数学与系统科学研究院

计算数学所学术报告

报告人：　**A.P. Bi Jinbo**

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报告题目：

Solving ambiguity in medical data classification via mathematical programming and modeling

邀请人：　戴彧虹研究员

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报告地点：　科技综合楼三层 **311**

计算数学所报告厅

Abstract:

Healthcare is on the verge of a revolution driven by knowledge which is being derived both from traditional clinical studies and also by modeling vast quantities of patient data. With advances in mathematical modeling and knowledge discovery, the clinical workflow, medical information process and decision support have been changing rapidly in recent years, both in interpretation of structured data (tables, charts etc) and inference from unstructured data (images, free-text doctor dictations etc). In this talk, we introduce computer aided diagnosis and computer assisted coding systems, and the challenges arising when constructing such systems. Then we focus on the problem of tackling annotation ambiguity and correlations in medical data classification and demonstrate novel approaches based on mathematical programming to effectively address them. If time allows, a variety of mathematical programming solutions to overcome other challenges will also be briefly discussed.

A.P. Bi Jinbo 简介：

Dr. Jinbo Bi is currently an associate professor at University of Connecticut, Department of Computer Science & Engineering, and Department of Community Medicine and Healthcare. She also oversees the mathematical modeling research activities in the Biomedical Informatics Center. Prior to it, she was a senior scientist by a joint appointment of US Department of Defense Bioanalysis Institute and Partners Healthcare System, working on Trauma Patient Care Management. From 2003-2009, she worked as a staff scientist with Siemens Medical Solutions. As one of the founding members of Siemens Computer Aided and Knowledge Solutions Group, she was engaged in R&D activities of computer-aided diagnosis (CAD), biomedical image analysis and data mining of healthcare data, and contributed to several Siemens medical products. For instance, LungCAD, a machine learning system for lung cancer detection from CT images, received the approval of US Food and Drug Administration (FDA) in 2006. Dr. Bi received her Ph.D. in Mathematics from Rensselaer Polytechnic Institute in 2003, and has published about 50 peer-reviewed scientific papers in top international conferences and journals, and filed over 15 patents. She has been on the program committees of health informatics/data mining conferences including ACM SIGKDD, ACM IHI, SIAM Data Mining, ICML and NIPS, etc. Dr. Bi's research interests include convex optimization, pattern recognition, information retrieval, and medical image analysis.

欢迎大家参加！