

H. Thomas Aretz, M.D.
Vice President, Global Programs at Harvard Medical International
Associate Pathologist, Massachusetts General Hospital
Associate Professor of Pathology, Harvard Medical School

Dr. Aretz joined Harvard Medical International in 1999. He has oversight responsibility for programs and alliances around the world focusing on medical education at all levels, and he is part of the senior management group.

Dr. Aretz was the course director of a major integrated medical school course at Harvard from 1992 to 2005. He is a Program Director for the Harvard Macy Institute, and has been involved in international programs since 1996.

Dr. Aretz is a native of Germany, and has been in the academic practice of cardiovascular pathology, since 1981, having done research in a variety of areas in cardiovascular pathology. His clinical appointment is at the Massachusetts General Hospital. He has served on many academic and hospital (IRB chairman) committees and industrial boards. He is the cofounder of three medical technology companies.

Dr. Aretz received his M.D. degree from Harvard Medical School, and completed his post-doctoral training in pathology and cardiovascular pathology at the Massachusetts General Hospital in Boston. He is certified in anatomic and clinical pathology by the American Board of Pathology. He has lectured and published extensively and has received multiple teaching awards at Harvard Medical School and the Massachusetts General Hospital, and he has recently been named an “Ehrenbürger” (honorary citizen) of the Ludwig Maximilians University in Munich.

Dr. Aretz has programmatic experience in the following countries: Australia, Belize, Brazil, Canada, China, Croatia, Dominican Republic, Egypt, France, Germany, Greece, Hong Kong, India, Ireland, Italy, Japan, Korea, Kuwait, Lebanon, Malaysia, Netherlands, Philippines, Qatar, Saudi Arabia, Singapore, Sweden, Switzerland, Thailand, Turkey, UAE, and United Kingdom.

David E. Golan, M.D., Ph.D.,
Professor of Biological Chemistry and Molecular Pharmacology, Professor of Medicine, and
Scholar and Founding Member of The Academy at Harvard Medical School, and Physician
in Medicine at Brigham and Women's Hospital and the Dana-Farber Cancer Institute.

He leads the Human Pharmacology Program in the Harvard Medical School Scholars in Clinical Science Program and serves on the steering committees of the Harvard Macy Institute Program for Physician Educators and the International Medical Education Alliances Group of Harvard Medical International. He also chairs the steering and curriculum committee of the new Harvard Graduate Program in Human Biology and Translational Medicine.

Dr. Golan received the A.B. *summa cum laude* in Chemistry from Harvard University (1975) and the M.D. (1979) and Ph.D. in Molecular Biophysics and Biochemistry (1982) from Yale University. He served as Intern and Resident in Internal Medicine (1979-83) and Research and Clinical Fellow in Hematology and Oncology (1983-85) at Brigham and Women's Hospital. He is Board certified in Internal Medicine and Hematology.

Dr. Golan is an elected member of the American Society for Clinical Investigation and a recipient of a Merit Award from the National Institutes of Health. He has received the Alpha Omega Alpha Robert J. Glaser Distinguished Teacher Award from the Association of American Medical Colleges (2005) and ten awards for excellence in teaching from Harvard Medical School.

Dr. Golan has served as a member of the Applied Pharmacology and Pharmacology Test Materials Development Committees of the National Board of Medical Examiners (1996-2001). He has consulted on the development of new medical curricula at the Cleveland Clinic Lerner College of Medicine in Cleveland, Ohio and in Mendoza, Argentina, Dresden, Germany, Lisbon, Portugal, and Shenyang and Ürümqi, China. He has served on the Medical/Scientific Advisory Boards of Alza Corporation (Palo Alto, California) and Cantata Pharmaceuticals (Cambridge, Massachusetts).

Dr. Golan's laboratory uses novel laser and video microscopy techniques to study the dynamic properties of single molecules and populations of molecules in cell membranes; the formation and dynamics of contact areas mediated by membrane-bound receptors and ligands; the roles of two-dimensional molecular binding affinity, lateral mobility, and cell activation pathways in modulating cell-cell adhesion; and the molecular mechanisms that underlie redistribution of cell signaling molecules in response to cell activation and adhesion. His research program explores fundamental biophysical mechanisms as well as clinical applications to diverse disease processes including vaso-occlusion in sickle cell disease, atherosclerosis in cardiovascular disease, and *Pseudomonas aeruginosa* colonization in cystic fibrosis. His bibliography includes 88 original research articles, 26 reviews and book chapters, 5 books and monographs, 2 patents, and print and non-print teaching materials in pharmacology and hematology.

