



University  
of Victoria

# Health Information Science Seminar Series

**Dr. Andre Kushniruk, PhD, Director and Professor, School  
of Health Information Science, University of Victoria**

**The Human Factors of AI in Healthcare: Where we are now and  
where we are going?**

Wednesday, November 18, 2020

10:00 am - 11:00 am Pacific (Online via Zoom)

## **Abstract**

AI has the potential for greatly improving healthcare. Much has been said about the benefits of AI for healthcare related to patient outcomes, surveillance, safety, and improved decision making. This presentation will examine some of the challenges and opportunities for AI in healthcare, taking a human factors perspective. Historically a number of issues around adoption of AI have been encountered in relation to human factors (e.g. how to practically integrate AI technologies into healthcare settings and clinical practice). Human factors issues have included issues around interaction design, usability, and how to integrate AI into clinical workflow. Furthermore, there is a need to better understand how to monitor and evaluate errors, failure modes, issues of trust, understandability, optimal modes of user-system interaction, and end user awareness of underlying technologies.

This presentation will describe the type of applications in healthcare where AI has been most highly adopted by end users, and those that show most promise to transform healthcare. It will then explore a framework for considering type of AI application in relation to modes of user-computer interaction and user needs assessment. It will be shown there is a need for new methods for analyzing AI-human interaction, including extending classic HCI laboratory-based studies to new types of studies involving simulations and naturalistic testing and evaluation of new AI solutions within the context of actual use. The presentation will conclude with considerations gleaned from current developments and speculations about new directions for AI-human interaction in areas such as human-robot interaction in hospital settings.

**Dr. Andre Kushniruk** is Director and Professor of the School of Health Information Science at the University of Victoria. Dr. Kushniruk conducts research in a number of areas including evaluation of the effects of technology, human-computer interaction in health care and other domains as well as cognitive science. His work is known internationally and he has published widely in the area of health informatics. He focuses on developing new methods for the evaluation of information technology and studying human-computer interaction in health care and he has been a key researcher on a number of national and international collaborative projects. His work includes the development of novel methods for conducting video analysis of computer users and he is currently extending this research to remote study of e-health applications and advanced information technologies, including computerized patient record systems. Dr. Kushniruk has held academic positions at a number of Canadian universities and he has taught courses in areas such as human-computer interaction, database management and systems analysis and design. He holds undergraduate degrees in Psychology and Biology, as well as a M.Sc. in Computer Science and a Ph.D. in Cognitive Psychology from McGill University.

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