

## Newsletter, Fall 2008

### DIRECTOR'S MESSAGE

I am pleased to report that the Department of Biomedical Informatics continues to attract new and talented faculty members. Our latest addition is Raul Rabadan, a physicist by training who has embraced computational biology and has already made a contribution to the art. Raul brings a new vision and approach to important problems in biology and medicine.

It is always satisfying to acknowledge a significant accomplishment of a Columbia DBMI graduate. Kudos to Eric Silfen, MD, MA (Columbia 2006) who was recently appointed Senior Vice President and Chief Medical Officer for Philips Healthcare (see below). Eric's extensive and varied experience, including graduate training at DBMI, will serve him well in this senior position at Philips Healthcare.

**George Hripcsak, MD, MS**

### OUTREACH

This summer CAIM partnered with the Columbia Business School in a course entitled "Introduction to Venturing" taught by Professor Jack Kaplan, serial entrepreneur and member of the CAIM External Advisory Board. This Executive MBA class heard talks from the CEO's of two CAT partner companies, Dogmatic Inc. and Transcendent International. **Paul Goldfarb**, CAIM's New Business and Marketing Manager, also gave an introductory talk to the class. Transcendent was later selected as a class project. A team of EMBA students provided an internal strategic review of the company's current practices and future direction. Both the companies and the students involved found the experience to be highly rewarding.

### NEW TECHNOLOGY COMPANY

Columbia University's technology transfer office (Science and Technology Ventures) has completed negotiations with a new, small company, incorporated in NYS, for an exclusive license to MedLEE, the *Medical Language Extraction and Encoding* natural language processor (NLP) developed by Professor Carol Friedman (Biomedical Informatics, CUMC). MedLEE is generally considered to be the leading NLP system available in the medical domain. The company, Natural Language Processing International, Inc. will, henceforth, make MedLEE available for academic and industrial use. CAIM, STV, and the Department of Biomedical Informatics have collaborated over time to help transfer MedLEE to the commercial market. Several companies, large and small, have expressed interest in licensing the technology. More

details and a *company profile* will appear in a future issue of this newsletter.

### CAIM GRANTS

Applications have been approved for 2008-09 industry-matched grants. Annually-awarded CAIM grants normally begin on July 1. However, applications may be submitted throughout the year with awards depending on available funds. Guidelines and application forms for grants are available on the CAIM webpage.

The following awards (*title/PI/affiliation/industry partner*) were approved for CAIM grants.

- *Evaluating a Language Learning System for Medical Professionals*, D. Kaufman, PhD, Biomedical Informatics, P&S/CUMC; Transcendent International
- *Aetna InteliHealth e-Health Development and Evaluation*, D. A. Albert, DDS, MPH, College of Dental Medicine, Community Dentistry, CDM/CUMC; Aetna Health
- *Machine Learning Algorithms and Applications to the Electric Power Grid*, D. Waltz, PhD, Center for Computational Learning Systems, SEAS, Consolidated Edison
- *Extending NG911 to Message-based Communications*, H. Schulzrinne, PhD, Computer Science, SEAS; Verizon Communications
- *Modeling Human Activity from Location Data*, T. Jebara, PhD, Computer Science, SEAS; Sense Networks

SEAS - School of Engineering and Applied Science; P&S - College of Physicians and Surgeons; CUMC - Columbia University Medical Center; CDM - College of Dental Medicine

### INDUSTRY PROGRAMS

In July 2008, CAIM staff participated in a *Small Business and University Technology Innovation Forum* sponsored by the New York State Foundation for Science Technology and Innovation (NYSTAR) and Syracuse University's Center for Advanced Systems and Engineering (CASE) and hosted by Lockheed Martin in Liverpool, NY. The event was the first such meeting of small companies and New York's Centers for Advanced Technology (CATs) and a large technology corporation (LMCO) to explore areas of mutual interest and possible collaboration.