Dr. Golan founded and directed the core course in pharmacology in the New Pathway curriculum at Harvard Medical School (1989-2006). He currently directs the Principles of Pharmacology for the Investigator course in the Scholars in Clinical Science Program and the Leder Medical Sciences Program at Harvard Medical School. He also teaches extensively in graduate pharmacology, toxicology, and biophysics courses at Harvard Medical School and the Harvard School of Public Health. He is Editor-in-Chief of a new textbook of pharmacology (*Principles of Pharmacology: The Pathophysiologic Basis of Drug Therapy*, Lippincott Williams & Wilkins, 2004 (1st Edition), 2007 (2nd Edition)). Dr. Golan attends on inpatient and consultation services in hematology at Brigham and Women's Hospital and he has a hematology outpatient clinic at Dana-Farber Cancer Institute. He has served as Co-Director of the Harvard-MIT MD-PhD Program (2000-2003), and he has mentored 18 postdoctoral trainees and visiting professors, 12 medical and graduate student trainees, and 15 research assistants and undergraduate students.

Adrian J Ivinson, Ph.D.

The founding Director of the Harvard Center for Neurodegeneration and Repair (HCNR)

HCNR is a broad-reaching program to enhance basic and applied neuroscience research at Harvard Medical School and its affiliated teaching hospitals. By combining programs in basic and applied neuro imaging, drug discovery, bioinformatics, clinical trials and genetics research, the HCNR advances our understanding and treatment of Alzheimer's disease, Parkinson's disease, multiple sclerosis, ALS and other neurodegenerative diseases.

The HCNR has 500+ members from nine institutions and collaborates closely with researchers from an additional 14 institutions. The HCNR research focus is understanding at the molecular and cellular level the causes of neurodegeneration, and translating that understanding into clinically relevant advances. Major initiatives include early stage pilot clinical trials, assay development, high throughput screening and medicinal chemistry, and large scale genetic association studies.

Prior to joining the HCNR, Dr. Ivinson was a Special Assistant to the Provost at Harvard University and Deputy Director of a new project on technology and ethics. In 1993, Dr. Ivinson began his eight year tenure with the Nature Publishing Group where he served as Senior Editor, Editor in Chief, and Publisher of the monthly journals including: *Nature Genetics*, *Nature Biotechnology*, *Nature Neuroscience* and *Nature Medicine*. During his time as Editor in Chief, *Nature Medicine* was the most cited biomedical research journal in the world.

After completing undergraduate studies at the University of Aberdeen, and a Masters degree in Medical Genetics at Glasgow University in 1986, he joined the Department of Medical Genetics at the University of Manchester, England and was awarded a Ph.D. in 1991. Concurrent with his Ph.D. studies, he worked within a National Health Service molecular genetics laboratory developing prenatal and diagnostic tests for genetic disorders and organ transplantation services.

Dr. Ivinson's interest in biomedical research includes building open, collaborative research environments, biomedical ethics and the issue of public engagement in biomedical science. He serves as an advisor on a variety of boards including: the Program in Applied Ethics and Biotechnology at the University of Toronto, the UCLA Graduate Training Program in Translational Investigation, the Boston's Museum of Science Health Science Education Partnership, and the Massachusetts General Hospital Alzheimer's Disease Research Center advisory council. He regularly visits middle and high school classrooms to talk about biomedical research and inspire the next generation of scientists.

He lives in Massachusetts with his wife, an artist, and their three daughters.

Tomas Kirchhausen, Ph.D.
Professor of Cell Biology and Principal Investigator at the CBR Institute for Biomedical Research, Harvard Medical School

Dr Kirchhausen received his undergraduate degree in Biology from the Universidad Peruana Cayetano Heredia in 1972 and earned his Ph.D. in Biophysics from the Instituto Venezolano de Investigaciones Cientificas in 1977.

