

Gary K. Ong

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EDUCATION

University of California, Berkeley

PhD Materials Science and Engineering

Expected May 2017

B.S. Materials Science and Engineering [Highest Honors]

May 2012

RELEVANT COURSEWORK AND PROJECTS

- Bonding and Crystallography
 - Ceramics Processing
 - Corrosion
 - Polymer Processing
 - Materials Thermodynamics
 - Materials Characterization
 - Mechanical Behavior of Materials
 - Phase Transformation and Kinetics
 - Quantum Mechanics
 - IC Device Physics and Processing
 - Engineering Economics
- **Materials Characterization Final Project** Spring 2011
Characterized an unknown dental crown material using XRD, SEM, and EDS analysis.
- **Ceramics Processing Final Project** Fall 2011
Completed a full report on the properties, processing, and mechanical characteristics of MAX phase ceramics.

SKILLS

- Programming languages: MatLab, C++, Java
- Other computer experiences: Microsoft Office programs, GIMP (photoshop)
- Experience with PCB design and layout
- Lab equipment experiences: Scanning Electron Microscopy, Energy Dispersive Spectroscopy, IV and CV measurements, X-ray diffraction, Electrical Impedance Spectroscopy, focus ion beam, wafer deprocessing, mechanical polishing, microfabrication processes, electron back scatter diffraction
- Languages: English, Malay, Cantonese

PROFESSIONAL EXPERIENCES

- **Graduate Engineering Intern** [Intel Corporation] – Hillsboro, OR May 2012 – Aug 2012
Conducted failure analysis on back and far back end wafer layers specifically on metal line failure modes such as void and intermetallic formation, delamination, corrosion etc. First to provide experimental evidence of crystallographic texture preference between two processes explaining difference in failure performance.
- **Engineering Intern** (Cooper Bussmann) - Dublin, CA June 2011- Aug 2011
Optimized processing involving an asymmetric capacitor project. Proposed and pursued a new electrode design for the project. Conducted cyclic voltammetry and electrical impedance spectroscopy studies.
- **Research Assistant** (Salahuddin Group, UC Berkeley) - Berkeley, CA Sept 2010-Dec 2011
Conducted IV and CV measurements on oxide materials to investigate negative capacitance. Spearheaded project to investigate the properties of monolayer MoS₂ for low power devices.
- **Undergraduate Grader** (UC Berkeley Material Science Department) – Berkeley, CA Fall 2010, Spring 2012
Graded assignments for the lower division properties of materials and upper division phase transformation course.
- **Math and Chemistry Tutor** (Mt. San Jacinto Comm. College) - Menifee, CA Feb-Dec 2009
Tutored chemistry and mathematics up to differential equations. Organized review sessions for chemistry classes.

EXTRACURRICULAR ACTIVITIES

- **Professional Development Committee Chair - Tau Beta Pi Engineering Honors Society** Aug 2011 – Dec 2011
- **Professional Development Committee Member** Jan 2011 – May 2011
Initiated cooperation with the UC Berkeley Career Center and the Engineering Student Services. Proposed and spearheaded three new professional development events. Improved attendance for existing professional development events.
- **UC Berkeley Solar Vehicle Team Member (CalSol)** Jan 2010-Aug 2011
Co-designed the datalogger board. Secure appropriate solar cells for the car, proposed possible solar array layouts to maximize efficiency. Physical electronic work such as soldering, bread boarding circuits, programming an Arduino microcontroller.

HONORS AND ACCOLADES

- Tau Beta Pi Engineering Honors Society
- Semiconductor Research Corporation Fellowship Recipient