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Enabling Genomic Data Science for Translational Medicine

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Translational medicine research requires the integrative use of clinical samples from real patients and genome technologies to characterize molecular subtypes of diseases for tailored therapeutic applications in future healthcare practice. The new genomic and clinical data generated calls for new informatics data management, analysis and modeling architecture. We present a new pilot U-BRITE architecture within the Clinical and Translational Science network institutions of the United States southern regions. A few case studies in autoimmune diseases, cancer and complex genetic disorders will be presented. We hope our experience will help others in similar situations to build cyber-enabled architectures and make translational medicine scalable.

Biography:

Dr. Jake Y Chen is a Professor of Genetics, Computer Science, Biomedical Engineering at the University of Alabama at Birmingham (UAB). He is also the Chief Bioinformatics Officer of UAB's Informatics Institute and Head of the Informatics Section of the Genetics Department. He holds a BS degree in Biochemistry and Molecular Biology and MS and PhD degrees in Computer Science and Engineering. He has more than 20 years of research experience in biological data mining, systems biology and translational bioinformatics, with more than 150 peer-reviewed publications. Prior to join UAB, he holds tenured faculty positions at Indiana University and Purdue University.