Sample CV

CHRIS J. SMITH

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EDUCATION

Smith College, Northampton, MA
Bachelor of Arts, May 2018
Major: Physics
Minor: Philosophy

University of St Andrews, St Andrews, Scotland
Junior Year Abroad, 2016 – 2017

Relevant Astronomy Coursework: Telescopes and Techniques, Introduction to Astronomy, Dark Matter, Nebulae, Extrasolar Planetary Science, Complex Analysis, Nuclei and Particles.

GRANTS AND AWARDS

Dean's List, 2015 – 2018
Fulbright ETA Grant, South Korea, 2018 Finalist
National Science Foundation Award PHY-0242555, research grant, 2018
Howard Hughes Medical Institution Research Grant (for undergraduate research in the physical sciences), 2017

RESEARCH AND TEACHING EXPERIENCE

Research Intern, University of St Andrews, St Andrews, Scotland, June – August 2017

> Developed optimal process for particle clearing and trapping using optically-mediated Airy beams. Wrote a LabVIEW program with a user-interface that controlled experimental parameters. Conducted experiments using program and analyzed data with MATLAB. Results showed that Airy beams successfully manipulated micro-particles. Procedure will be applied to research involving optical sorting of animal cells and other biological material.

Research Intern, University of Rochester REU Program, Rochester, NY, June – August 2016

> Researched adaptive optics and orbital angular momentum (OAM) states of light. Set up and performed several experiments to characterize 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.

Teaching Assistant, Smith College Astronomy Department, Northampton, MA, January 2015 – May 2018

> Held evening lab hours weekly to assist in teaching laboratory material 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 2016 – May 2018

> Tutored students weekly in third-year physics course Thermal Physics. Helped students prepare for exams and homework assignments by reviewing concepts in thermal physics, statistical mechanics, and introductory physics. Graded problem sets for General Physics I and II and Modern Physics I.

Research Assistant to Dr. Donatella Cassetari, University of St Andrews, Scotland, October 2016 – May 2017

Participated in year-long research project that worked towards a future experiment pertaining to magneto-optical trapping of a Lithium-Rubidium species. Wrote Mathematica program to find spontaneous emission rates of a Bose-Einstein condensate system and determined physical parameters for experiment.

Research Assistant to Dr. Doreen Weinberger, Smith College REU Program, Northampton, MA, May – August 2015

Studied laser diode spectroscopy and saturated absorption spectroscopy of rubidium isotopes. Assembled optical equipment and collected first set of data for use in a future physics laboratory course offered at Smith College.

Intern, Summer Science & Engineering Program (SSEP), Smith College, Northampton, MA, June – August 2015

Assisted in teaching fundamentals of physics and engineering to high school girls for Music and Engineering course offered through SSEP. Oversaw group work and machine shop sessions. Guided students in construction of their end-of-program projects, a musical instrument employing applications of physics and engineering. Organized and led recreational activities after class.

PUBLICATIONS

O'Sullivan-Hale, M. et al. including C.J. Smith. "Propagation of Orbital Angular Momentum States of Light in Turbulent Media." (To be published).

Baumgartl, J. et al. including C.J. Smith. "Particle Clearing and Trapping using Optically-mediated Airy Beams." *Optical Express*. (2018).

PRESENTATIONS

"Propagation of Orbital Angular Momentum States of Light in Turbulent Media."
Symposium on Undergraduate Research DLS Meeting LS-XXIV, Rochester NY, October 2017

TECHNICAL SKILLS

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

ACTIVITIES

Vice President/Treasurer, Smith College Physics Club, October 2016 – May 2018

Presented and filed budget forms. Provided guidance and insight to students inquiring about physics degree and physics department. Searched for and advertised physics-related events during the year. Promoted student-faculty camaraderie.

VOLUNTEER WORK

Habitat for Humanity, Smith College, Northampton, MA, 2015 – 2017
Participated in building houses on several sites in Western Massachusetts.