Curriculum Vitae

Zachary Glassman

School Address
Pomona College
Claremont, CA 91711

EDUCATION

Bachelor of Arts, Physics
Pomona College, Claremont, CA — Expected May 2014
Thesis - High Resolution Spectroscopy and Isotope Invariant Analysis of Diatomic Molecules

Bachelor of Arts, Mathematics
Pomona College, Claremont, CA — Expected May 2014
Thesis - Universal Metric Spaces and Applications to General Relativity

GPA: 3.64

Honors
Steven Chu Award for best undergraduate research at California-Nevada APS 2013- runner up
Tileston Junior Physics Award
Pomona Scholar 2x
Pomona Freshman Physics Award

PUBLICATIONS

- *The microwave spectrum of the odd isotope of ytterbium fluoride,* ^{171}YbF- to be submitted December 2013.
- *From Urysohn's Universal Metric Space to a Universal Space-Time*- Submitted to Mathematical Structures and Modeling.
- *The rotational spectra, isotope invariant spectral analysis, and Born-Oppenheimer breakdown of KF*- manuscript in preparation

PRESENTATIONS AND PROJECTS

- YbF, BOB, and the eEDM-probing zero with diatomic molecules-talk given at 2013 Annual Meeting of the American Physical Society, California-Nevada Section
- An Introduction to LaTeX- workshop given to Pomona College students regarding the basics of the LaTeX typesetting language
- Universal Spaces of Metrics and General Relativity-Talk given as part of Senior Seminar in Mathematics
- Spectroscopy and Isotope Invariant Analysis of Diatomic Molecules- Colloquim given at Pomona Department of Physics and Astronomy
- Isotopic Invariant Analysis of YbF and KF- Poster given at 2013 Summer Undergraduate Research Program poster session
- Dunham invariant analysis of YbF- poster given at 2013 Gas Phase Electron Diffraction Conference, Germany
- High Resolution Rotational Spectroscopy of Zeeman & Hyperfine Effects in PbF & YbF - Poster given at 2012 Division of Atomic, Molecular and Optical Physics conference in Anaheim, CA
- *Garduino Automated Gardening System*- Featured article on instructables.com for design and implementation of automated gardening system using arduino micro-controller.
  http://www.instructables.com/id/Garduino-Automated-Gardening-System/

RESEARCH EXPERIENCE

Research Assistant Jan 2012 –
Department of Physics and Astronomy, Pomona College, Claremont CA
- Research in High Resolution Spectroscopy of Diatomic Molecules
- Worked with advisor Dr. Richard Mawhorter at Pomona College
- Worked in lab of Dr. Timothy Steimle at Arizona State University
- Worked in lab of Dr. Jens-Uwe Grabow at Leibniz Universität Hannover

Research Assistant Sept 2013 –
Department of Mathematics, Pomona College, Claremont CA
- Research in functional analysis on Urysohn Universal Metric Space, including applications to concepts from General Relativity
- Worked with advisor Dr. Asuman Aksoy at Claremont McKenna College

Research Intern June – Aug 2011
Department of Physics, Yale University, New Haven , CT
- Supervised by Dr. Sidney Cahn and Dr. Simon Mochrie
- Created physics lab module for Yale physics class on Brownian motion
- Used Matlab to interface equipment and perform statistical analysis

PROFESSIONAL EXPERIENCE

LaTeXSpecialist and Quantitative Skills Center Fellow September 2013 –
- As QSC fellow, mentored in both large and small group sessions.
- LaTeXspecialist for Pomona Mathematics department.

Tutor/Mentor 2008 –
- Tutored students in Knot Theory, Analysis, Algebra, Geometry, Calculus, Basic Math, Introductory Mechanics and Electricity and Magnetism
- Mentored mentally disabled student

Physics Grader Sept 2012 –
Department of Physics and Astronomy, Pomona College, Claremont , CA
- Graded upper level Quantum Mechanics
- Graded and gave feedback on a two pass system for freshman potential physics majors

Lab TA- Introductory Physics Sept 2011 – May 2012
Department of Physics and Astronomy, Pomona College, Claremont , CA
- Taught proper lab technique and analysis skills
- Evaluated students on lab skills and results
- Graded lab reports

COMPUTER SKILLS

Experienced in Python,C, CUDA, Matlab, Mathematica, LaTeX, HTML, CSS, Arduino, Word, Excel, Powerpoint, SPFIT(Molecular spectroscopy fitting program), SPCAT(Molecular spectroscopy prediction program)

Email: zachary.glassman@pomona.edu
Website: zacharyglassman.com