

Jonas L. Kaufman

Materials Department
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Education

University of California, Santa Barbara

Ph.D. Materials

Advisor: Prof. Anton Van der Ven

GPA: 4.0

2017–Present

Harvey Mudd College

B.S. Physics

Graduate with High Distinction, Departmental Honors in Physics and Humanities

GPA: 3.9

2013–2017

Research Experience

University of California, Santa Barbara

Graduate Student Researcher

Studying materials for “beyond-Li-ion” batteries using first-principles statistical mechanics methods

Sep. 2017–Present

Lawrence Livermore National Laboratory

Academic Cooperation Participant

Molecular dynamics simulation to probe non-equilibrium properties of hydrogen storage materials

Jun. 2019–Sep. 2019

Sandia National Laboratories, Albuquerque

Harvey Mudd College Physics-Engineering Clinic Team Member

Finite element modeling of ceramic nanoparticles in composites for capacitor applications

Sep. 2016–May 2017

UNSW Sydney, Australia

Materials Science Research Assistant

Atomistic modeling of mechanical properties to aid development of multicomponent metallic alloys

May–Aug. 2015, 2016

Awards

U.S. Department of Energy Computational Science Graduate Fellowship

2017–Present

Jon A. Wunderlich Prize for Creative Achievement in Physics, Harvey Mudd College

2017

Barry M. Goldwater Scholarship

2016–2017

Jude and Eileen Laspa Fellowship in Applied Mechanics, Harvey Mudd College

2015–2017

National Merit Scholarship

2013–2017

Publications

7. E. Hwang, E. Cuddy, J. Lin, **J. L. Kaufman**, A. Shaw, P. L. J. Conway, A. Pribram-Jones, K. J. Laws, and L. Bassman. [Predicting ductility in quaternary B2-like alloys](#). *Physical Review Materials* 5, 033604 (2021).
6. **J. L. Kaufman** and A. Van der Ven. [Ordering and structural transformations in layered \$K_xCrO_2\$ for K-ion batteries](#). *Chemistry of Materials* 32, 6392–6400 (2020).
5. **J. L. Kaufman**, J. Vinckevičiūtė, S. K. Kolli, J. G. Goiri, and A. Van der Ven. [Understanding intercalation compounds for sodium-ion batteries and beyond](#). *Philosophical Transactions of the Royal Society A* 377, 20190020 (2019).
4. M. Y. Toriyama, **J. L. Kaufman**, and A. Van der Ven. [Potassium ordering and structural phase stability in layered \$K_xCoO_2\$](#) . *ACS Applied Energy Materials* 2, 2629–2636 (2019).
3. **J. L. Kaufman** and A. Van der Ven. [\$Na_xCoO_2\$ phase stability and hierarchical orderings in the \$O_3/P_3\$ structure family](#). *Physical Review Materials* 3, 015402 (2019).
2. **J. L. Kaufman**, S. H. Tan, K. Lau, A. Shah, R. G. Gambee, C. Gage, L. MacIntosh, A. Dato, P. N. Saeta, R. C. Haskell, and T. C. Monson. [Permittivity effects of particle agglomeration in ferroelectric ceramic-epoxy composites using finite element modeling](#). *AIP Advances* 8, 125020 (2018).
1. **J. L. Kaufman**, G. S. Pomrehn, A. Pribram-Jones, R. Mahjoub, M. Ferry, K. J. Laws, and L. Bassman. [Stacking fault energies of nondilute binary alloys using special quasirandom structures](#). *Physical Review B* 95, 094112 (2017).

Presentations

2. **Gordon Research Conference: Batteries**. *Modeling structural evolution in layered cathode materials for Na- and K-ion batteries* (poster). Feb. 17–18, 2020. Ventura, CA.
1. **Materials Research Society Spring Meeting**. *Structural phase transitions and intercalant ordering in layered Na- and K-ion cathode materials*. Apr. 23, 2019. Phoenix, AZ.

Teaching

University of California, Santa Barbara

Sep.–Dec. 2018

Materials Teaching Assistant

Teaching assistant for *Introduction to Quantum Mechanics for Materials* (MATRL 289A)

Harvey Mudd College

May 2015–May 2017

Physics Academic Excellence Program Facilitator

Lead tutoring workshops for students in Special Relativity, Mechanics and Electromagnetism courses