

# Computer Science Seminar

## Computing at the Speed of Life

Dr. Glenn Ricart  
US Ignite



Many new applications and services in smart and connected communities are cyber-physical systems that interact with people and their environments. A seamless set of interactions requires these applications and services to operate at the “speed of life” -- that is, synchronously with the real world and often instantaneously as perceived by people and other living organisms. While real-time services have been provided by dedicated hardware for decades, the new challenge is to reduce costs and increase ubiquity by flexibly projecting real-time local cloud capability into human environments. A likely architecture is sliced and composed services orchestrated and hypervised to project multiple real-time applications simultaneously. An interim architecture dubbed “Digital Town Squares” are being deployed as local clouds in US Ignites 25 Smart Gigabit Communities. These local clouds perform two main functions: (a) to provide low-latency, high-bandwidth intra-community connections between competing gigabit carriers, and (b) to provide a platform for running applications and services “at the speed of Life” that support smart and connected community applications and services. Dr. Ricart will also discuss collaboration opportunities.

**Bio:** Glenn Ricart is the Founder and Chief Technology Officer of US Ignite, a nonprofit accelerating the smart city movement – and creating value for an entire ecosystem – by guiding communities into the connected future, creating a path for private sector growth, and advancing technology research that’s at the heart of smart city development. Dr. Ricart’s Ph.D. was on the Ricart-Agrawala Algorithm for Distributed Mutual Exclusion, one of the first distributed algorithms, and published as the cover article of Communications of the ACM. At the University of Maryland College Park, Ricart was part of the Computer Science Department and also academic CIO and Assistant Vice Chancellor for system-wide Information Technology. In this role, College Park became the first campus to adopt TCP/IP (the Internet protocols) across all departments on campus, and one of the first campuses to deploy fiber to all academic buildings.

Dr. Ricart led the team which provided software support for the original NSFnet, deployed the first NSF regional network SURAnet, wrote the reference implementation for OSPF routing, wrote the first implementation of TCP/IP for the IBM PC, and created the very first Internet interconnection point. For the latter, he’s been inducted into the Internet Hall of Fame as a Pioneer. Ricart has served on the boards of three public companies and numerous nonprofits including the National Association of State Universities and Land Grant Colleges. US Ignite is his fifth start-up, and his first nonprofit startup.

**Date: September 10, 2018**

**Time: 10:00-10:50 am**

**209 Computer Science Building**

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