

# IEEE Signal Processing Society Distinguished Lecture Program

**Venue:** Seminar Hall, D2 building, ECC Department,  
CKPCET, Surat

**Date :** 10<sup>th</sup> January 2020  
**Time:** 11.00 AM to 12:30 PM



## Distinguish Lecture (DL)

**Janusz Konrad**

PhD, McGill University, Montréal, Canada in 1984

### Affiliation

Professor, Electrical and Computer Engineering Department,  
Boston University.

## Lecture Title

### Towards Autonomous Video Surveillance

#### Abstract:

It is estimated that in 2014 there were over 100 million surveillance cameras in the world. Fueled by security concerns, this number continues to steadily grow. As monitoring of video feeds by human operators is not scalable, automatic surveillance tools are needed. In this talk, a complete video surveillance processing chain, developed over years at Boston University, from low-level video analysis to summarization of dynamic events will be covered. This talk will focus on three fundamental questions posed in video surveillance: “How to detect anomalous events in a visual scene? How to classify those events? How to represent them succinctly?” In the first part, “behavior subtraction”, an extension of “background subtraction” to scenes with dynamic backgrounds (e.g., water surface that is notoriously difficult to handle), which can detect complex anomalies in surveillance video will be discussed. Then, in order to classify activities within the detected anomalies, activity recognition on covariance manifolds will be discussed. Finally, “video condensation”, a computational method to succinctly summarize activities of interest for efficient evaluation by human operators will be described.

#### DL Bio-Sketch:

Janusz Konrad received Master’s degree from Technical University of Szczecin, Poland in 1980 and PhD degree from McGill University, Montréal, Canada in 1984. He joined INRS-Telecommunications, Montréal as a post-doctoral fellow and, since 1992, as a faculty member. Since 2000, he has been on faculty at Boston University. He is an IEEE Fellow and a recipient of several IEEE and EURASIP Best Paper awards. He has been actively engaged in the IEEE Signal Processing Society as a member of various boards and technical committees, as well as an organizer of conferences. He has also been on editorial boards of various EURASIP journals. His research interests include video processing and computer vision, stereoscopic and 3-D imaging and displays, visual sensor networks, human-computer interfaces, and cybersecurity.

#### Organized by:

**C.K.Pithawalla College of Engineering and Technology,  
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