High Confidence Software and Systems Conference

A world class community of researchers gather each year for a full week of High Confidence Software and Systems Conference activities that are structured to focus on new scientific and technological foundations that can enable entirely new generations of engineered designs that are becoming essential for effectively operating life?, safety?, security?, and mission?critical systems.

The 20th annual HCSS Conference is scheduled for September 14-17, 2020. This year, the conference will be held entirely online. Daily themes for the program are Formal Methods at Scale, Architecture-level Formal Methods for New and Existing Systems, and Human/Machine Cognitive Security. The conference will commence at 11:00am EDT with a panel for reflections on the past twenty years of the conference. Discussion rooms will open by 10am EDT. A virtual help desk will open at 10:30am EDT. It?s BYO coffee this year.

The conference will be held on the Hopin.to virtual platform. You will need to register to access the online event. For more information about the platform, please visit the Virtual Venue page.

Need help? Email the organizers at hcss@cps-vo.org

Conference Archives

Program agendas and presentations from the last twenty years can be found on the Past Events page.

About HCSS

The pervasive role of information technology and cyber-physical systems (CPS) in our lives forces us to rely in diverse and often unexpected ways upon the correctness and integrity of those computing systems?with our privacy, safety, security, and well-being all increasingly dependent upon them.

The High Confidence Software and Systems (HCSS) Conference, now in its second decade, was created to support the interchange of ideas among researchers, practitioners, and research managers from Government, research labs, and industry practice. HCSS provides a forum for dialogue centered upon the development of scientific foundations together with innovative and enabling software and hardware technologies for the assured engineering of complex computing systems. These systems, which include networked and cyber-physical systems, must be capable of interacting correctly, safely, and securely with
humans and the physical world even while they operate in changing and possibly malicious environments with unforeseen conditions. In many cases, they must be certifiably dependable.

New foundations in science, technology, and advanced practice continue to be needed to build these systems with computing, communication, information, and control pervasively embedded at all levels. These new foundations have the potential to enable entirely new generations of engineering designs that are becoming essential for effectively operating life-, safety-, security-, and mission-critical applications, and that can enhance US competitiveness across economic and industrial sectors, while assuring the privacy, safety, and security of our Nation’s citizenry.

With a technical emphasis on mathematically-based tools and techniques, and scientific foundations supporting evidence creation and systems assurance and security, the HCSS conference pursues the goal of growing a skilled practitioner community through a program of invited speakers, panel discussions, and a relevant and compelling technical track. The conference vision is one of motivating, sustaining, and growing a community focused around the creation of dependable systems that are capable, efficient, and responsive; that can work in dangerous or inaccessible environments; that can support large-scale, distributed coordination; that augment human capabilities; that can advance the mission of national security; and that enhance quality of life, safety, and security.