Julius Oppenheim

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EDUCATION

CALIFORNIA INSTITUTE OF TECHNOLOGY

Chemistry Major
Expected June 2019 | Pasadena, CA
Cum. GPA: 3.9

HACKLEY SCHOOL

Cum Laude
June 2015 | Tarrytown, NY
Honors in Science, Math, and Arts
Composite ACT Score, 35
National AP Scholar

LINKS

Github:// JulesOpp
Google Scholar:// Julius Oppenheim

COURSEWORK

CALIFORNIA INSTITUTE OF TECHNOLOGY

Organic Chemistry (Ch 41abc)
Advanced Inorganic Chemistry (Ch 102/112/153)
Statistical Physics (Ph 12c, Ph 127ab, Ph 121abc)
Quantum Mechanics (Ch 21a, Ph 125ab)

SKILLS

PROGRAMMING & SOFTWARE

Proficients:
Python • LaTeX • MS Excel • Mathematica
Schrödinger Jaguar & Desmond • LAMMPS
Familiar:
C/C++ • Java • Objective-C • Ruby
R • JavaScript • AppleScript

LEADERSHIP

FOOD SERVICE COMMITTEE | Chairman/Representative

2016 - Present | Pasadena, CA

- Appointed by student body to maintaining campus-wide food.

CALTECH DIVISION I FENCING SQUAD | Squad Leader

2015 - 2017 | Pasadena, CA

- Coach the sabre squad in both practice and at meets.
- Led a novice squad to a record-breaking season.

EXPERIENCE

CALTECH CHEMISTRY CLUB | Academic Coordinator

March 2018 - Present | Pasadena, CA

- Academic Coordinator (March 2016 - March 2018)

CALTECH HOUSE WAITER | Head Waiter

January 2017 - Present | Pasadena, CA

- Manages team of waiters to serve ∼50 students daily.

RESEARCH

MATERIALS AND PROCESS SIMULATION CENTER, CALTECH | Researcher

Fall 2016 - Present | Pasadena, CA

- Worked with Prof. William A. Goddard III and Dr. Saber Naserifar to develop a new semi-empirical universal force field.
- Currently continuing the development of universal force fields as well as studying the transport of lithium through ionic liquids.
- "Polarizable Charge Equilibration Model for Predicting Accurate Electrostatic Interactions in Molecules and Solids: Extension and Validation for Ge, As, Se, Br, Sn, Sb, Te, I, Pb, Bi, Po, and At Elements," (Journal of Physical Chemistry A, 2017)

LINDHURST LABORATORY FOR EXPERIMENTAL GEOPHYSICS, CALTECH | Researcher

Summer 2016 | Pasadena, CA

- Worked with Prof. Paul Asimow to study the shock synthesis of quasicrystals, specifically icosahedrite and decagonite.
- Used scanning electron microscopy, electron diffraction spectroscopy, electron backscatter diffraction, and electron probe micro-analysis.
- "Shock Synthesis of Five-component Icosahedral Quasicrystals," (Scientific Reports, 2017)
- "Shock Synthesis of Decagonal Quasicrystals," (Scientific Reports, 2017)

NEW YORK MEDICAL COLLEGE, DEPARTMENT OF NEUROSURGERY | Researcher

Summer 2012 – 2014 | Valhalla, NY

- Worked with Dr. Meena Jhanwar-Uniyal to study molecular and genetic mechanisms of primary and metastatic tumors of the nervous system to understand the mechanism of tumor metastases.
- "Stem Cell Therapy and Curcumin Synergistically Enhance Recovery from Spinal Cord Injury," (PLOSONE, 2014)

HONORS AND ACHIEVEMENTS

2018 George W. and Bernice E. Green Memorial Prize
2018 SURF Fellow
2017 Perpall SURF Speaking Competition Semifinalist
2017 Arthur A. Noyes SURF Fellow
2016 George R. Rossman SURF Fellow
2016 NCAA Division I Regionals - Fencing