

# Ian Lin

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*UC Berkeley graduate student seeking opportunities in energy development and materials characterization*

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## EDUCATION

The University of California, Berkeley | GPA: 3.90

MS Materials Science and Engineering

May 2018

Joint BS Materials Science and Engineering and BioEngineering

May 2016

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## EXPERIENCE

**Berkeley Climate and Energy Institute | Advanced Manufacturing for Energy**

Berkeley, CA

*R&D Engineer: Printed Batteries and Supercapacitors*

04/2015 – Present

- Investigating failure mechanisms in Zinc Manganese battery cells
- Conducting post failure analysis to improve cycle life and identify design weaknesses
- Modified batteries to yield 10-fold increase in capacity and 100-fold increase in cycle life

**The University of California, Berkeley | Graduate Student Instructor**

Berkeley, CA

*Materials Characterization*

01/2017 – Present

- Trained and oversaw the application of the XRD and SEM for solid metals and solid powders
- Taught 12 senior undergraduate students about radiation safety and radioactive materials
- Led discussions to examine in depth the concepts of x-ray diffraction and electron microscopy

**The University of California, Berkeley | Graduate Student Instructor**

Berkeley, CA

*Properties of Materials Laboratory*

08/2016 – 01/2017

- Built 8 lab protocols to teach metallurgy, failure analysis, and electrical properties of materials
- Trained 153 students how to apply theoretical materials concepts in the laboratory setting
- Taught concepts of heat treatment, metal alloys, polymer structures, stress/strain, and microstructure analysis

**Sumitomo Electric Industries, Ltd. | Power Systems R&D Group**

Osaka, Japan

*R&D Engineer: Design of Redox Flow Battery*

06/2016 – 08/2016

- Redesigned flow channels to increase energy efficiency by 11%
- Auditioned different bipolar plate material designs to decrease cell bulk resistance by 6%
- Researched materials interface properties to yield a 13% decrease in cell contact resistance

**Department of Materials Science and Engineering | The Wu Group**

Berkeley, CA

*R&D Engineer: Thin Film Semiconductors*

08/2013 – 04/2015

- Designed a novel fabrication method to increase monolayer InSe yield by 20%
- Applied microscopy techniques on monolayers of indium selenide: Raman, AFM, SEM, MFM
- Constructed InSe-Graphene solar-cell devices to harvest photovoltaic energy

**Academia Sinica | Novel Materials and Spin Electronics Lab**

Taipei, Taiwan

*R&D Engineer: Indium Selenide Semiconductor Properties*

06/2014 – 08/2014

- Conducted Hall Effect measurements on sets of InSe monolayer and bilayer samples
- Assembled InSe testing platforms using e-beam lithography and sputtering techniques
- Engineered the AFM to function as a MFM to characterize spin ice properties

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## SKILLS

**Laboratory Skills:** Scanning Electron Microscopy, X-Ray Diffractometry, Atomic Force Microscopy, Magnetic Force Microscopy, Raman Spectroscopy, Electron Beam Sputtering, Molecular Beam Epitaxy, Photoresist Application, Instron Test, Charpy Test, Rockwell Hardness, Brinell Hardness, Chromatography, Polymer Synthesis, Rheology Measurements, Screen Printing, 3D Printing,

**Programming:** Matlab, Java, HTML, CSS

**Languages:** English, Mandarin, Japanese

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## PUBLICATIONS & PROJECTS

Bernard Kim, Ian Lin, Paul Wright et al., *Layer-by-Layer Fully Printed Zn-MnO<sub>2</sub> Batteries with Improved Internal Resistance and Cycle Life*, accepted PowerMEMS Conference, 2015.

Ian Lin, Amanda Haack, Zian Liu, Ashu Shrestha, *Drug Eluting Contact Lens for Treatment of Corneal Ulcers in the Developing World*, Rice 360 Global Health Technologies Design Competition, 2016.

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## HONORS

Graduated with Honours   University of California, Berkeley	2016
Vice President   Tau Beta Pi California Alpha	2015
Gold Award   The Duke of Edinburgh's Award	2014
Edward Kraft Award for Academic Excellence and Accomplishment	2013

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## INTERESTS

Trumpet Performance	2005 – Present
<ul style="list-style-type: none"><li>• The University of California: Cal Band, Chamber Orchestra</li><li>• Vancouver Youth Symphony Orchestra, National Youth Band of Canada</li></ul>	
Photography	2012 – Present
<ul style="list-style-type: none"><li>• Graduation Photography, Club Promotion, Wedding Photography</li></ul>	
Hip Hop and Urban Dance	2014 – Present
<ul style="list-style-type: none"><li>• AFX Competitive Team: Collaboration NorCal, Fusion XVI, Breakthrough</li></ul>	