



MESSAGE FROM THE DIRECTOR

I am pleased to update you on new CAIM activities and personnel items. In research, we look forward to increasing emphasis on translational medicine. This is taking several forms. We are moving into a new area, which has been referred to as computational medicine, translational informatics, systems medicine, and large-scale systems biology. The goal is to apply modeling techniques derived from physics, computer science, applied mathematics, and statistics to tissues, organ systems, organisms, and populations, collaborating with clinicians, clinical researchers, and public health workers.

We are working hard on informatics to support the clinical research enterprise, and we see targeted technology transfer opportunities. For example, the biomedical Informatics faculties, in collaboration with CAIM, are looking into transferring technology to the company that sells our clinical trials system (Velos). We hope to be one of the first medical centers in the country that actually links an institution-wide clinical trials system to its clinical information system. Bob Sideli, MD, CUMC Chief Information Officer and Associate Professor of Biomedical Informatics, is helping us with this effort. This all feeds into our Clinical and Translational Science Awards research effort, led by Stephen Johnson, PhD, Associate Professor of Biomedical Informatics.

We have an opportunity to work on the Millennium Villages Project, deploying electronic health records across Africa in collaboration with the Mailman School of Public Health and the Earth Institute. I am working with Dean Allan Rosenfield on this task.

We look forward to increased collaboration between the Department of Biomedical Engineering and the Department of Biomedical Informatics. Several students have been jointly advised by the two departments. On other fronts, grants have been submitted to work on automated patient recruitment for clinical trials, facilitating transitions of care, and integrating physician documentation with decision support.

The Computer Science Department has recently added two new faculty who are working in computational biology. Itsik Pe'er (computational biology, genomics, bioinformatics) and Dana Pe'er (computational biology, machine learning, biological networks, genomics and systems biology) join a growing effort in CSD. Chunhua Weng (informatics support for clinical research), Noemie Elhadad (natural language processing and health

literacy), and David Vawdrey (clinical informatics and workflow) recently joined the Department of Biomedical Informatics.

James Cimino, MD, long time CAIM Co-director and former Director, will be leaving Columbia for an exciting opportunity at the National Institutes of Health. We look forward to continued collaboration with him, and thank him for his work on CAIM.

George Hripcsak, MD, MS

PEOPLE

James Cimino, MD (Professor of Biomedical Informatics and of Medicine) will leave Columbia shortly for a position at the NIH Clinical Center where he will head up a project to develop their next-generation clinical research information system. Jim has been at Columbia for almost 20 years, has been a CAIM Co-Director for many of those and had previously served as CAIM Director as well as a Project Director on several CAIM grants. His technical expertise and guidance will be missed. We wish him well.

Congratulations to **Carol Friedman, PhD** (Professor of Biomedical Informatics), who was appointed to the National Library of Medicine's (NLM) Board of Regents. The Board was established by the same Act that created the NLM. It serves as the advisory body to the Secretary, HHS; Assistant Secretary for Health; Director, NIH; and the Director, NLM, on all important aspects of policy regarding the Library and is the final review body for NLM's extramural grant program.

Henning Schulzrinne, PhD (CAIM Co-Director and Chair and Professor of Computer Science) was honored with a lifetime entrepreneurial and innovation award, by the Center for Advanced Technology in Telecommunications (Polytechnic University) recently, as a pioneer in the development of Voice over IP technology. He is a co-inventor of the Session Initiation Protocol (SIP) and the Real-Time Transport Protocol (RTP), which form the basis of VOIP, and additional standards for multimedia transport over the Internet.

GRANTS

James Cimino, MD has received two grants from the National Library of Medicine (NLM). A three-year \$402,000 grant to fund creation of a management system to promote interface between medical librarians at academic institutions and the systems personnel who

manage infobuttons, context-specific links placed in clinical information networks that retrieve information from online health resources. A two-year, \$337,000 grant will allow development of new, more effective search strategies for use of the Unified Medical Language System's metathesaurus, an electronic vocabulary database managed by NLM that contains information on biomedical and health-related concepts

On October 2006, the National Center for Research Resources of the NIH awarded Columbia University Medical Center a \$54 million Clinical and Translational Science Award. Among the CTSA's goals is to promote greater use of biomedical informatics to link researchers electronically with colleagues at their home institutions and elsewhere. Members of the research team include **James Cimino, MD** and **Suzanne Bakken, RN, DNSc**, (Professor of Nursing and Biomedical Informatics).

Suzanne Bakken, RN, DNSc (Professor of Nursing and Biomedical Informatics) is the PI on a \$2 million, five-year grant renewal to support the Center for Evidence-based Practice for the Underserved, a National Institute of Nursing program.

Leanne M. Currie, RN, DNSc (Assistant Professor of Nursing), has been awarded a two-year, \$443,000 grant by the National Institute of Nursing Research to develop a computer-based prototype to support evidence-based antimicrobial prescribing for neonatal intensive care .

Dennis Lee Fowler, MD (U.S. Surgical Professor of Clinical Surgery), has received a three-year, \$1.1 million grant from the National Institute of Biomedical Imaging and Bioengineering to develop an insertable robotic effector platform and integrate it with a remotely controlled camera system for minimal access surgery, a project initially funded, in part, by CAIM.

John Kender, PhD (Professor of Computer Science) received a highly-competitive NSF-Information and Intelligent Systems Division grant entitled *Analysis and Display of Semantics of Structured and Unstructured Videos*. This supplements an earlier award from the Disruptive Technology Office.

INDUSTRY PROGRAMS

In October Columbia submitted a grant application to the NYSTAR Technology Transfer Incentive Program (TTIP) on behalf of CAIM researcher **Carol Friedman, PhD** (Professor of Biomedical Informatics), for a project entitled *Automated Medical Record Processing Using Combined MedLEE and SpeechMagic Technologies*. Carol is a recognized leader in natural language processing, and is the inventor of the Medical Language Extraction and

Encoding technology, the leading NLP system for medical applications. The proposal envisions a partnership with Philips Research NA and other Philips divisions to integrate MedLEE with their speech recognition software (*SpeechMagic*).

CALENDAR/EVENTS

The Board of Directors will assemble on December 4, 2007 in Room PH-1505 for its annual meeting. See <http://www.cat.columbia.edu/board.htm> for details.

CAIM will join the Cornell University CAT to sponsor a PreSeed Workshop in March [4 (kickoff dinner), 5, and 12], 2008. The workshop has been successfully presented in upstate New York several times and will be offered in NYC for the first time. Designed for potential entrepreneurs, the two-day event offers inventors and researchers an opportunity to experience the issues and challenges involved in pursuing a commercial path for their ideas. Idea teams will be coached by experienced business professionals. Corporate sponsorship is available. For more information see CAIM web page.



PHOTO GALLERY



Old Friends. At the recent American Medical Informatics Association meeting in Chicago, current Biomedical Informatics (DBMI) faculty renewed friendships with departed CAIM staff. Left to right Eneida Mendonça (DBMI), Yves Lussier (U Chicago, past CAIM Clinical Director), Chenhua Weng (DBMI), and Liz Chen (Partner's Health, past CAIM Clinical Director).

For more information, call 212.305.2944 or visit www.cat.columbia.edu.