rahul Anil Sheth
Harvard University
Chemistry

Sunil Anil Sheth
Harvard University
Chemistry; Physics

Monica Sircar
MIT
Chemical Engineering

Jason H. Sun
MIT
Biology

Eric Francis Swart
MIT
Chemical Engineering

Michael David Tibbetts
Princeton University
Molecular Biology

Yolanda Diana Tseng
Cornell University
Biological Engineering

Christos George Tsokos
Cornell University
Biology

Srinivas Raghavan Viswanathan
Yale University
Molecular Biophysics and Biochemistry

Audrey Shiuan Wang
MIT
Biology

Yifan Yang
University of California–Irvine
Neurobiology

MEDICAL ENGINEERING AND MEDICAL PHYSICS

Marco A. Avila
University of Concepcion
Chemical Engineering

Brinda Balkrishnan
MIT
Chemical Engineering;

Joseph D. Barillari
Princeton University
Computer Science

Divya Sanam Bolar
Johns Hopkins University
Biomedical Engineering and Electrical Engineering

Christopher Cassa, MEng
MIT
Electrical Engineering and Computer Science

Rumi Chunara
California Institute of Technology
Electrical Engineering

Paul Ziad Elias
University of Washington
Biomedical Engineering

Brian D. Goldberg, MEng
MIT
Physics; Electrical Engineering and Computer Science

Jonathan Goldwasser
Princeton University
Chemistry

Nathaniel David Huebsch
University of California–Berkeley
Biomedical Engineering

Jinkuk Kim
Korea Advanced Institute of Science and Technology
Computer Science

Richard Patrick Koche
University of California–Berkeley
Biochemistry

Erez Lieberman
Princeton University
Mathematics

Mara Lee Macdonald
University of Colorado–Boulder
Chemical Engineering

Tarjei Sigurd Mikkelsen, MEng
MIT
Mathematics

Shankar Mukherji
MIT
Physics; Mathematics

Scott Bruce Raymond
Brigham Young University
Physics; Neuroscience

Oded Shaham, MSc
Technion
Computer Sciences

Amy J. Shi
MIT
Chemical Engineering

Kyle Christopher Smith
Duke University
Biomedical Engineering

Ting Zhu
Tsinghua University
Mechanical Engineering

HST Matriculants

SPEECH AND HEARING BIOSCIENCE AND TECHNOLOGY PROGRAM

Nancy Fang-Yih Chen, MS
National Taiwan University
Electrical Engineering

Thomas M. DiCicco, MS
Boston University
Biomedical Engineering

Jianwen Wendy Gu, MEng
MIT
Physics

Erik Larsen, MSc
Delft University of Technology
Physics Engineering

Theodore M. Moallem, MS
Columbia University
Neuroscience

Emmanuel John Simons
Harvard University
Neuroscience; Music and Theater Arts

Cara Elizabeth Stepp
Smith College
Engineering Science

Thomas Witzel
Northeastern University
Computer Science

BIOMEDICAL INFORMATICS MASTER'S PROGRAM

Joyce George, MBBS*
Medical School: St. John's Medical College

Mark A. Meyer, MD
Greenville College
Mathematics and Physics
Medical School: University of Illinois at Chicago

Pankaj Sarin, MD
MIT
Biology
Medical School: University of Rochester

Davide Zaccagnini, MD*
Liceo "Dante Alighieri"
Human Sciences
Medical School: University of Rome

MASTER'S OF ENGINEERING IN BIOMEDICAL ENGINEERING

Aadel Ahmed Chaudhuri*
MIT
Electrical Engineering and Computer Science; Biology

Margaux Erin Daly*
MIT
Chemical Engineering

Zachary John Malchano*
MIT
Electrical Engineering and Computer Science

William F. Merrick*
MIT
Electrical Engineering and Computer Science

BIOMEDICAL ENTERPRISE PROGRAM MASTER'S PROGRAM

Rupa Bahri
Johns Hopkins University
Biomedical Engineering
Most recent position: Systems Engineer, Medtronic, Inc.

Jorge Cesar Conde
Johns Hopkins University
Biology
Most recent position: Associate, Morgan Stanley & Co.

