Abstract
In this talk I will try to establish software service engineering as a new discipline where software defined situations are considered the core concept for developing and evolving software service systems. In the modern-day computing environment such software service systems must be able to adapt to the dynamic and changing environment and the volatile nature of human-machine interaction in response to instant or delayed feedback from a service installation that nowadays is becoming more and more context aware. However, current context-aware service-centric models largely lack the capability to continuously explore human mental states that are largely hidden, yet often drive system evolution. This talk is based on my current research in Situ. In this study, I give situation a definition that requires information gathered from what human wants, how the user behaves, and which factors can be observed from the environments. Based on this framework, instant definition of individualized service requirements at runtime may become possible, and it may significantly shorten the service evolution cycle critical to a robust and responsive services industry. In the end, I will enumerate steep research challenges in order to develop a sound theory on software defined situations.

Speaker’s Bio
Carl K. Chang is Professor of Computer Science, Professor of Human-Computer Interaction and Director of Software Engineering Laboratory at Iowa State University. He received a PhD in computer science from Northwestern University in 1982, and worked for GTE Automatic Electric and Bell Laboratories before joining the University of Illinois at Chicago in 1984. He joined Iowa State University in 2002 as Department chair of Computer Science, and completed three terms as its chairman in an eleven-year sprint. His research interests include requirements engineering, net-centric computing, situational software engineering and successful aging. Chang is 2004 President of IEEE Computer Society. Previously he served as the Editor-in-Chief for IEEE Software (1991-94). He received the Computer Society’s Meritorious Service Award, Outstanding Contribution Award, the Golden Core recognition, and the IEEE Third Millennium Medal. In 2006 he received the prestigious Marin Drinov Medal from the Bulgarian Academy of Sciences, and was recognized by IBM with the IBM Faculty Award in 2006, 2007 and 2009. From 2007-1010 he served the Editor-in-Chief of IEEE Computer, the flagship publication of IEEE Computer Society. He is the 2012
recipient of the Richard E. Merwin Medal from the IEEE Computer Society. Most recently he was elected the 2014 Distinguished Alumnus by the National Central University in Taiwan, and received the 2014 Overseas Outstanding Contribution Award from China Computer Federation. Chang is an IEEE and AAAS Fellow, and member of the European Academy of Sciences.