



KOÇ UNIVERSITY

## Math-Science Seminar

**Speaker:** Romeo Beccherelli (CNR, Rome, Italy)

**Title:** Liquid Crystal Photonics

**Date and Time:** Thursday, October 11, 2007, 11:00 am

**Place:** Room Z42, Science Building, Koç University, Rumelifeneri Yolu, Sarıyer 34450 Istanbul.

**Abstract:** We design and assess liquid crystal based photonic waveguide devices fabricated by preferential etching of a silicon-on-insulator substrate. The etched grooves are infiltrated by a highly-birefringent nematic liquid crystalline material. A detailed analysis of the nematic director response within the grooves is presented. We investigate different configurations and demonstrate optical switching by applying voltage to the liquid crystal.