In certain multimedia and signal/data processing systems, jobs are executed on a number of processors and should complete by their end-to-end deadlines to satisfy the quality-of-service (QoS) of the applications. Without considering resource competition among different jobs on each processor, deadline requirements may be violated. In this talk, I will present a distributed algorithm to assigning local deadlines to the jobs on each processor. Said algorithm is guaranteed to find an optimal solution if one exists, is effective even when the workload on different processors is dissimilar, and can adapt to changes in application requirements.

Tam Chantem received her PhD in 2011 from the Department of Computer Science and Engineering at the University of Notre Dame where she was awarded the Graduate Assistance in Areas of National Need (GAANN) Fellowship. She received her master’s degree in 2008 from Notre Dame, and her dual bachelor’s degrees in Computer Engineering and Computer Science from Iowa State University in 2005. Dr. Chantem’s research interest is in the area of hardware/software co-design of embedded real-time systems. Recently she has focused that interest on energy-aware and thermal-aware system level design. She is also interested in high-performance and reconfigurable computing and cyber-physical systems.