

Julius Oppenheim

joppenhe@caltech.edu | 845.269.9905

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)

Quantum Mechanics (Ch 21a, Ph 125ab)

SKILLS

PROGRAMMING

Proficients:

Python • \LaTeX

MS Excel • Mathematica

Skilled:

C/C++ • Java • Objective-C • Ruby

R • JavaScript • AppleScript

LEADERSHIP

FOOD SERVICE COMMITTEE |

CHAIRMAN

2017 - 2018 | 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 2016 - Present | Pasadena, CA

- Organize and manage seminars by visiting faculty members to provide educational opportunities for undergraduates.

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 force universal force field based on quantum mechanics.
- Currently continuing the development of universal force fields as well as studying the transport of solvated lithium to lithium electrodes in an ionic liquid solvent.
- "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," (PLOS ONE, 2014)

HONORS AND ACHIEVEMENTS

2017 Arthur A. Noyes SURF Fellow

2016 George R. Rossman SURF Fellow

2016 NCAA Division I Regionals - Fencing