

## ORC Seminar Series Presents:

### "Optical devices based on ferroelectric domains"

Professor Roger Cudney

*Departamento de Optica, CICESE, Mexico*



Date: 9 January 2012

Time: 14:00-15:00

Venue: Building 53, room 4025

#### Abstract:

In this talk Professor Cudney will present past and recent results of his group on the use of ferroelectric domains in optical devices, specifically in wave-front modulators, such as electrically-controlled diffusers, lenses, vortex-producing lenses and Q-switches, as well as some of their uses.

#### Biography:

Professor Roger Cudney obtained his Bachelor degree in Physics in 1986 from the Universidad Nacional Autónoma de México (National University of Mexico); In 1992 he obtained his PhD in Electrical Engineering from the University of Southern California, where his research focused on nonlinear optics and the photorefractive effect. From 1992 to 1994 he worked as a postdoc at the Institute for Quantum Electronics at the ETH-Zurich, where he conducted research on photorefractive associative memories and photorefractive hologram fixing using ferroelectric domains. In 1994 he became a faculty member of the Department of Optics of CICESE, where he is currently a tenured researcher/professor.

His research is in nonlinear optics and lasers. His current research revolves around optical devices based on ferroelectric domains, such as quasi-phase-matching with periodically and a periodically poled ferroelectric materials and electrically-controlled wave-front modulators, as well as the development of compact, solid-state light sources, such as diode-pumped solid-state lasers and optical parametric oscillators.

