

TIMOTHY J. RUPERT

University of California, Irvine
Department of Mechanical and Aerospace Engineering
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ACADEMIC APPOINTMENTS

University of California, Irvine	Irvine, CA
2011 – present	Assistant Professor Mechanical and Aerospace Engineering (MAE) Chemical Engineering and Materials Science (ChEMS) – <i>Joint Appointment</i> Materials and Manufacturing Technology (MMT) – <i>Affiliated Faculty</i>

EDUCATION

Massachusetts Institute of Technology	Cambridge, MA
2011	Ph.D. in Materials Science and Engineering <i>Thesis:</i> “Nanocrystalline Alloys: Enhanced Strengthening Mechanisms and Mechanically-Driven Structural Evolution” <i>Advisor:</i> Prof. Christopher A. Schuh <i>Minor:</i> Teaching
Johns Hopkins University	Baltimore, MD
2007	M.S.E. in Mechanical Engineering <i>Thesis:</i> “Understanding Mechanically-Induced Grain Growth in Nanocrystalline Aluminum Thin Films” <i>Advisor:</i> Prof. Kevin J. Hemker <i>Concentration:</i> Mechanics and Materials
2007	B.S. in Mechanical Engineering <i>Departmental and University Honors, Dean’s List (all semesters)</i>

AWARDS AND HONORS

2015	TMS Young Leader Professional Development Award
2014	Hellman Fellowship
2013	NSF Faculty Early Career Development (CAREER) Award
2012	NSF Broadening Participation Research Initiation Grants in Engineering (BRIGE) Award
2007, 2008	NSF, Graduate Research Fellowship Program, Honorable Mention
2007	Charles A. Miller Award (Johns Hopkins University)

RESEARCH GRANTS

- “Enabling Generation IV Nuclear Reactors with Interface-Dominated Materials”
Funding Agency: Hellman Fellows Fund
Award Dates: 07/2014 – 06/2015
Leadership: PI: **TJ Rupert**

- “CAREER: Nanocrystalline Grain Boundary Network Engineering Enabled by New Deformation Mechanisms”
Funding Agency: National Science Foundation, DMR
Award Dates: 07/2013 – 06/2018
Leadership: PI: **TJ Rupert**

- “Tailoring Grain Boundary Chemistry for Failure Resistant Nanostructured Metals”
Funding Agency: Army Research Office
Award Dates: 09/2012 – 08/2015
Leadership: PI: **TJ Rupert**

- “BRIGE: Interfacial Defects and the Failure of Nanostructured Metals”
Funding Agency: National Science Foundation, CMMI
Award Dates: 09/2012 – 08/2014
Leadership: PI: **TJ Rupert**

- “MRI: Development of nano-CT-based elastography system for three-dimensional deformation field and elastic characterization of heterogeneous materials”
Funding Agency: National Science Foundation, CMMI
Award Dates: 09/2012 – 08/2015
Leadership: (PI: L Sun; Co-I: **TJ Rupert** and five others).

PUBLICATIONS

Journal Articles:

- Khalajhedayati A, **Rupert TJ**. “Disruption of Thermally-Stable Nanoscale Grain Structures by Strain Localization,” (Submitted).
- Pan Z, **Rupert TJ**. “Amorphous intergranular films as a toughening structural feature,” *Acta Materialia* (In Press).
- Panzarino JF, Ramos JJ, **Rupert TJ**. “Quantitative tracking of grain structure evolution in a nanocrystalline metal during cyclic loading,” *Modelling and Simulation in Materials Science and Engineering*, 23, 025005 (2015).
(<http://dx.doi.org/10.1088/0965-0393/23/2/025005>)
- Bober DB, Kumar M, **Rupert TJ**. “Nanocrystalline grain boundary engineering: Increasing $\Sigma 3$ boundary fraction in pure Ni using collective deformation physics,” *Acta Materialia*, 86, 43 (2015).
(<http://dx.doi.org/10.1016/j.actamat.2014.11.034>)
- Pan Z, **Rupert TJ**. “Damage nucleation from repeated dislocation absorption at a grain boundary,” *Computational Materials Science*, 93, 206 (2014).
(<http://dx.doi.org/10.1016/j.commatsci.2014.07.008>)