## PEOPLE

**Edward H. (Ted) Shortliffe**, former Director of the Center for Advanced Information Management, will be the next President and Chief Executive Officer of the American Medical Informatics Association. Ted will assume this role in July 2009 at AMIA which is a leading organization focusing on global health information policy and technology.



**Raul Rabadan** joined the faculty of Biomedical Informatics in September 2008 as an assistant professor from the world-renowned Institute for Advanced Study (Simons Center for Systems Biology) at Princeton. A theoretical physicist and string theory expert, Raul will work on key open research questions in computational biology, specifically in the areas of virology, viral epidemiology, and cancer genetics. He has developed and used novel quantitative biology methods to establish differences between Influenza A viruses in birds and humans, studied how avian and human influenza viruses transmute between species, designed algorithms to identify organism-specific genetic sequences in HIV, and employed techniques in comparative genomics to help clarify how single nucleotide polymorphisms, one of the largest types of inherited genetic variations in humans, affect cancer. Raul received his doctoral degree from Universidad Autonoma (Madrid, Spain) and has completed postdoctoral fellowships with the Institute for Advanced Study's Theoretical Physics Group and CERN, the European Organization for Nuclear Research.



**Eric Silfen** Research Department Head, Biomedical Informatics, Philips Research NA (Briarcliff Manor, NY), was recently appointed Senior Vice President and Chief Medical Officer for Philips Healthcare. Prior to joining Philips, Eric was the Assistant Clinical Director of CAIM where he was responsible for developing and managing a special short course in biomedical informatics. Eric's has clinical, academic, and hospital administration experience. He holds an MD from Georgetown University School of Medicine, with residencies in Internal Medicine and Emergency Medicine at Georgetown University Hospital. Eric also has a MS in Healthcare Administration from Medical College of Virginia, and a MA in Biomedical Informatics from Columbia. He is board certified in Internal Medicine and Emergency Medicine. Eric was also Chief Medical Officer at St. Charles Hospital and Rehabilitation Center (Port Jefferson, NY), Chief Medical Officer for the Reston



Hospital Center (Virginia), and Medical Director for Emergency Medical Services, Metropolitan Washington Airport Authority, Dulles Airport.

**Angelos Keromytis**, Associate Professor of Computer Science, has been appointed to the scientific advisory board of the Center for Research and Technology by the Greek Ministry of Development. CERTH, the largest research centre in Northern Greece, was founded in 2000 as a non-profit organization reporting to the General Secretariat for Research and Technology of the Greek Ministry of Development. Its mission is fundamental and applied research with emphasis on technologies such as informatics and telecommunications. Angelos is the director of the Network Security Lab at Columbia. His main research interests are computer security, cryptography, and networking.

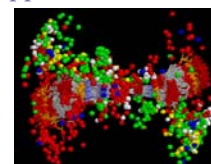


## CALENDAR/EVENTS

On December 10, 2008, Pfizer and CAIM will again organize and host a regional medical informatics update. Offered for the first time last July, this event attracted over 50 attendees from industry, academia, and government for a review of problems, achievements, directions, and plans common to the informatics community. Check the CAIM webpage for details.

## NEW RESEARCH LABORATORY

**Dana Pe'er**, Assistant Professor of Biological Sciences and colleague Harmen Busemaker are co-directors of a new laboratory for computational biology. Both investigators are specialists in systems and computational biology with a special focus on the function and organization of molecular networks by Pe'er who also holds a joint appointment in the Computer Science Department. The goal of the laboratory is to develop and apply complex tools to probe and derive meaning from large amounts of data now being created in the rapidly expanding field of systems and computational biology. The Laboratory will use high-throughput genomics data to infer a universal protein-DNA recognition code.



Shown here are the positions of protein side-chains contacting a Watson-Crick base-pair in a variety of protein-DNA complexes (Image credit - Busemaker).

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For more information, call 212.305.2944 or visit [www.cat.columbia.edu](http://www.cat.columbia.edu).