The Kirchhausen Lab research focuses on the processes that mediate and regulate the movement of membrane proteins throughout cells. In particular the molecular mechanisms that underlie the cell's sorting machineries responsible for receptor-mediated endocytosis and for secretion are studied. Also studied is the question of protein networks; their regulation and signal-integration linking the spatial organization of the cortical cytoskeleton in cell with cell migration and growth, antigen presentation and vesicular traffic.

These efforts led to the first structure determination at atomic resolution of clathrin. The Lab determined the structure of its amino-terminal portion, a region critical for interactions controlling coat assembly and cargo sorting. The Lab continued with this structural approach and determined the mode of interaction of b-arrestins and adaptors with clathrin, determined the atomic structure of a clathrin adaptor, unveiled the basic structure of the triskelion leg and established the way triskelions pack when they form the clathrin coat (<http://cbr.med.harvard.edu/investigators/kirchhausen/lab/research.html>).

Currently the Lab is using biochemical and cell biological approaches to examine how adaptors recognize the membrane receptors that are specifically recruited into a clathrin coated pit, and how HIV Nef activates the endocytosis of the HIV receptor CD4 and of MHC class I; processes that are intimately linked to development of disease.

The Lab recently began focusing on two new research directions for probing mechanisms in vesicular membrane traffic and protein-protein interactions. They involve the development of medium throughput screens to identify chemicals that interfere with membrane traffic and the implementation of live-cell imaging methods to visualize intracellular traffic in real-time.

With these studies Kirchhausen expects to obtain molecular movies, new frameworks for analyzing some of the molecular contacts and switches that participate in the regulation, availability and intracellular traffic of the many molecules involved in signal transduction, immune response, lipid homeostasis and cell-cell recognition.

Anthony L. Komaroff, M.D.

**The Steven P. Simcox, Patrick A. Clifford and James H. Higby Professor of Medicine
Editor-in-Chief of Harvard Health Publications**

As Editor-in-Chief of Harvard Health Publications (HHP), Dr Komaroff is responsible for all Harvard Medical School's consumer health publishing—including books, newsletters, magazine columns (including many articles published in *Newsweek* since 2001), and a weekly newspaper column syndicated by United Features Syndicate. HHP also is editorially responsible for the Aetna IntelliHealth Web site, and creates content that is part of the Health Sections of the MSN.com and Yahoo.com portals.

The Steven P. Simcox/Patrick A Clifford/James H. Higby Professor of Medicine at Harvard Medical School, and Senior Physician at Brigham and Women's Hospital, Dr Komaroff is a practicing primary care physician and diagnostic consultant. Prior to his appointment as head of HHP in 1996, Dr. Komaroff was Director of the Division of General Medicine at Brigham and Women's Hospital for 15 years. During this period, Dr. Komaroff built one of the world's renowned academic general medicine units.

Dr. Komaroff is the founding editor of *Journal Watch*, a publication of the Massachusetts Medical Society/*New England Journal of Medicine*. *Journal Watch* summarizes for practicing doctors the latest research from the top journals of medicine and biology, and is the most successful publication of its type.

From 1982-1987, Dr. Komaroff was also the chief information officer of Brigham and Women's Hospital, and was administratively responsible for entirely rebuilding all the Hospital's computer systems—the systems used for medical care and the financial systems. Those systems form the core of the clinical information systems that today are used throughout the Partners HealthCare system and received the Smithsonian Institution's highest award for technological innovation.

Dr. Komaroff has been a pioneer in several different fields of research. He has published over 230 articles and book chapters and 2 books covering:

- The development of algorithms to define medical practice strategies
- Computer systems in medical care
- Cost-effectiveness analysis of general internal medicine conditions
- The causes, diagnosis, and treatment of some of the most common problems in medicine: sore throat, urinary infections in women, community-acquired pneumonia, and fatigue.

Dr. Komaroff is responsible for teaching medical students, medical residents, and fellows. He teaches clinical medicine at Brigham and Women's Hospital, and also teaches a course in health policy at Harvard Medical School and Harvard School of Public Health.

