

2016 IEEE Signal Processing Society Winter School

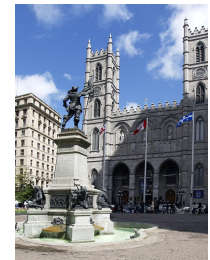
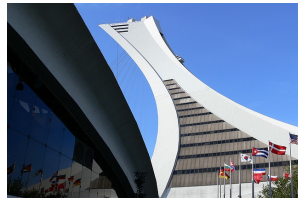
Distributed Signal Processing for Secure Cyber Physical Systems

Faculty of Engineering and Computer Science (ENCS)

Concordia University

November 2-4, 2016 • Montreal, Canada

<https://users.encs.concordia.ca/~i-sip/s3pcps2016/>



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Cyber-physical systems (CPSs) are engineering systems with integrated computational and communication capabilities that interact with humans through cyber space. The CPSs have recently emerged in several practical applications of significant engineering importance including aerospace, industrial/manufacturing process control, multimedia networks, transportation systems, smart grids, and medical systems, where performing secure and distributed signal processing and control are the key concerns.

A significant challenge in distributed monitoring in CPSs is the difficulty in acquiring secure data from geographically distributed sensors. The signal processing system in place should be able to: offer security against potential physical and cyber-attacks, extract relevant information in an adaptive and event-based fashion, preserve the privacy of the communicated information, estimate cooperatively the underlying state of the physical system in intelligent and intuitive ways, and adapt to changing conditions of the underlying physical system.

To accommodate these critical aspects of CPSs, this Winter school will provide an introduction to the current efforts on developing secure and distributed signal processing solutions in CPSs. Topics will range from foundations of CPSs, resource management techniques, distributed estimation and control, security of aspects of estimation and control algorithms, to recent CPS applications including smart grids, autonomous navigation, networked control systems, and robotics.

Keynote Speakers

Ali H. Sayed,	University of California, Los Angeles
Pramod K. Varshney,	Syracuse University
Georgios B. Giannakis,	University of Minnesota
Sajith (Saj) Nair	PWC's Partner, Cybersecurity & Privacy
Deepa Kundur,	University of Toronto
Tongwen Chen,	University of Alberta
Mark Coates,	McGill University
Usman Khan,	Tufts University
Arash Mohammadi,	Concordia University

Montréal: Montréal is at the crossroads of Europe and North America with a fertile foodie scene, pictorial architecture and a plethora of art festivals. Montréal has earned the reputation as the charismatic artsy kid in the international schoolyard.

Registration Fee

Membership	Students	Others	
	Full	Full	Single day
IEEE SPS Member	\$100	\$300	\$100
IEEE Member	\$200	\$500	\$200
Non-Member	\$400	\$800	\$500