OHSU School of Medicine

Department of Medical Informatics and Clinical Epidemiology

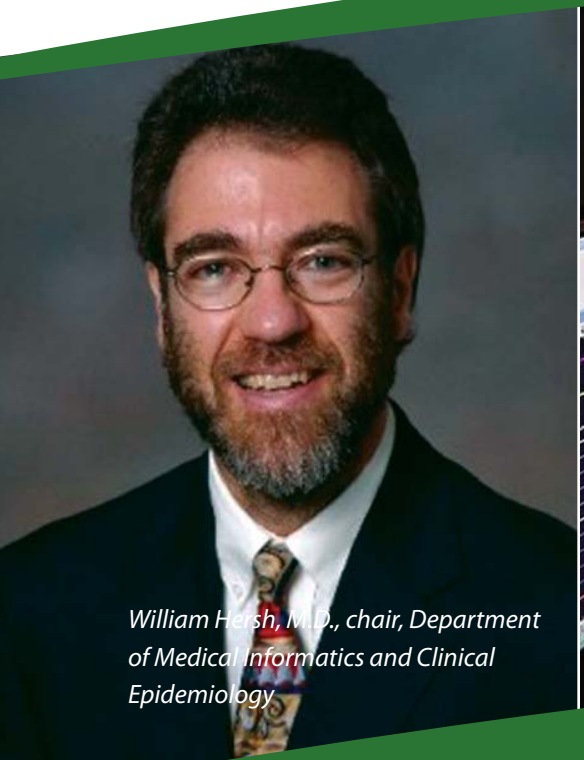
These are exciting times for the field of biomedical informatics. On the clinical side, the government and healthcare industry are making substantial investments in information technology aiming to improve the quality, safety, and efficiency of care. In addition, technology is empowering patients and consumers.

On the biomedical research side, advances in genomics and proteomics as well as new emphasis on translational research promise to revolutionize our approaches to health and disease. The world of biomedical research has fundamentally changed, with experiments now generating massive amounts of data and researchers being required to interact with databases and other information resources to guide their work. Biomedical informatics is playing a key role in clinical and research areas, and there is great need for both informatics researchers to conceptualize and develop the new applications and practitioners to implement them.

About Biomedical Informatics

Though biomedical informatics has existed as a field for several decades, it has only recently achieved broader recognition, not only from those of other medical and scientific disciplines, but in all walks of life.

As information technology and computing become more vital to understanding the vast amounts of data that the medical and scientific communities are confronted with, those in all areas of these fields must be prepared to contribute their knowledge, capabilities, research, and understanding. We consider our core discipline to be informatics, which is the field concerned with the intersection of people, information and technology.



William Hersh, M.D., chair, Department of Medical Informatics and Clinical Epidemiology

OREGON HEALTH & SCIENCE UNIVERSITY

www.ohsu.edu/dmice

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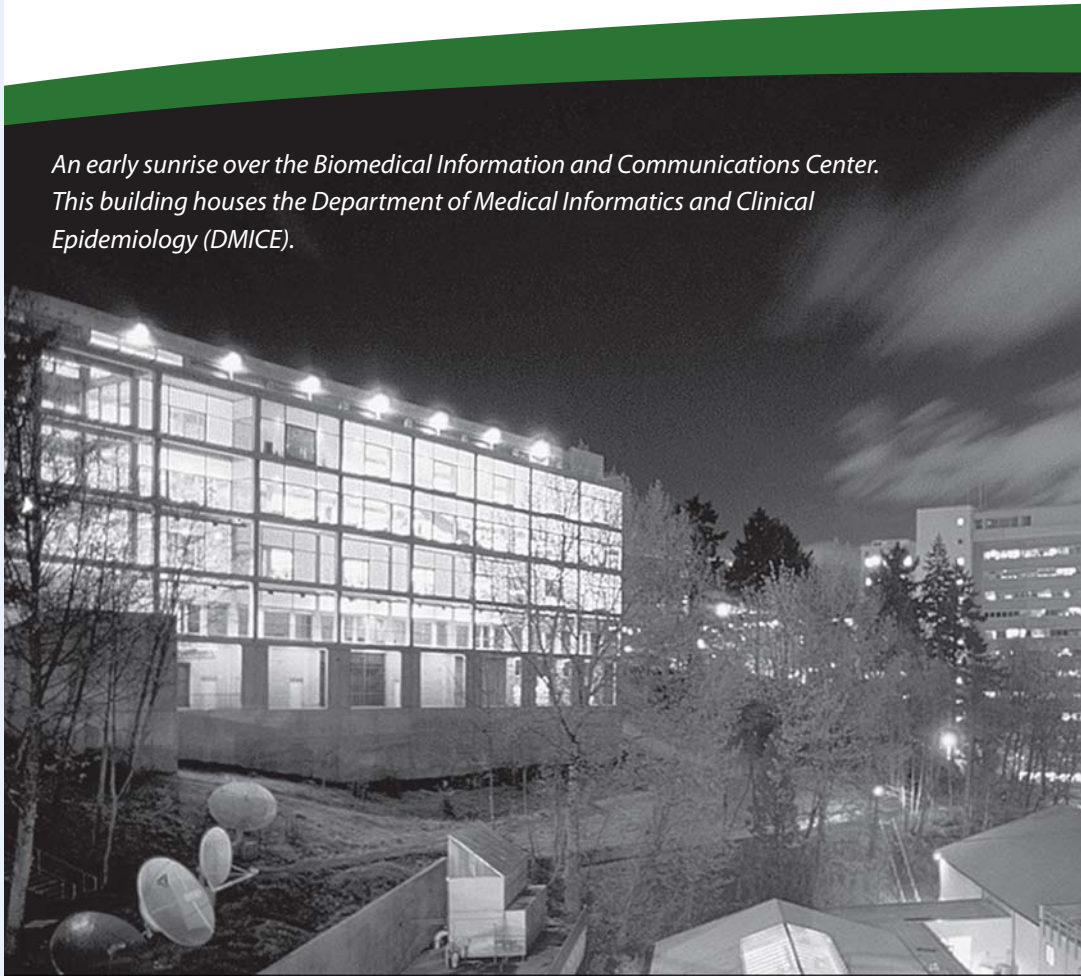
DMICE: A Curriculum Overview

OHSU offers PhD and Master's degrees with the option of two tracks, one in clinical informatics and the other in bioinformatics and computational biology. In the future, additional tracks may be added. There is some amount of overlap between the two, and they have several courses and electives in common; however, students are expected to select one of the two as their primary focus.

Bioinformatics deals with the analysis, handling, and comprehension of the large amounts of data produced by advanced techniques used in modern biological research (especially genomics, proteomics and molecular and cellular biology). The bioinformatics track offers a rigorous interdisciplinary submersion in statistics, algorithms, research methods, biology and computation, with special attention paid to the areas that these competencies overlap (i.e., computational biology). Students are thus given the knowledge and skills to become successful researchers and analysts within the field.

The clinical informatics track gives students a solid grounding in informatics, health and medicine, computer science and research methods. Students are prepared to pursue careers that require a thorough understanding of both information technology and the healthcare or public health environment.

Although the curriculum has a large core of courses, it can be individualized so that those with a prior background in one area (i.e., a healthcare professional or computer scientist) can focus on other areas to strengthen the breadth of their knowledge.



An early sunrise over the Biomedical Information and Communications Center. This building houses the Department of Medical Informatics and Clinical Epidemiology (DMICE).