

Boyd Group – Active Research Topics

April 2005

Quantum Imaging

Quantum lithography -- Colin and Hye Jeong
Enhanced (sub-Rayleigh) spatial resolution -- Anand and Colin
Entangled photons via conical emission -- Petros and Colin
Single photon sources using cholesteric liquid crystals* –Anand

Slow and fast light

Slow light in semiconductors - Giovanni, Aaron, and Nick
Coherence propagation in slow-light media -- Petros
Experimental studies of negative group velocity -- George and Aaron
Negative refraction - George and Zhimin
Numerical modelling of slow and fast light- Heedeuk, George, Zhimin

Nanocomposite materials for photonics

Composite laser materials - Ksenia
NLO of semicontinuous gold films - Giovanni and Nick

Additional topics

Micro-ring resonators - Aaron, Nick, George
Vector solitons - Petros
Photonic biosensors - Sandrine, Aaron, and Nick
Axicons and diffraction-free beams - Anand

* Joint Project with Svetlana Lukishova

Grad Students

Ksenia Dolgaleva
George Gehring
Anand Jha
Colin O'Sullivan-Hale
Giovanni Piredda
Aaron Schweinsberg
Zhimin Shi
Heedeuk Shin
Petros Zerom

Post Docs

Nick Lepeshkin
Sandrine Hocde
Hye Jeong Chang