Jean Jinsun Kim
Stanford University
English Literature; Biological Sciences
Most recent position: Associate, Merrill Lynch Ventures

Kevin Lee Ohashi, PhD
University of California–San Diego
Bioengineering
Most recent position: Principal & Co-Founder, Bay Innovation Group, LLC

Baruch Schori
Technion
Information Systems Engineering
Most recent position: Technical Manager, Elbit Systems, LTD

Inder Singh, MPP
University of Michigan
Bioengineering/Economics;
Most recent position: Founder and President, XCaliber Consulting

Sundar Subramaniam
Brandeis University
Economics; Computer Science
Most recent position: Chairman, CellExchange, IBCC

David Wine*
University of Pennsylvania
Computer Science and Engineering; Psychology
Most recent position: Senior Technical Consultant, Traxit

CLINICAL INVESTIGATOR TRAINING PROGRAM

Evan Appelbaum, MD
Tel Aviv University
Cardiovascular Diseases

John W. Denninger, MD, PhD
University of Michigan
Psychiatry

Karleyton C. Evans, Jr., MD
Dartmouth Medical School
Psychiatry

E. Kevin Heist, MD, PhD
Stanford University
Cardiac Electrophysiology

Maria Houtchens, MD
University of Utah
Neurology

Judy Shih-Hwa Liu, MD
Albert Einstein College of Medicine
Neurology

Harpreet Pall, MD
McGill University
Pediatrics

Robert Waters Ross, MD
Columbia University
Internal Medicine

Nicole J. Ullrich, MD, PhD
Yale University
Pediatric Neurology

Martha Wadleigh, MD
Duke University
Hematology/Oncology

Noah Todd Zinkin, MD
University of Rochester
Internal Medicine

* *Spring 2004 matriculants*

Research News

MECHANICAL CUES PLAY A ROLE IN THE FATE OF STEM CELLS

Christopher S. Chen, PhD '97, MD '99, is senior author of a study of the determinants of the fate of human mesenchymal stem cells (hMSCs) isolated from adult bone marrow. Specifically, the authors studied whether changes in cell shape can regulate the commitment of mesenchymal cells to adipocyte or osteoblast fate. In addition to exposure to various combinations of growth factors, it had been recognized that cell density plays a role. Here, it was demonstrated that cell shape regulates the commitment of the hMSCs. When allowed to adhere, flatten and spread, these cells underwent underwent osteogenesis, whereas unspread, round cells became adipocytes. (R McBeath et al., *Dev Cell* 2004; 6: 483-95.) Chen is Associate Professor of Biomedical Engineering at the University of Pennsylvania.

MECHANISM OF EFFECT OF STATINS ON GAD

Richard N. Mitchell, MD, PhD, Associate Director of HST and Associate Professor of Pathology at HMS and BWH, is senior author of a study to determine whether the known inhibitory action of statins upon transplant graft arterial disease (GAD) might be due to mechanisms other than their effects upon cholesterol metabolism. Mice with cardiac transplants were exposed to low and high doses of cerivastatin. GAD scores decreased in all treated animals compared with control, while cholesterol levels were the same in all groups. Thus, statins reduce GAD independently of their effects upon cholesterol metabolism. (K Shimizu et al., *Circulation* 2003; 108: 2113-20.)

TARGETING CALCIUM CYCLING ALTERS CARDIAC FUNCTION

Roger J. Hajjar, MD '90, Associate Professor of Medicine at HMS and MGH, studied the effects of overexpression of the sarcoplasmic reticulum Ca (2+) ATPase pump (SERCA2a) upon contractile dysfunction and ventricular arrhythmias. Using echocardio-grams and hemodynamic measurements in conscious rats after ligation of the left anterior descending coronary artery followed by reperfusion, Hajjar and colleagues found regional wall motion and thickening of the anterior wall were improved after SERCA2a. Moreover, SERCA2a significantly reduced infarct size. Overexpression of SERCA2a also significantly reduced the number of VT and VF episodes. (F Del Monte et al., *Proc Natl Acad Sci USA* 2004; 101: 5622-5627.)