- **Rupert TJ.** “Solid solution strengthening and softening due to collective nanocrystalline deformation physics,” *Scripta Materialia*, 81, 44 (2014).
(<http://dx.doi.org/10.1016/j.scriptamat.2014.03.006>)
- Panzarino JF, **Rupert TJ.** “Tracking Microstructure of Crystalline Materials: A Post-Processing Algorithm for Atomistic Simulations,” *JOM*, 66, 417 (2014).
(<http://dx.doi.org/10.1007/s11837-013-0831-9>)
- Khalajhedayati A, **Rupert TJ.** “Emergence of localized plasticity and failure through shear banding during microcompression of a nanocrystalline alloy,” *Acta Materialia*, 65, 326 (2014).
(<http://dx.doi.org/10.1016/j.actamat.2013.10.074>)
- **Rupert TJ.** “Strain localization in a nanocrystalline metal: Atomic mechanisms and the effect of testing conditions,” *Journal of Applied Physics*, 114, 033527 (2013).
(<http://dx.doi.org/10.1063/1.4815965>)
- **Rupert TJ,** Cai W, Schuh CA. “Abrasive wear response of nanocrystalline Ni-W alloys across the Hall-Petch breakdown,” *Wear*, 298-299, 120 (2013).
(<http://dx.doi.org/10.1016/j.wear.2013.01.021>)
- **Rupert TJ,** Trelewicz JR, Schuh CA. “Grain boundary relaxation strengthening of nanocrystalline Ni-W alloys,” *Journal of Materials Research*, 27, 1285 (2012).
(<http://dx.doi.org/10.1557/jmr.2012.55>)
- **Rupert TJ,** Schuh CA. “Mechanically-driven grain boundary relaxation: a mechanism for cyclic hardening in nanocrystalline Ni,” *Philosophical Magazine Letters*, 92, 20 (2012).
(<http://dx.doi.org/10.1080/09500839.2011.619507>)
- **Rupert TJ,** Trenkle JC, Schuh CA. “Enhanced solid solution effects on the strength of nanocrystalline alloys,” *Acta Materialia*, 59, 1619 (2011).
(<http://dx.doi.org/10.1016/j.actamat.2010.11.026>)
- **Rupert TJ,** Schuh CA. “Sliding wear of nanocrystalline Ni-W: Structural evolution and the apparent breakdown of Archard scaling,” *Acta Materialia*, 58, 4137 (2010).
(<http://dx.doi.org/10.1016/j.actamat.2010.04.005>)
- **Rupert TJ,** Gianola DS, Gan Y, Hemker KJ. “Experimental Observations of Stress-Driven Grain Boundary Migration,” *Science*, 326, 1686 (2009).
(<http://dx.doi.org/10.1126/science.1178226>)

Conference Proceedings:

- Sharma S, Khalajhedayati A, **Rupert TJ,** Madou MJ. “SU8 Derived Glassy Carbon for Lithium Ion Batteries,” *Electrochemical Society (ECS) Transactions*, (2014).
(<http://dx.doi.org/10.1149/06107.0075ecst>)
- Moodie ALR, Angle JP, Tackett EC, **Rupert TJ,** Mecartney ML, Valdevit L. “Ceramic and Hybrid Micro-architected Materials for High Temperature Applications,” *Society for the Advancement of Material and Process Engineering (SAMPE) Proceedings*, (2013).

PRESENTATIONS

Invited Lectures:

- “Tuning Grain Boundary Structure to Control the Mechanical Behavior of Nanostructured Metallic Alloys,” *Materials Research Society (MRS) Fall Meeting*, December 2015, Boston, MA.
- “Controlling Grain Boundary Structure and Properties with Segregation Engineering,” *Boise State University – Materials Science and Engineering*, March 2015, Boise, ID.

