

Marc Ong

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- Education* **California State University, Los Angeles (CSULA)** Sep 2014—present
- GPA: 3.97/4
 - Admitted via Early Entrance Program directly from middle school (Sep 2014)
 - Currently pursuing BSc in Physics, Minor in Mathematics (expected May 2019)
 - Coursework: Probability Theory (graduate level), Linear Algebra, Biostatistics, Modeling Biological Systems with R, Scientific Computing with Python, Statistical Mechanics
- Research* **Computational Materials Lab, CSULA** Aug 2017—present
- Conducts simulations to assess novel materials for solar energy and catalysis
 - Applies genetic algorithms to predict crystal structures of new materials
 - Constructs and evaluate models to assess thermodynamics of catalytic cycles
 - Writes technical articles for publication in peer-reviewed scientific journals
 - Organizes and instructs workshops for programming and machine learning
- Intern, National Institute for Materials Science (Japan)** May 2017—Aug 2017
- Conducted experiments on charge transport in perovskite solar cells
 - Analyzed experimental data to understand degradation processes
 - Created scripts for model fitting of solar cell impedance measurements
- Photovoltaics Lab, CSULA** Apr 2016—May 2017
- Conducted experiments to build and characterize materials for perovskite photovoltaics
 - Performed general laboratory techniques for the assembly of solar cells
 - Performed measurements of photovoltaic efficiency and charge transport
- Skills* **Computer Software and Programming Languages**
- Python (numpy, pandas, scikit-learn) for scientific computing and data analysis
 - Research experience with PyTorch for prototyping deep neural networks
 - R for optimization and solving systems of differential equations
 - GNU/Linux systems and shell scripting with bash + GNU coreutils
 - Certified, Deep Learning Specialization (Andrew Ng, Coursera)
- Research and Collaborative Abilities**
- Technical communication (conference presentations, instructing programming workshops)
 - Interdisciplinary cooperation with team members and other research groups, including physics, chemistry, and materials science
 - Project management for scientific research
 - Technical writing for journal publications
- Languages**
- English (native)
 - Japanese (proficient)
 - Mandarin Chinese (basic)

- Articles* **Journal Publications (peer-reviewed)**
- M Ong, Q Campbell, I Dabo, and RA Jishi. “First-principles investigation of BiVO₃ for thermochemical water splitting,” *Int. J. Hydrog. Energy* **44**, 3 (2019).
 - M Ong, M Hammouri, and RA Jishi. “Ab-initio study of optoelectronic and magnetic properties of ternary chromium chalcogenides,” *Adv. Mater. Sci. Eng.* **2018**, 3762451 (2018).
- Conference Abstracts**
- M Ong, Q Liu, A Lopez, X Wang, D Jiang, and F Zhou. “Impact of monolayer of alkyl amine on the crystalline orientation and performance of CH₃NH₃PbI₃ solar cells,” *Abstr. Pap. Am. Chem. Soc.* **253** (2017).
- Fellowships* **Undergraduate Student Fellowship, National Science Foundation**
Funded by the Partnership for Research and Education in Materials
- Awards* **Dean’s List**
Spring and Fall 2015, Spring and Fall 2016, Spring and Fall 2017, Spring and Fall 2018
- Nomination by Golden Key Honor Society**
Nomination by National Society of Leadership and Success
Nomination by Phi Kappa Phi Honor Society
- Miscellaneous* **Event Coordinator, American Red Cross, CSULA** Sep 2016—present
- Organizes CPR training and events to raise awareness for disaster preparedness among university students