BIOACTIVITY OF CARTILAGE SCAFFOLDING

Jennifer H. Elisseeff, PhD '99 and colleagues report success in synthesizing photopolymerizing hydrogels—derived from the biopolymer chondroitin sulfate—that improve tissue engineering of cartilage by enhancing bioactivity of the scaffold. Cogels based on chondroitin gels showed viscoelastic behavior typical of hydrogels. (Q Li et al., *J Biomed Mater Res* 68A: 28-33.) Elisseeff is Assistant Professor in the Department of Biomedical Engineering at Johns Hopkins University.

ILLUMINATING THE MECHANISM OF FEAR CONDITIONING

Kerry J. Ressler, PhD '95, MD'97 is senior author of a study demonstrating a role for the brain-derived neurotrophic factor (BDNF) and its tyrosine kinase receptor B (TrkB) in amygdala-dependent learning.

Rats, kept in cages that measure movement and startle amplitude, were conditioned to fear bursts of white noise, visual stimuli, or olfactory stimuli. Shocks delivered through the cage floor were the unconditioned stimuli. *In situ* hybridization was used to measure mRNA levels of six different trophic factors, of which only BDNF gene expression in the basolateral amygdala supported learning. Also, the TrkB receptor increased phosphorylation, suggesting activation of the receptor after release of BDNF. Use of a lentiviral vector also blocked the acquisition of fear. (LM Rattiner et al., *J Neurosci* 2004; 24: 4796-806.) Ressler is Assistant Professor in the Department of Psychiatry and Behavioral Sciences at the Emory University School of Medicine.

VALIDATION OF A NERVE CONDUCTION MONITOR

Shai N. Gozani, MD '94, PhD is senior author of the validation of an automated nerve conduction testing device, which monitors the time course and prediction of medial nerve conduction after carpal tunnel release. At the Orthopedic Center of St. Louis, this device compared favorably with electromyography and was then used to evaluate distal motor latencies of 48 patients examined over a six-month period after surgical carpal tunnel release.

Gozani, the inventor of the testing device, is President and CEO of NeuroMetrix Inc., a Waltham, Mass., company he founded in 1996. NeuroMetrix is the manufacturer of the device used in this study. Gozani is also a lecturer in HST. (MB Rotman et al., *J Hand Surg* 2004; 29: 367-72.)

HIPPOCAMPAL VOLUMES RELATED TO ABNORMAL PERFORMANCE

Anthony P. Weiss, MD, MS (CITP '02) is first author and MEMP student **Martin Zalesak** is co-author of a study of hippocampal volume and activity during a recognition memory task. In 15 patients with schizophrenia and 16 control subjects, hippocampal volume was measured by three-dimensional volumetric analysis of high-resolution MRI. Hippocampal activity was determined by means of a blood oxygen level-dependent signal during a recognition memory task. In the patients with schizophrenia, impaired ability to classify new items as previously not experienced was associated with decreased recruitment and smaller hippocampal volume. (AP Weiss et al., *Biol Psychiatry* 2004; 55: 668-75.)

CLINICAL POTENTIAL OF OPTICAL COHERENCE TOMOGRAPHY

Stephen A. Boppart, PhD '98, MD '00 is first author of a study of the feasibility of using optical coherence tomography (OCT) to image cellular features indicative of breast cancer in a rat mammary tumor model. OCT allows cellular and molecular imaging using the short wavelengths and spectroscopic properties of light. Three-dimensional OCT imaging was performed on rats with mammary tumors secondary to administration of a carcinogen. OCT imagery was performed on the surgically exposed tumors. Breast cancer was readily identified. This study suggests that OCT has the potential of identifying breast cancer *in vivo*. (SA Boppart et al., *Breast Cancer Res Treat* 2004; 84:85-97.) Boppart is Assistant Professor of Electrical and Computer Engineering at the University of Illinois in Urbana-Champaign.

