

PHOTONICS SEMINAR

Dr. Wolfgang Schade

Femtosecond Laser Aided Materials Processing for Novel Photonic Sensors

Faculty Host: Dr. Jerome Mertz

October 31, 2013

2:00-3:00 p.m.

Room 901

Photonics Center

8 Saint Mary's Street

*Refreshments will
be served!*

Femtosecond laser technology offers very interesting new possibilities for three-dimensional direct writing of permanent index changes or index modulation in optically transparent materials such as glasses or polymers. This allows rapid prototyping of new photonic waveguide structures or Bragg gratings in these materials that easily can be tested for novel sensing devices or photonic components. The use of evanescent field effects gives numerous possibilities for molecular detection. In this talk the basics of this processing technology will be discussed and some examples for photonic sensor devices will be shown.

Dr. Wolfgang Schade is Professor of Physics at Clausthal University of Technology and also head of the department *Fiber Optical Sensor Systems* of Fraunhofer Heinrich Hertz Institute in Goslar/Germany. His background is in laser spectroscopy with applications to industrial process control, energy topics and very recently life sciences. He studied Physics at Kiel University in Germany, joined the Lund Institute of Technology in Sweden during his Ph.D. and was then a postdoc at JILA in Boulder, Colorado. After that, he joined the University of Colorado as a Visiting Professor before he became faculty at Clausthal University in 1998. He is author/co-author of more than 130 peer-reviewed papers and book chapters and holds more than 20 patents.

