Distinguished Seminar in Biomedical Engineering

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**Date:** Tuesday November 7, 2017
**Time:** 2:00 pm
**Location:** Hurd Hall, Johns Hopkins Hospital

**Host:** Dr. Jeffrey Siewerdsen
Reception to follow at 3:00 pm.

From Complexity to Industrial Medicine: Non-Linear Events in Man’s Affair with Technology

**Abstract:** The drive toward personalized medicine is fundamentally enabled by measurement and fundamentally impeded by complexity. The complexity impedes our ability to establish models of disease and intervention and significantly limits our ability to deliver these interventions with quality and precision. Major technological innovations in the past provide remarkable illustrations of the dynamics of complexity and offer insight into the future nature of complexity in the context of personalized medicine. These observations provide context for the current challenges in health care and suggest emerging opportunities that portray an emerging period of accelerated learning and innovation. The presentation will develop these concepts in the context of advances in the rapidly evolving domain of high precision cancer interventions.

**Biography:** David Jaffray is the Executive Vice President of Technology and Innovation at the University Health Network (UHN, Toronto Ontario) and the Director of Medical Physics at Princess Margaret Hospital. He holds the Fidani Chair in Radiation Physics and is a principal in the STTARR Innovation Centre. He is also the Director of the TECHNA Institute and a Senior Scientist at the Ontario Cancer Institute. Dr. Jaffray is a Professor in the Departments of Radiation Oncology, Medical Biophysics, and the Institute for Biomaterials and Biomedical Engineering (IBBME) at the University of Toronto. He helped to establish the modern standard of care in image-guided radiation therapy and has >200 peer-reviewed publications. His current research interests focus on the development of imaging technologies and methods with a focus on image-guided interventions, including radiation therapy and surgery.