



KLINGLER
College of Arts & Sciences

MARQUETTE UNIVERSITY

Department of Mathematics, Statistics and Computer Science

SPECIAL COLLOQUIUM ANNOUNCEMENT

Moving Towards the Next Generation of Healthcare Applications

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Abstract

The past decade was marked by revolutionary advances that led to the rise of ‘Big Data’ in healthcare. For instance, since 2007, the cost of scanning a patient’s genome decreased from over \$10M to the cost equivalent of a full-body MRI scan. This prompted a rapid adoption of genomic technologies by medical researchers. Furthermore, due to initiatives such as the 2009 HITECH act, machine-readable healthcare data in the form of Electronic Health Records (EHRs) are now available at almost every healthcare provider in the US. With this wealth of data unleashed, the next decade holds remarkable promise for healthcare applications. The integration of genomic and EHR data into the medical workflow could drive the discovery of novel gene-disease interactions, facilitate the delivery of personalized medicine, and aid in the detection, diagnosis, and treatment of a wide range of complex diseases.

In this talk I present a blueprint for medical genomic integration and discuss the major challenges it faces. I elaborate on the vital role data science plays in achieving this integration by highlighting two instances from my research where data science methods were used to overcome computational and analytical challenges. I conclude the talk by discussing possible directions for medical genomic integration and future healthcare innovations.

1313 W. Wisconsin Avenue, Cudahy Hall, Room 401, Milwaukee, WI 53201-1881

For further information <http://www.mscs.mu.edu/mscs/resources/colloquium.html> or
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POST-COLLOQUIUM REFRESHMENTS SERVED IN ROOM 342 AFTER 2:00 P.M.