EVALUATING HOW CONSUMERS RETRIEVE HEALTH INFORMATION

Robert A. Greenes, MD, PhD, Director of the HST Biomedical Informatics Training Program and Professor of Radiology and Health Sciences and Technology at HMS, BWH and HST, is senior author of an analysis of how 97 clinic patients retrieved health information via the Internet. The study analyzed their attitudes and rates of success of these tasks. In general, they had positive opinions of health information retrieval via the Internet, although many did not find satisfactory answers to specific inquiries. Frustrations were mainly due to failure to find new information, poorly designed websites or information overload. (QT Zeng et al., *Int J Med Inf* 2004; 73: 45-55.)

Research News

FOLIC ACID DEFICIENCY HARMFUL IN LATE PREGNANCY

Steven H. Zeisel, MD '75, PhD, Professor of Nutrition and Pediatrics at Schools of Medicine and Public Health, and Chairman of the Department of Nutrition at the University of North Carolina in Chapel Hill, is senior author of a study of the effect of folate deficiency upon proliferation of progenitor cells in the fetal mouse brain. Folate deficiency decreased the number of progenitor cells undergoing cell replication in the ventricular zones of the developing mouse brain septum, caudate putamen, and neocortex, and increased the number of apoptotic cells in the fetal septum. The authors concluded that progenitor cells in the fetal forebrain are sensitive to maternal dietary folate in late gestation. (CN Craciunescu et al., *J Nutr* 2004; 162-6.)

MICROGRAVITY-INDUCED ORTHOSTATIC INTOLERANCE

Microgravity-induced orthostatic intolerance (OI) remains a major physiologic effect of space travel. **Richard J. Cohen, MD, PhD '76,** the Whitaker Professor in Biomedical Engineering at HST and MIT, is senior author of a report of the use of a cardiovascular system identification technique to quantify sympathetic and parasympathetic responsiveness in the evaluation of OI in response to simulated microgravity. After 29 healthy male subjects underwent days of head-down-tilt bed rest, both their sympathetic and parasympathetic responsiveness were impaired. Furthermore, a lower sympathetic responsiveness and a higher parasympathetic responsiveness before bed rest identified individuals at greater risk of OI after bed rest. (X Xiao, et al., *J Appl Physio* 2004; 96: 489-97.)

Xinshu Xiao, PhD '04, Thomas J. Mullen, PhD '98, and **Craig D. Ramsdell, MD, MA (CITP '01)** are co-authors.

NEW VOICE-SAVING TREATMENT

Steven M. Zeitels, MD, HST affiliated faculty and Associate Professor of Otology and Laryngology at HMS and MEEI, is first author of a report of a new treatment for glottal papillomatosis and dysplasia, using the 585-nm pulsed dye laser delivery system and local anesthesia. This method permits normalization of diseased mucosa without resection or substantial loss of vocal function. Disease involution was accomplished in half of 77 cases, and voice was improved in 45 percent. **Robert E. Hillman, PhD** and **R. Rox Anderson MD '84,** both HST affiliated faculty members, are co-authors. (SM Zeitels et al., *Ann Otol Rhinol Laryngol* 2004; 113: 265-76.)

CAFFEINE MAY INCREASE PERFORMANCE

HST affiliated faculty member **Charles Czeisler, MD, PhD** co-authored a study of the effects of frequent low doses of caffeine on performance during extended wakefulness. In this study, 16 healthy young men received the caffeine equivalent of two ounces of coffee every hour. Rising levels of caffeine attenuated wake-dependent deterioration of measures of cognitive performance and enhanced the ability to remain awake for extended periods. The authors of this study considered the data compatible with the hypothesis that adenosine is a mediator of decreases in performance associated with extended wakefulness. (JK Wyatt et al., *Sleep* 2004; 27: 374-81.) Czeisler is the Frank Baldino, Jr., PhD Professor of Sleep Medicine and Director of the Division of Sleep Medicine at BWH.

COMPUTATIONAL APPROACH TO GENOME-WIDE GENE EXPRESSION

Martha L. Bulyk, PhD, Assistant Professor of Medicine and Pathology at HMS, HST and BWH, described a computational approach that has been applied toward understanding patterns of gene expression on a genome-wide scale. Based on the idea that groups of genes are co-regulated, Bulyk's team used position weight matrices for a group of known transcription factors to generate predictions that were tested by introducing gene disruptions (knockouts). The authors propose that the method will be generally applicable to study regulatory phenomena in a number of organisms. (ML Bulyk et al., *Genome Res* 2004; 14: 201-8.)

