

CHRISTINE PHAN

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EDUCATION

Smith College, Northampton, MA -- Bachelor of Arts expected May 2016
Major: Physics, Minor: Philosophy -- Cumulative GPA: 3.48

University of St. Andrews, St. Andrews, Scotland -- Junior Year Abroad program, 2014 – 2015

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 2015).

“Propagation of Orbital Angular Momentum States of Light in Turbulent Media.”
Symposium on Undergraduate Research DLS Meeting LS-XXIV, Rochester NY, October 2013

RESEARCH AND TEACHING EXPERIENCE

Teaching Assistant, Smith College Astronomy Department, Northampton, MA, January 2015 – 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.

Research Intern, University of St Andrews, St. Andrews, Scotland, August 2014 – February 2015
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.

Teaching Assistant, Smith College Physics Department, Northampton, MA, January 2013 – May 2014
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 Rochester REU Program, Rochester, NY, June 2013 – August 2014
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, 2014

TECHNICAL SKILLS

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

CO-CURRICULAR EXPERIENCE

Member, Smith College Ultimate Frisbee, 2013 – present