The University of Alabama
Department of Computer Science
Colloquium Series Speaker

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Pervasive Healthcare and Wireless Monitoring

Friday, October 3rd
11:00 a.m., EE 110

Abstract:
With an increasingly mobile society and the worldwide deployment of mobile and wireless networks, the wireless infrastructure can support many current and emerging healthcare applications. This could fulfill the vision of "Pervasive Healthcare" or healthcare to anyone, anytime, and anywhere by removing locational, time and other constraints while increasing both the coverage and the quality. In this presentation, we focus on wireless health monitoring as a key pervasive health application. Many interesting challenges of comprehensive wireless health monitoring, including context-awareness, reliability, and, autonomous and adaptable operation are identified along with several high-level solutions. We address how patient monitoring, specifically emergency messages, can be supported over wireless networks formed among patients' devices. This involves a series of decisions in obtaining and processing vital signs, incentive-based routing over networks, and delivering to healthcare professionals, who must make suitable medical decisions on patients' healthcare needs. The proposed work can be extended to provide personalized healthcare services to people in nursing homes, assisted living, home, and while being mobile. Some details on the emerging wireless monitoring for chronic conditions, mental health, medication usage, and adherence to life-style changes will also be presented.

Bio:
Upkar Varshney is currently Associate Professor of Computer Information Systems at Georgia State University, Atlanta. His current interests include pervasive healthcare, mobile commerce, ubiquitous computing, and wireless networks. He has authored over 120 papers including fifty in national and international journals. Several of his papers are among the most downloaded, cited, and among the "firsts" in several streams of pervasive healthcare, wireless and mobile commerce. He is the founding co-chair (with Prof. Imrich Chlamtac) of International Pervasive Health Conference. Upkar is also the program co-chair for Americas Conference on Information Systems (AMCIS-2009). Upkar has presented over fifty tutorials, workshops, and a few keynotes at major wireless, computing, and information systems conferences. He has also received grants exceeding $500K from funding agencies including the National Science Foundation. His teaching awards include Myron T. Greene Outstanding Teaching Award (2004), RCB College Distinguished Teaching Award (2002), and Myron T. Greene Outstanding Teaching Award (2000). He has served or is serving as an editor/guest editor for several major journals including IEEE Transactions on IT in Biomedicine, ACM/Springer Mobile Networks (MONET), Decision Support Systems (DSS), IEEE Computer, Communications of the AIS (CAIS), Int. J. on Network Management (IJNM), Int. Journal on Mobile Communications (IJMC) among others.