Ken Stevens

(continued from page 1)

in more than 165 papers, has made significant contributions to all subdisciplines of speech and hearing.

A New England-style clambake was held at Thompson Island in Boston Harbor Saturday evening. Stevens was feted in the presence of family, friends, colleagues and former students, many of whome have gone on to hold leading positions in academia and industry. After half a century, Stevens is still active as a teacher, mentor and research scientist.

The conference closed with the 2004 IEEE James L. Flanagan Speech and Audio Processing Award. Stevens is the co-recipient (with Gunnar Fant of KTH in Stockholm) for his "fundamental contributions to the theory and practice of acoustic phonetics and special perception."

Alumnus Profile

Bringing space to the public

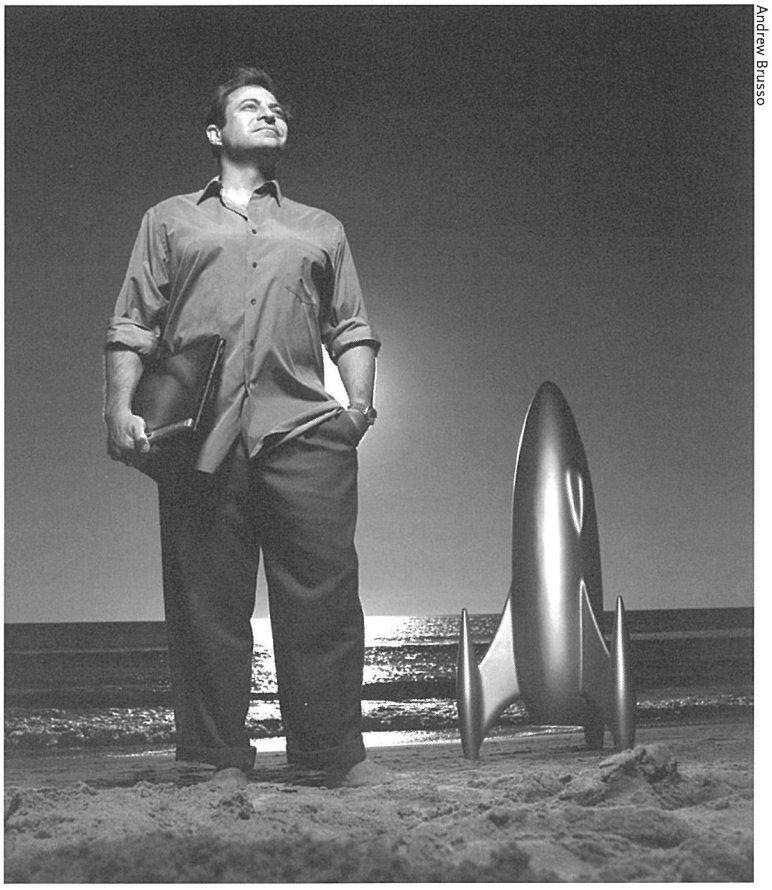
Sending the public to space

By Christopher E. Carr

The efforts of Peter H. Diamandis, MD '89 to advance space tourism are soaring to new heights. Passengers can now book a seat on his G-Force One™ aircraft to experience weightlessness firsthand, his $10 million Ansari X Prize award for private suborbital spaceflight may soon by won, and more prizes are in the works.

Zero-Gravity Corporation, of which Diamandis is Chairman and CEO, recently received FAA approval for the first commercial license to provide parabolic flights to the public. Passengers will experience weightlessness in a 70 foot-long 'floating zone' for up to 30 seconds during each of 20 parabolas flown by the modified Boeing 727-200 aircraft. Tickets are now available for flights scheduled later this year for about $3,000.

If parabolas aren't enough, how about earning your astronaut wings on an X Prize vehicle?



Andrew Brusso

Peter H. Diamandis, MD '88 is Chairman, President and one of the founders of the Ansari X Prize. He is also Chairman and CEO of Zero-Gravity Corporation.

