

*University of Rochester*

*Summer 2004 Undergraduate Research in Optics and Engineering*

Brian Anderson, class of '06 at the University of Rochester, worked with Prof. Nick Bigelow on a Cs absorption imaging system capable of viewing a Cs Magneto-Optical Trap. He plans to apply to graduate school for physics.

Stefan Astheimer, class of '07 at Yale, worked with Prof. Chunlei Guo's ultrafast laser lab to construct, test and analyze components of an autocorrelator to resolve the uncertainty in the femtosecond laser beam's spectral phase.

Heather Berkley, class of '06 at the University of Rochester, worked with Prof. Andrew Berger on studying Raman spectroscopy using a Teflon® AF waveguide to predict the concentrations of various biological samples. She plans on applying to graduate school in optics.

Eric Dudley, class of '05 at the University of Rochester, worked with Prof. Jim Zavislan developing code to find optimal operating parameters for the ellipsometric instruments when making measurements of certain biological structures.

Larry Foulkrod, class of '05 at Texas State, worked with Prof. Wayne Knox's group with short-pulsed lasers (less than 1 ps) to realize continuum generation in short sections of tapered photonic crystal fiber (PCF) and regular tapered fiber.

Feliks Kogan, class of '07 at the University of Rochester, worked with Prof. Carlos Stroud on a mathematical model of Sound Amplification by Stimulated Emission of Radiation (SASER) using Matlab. Upon completion of his BS in optics and applied mathematics, he plans on applying to graduate school in optics.

LiHong Herman, class of '05 at the University of California, Berkeley, with the group of Prof. Robert Boyd, studied the propagation of a pulse in a ruby crystal at room temperature using an incoherent light source from flashlamp. He plans to pursue graduate studies.

Cortney Jansen, class of '06 at the University of Rochester, worked on a project to use Raman spectroscopy to identify oral bacteria with the research group of Prof. Andrew Berger. She is considering pursuing graduate studies.

Mark Stockett, class of '06 at Oberlin College, worked with Prof. Nick Bigelow's group on the development of computer code to regulate the temperature of the vacuum chamber in which the experiments in quantum optics take place.

Tim Osedach, class of '05 at Rowan University, worked in Prof. Lukas Novotny's nano-optics group developng a novel process by which nanometer-scale tips of aluminum could be fabricated for tip-enhanced microscopy. He plans on applying to graduate school for electrical engineering.

Christopher Scilla, class of '05 at St. Michael's Collge, spent the summer working with Dr. Esther Conwell studying the electrical properities of DNA. He plans on persuing an advanced degree in material science.

Abbie Tippie, class of '06 at Colorado State University, investigated improved phase retrieval methods using x-ray diffraction images with Prof. Jim Fienup. She plans on applying to graduate school in either electrical engineering or optics.

Sam Wadsworth, class of '06 at the University of Rochester, under the supervision of Prof. Miguel Alonso, built a 1-D and 2-D adaptive integration scheme that was used to model diffraction patterns in Mathematica. He plans to apply to graduate school for physics.

Amy Wakim, class of '05 at the University of Rochester, worked for Prof. Nick Bigelow on designing the circuitry that will heat the new MOT chamber in the atom-chip laboratory along with other circuitry for the lab set-up. She plans to apply to graduate school in physics.