

Message from the SEHS 2018 Co-Chairs

Welcome to the workshop on Software Engineering in Healthcare Systems, co-located with ICSE 2018 in Gothenburg, Sweden! This year marks the tenth anniversary of holding an event at ICSE dedicated to discussing experiences, challenges and solutions related to engineering software in healthcare applications. Given the dramatic changes associated with digitalizing healthcare at a global scale, ICSE 2008 featured an Experience Track on Software Engineering in Health Care, an event that gave birth to a subsequent series of workshops and symposia. Ten years later, software-intensive systems and systems of systems have become pivotal components of most modern healthcare organizations. Still, healthcare systems continue to undergo significant transformations due to the innovation of new technologies and paradigms such as connected medical devices, the Internet of Things (IoT), Big Data analytics and context-aware, adaptive services. At the same time, advances in health care such as personalized and omics-based medicine have further increased the need for software-based knowledge-management and decision-support. In the developing world and in low-resource settings, software-intensive healthcare delivery has shown tremendous success in improving efficiency and access to services. Notwithstanding these successes, there have been ongoing concerns and highly publicized failures pertaining to critical quality attributes of healthcare software, particularly with respect to safety, efficiency, security, interoperability and effectiveness. A principle challenge underlying most of these concerns is that despite the important role of software in modern health service delivery, health care remains a human-intensive industry and thus must be considered a socio-technical system. Integrating software components that have been engineered and quality assured in isolation into the larger context of a system of systems often results in unforeseen and potentially negative consequences. The purpose of this workshop is to bring together software engineering researchers and health informaticians with the goal to identify the key challenges faced in current healthcare software development and discuss potential approaches on how to address these challenges. This year's workshop program has its particular focus on healthcare process engineering, the development of medical device software and infrastructure, and emerging software engineering paradigms for connected health delivery systems. Our goal is to discuss recent research innovations and challenges in these areas, and to continue developing an interdisciplinary, international community with an effective research, educational and industrial agenda for supporting software engineering in the healthcare sector.

We welcome your participation in this workshop and in the software engineering in healthcare systems community.



Ita Richardson, Workshop Co-Chair

Lero–The Irish Software Research Centre, and Health Research Institute, University of Limerick, Limerick, Ireland
ita.richardson@lero.ie



Jens Weber, Workshop Co-Chair

Department of Computer Science, University of Victoria, Victoria, Canada
jens@uvic.ca