As one of the creators of the X Prize, Diamandis set out to "create a future in which the general public will personally participate in space travel and its benefits." The prize, a $10 million award for the first privately funded team to build and fly a spaceship capable of carrying three people to 100 kilometers twice within a two-week period, may soon be won.

Several competitors, including Burt Rutan's team at Scaled Composites, recently began flight testing. By piloting Rutan's SpaceShipOne™ vehicle to 100.8 kilometers on June 21, test pilot Mike Melvill earned his astronaut wings and became the first civilian to fly a private craft into space. While the prize expires at the end of the year, success seems tantalizingly close.

Modeled in part after the X Prize, NASA's new Centennial Challenges program aims to spur aeronautical innovation through prizes for achievements as varied as technology development and orbital spaceflight. In addition, the report released on June 4 by the President's Commission on the Implementation of United States Space Exploration Policy calls for the use of prizes to encourage commercial space activity, and cites the potential for investment leverage: those who compete for the $10 million X Prize may have invested as much as $400 million in technology development, a 40:1 payoff.

To catalyze continued development of private space activities, Diamandis has now partnered with the New Mexico Office of Space Commercialization to develop the X Prize Cup. This annual event, to be held at the Southwest Regional Spaceport, will include a public spaceflight exhibition and a series of space vehicle competitions for cash prizes and the X Prize Cup Trophy.

MEMP student Christopher E. Carr is a research assistant in the MIT Man-Vehicle Lab, where Diamandis earned his SM after receiving his MD MD from HST. As a student in an Aero/Astro space systems engineering class, Carr participated in the MIT-hosted X Prize University Design Competition in 1998.

As one of the creators of the X Prize, Diamandis set out "to create a future in which the general public will personally participate in space travel and its benefits."

Alumni News

1970s

Vikas P. Sukhatme, MD, PhD '79, the Victor J. Aresty professor of Medicine at HMS and BIDMC, is co-PI of NCI's first Specialist Program of Research Excellence (SPORE) grant in kidney cancer research.

1980s

Judah Z. Weinberger, MD, PhD '80, Associate Professor of Medicine and Pharmacology at the Columbia University College of Physicians and Surgeons, presented "An Update of Percutaneous Therapies for Coronary Artery Disease" at a New York-Presbyterian Review Course in June.

Michael T. Bailin, MD '84, has been named Anesthesiologist-in-Chief at the Miriam Hospital in Providence, a teaching affiliate of Brown University Medical School. Until last year, Bailin was Assistant Professor of Anesthesia at HMS and MGH, and the Chief of Anesthesiology at Saint Vincent's Hospital in Worcester, Mass. An active HST alumnus, he served on the HST advisors committee and remains active as a premedical advisor at MIT. He lives in Providence and in Wellesley, Mass., with his wife, Trish, and three sons, Adam, Seth and Matthew.

W. Mark Saltzman, PhD '87 is the author of *Tissue Engineering: Engineering Principles for the Design of Replacement Organs and Tissues*, published by Oxford University Press in June. Saltzman is the Goizueta Foundation Professor of Chemical and Biomedical Engineering at Yale University.

Barry P. Sleckman, MD, PhD '89 was elected to membership in the American Society of Clinical Investigation this spring. He is Associate Professor of Pathology and Immunology at Washington University in St. Louis. His laboratory is primarily interested in elucidating the molecular basis of T lymphocyte development and lineage commitment.

1990s

Andrew Freese, MD '90, PhD recently left Philadelphia for the University of Minnesota, where he is Professor and Vice Chairman of Neurosurgery and Director of the Neurosurgery Spine Center. He is also a member of the Institute of Human Genetics at the university.

He writes, "My research interests focus on gene therapy for spinal disorders, inherited neurometabolic diseases and pituitary adenomas. My clinical focus is on disorders of the spine, including complex reconstruction, tumors, degenerative and traumatic conditions, and others. I am married to Marcia Geary Freese, and we now have four children: Jack (11), Lyssa (10), Timmy (8) and Matt (5), who will attend the Breck School. We live in Orono, on Lake Minnetonka."

