

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)

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 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 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," (PLOS ONE, 2014)

HONORS AND ACHIEVEMENTS

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| 2017 | Perpall SURF Speaking Competition Semifinalist |
| 2017 | Arthur A. Noyes SURF Fellow |
| 2016 | George R. Rossman SURF Fellow |
| 2016 | NCAA Division I Regionals - Fencing |