



Harvard Medical School – Portugal

An international collaboration in graduate education and biomedical research oriented towards raising public awareness of scientific knowledge leading to improved human behavior and quality of life

Launch of the Assessment Phase of the HMS/Portugal Collaboration

Agenda: 16-19 April 2007

1. April 16: 9:30 am - 5:30 pm, Launching Session

Pavilhão do Conhecimento – Ciência Viva, Lisbon

Meeting with the Deans of the Schools of Medicine and the Directors of Associate Laboratories in the area of health sciences, together with the President of the Council of Rectors, the President of the Portuguese Academy of Medicine, the President of the Portuguese Knowledge Society Agency, UMIC (Information infrastructure), and the Director of “Ciência Viva” Agency (Public understanding of science). Brief presentations from HMS and all the Portuguese institutions are expected, which will be followed by discussion.

The meeting will include a session between 12am and 1pm with Minister JM Gago, during which the MoU will be signed.

- 9:30 am: Introductory remarks, presentation by HMS, presentations by Portuguese Institutions and discussion
- 12:00 pm: Meeting with Minister JM Gago and MoU Signing Ceremony
- 1:00 pm: Lunch break
- 2:00pm: Cont.: presentation by HMS, presentations by Portuguese Institutions and discussion
- 5:30 pm: closure

2. April: 17: visits to the Schools and Associate Laboratories in Lisbon:

- School of Medicine, University of Lisbon, UL
- Institute for Molecular Medicine, IMM, Associate Laboratory
- School of Medical Sciences, New University of Lisbon, UNL
- ITQB/IBET/IGC, Associate Laboratory, Oeiras
- UMIC, The Knowledge Society Agency that will be in charge to plan with HMS the information infrastructure to deliver future contents.

3. April 18 and 19: visits to the Schools and Associate Laboratories in Coimbra, Porto, Braga e Covilhã (with stay in Porto):

- School of Medicine, University of Coimbra, UC
- Centro de Neurociências e Biologia Celular, CNC, Associate Laboratory
- IBMC, Associate Laboratory, Porto
- School of Health Sciences, Universidade do Minho
- School of Medicine, University of Porto, UP
- Instituto de Ciências Biomédicas de Abel Salazar, University of Porto, UP
- IPATIMUP, Associate Laboratory, Porto
- School of Medical Sciences, Universidade da Beira Interior



Launch of the Assessment Phase of the HMS/Portugal Collaboration

Detailed Agenda

16 April 2007, 9:30 am - 5:30 pm
Pavilhão do Conhecimento – Ciencia Viva, Lisbon

- 9:30 am: Introductory Remarks – Introducing the HMS/Portugal Collaboration
- **Manuel Heitor**, Secretary of State of Science, Technology and Higher Education
 - **Robert K. Crone**, Harvard Medical International
 - **António Rendas**, Portuguese Council of Rectors, CRUP
 - **Alexandre Quintanilha**, Secretary, Council of Associate Laboratories
- 10:00 am: Practices in the dissemination of medical contents: Fostering the public understanding of science
- **Rosalia Vargas**, Ciencia Viva
 - **H. Thomas Aretz**, Global Programs at Harvard Medical International
 - **Anthony L. Komaroff**, Harvard Health Publications
 - **João Lobo Antunes**, Portuguese Academy of Medicine
 - **Arsélio Pato de Carvalho**, Centre for Neurosciences and Celular Biology, CNC
- 10:30am: Presentations by Portuguese Institutions and discussion
(15 min each, including discussion)
- School of Medicine, University of Porto, UP
 - Instituto de Ciências Biomédicas de Abel Salazar, University of Porto, UP
 - IBMC, Associate Laboratory, Porto
 - IPATIMUP, Associate Laboratory, Porto
 - School of Health Sciences, Universidade do Minho
- 11:45 am: Coffee break
- 12:00 pm: MoU Signing Ceremony and Press Conference
- **Manuel Heitor**, Secretary of State of Science, Technology and Higher Education
 - **António Rendas**, Portuguese Council of Rectors, CRUP
 - **Alexandre Quintanilha**, Secretary, Council of Associate Laboratories
 - **Anthony L. Komaroff**, Harvard Health Publications
 - **H. Thomas Aretz**, Global Programs at Harvard Medical International
 - **Robert K. Crone**, Harvard Medical International
 - **José M. Gago**, Minister of Science, Technology and Higher Education
- 1:00 pm: Lunch break
- 2:00pm: Presentations by Portuguese Institutions and discussion (cont.)
(15 min each, including discussion)
- School of Medical Sciences, Universidade da Beira Interior
 - School of Medicine, University of Coimbra, UC
 - Centre for Neurosciences and Celular Biology, CNC, Associate Laboratory
 - School of Medical Sciences, New University of Lisbon, UNL
 - ITQB/IBET/IGC, Associate Laboratory, Oeiras
 - School of Medicine, University of Lisbon, UL
 - Institute for Molecular Medicine, IMM, Associate Laboratory
- 3:45pm: Information infrastructure for content delivery
- **Luis Magalhães**, UMIC, The Knowledge Society Agency
- 4:00 pm Coffee Break
- 4:15pm: Open discussion
- **João Sentieiro**, Portuguese Science Foundation, FCT
 - **Tomas Kirchhausen**, CBR Institute for Biomedical Research
 - **David E. Golan**, Co-Director, M.D.-Ph.D. Program, all at the Harvard Medical School
 - **Adrian J. Ivinson**, Harvard Center for Neurodegeneration and Repair (HCNR),
 - **Tiago Fleming Outeiro**, Massachusetts General Hospital
- 5:30 pm: closure

