The local IEEE Engineering in Medicine and Biology Society Chapter presents

Star Trek Tricorders: Microfabrication and Microelectronics Meet Nanobiotechnology

A Special Seminar by Prof. Chris Backhouse
Thursday March 27, 2008, 5pm
Room NRE 1-003, University of Alberta, Edmonton
(NRE: Natural Resources Engineering Facility)

Food Provided!

Abstract: The focus of much of the research in the Backhouse lab is upon the development of “Tricorders”, portable systems that are capable of performing complete diagnostics within minutes. With the ongoing development of micro and nanotechnologies we are now seeing the confluence of microelectronics, microphotronics and nanobiotechnologies. The resulting systems enable cost-effective medical diagnostics while allowing us to probe biological systems at the nanoscale. This work has the potential to completely change the way that our health care is delivered, while linking Canadian research with healthcare providers on the one hand, and with leading high technology companies on the other.

Speaker Biography

Dr. Backhouse is a Professor and Director of Engineering Physics program in the Department of Electrical and Computer Engineering at the University of Alberta. His research interest includes life sciences, space, RF MEMs and miniaturised instrumentation. These interests involve the application of micro and nanotechnologies for usage ranging from nanobiotechnology for medical diagnostics to microfabricated devices for use in space. His past industrial experience has been in the application of quantum devices to medical imaging and of microfabricated devices to the life sciences. His present research spans microfabricated devices and systems, RF systems, radio astronomy and ion thrusters. A dominant theme in this research is that often humanity has the technologies to solve a given problem but cannot afford to apply them. Much of the research in my lab, the Applied Miniaturisation Laboratory (AML), is directed to making important technologies more accessible through miniaturisation and integration. More details about his work can be found at http://www.ece.ualberta.ca/~chrisb/.