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**Center for Health Related Informatics and Bioimaging Launches New Network and Systems
Biology Division at UMB and UMCP Focusing on “Big Data” Science**

Baltimore, Md. — November 13, 2014. The Center for Health Related Informatics and Bioimaging (CHIB), announced the launch of a new division focusing on network and systems biology research within CHIB, the Network and Systems Biology (NSB). Systems biology is an emerging discipline that focuses on the complex interactions between genes, proteins, metabolism and the 3D structural components of the cell. The increased capacity of high-throughput omics technologies (i.e., DNA and RNAs sequencing, proteomics, and metabolomics) have given investigators entirely new tools for analyzing the biological data derived from tissues to single cells. Investigators at NSB will be incorporating this next generation omics approaches and combining what is often termed “big data” with advanced mathematical and computational modeling.

Created in 2012, CHIB unites the scientific, medical, and engineering expertise from the University of Maryland, Baltimore and the University of Maryland, College Park. Two new directors will head the Network and Systems Biology division, one on each of these campuses. Dr. Jacques Ravel, Associate Director, Genomics at the Institute for Genome Sciences at the University of Maryland School of Medicine, will be the NSB Director at the UMB campus. Dr. Ravel has significant expertise in the collection of genomics, transcriptomic, metabolomics and proteomic data associated with women’s health, infectious diseases and the human microbiome. Dr. Michelle Girvan, Associate Professor, Physics at UMCP, has expertise developing analysis techniques for network analysis, chromatin regulation and spatial modeling of chromatin.

“The Network and Systems Biology division will extend CHIB’s capabilities,” said Owen White, co-Director, CHIB and Director of Informatics at UM School of Medicine. “This division gives our research a foundation for novel translational medical approaches including the identification of vaccine candidates and drug targets, as well as the modeling of biological systems that will directly impact women's healthcare delivery.”

“A goal of systems biology is to bridge three aspects of biological complexity: the growing amount of high-throughput data assaying these interactions; the specific interactions in which individual genes participate; and the genome-wide patterns of interactions that ultimately influence the behavior of the cell,” said Jacques Ravel, director of the NSB at UMB. “We will take advantage of the lab-based ‘omics’ data generated here at the University of Maryland Baltimore, as well as the statistical and mathematical resources at the University of Maryland, College Park to create exciting new insights into health and disease.”

“The Network and Systems Biology division reflects the explosion of new ways of integrating the medical, engineering, informatics, and imaging fields and this is the future of biomedical research,” said E. Albert Reece, MD, PhD, MBA, vice president for medical affairs at the University of Maryland, and the John Z. and Akiko K. Bowers distinguished professor and dean of the University of Maryland School of Medicine.

About the University of Maryland School of Medicine

Established in 1807, the University of Maryland School of Medicine is the first public medical school in the United States, the first to institute a residency-training program. The School of Medicine was the founding school of the University of Maryland and today is an integral part of the 11-campus University System of Maryland. On the University of Maryland’s Baltimore campus, the School of Medicine serves as the anchor for a large academic health center which aims to provide the best medical education, conduct the most innovative biomedical research and provide the best patient care and community service to Maryland and beyond. www.medschool.umaryland.edu

About the Institute for Genome Sciences

The Institute for Genome Sciences (IGS) is an international research center within the University of Maryland School of Medicine. Comprised of an interdisciplinary, multidepartment team of investigators, the Institute uses the powerful tools of genomics and bioinformatics to understand genome function in health and disease, to study molecular and cellular networks in a variety of model systems, and to generate data and bioinformatics resources of value to the international scientific community. www.igs.umaryland.edu

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