Launch of the Assessment Phase of the HMS/Portugal Collaboration

Detailed Agenda of visits: 17-19 April 2007

April 17: Visits to the various Schools and Associate Laboratories in Lisbon:

HMS's Delegation: Thomas Aretz, Robert Crone, David Golan, Adrian Ivison, Tomas Kirchhausen, Anthony Komaroff, Tiago Outeiro.

- 8.30am – 9.30am: Meeting with the President of UMIC (Knowledge Society Agency), that will be in charge to plan with HMS the information infrastructure to deliver future contents (in the hotel).
- 10.00am – 11.30pm: School of Medicine, University of Lisbon, UL
- 11.30pm – 1.00pm: Institute for Molecular Medicine, IMM, Associate Laboratory
Lunch at IMM
- 2.45pm – 4.15pm: School of Medical Sciences, New University of Lisbon, UNL
- 4.45pm – 7.00pm: ITQB/IBET/IGC, Associate Laboratory, Oeiras (two sites)

April 18: Visits to the various Schools and Associate Laboratories in Coimbra and Porto (with stay in Porto):

HMS's Delegation: Thomas Aretz, David Golan.

- 10.00am – 11.30am: School of Medicine, University of Coimbra, Coimbra
- 11.45am – 1.15pm: Neurosciences and Cellular Biology Centre, CNC, Associate Laboratory, Coimbra
Lunch at CNC
- 3.30pm – 5.00pm: IBMC, Associate Laboratory, Porto
- 5.30pm – 7.00pm: School of Health Sciences, University of Minho, Braga
Dinner at School of Health Sciences

April 19: Visits to the various Schools and Associate Laboratories in Porto and Braga:

HMS's Delegation: Thomas Aretz, David Golan.

- 9.00am – 10.30am: School of Medicine, University of Porto, UP
- 10.45am – 12.15pm: IPATIMUP, Associate Laboratory, Porto
Lunch at IPATIMUP, Associate Laboratory
- 1.30pm – 3.00pm: Biomedical Sciences Institute Abel Salazar, University of Porto, UP
- 5.30pm – 7.00pm: School of Medical Sciences, University of Beira Interior, Covilhã
Dinner at School of Medical Sciences

Faculty for the Launch of the Assessment Phase of the HMS/Portugal Collaboration

1. HMS's delegation for 16 and 17 April 2007, Lisbon

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.

Robert K. Crone, M.D. President and CEO, Harvard Medical International, Clinical Professor of Anesthesia and Dean for International Programs, Harvard Medical School

David E. Golan, M.D., Ph.D. Professor of Biological Chemistry and Molecular Pharmacology, Professor of Medicine, and Co-Director, M.D.-Ph.D. Program, all at the Harvard Medical School. He is also an attending Physician at Brigham and Women's Hospital and the Dana-Farber Cancer Institute.

Adrian J. Ivinson Ph.D. is the founding Director of the Harvard Center for Neurodegeneration and Repair (HCNR), a broad-reaching program to enhance basic and applied neuroscience research at HMS and its teaching hospitals.

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

Anthony L. Komaroff, M.D. Editor-in-Chief of Harvard Health Publications (HHP), responsible for all Harvard Medical School's consumer health publishing

Tiago Fleming Outeiro, Ph.D. is currently a Research Fellow in the Department of Neurology of the Massachusetts General Hospital – Harvard Medical School where he focuses on the study of Neurodegenerative disorders such as Parkinson's and Alzheimer's disease.

2. HMS's delegation for 18 and 19 April 2007: Coimbra, Porto and Covilhã.

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. **Thomas Aretz** will lead the faculty and will be the point of contact during the week.

David E. Golan, M.D., Ph.D. Professor of Biological Chemistry and Molecular Pharmacology, Professor of Medicine, and Co-Director, M.D.-Ph.D. Program, all at the Harvard Medical School. He is also an attending Physician at Brigham and Women's Hospital and the Dana-Farber Cancer Institute.

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.

