



# Spring 2012 Colloquium

## Temple University

### Computer and Information Sciences

#### *Mobile Cloud and Green Computing*

#### **Distinguished Speaker**

**Ivan Stojmenovic**

University of Ottawa

**Monday 2/27, 11am, Wachman 447**

**Abstract:** Mobile devices (smart phones, tablets, laptops, embedded boards, robots) can serve as 'dumb' terminals for cloud computing services over intelligent network. Mobile cloud has emerged as a new cloud computing platform that 'puts cloud into a pocket'. Important issues include optimizing the scheduling and transport schemes, access management, and application optimization, for mobile devices to achieve energy saving. This talk will first introduce the development of mobile cloud computing and describe some applications involving multimedia, vision/recognition, graphics, gaming, text processing. Next, it will present the transmission, computation, and sensing challenges of green computing in mobile cloud. It will also discuss the possible solutions from various perspectives. Energy savings for task outsourcing and location based services will be discussed in detail. 'Crowd computing' combines mobile devices and social interactions to achieve large-scale distributed computation. Examples include task farming, participatory and opportunistic crowd-sourced sensing. One particular emerging concept is the 'vehicular cloud'. For example, traffic lights in a congested area could be rescheduled by running the rescheduling code (controlled by municipality) on the collective computational platform provided by the cars.

**Bio:** **Ivan Stojmenovic** received his Ph.D. degree in mathematics. He held regular and visiting positions in Serbia, Japan, USA, Canada, France, Mexico, Spain, UK (as Chair in Applied Computing at the University of Birmingham), Hong Kong, Brazil, Taiwan, and China, and is Full Professor at the University of Ottawa, Canada and Adjunct Professor at the University of Novi Sad, Serbia. He published over 250 different papers, and edited seven books on wireless, ad hoc, sensor and actuator networks and applied algorithms with Wiley. He is editor of over dozen journals, editor-in-chief of IEEE Transactions on Parallel and Distributed Systems (from January 2010), and founder and editor-in-chief of three journals (MVLSC, IJPEDS and AHSWN). Stojmenovic is one of about 500 computer science researchers with h-index at least 40 and has >11000 citations. He received four best paper awards and the Fast Breaking Paper for October 2003, by Thomson ISI ESI. He is recipient of the Royal Society Research Merit Award, UK. He is elected to IEEE Fellow status (Communications Society, class 2008), and is IEEE CS Distinguished Visitor 2010-12. He received Excellence in Research Award of the University of Ottawa 2009. Stojmenovic chaired and/or organized >60 workshops and conferences, and served in >200 program committees. He was program co-chair at IEEE PIMRC 2008, IEEE AINA-07, IEEE MASS-04&07, EUC-05&08-10, AdHocNow08, IFIP WSA08, WONS-05, MSN-05&06, ISPA-05&07, founded workshop series at IEEE MASS, ICDCS, DCOSS, WoWMoM, ACM Mobihoc, IEEE/ACM CPSCoM, FCST, MSN, and is/was Workshop Chair at IEEE INFOCOM 2011, IEEE MASS-09, ACM Mobihoc-07&08.