- “Cyclic Plasticity and Microstructural Modification in Nanocrystalline Thin Films,” *International Symposium on Plasticity*, January 2015, Montego Bay, Jamaica.
- “Connecting Computational and Experimental Tools for Tracking the Evolution of Nanostructured Materials,” *International Symposium on Plasticity*, January 2015, Montego Bay, Jamaica.
- “Complexion Engineering in Nanostructured Materials,” *Pennsylvania State University – Materials Science and Engineering*, December 2014, State College, PA.
- “Nanocrystalline Grain Boundary Networks and Their Evolution during Thermomechanical Cycling,” *International Conference of Young Researchers on Advanced Materials (ICYRAM)*, October 2014, Haikou, China.
- “Catastrophic Failure of Nanocrystalline Metals: Mechanisms and Novel Toughening Strategies,” *Fraunhofer Institute for Mechanics of Materials IWM*, September 2014, Freiburg, Germany.
- “Doping Nanocrystalline Alloys to Improve Strength and Toughness,” *Materials Science Engineering (MSE 2014)*, September 2014, Darmstadt, Germany. (KEYNOTE)
- “Mechanical and Tribological Behavior of Nanocrystalline Ni-W Coatings: Importance of Grain Size and Grain Boundary State,” *International Conference on Metallurgical Coatings and Thin Films (ICMCTF)*, April 2014, San Diego, CA.
- “Tailoring Grain Boundary Structure to Control the Mechanical Behavior of Nanocrystalline Alloys,” *The Minerals, Metals and Materials Society (TMS) Annual Meeting & Exhibition*, February 2014, San Diego, CA.
- “Nanocrystalline Grain Boundary Engineering Enabled by Novel Deformation Physics,” *The Minerals, Metals and Materials Society (TMS) Annual Meeting & Exhibition*, February 2014, San Diego, CA.
- “Nano-Metallurgy: Taking Advantage of Novel Deformation Physics,” *California State University Fullerton – College of Engineering*, December 2013, Fullerton, CA.
- “The Influence of Grain Boundary Structure on Plastic Flow and Failure in Nanocrystalline Alloys,” *THERMEC International Conference on Processing and Manufacturing of Advanced Materials*, December 2013, Las Vegas, NV.
- “The Emergence of Catastrophic Shear Banding in Nanocrystalline Metals and the Importance of Grain Boundary Structure,” *University of California, Riverside – Materials Science and Engineering*, November 2013, Riverside, CA.
- “Shear Localization in Nanocrystalline Metals: A Combined Atomistic and Experimental Study,” *Society of Engineering Science (SES) Annual Technical Meeting*, July 2013, Providence, RI.
- “Nanocrystalline Metallurgy: Taking Advantage of Novel Deformation Physics,” *ASM – Orange Coast Chapter*, January 2013, Irvine, CA.
- “Tribology of Nanocrystalline Ni-W: Evolving Structure and Properties,” *Materials Research Society (MRS) Fall Meeting*, November 2012, Boston, MA.
- “Nanocrystalline Metallurgy: Taking Advantage of Novel Deformation Physics,” *Lawrence Livermore National Laboratory*, August 2012, Livermore, CA.
- “Enhanced Strengthening Mechanisms in Nanocrystalline Alloys,” *University of California, Irvine - Department of Chemical Engineering and Materials Science*, November 2011, Irvine, CA.
- “Nanocrystalline metals: Dynamic nanostructures and properties under loading,” *University of Minnesota - Department of Chemical Engineering and Materials Science*, February 2011, Minneapolis, MN.

- “Nanocrystalline metals: Dynamic nanostructures and properties under loading,” *University of California, Irvine - Department of Mechanical and Aerospace Engineering*, January 2011, Irvine, CA.
- “Microstructure-Property Relationships in Nanocrystalline Metals,” *University of Pennsylvania - Department of Materials Science and Engineering*, January 2010, Philadelphia, PA.

Contributed Presentations (Presenter’s name is in bold):

- **Pan Z**, Rupert TJ. “Atomistic Modeling of Grain Boundary Complexions: Toughening Effects and Interface Thermodynamics,” *The Minerals, Metals and Materials Society (TMS) Annual Meeting & Exhibition*, March 2015, Orlando, FL.
- **Panzarino JF**, Rupert TJ. “Mapping grains and interface networks in atomistic simulations: Tracking dynamic nanocrystalline microstructures,” *The Minerals, Metals and Materials Society (TMS) Annual Meeting & Exhibition*, March 2015, Orlando, FL.
- **Bustamante J**, Panzarino JF, Rupert TJ, Loudon C. “Characterization of material properties of bed bug cuticle (*Cimex lectularius*),” *Society of Integrative and Comparative Biology (SICB) Annual Meeting*, January 2015, West Palm Beach, FL.
- **Bober DB**, Panzarino JF, Rupert TJ. “Nanocrystalline Grain Boundary Engineering: Experiments and Atomistic Modeling,” *Materials Research Society (MRS) Fall Meeting*, November 2014, Boston, MA.
- **Khalajhedayati A**, Pan Z, Rupert TJ. “Creating tough and thermally stable nanocrystalline Cu by grain boundary doping and complexion engineering,” *Materials Research Society (MRS) Fall Meeting*, November 2014, Boston, MA.
- **Bustamante J**, Panzarino JF, Rupert TJ, Loudon C. “Characterization of material properties of bed bug cuticle (*Cimex lectularius*),” *Entomological Society of America (ESA) Annual Meeting*, November 2014, Portland, OR.
- **Pan Z**, Rupert TJ. “Damage Nucleation from Dislocation-Grain Boundary Interactions: Mechanisms and Toughening Strategies,” *Materials Science & Technology (MS&T) Conference and Exhibition*, October 2014, Pittsburgh, PA.
- **Rupert TJ**. “Novel Solid Solution Effects on the Strength of Nanocrystalline Metals,” *UCI-UNIST Engineering Workshop*, February 2014, Irvine, CA.
- **Khalajhedayati A**, Rupert TJ. “The Effects of Grain Boundary Volume Fraction and Relaxation State on Uniaxial Plasticity of Nanocrystalline Metals,” *The Minerals, Metals and Materials Society (TMS) Annual Meeting & Exhibition*, February 2014, San Diego, CA.
- **Panzarino J**, Rupert TJ. “Tracking Microstructure Evolution in Crystalline Materials: A Post-Processing Algorithm for Atomistic Simulations,” *The Minerals, Metals and Materials Society (TMS) Annual Meeting & Exhibition*, February 2014, San Diego, CA.
- **Rupert TJ**. “Interfacial Defects and the Failure of Nanostructured Metals,” *Third Annual Meeting of Principal Investigators in the NSF Broadening Participation Research Initiation Grants in Engineering (BRIGE) Program*, August 2013, Arlington, VA. (poster)
- Moodie ALR, Angle JP, Tackett EC, Rupert TJ, Mecartney ML, **Valdevit L**. “Ceramic and Hybrid Micro-architected Materials for High Temperature Applications,” *Society for the Advancement of Material and Process Engineering (SAMPE) Conference and Exhibition*, May 2013, Long Beach, CA.
- **Khalajhedayati A**, Rupert TJ. “Uniaxial Flow and Failure of Nanocrystalline Alloys Investigated by Focused Ion Beam Microscopy,” *Southern California Society for Microscopy and Microanalysis Spring Symposium*, March 2013, Los Angeles, CA.
- Bober DB, **Rupert TJ**. “The Evolution of Nanocrystalline Grain Boundary Networks under Thermomechanical Cycling,” *The Minerals, Metals and Materials Society (TMS) Annual Meeting & Exhibition*, March 2013, San Antonio, TX.

