

# IEEE KITCHENER-WATERLOO

## SECTION PRESENTATION

### **Mohamad Sawan**

Ecole Polytechnique  
de Montréal

#### **“Biomedical circuits and systems to recuperate neuromuscular functions”**

##### **Abstract:**

This talk covers the techniques and methods employed to build high reliability Biocircuits and Biosystems dedicated to design and implement advanced implantable and wirelessly controlled devices such as sensors and microstimulateurs. A global view of typical micro-device will be given. In addition, case studies related to peripheral and cortical neural systems will be presented. Special attention will be paid to low-power management and corresponding circuit techniques of such typical implantable multi-disciplinary systems.

##### **Biography:**

Mohamad Sawan received the B. Eng., M.Sc. and Ph.D. degrees, as well as a post-graduate training, all in Electrical Engineering. He is currently a Professor at the Ecole Polytechnique de Montréal. His scientific interests are the design and test of mixed-signal (analog, digital and RF) circuits and systems, the digital and analog signal and image processing. His interests deal also with modeling, design, integration, assembly and validation of remotely powered and controlled medical devices. Dr. Sawan is a holder of a Canadian Research Chair in Smart Medical Devices and Fellow of the Canadian Academy of Engineering. He is leading a research center known by ReSMiQ (Microelectronics Strategic Alliance of Quebec) and the Eastern Canadian IEEE-Solid State Circuits Society Chapter. He is co-founder of the Int. Functional Electrical Stimulation Society and member of its Board of Directors. Also, he is the founder of PolySTIM neurotechnology research laboratory at the Ecole Polytechnique.

**DATE:** Monday September 29, 2003  
**TIME:** 5:00 – 7:00 p.m.  
**LOCATION:** DC 1304 University of Waterloo

**ALL ARE WELCOME!!**  
**Refreshments will be served**

**Invited by Faycal Saffih**  
**Circuits and Systems Chair at KW-IEEE section**