Robert K. Crone, M.D.
President & Chief Executive Officer, Harvard Medical International
Dean for International Programs, Harvard Medical School
Clinical Professor of Anaesthesia, Harvard Medical School

Dr. Crone joined the Harvard Medical School faculty as Dean for International programs, and Clinical Professor of Anaesthesia in 1994, and is currently on the adjunct clinical staff at Children's Hospital. Dr. Crone provides the overall leadership and strategic direction of HMI and its programs. He interfaces with the Dean of Harvard Medical School, HMI's Board of Directors, and Harvard University's Central Administration on policy decisions, including decisions to engage in new projects.

Dr. Crone has extensive knowledge of medical education and health care provision around the world, in both public and private sectors. Prior to joining HMI, he was Senior Vice President for Medical Operations worldwide for Project HOPE from 1992 until 1995. Dr. Crone began his career in academic medicine at the Massachusetts General Hospital where he served as associate Director of Pediatric Intensive care from 1977 to 1980. In July, 1980 he was recruited to the Harvard-affiliated Children's Hospital, Boston, where he developed its first multidisciplinary intensive care unit and where he served as Director of Intensive Care Services, Respiratory Therapy and Vice President of the Medical Staff from 1980 to 1988. In 1988 he was recruited to the Seattle Children's Hospital and Medical Center and the University of Washington in Seattle, where he served as the Director of the Department of Anesthesiology and Professor of Anesthesiology and Pediatrics until 1992. In addition, from 1984 to 1992, Dr. Crone served as a volunteer physician educator and administrator of Project HOPE where he directed a program in pediatric intensive care at the University of Indonesia in Jakarta, and served as Medical Director for Humanitarian Assistance to the Soviet Union and later the Newly Independent States. During his tenures at Harvard Medical School and the University of Washington, Dr. Crone developed and led postgraduate training programs in pediatric intensive care and pediatric anesthesiology. In 1994, he returned to Harvard Medical School at the request of Dean Daniel Tosteson to found Harvard Medical International, a subsidiary, self-supporting not for profit unit of Harvard University dedicated to improving health care services and medical education throughout the world.

After attending the University of Buffalo from 1965 to 1968, he received his M.D. degree from Albany Medical College of Union University in Albany, New York in 1972, and completed his postdoctoral training in Pediatrics, Anesthesia and Intensive Care at Harvard Medical School, Massachusetts General Hospital, Children's Hospital-Boston, and the Cardiovascular Research Institute at the University of California at San Francisco. He is certified in Pediatrics, Anesthesiology and Critical Care by the American Boards of Pediatrics and Anesthesia, and has served as an examiner for the American Board of Anesthesia and a member of the Critical Care sub-board of the American Board of Pediatrics. He is a recognized authority and was named as one of America's Best Doctors in the fields of pediatric intensive care and pediatric anesthesiology in 1992. He has served on many national and local health care and university committees, and has lectured and published extensively nationally and internationally in his clinical fields of expertise as well as on topics in international health care delivery, medical education, and strategies for sustainable development. Dr. Crone is a member of the Governing Board of the Educational Commission for Foreign Medical Graduates (ECFMG) and serves on the USMLE Composite Committee of the National Board of Medical Examiners. He is also a founding member of the Board of Directors of Dubai Health Care City, the Dubai-Harvard Foundation for Medical Research and the Beijing International Medical Center.

In addition to his work in North America, he has lectured and implemented health education and delivery systems programs in: Argentina, Australia, Brazil, Colombia, Costa Rica, Croatia, Czech Republic, Ecuador, Estonia, France, Germany, Greece, Hungary, India, Indonesia, Ireland, Italy, Japan, Kazakhstan, Latvia, Lithuania, Mexico, the People's Republic of China, Peru, the Philippines, Poland, Russia, Saudi Arabia, Slovakia, Spain, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, Ukraine, the United Kingdom, Uzbekistan, Vietnam and Zimbabwe.

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.

Tiago Fleming Outeiro, PhD
Research Fellow
Department of Neurology, Massachusetts General Hospital

Tiago graduated in Biochemistry at the University of Porto and was an Erasmus student at the University of Leeds in the UK. He then did his PhD thesis at the Whitehead Institute for Biomedical research – MIT. Next, Tiago spent four months at FoldRx Pharmaceuticals working as a Research Scientist and Consultant. His work consisted of transferring the technology he developed and patented during his PhD. Tiago is now a Research Fellow in the Department of Neurology of the Massachusetts General Hospital – Harvard Medical School where he focuses on the study of Neurodegenerative disorders such as Parkinson's and Alzheimer's disease. Tiago is a co-founder of BioEPI Clinical and Translational Research Center, a start-up company in Portugal. He served as an expert evaluator for the VI Framework Program of the European Commission. Tiago was President of PAPS in 2005-2006, and is currently the President of the General Assembly of PAPS. Tiago is also vice-President of the International Forum of Portuguese Investigators (FIIP). Recently, Tiago was appointed as a group leader at the Institute for Molecular Medicine in Lisbon, where he will start his own research group.