# CHRISTINE PHAN

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## EDUCATION

Smith College, Northampton, MA -- Bachelor of Arts expected May 2014
Major: Physics, Minor: Philosophy -- Cumulative GPA: 3.48

University of St. Andrews, St. Andrews, Scotland -- Junior Year Abroad program, 2012 – 2013

## PUBLICATIONS AND PRESENTATIONS

Baumgartl, J. et al. including Christine Phan. "Particle Clearing and Trapping using Optically-mediated Airy Beams." *Optical Express*. (To be published in 2014).

"Propagation of Orbital Angular Momentum States of Light in Turbulent Media."
Symposium on Undergraduate Research DLS Meeting LS-XXIV, Rochester NY, October 2011

## RESEARCH AND TEACHING EXPERIENCE

*Teaching Assistant*, Smith College Astronomy Department, Northampton, MA, January 2012 – present
Held evening lab hours weekly to assist in teaching laboratory material to students in introductory astronomy courses. Assisted in solar and night-time telescope observations for Smith faculty, students, and guests.

*Teaching Assistant*, Smith College Physics Department, Northampton, MA, January 2011 – present
Tutored students in a 3rd-year course, Thermal Physics, on a weekly basis. Helped students prepare for exams and homework assignments by going over concepts in thermal physics, statistical mechanics, and introductory physics. Graded problem sets for General Physics I, General Physics II, and Modern Physics I.

*Research Intern*, University of St Andrews, St. Andrews, Scotland, August 2012 – February 2013
Developed optimized process for particle clearing and trapping using optically-mediated Airy beams. Wrote LabVIEW program with user interface that controlled experimental parameters. Conducted experiments using program, and employed MATLAB for data analysis. Results showed that Airy beams successfully manipulated micro-particles. Experimental procedure will be applied towards research involving optical sorting of animal cells and other biological material.

*Research Intern*, University of Rochester REU Program, Rochester, NY, June 2012 – August 2013
Researched adaptive optics and orbital angular momentum (OAM) states of light for a summer REU project. Set-up and performed several experiments to characterize the propagation of OAM states through turbulent media. Wrote LabVIEW and MATLAB programs for data collection and analysis. Data suggested that OAM states are good candidates for quantum cryptography.

## GRANTS

Awarded NSF research grant, 2012

## TECHNICAL SKILLS

Mathematica, LabVIEW, LaTeX, MS Office, JavaScript, MATLAB, , Adobe Illustrator, Adobe Photoshop

## CO-CURRICULAR EXPERIENCE

*Member*, Smith College Ultimate Frisbee, 2012 – present