

Alan Wassyng

Alan Wassyng has been working on safety critical software intensive systems for over 30 years. He is interested in how we develop such systems so that they are safe and dependable, and how we certify this. As a consultant to Ontario Hydro, he led one of the teams that transformed the code into function tables used as part of the verification of the first digital shutdown system developed for the Darlington Nuclear Generating Station in Canada. This was essential in obtaining a licence to operate. He was then a senior member of the team that developed a new methodology for building safety critical software at Ontario Hydro - now Ontario Power Generation, and used that methodology to redesign the shutdown systems. That methodology, slightly modified, is still in use today. After running a software consulting business for 15 years, he returned to academic life, joining the Department of Computing and Software at McMaster University. His research at McMaster has focused on Certification of Safety Critical Software Intensive Systems. With colleagues Tom Maibaum and Mark Lawford at McMaster, he founded the McMaster Centre for Software Certification (McSCert) in 2009. McSCert has been awarded multiple high profile projects involving safety assurance in the nuclear domain, medical device domain, and the automotive domain. Project partners include Ontario Power Generation, Atomic Energy Canada Limited (now CANDU Energy), Systemware Innovation, IBM, GM, Toyota InfoTech Center, Stellantis (previously Fiat Chrysler), Borg Wagner, Cubic and a new company called Arrayus who manufacture a large focused ultrasound machine to perform non-invasive surgery. He was also one of the founders of the Software Certification Consortium in 2007. The SCC held its 20th meeting in May 2019. In addition to his research at McMaster, Alan has collaborated with the US NRC and with the US FDA on safety of digital systems. He was one of the 10 researchers selected by the NRC to participate in their Expert Clinic in 2010.