Natacha DePaola, PhD '91 was promoted to Professor of Biomedical Engineering at Rensselaer Polytechnic Institute. Her research focuses on biofluid dynamics, cellular mechanics and tissue re-engineering.

LeAnn Marie Lesperance, MD, PhD '95, currently Clinical Instructor in Pediatrics at HMS and CHMC, is moving to Binghamton, N.Y.

She writes, "I will be a Clinical Assistant Professor in the Department of Pediatrics at SUNY Upstate Medical University, teaching at the Binghamton Clinical Campus, and a Lecturer in the Department of Bioengineering at Binghamton University. I will also do clinical pediatrics, and will continue writing for Harvard Health Publications/Intelihealth."

Jack W.-L. Tsao, MD '97 has moved from Jacksonville, Fla., to Bethesda, Md. He is staying in the U.S. Navy to do research at the Uniformed Services University of the Health Sciences. His wife, Joan, is doing a fellowship in pediatric endocrinology.

Vamsi Mootha, MD '98 received a Burroughs Wellcome Fund Career Award in the Biomedical Sciences. One of 16 biomedical scientists selected by the BWF, he will receive $500,000 over five years. Mootha is currently a postdoctoral fellow at the Broad Institute and Instructor in Medicine at HMS. His work uses genomics, proteomics and computation to decipher the cell's instructions for making mitrochrondria.

2000s

Daniel C. Mazzucco, PhD '04 received the 2004 John Charnley Award from the Hip Society. This award recognizes innovative research leading to important advances in the management of hip disorders. Mazzucco presented his work to the Society's annual meeting this spring under the title "The Role of Joint Fluid in the Tribology of Total Joint Arthroplasty." Tribology is the science of the mechanism of friction, lubrication and wear of interacting surfaces. This work was done in the laboratory of Myron Spector, PhD, HST affiliated faculty and Professor of Orthopedic Surgery (Biomaterials) at HMS and BWH. (For a recent article, see D Mazzucco et al., *Biomaterials* 2004; 25: 4453-45.)

Graduating with honors

HST's MD Class of 2004 received 11—or 52 percent—of the 21 honors given at HMS's graduation.

cum laude

Ronald Chen
Brian Graham
Liyun Li
Stephanie Misono
Ngoc Phan
Lucy Shen

magna cum laude

Jeffrey Chung
Anna Greka
Vikram Kumar
Yvonne Ou
David Ting

New Faculty

(continued from page 1)

cine and Health Sciences and Technology at HMS and HST, as well as Director of Hepatology at BWH.

Collin M. Stultz, MD, PhD '97 is a biophysicist with expertise in computational analysis of protein folding, complementing HST's computational biology thrust. He is Assistant Professor of Health Sciences and Technology at HST and Assistant Professor of Electrical Engineering and Computer Science at MIT. His research interests revolve around understanding conformational changes in macromolecules and the effect of structural transitions on common human diseases. His laboratory employs an interdisciplinary approach that utilizes techniques drawn from computational chemistry, signal processing, and basic biochemistry.

Prior to becoming a faculty member at MIT, Stultz completed a post-doctoral fellowship at Harvard University, during which he used computer simulations to examine ligand-induced conformational changes in phospholipase-A2. He also worked with HST Professor Elazer R. Edelman, MD, PhD on novel methods to understand the role of collagen degradation in atherosclerosis.

"We're very excited to have Elfar, Collin, and David on board," said Lee Gehrke, HST Associate Director for Faculty. "They will deepen and broaden HST's research portfolio as well as bring fresh ideas and enthusiasm to the Division."

Fall 2004

The Connector

HST

newsletter for graduates, students, faculty and friends of the Harvard-MIT Division of Health Sciences and Technology

New faculty members join HST

HST is proud to welcome new members to its core faculty, all of whose research complements the Division's thrust areas.