After receiving his undergraduate degree from Stanford University (Phi Beta Kappa), Dr. Komaroff obtained his M.D. (Alpha Omega Alpha) from the University of Washington School of Medicine. His internship and residency were at the Harvard-affiliated services of Cambridge City Hospital, Cambridge, MA and Beth Israel Hospital, Boston, MA, following which time he joined the Harvard faculty.

In recognition of his contributions, Dr. Komaroff has been elected a fellow of the American Association for the Advancement of Science, the American College of Physicians, and the Association for Health Services Research. He has served on advisory committees for the U.S. Department of Health and Human Services, the Surgeon General of the United States, the U.S. Centers for Disease Control and Prevention in Atlanta, and the U.S. Institute of Medicine/National Academy of Sciences.

Amanda Pullen, Ph.D.
VP Knowledge Management & Communications, HMI
Executive Director, Giovanni Armenise-Harvard Foundation

Dr. Pullen is a member of HMI's senior management team and responsible for the development and oversight of HMI's knowledge management and communications initiatives. She is Executive Director of the Giovanni Armenise-Harvard Foundation for Scientific Research. The Foundation is responsible for funding basic scientific programs at Harvard Medical School and for funding collaborative research with Italian scientists. Dr Pullen is also on the Board of the Dubai Harvard Foundation for Medical Research – an organization that she helped to found.

Prior to joining HMI and the Foundation, Dr. Pullen set up the European office of Project HOPE where she developed national fundraising entities in Western Europe to support medical education programs in Eastern Europe and the former Soviet Union. She also worked for the clinical research division of Glaxo Pharmaceuticals, and subsequently the marketing division where she launched Glaxo's National Health Service Relations team, the first team in the UK pharmaceutical industry to be dedicated to health service management communications.

A graduate of London University, Dr. Pullen received her Ph.D. in Cardiovascular Physiology from St. George's Hospital Medical School. Following her postgraduate work, she was a Research Fellow for IBM in London on hospital-based computer enhanced diagnostic imaging technologies and subsequently coordinated multi-centered clinical trials.

Dr. Pullen has programmatic experience in the following countries: Brazil, China, Czech Republic, Germany, India, Italy, Korea, Poland, Russia, Slovakia, Spain, Switzerland, Thailand, UAE, United Kingdom and Zimbabwe

Miles F. Shore, M.D.

**Senior Consultant and Director, Harvard Medical International
Bullard Distinguished Professor of Psychiatry, Harvard Medical School
Visiting Scholar, Kennedy School of Government, Harvard University**

Dr. Shore joined Harvard Medical International in 1999 to provide leadership in developing executive education programs and consultation concerning health policy and management issues. After 17 years directing the Massachusetts Mental Health Center, a major Harvard psychiatric teaching and research program, in 1993 Dr. Shore moved to the Kennedy School of Government as Visiting Scholar. There Dr. Shore co-directed an executive education program in health policy for physicians and health care. He lectured and conducted seminars on health policy, mental health policy, and taught a course on leadership skills.

Dr. Shore began his psychiatric teaching career at Harvard and in 1964 became Director of Community Psychiatry and the Tufts Mental Health Center at Tufts University School of Medicine. He was appointed Professor of Psychiatry at Tufts in 1971 and, a year later, Associate Dean for Community Affairs and Director for Community Health and Ambulatory Care at the New England Medical Center Hospital. In 1975 he returned to Harvard as Bullard Professor of Psychiatry and served as Superintendent of the Massachusetts Mental Health Center until June, 1993.

Dr. Shore has served as consultant to a wide variety of community agencies, clinics and hospitals in the U.S., Canada, and Saudi Arabia. He has taught about health and mental health policy in Canada, Iceland, Hong Kong, Australia, Holland, and Finland. From 1985 to 1992 he was director of the Program for Mental Illness of the Robert Wood Johnson Foundation, and was president of the American College of Psychiatrists in 1997. He has served on the boards of a number of professional and not-for-profit agencies.

Dr. Shore is a graduate of Harvard College and Harvard Medical School, trained in psychiatry at the Massachusetts Mental Health Center and Boston Beth Israel Hospital, and is a graduate of the Boston Psychoanalytic Institute.