Elfar Adalsteinsson

David E. Cohen

Collin M. Stultz

Elfar Adalsteinsson, Assistant Professor of Health Sciences and Technology at HST, specializes in data acquisition for image analysis, focusing on optimal methods for acquisition, reconstruction and processing of *in vivo* imaging data. His interests include techniques for efficient sampling and spatial encoding of spectroscopic magnetic resonance data, whereby small signals yield information not observed with conventional structural imaging. Applications of these and related methods include a study of the progression of Alzheimer's disease and characterization of multiple sclerosis. He was was previously a member of the Richard M. Lucas Center for Magnetic Resonance Spectroscopy and Imaging at Stanford University, where he received his MS and PhD degrees in electrical engineering in 1991 and 1995, respectively. He received his bachelor's degree *summa cum laude* in electrical engineering from the University of Iceland in 1989. Also Assistant Professor of Electrical Engineering and Computer Science at MIT and a member of the Research Laboratory of Electronics, Adalsteinsson will divide his time between the MIT campus and the Martinos Center.

David E. Cohen, MD '88, PhD is an excellent match for the Regenerative Medicine thrust area because of his interests in liver function and "artificial" liver devices. As Associate Professor of Medicine and Biochemistry at Albert Einstein College of Medicine, he conducted research on the molecular mechanisms by which bile salts in the liver promote biliary secretion of cholesterol, important in the pathogenesis of gallstones and of atherosclerosis. His group also explored the impact of obesity upon the body's ability to eliminate cholesterol. Cohen is Associate Professor of Medi-

(continues on page 11)

GRADUATION '04

A record number of graduates received diplomas at the 30th HST Graduation Exercises on June 7.

The 75 awardees included the first four Masters of Science in the Biomedical Enterprise Program (BEP), who also received degrees from the Sloan School of Management.

MIT Provost Robert A. Brown, PhD gave the graduation address. In his remarks he stressed the importance of profession, diversity, balance and impact.

Giving the student address was Jeffrey H. Chung, MD '04, who graduated *magna cum laude* and is headed for residency in medicine at MGH. He characterized HST as standing for "Harder, Smarter and Tougher."

Student and teaching awards followed the speeches. Liyun Li, MD '04 recevied HST Society's Multiculturalism and Diversity Award. The Directors' Awards went to Adrian H. Gottschalk, MS '04 for his outstanding contributions

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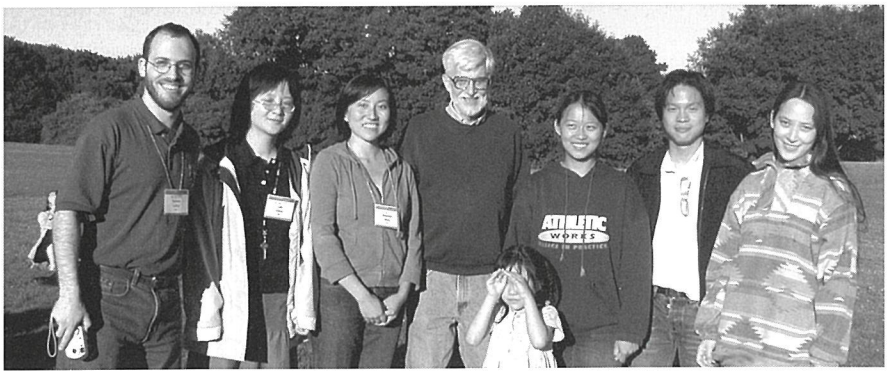
Speech and hearing conference pays homage to Ken Stevens



Honoring Ken Stevens *(center)* at the conference included *(from left)* Steven Lulich, Lan Chen, Xiaomin Mou, Stevens' daughter Kendra, Xuemin Chi, Atiwong Suchato, and Elisabeth Hon.

Nearly 300 participants from more than 15 countries attended "From Sound to Sense: 50+ Years of Discoveries in Speech Communication," held at MIT's new Stata Center June 11-13. *(See also Connector, Spring 2004, p2)*

This conference was held in honor of Kenneth M. Stevens, ScD, the Clarence J. Lebel Professor of Electrical Engineering at MIT and HST, who celebrates his 89th birthday this year and will celebrate 50 years on the MIT Faculty in 2005.

Oral presentations and posters addressed all aspects of speech and hearing, including phonetics, acoustics, perception, development, disorders, synthesis and recognition. Stevens,

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