- Khalajhedayati A, **Rupert TJ**. “The Influence of Atomic Grain Boundary Structure on Plastic Flow in Nanocrystalline Alloys,” *Materials Research Society (MRS) Fall Meeting*, November 2012, Boston, MA. (poster)
- Khalajhedayati A, **Rupert TJ**. “Grain Boundary Structure and Chemistry: Impact on Nanocrystalline Plasticity,” *Society of Engineering Science (SES) Annual Technical Meeting*, October 2012, Atlanta, GA.
- **Rupert TJ**, Schuh CA. “Isolating the Relationship between Grain Size and Strength in Nanocrystalline Alloys,” *Materials Research Society (MRS) Fall Meeting*, November 2011, Boston, MA.
- **Rupert TJ**, Schuh CA. “Grain Boundary Relaxation and the Plastic Deformation of Nanocrystalline Alloys,” *Materials Science & Technology (MS&T) Conference and Exhibition*, October 2011, Columbus, OH.
- **Rupert TJ**, Schuh CA. “Separating Solid Solution and Grain Size Strengthening in Nanocrystalline Alloys,” *Materials Research Society (MRS) Fall Meeting*, December 2010, Boston, MA.
- **Rupert TJ**, Schuh CA. “Structural Evolution during Sliding Wear of Nanocrystalline Ni-W Alloys,” *Materials Science & Technology (MS&T) Conference and Exhibition*, October 2010, Houston, TX.
- **Rupert TJ**, Schuh CA. “Strengthening in Nanocrystalline Metals as a Result of Mechanically-Driven Grain Boundary Relaxation,” *Gordon Research Conference on Thin Film & Small Scale Mechanical Behavior*, July 2010, Waterville, ME. (poster)
- **Rupert TJ**, Schuh CA. “Tribology of Nanocrystalline Ni-W across the Hall-Petch Breakdown,” *Winter School on Nanoscale Materials: Structure - Property - Relations*, March 2009, Stuttgart, Germany. (poster)
- **Rupert TJ**, Schuh CA. “Tribology of a nanocrystalline alloy across the Hall-Petch breakdown,” *Materials Research Society (MRS) Fall Meeting*, December 2008, Boston, MA.
- **Rupert TJ**, Sharon JA, Gianola DS, Hemker, KJ. “Microtensile Testing of Nanocrystalline Thin Films for MEMS” *The Minerals, Metals and Materials Society (TMS) Annual Meeting & Exhibition*, March 2008, New Orleans, LA.
- **Rupert TJ**, Hemker KJ. “High Temperature Microtensile Testing of Ni-Pt-Al Alloys for Implementation in Thermal Barrier Coating Systems” *2006 ICMR Advanced Thermostructural Materials Summer School*, August 2006, University of California-Santa Barbara, Santa Barbara, CA. (poster)

MENTORING AND ADVISING

- *Postdoctoral Scholars:*

Zhiliang Pan	UC Irvine, MAE	Fall 2013 – present
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- *Graduate Advisees:*

<i>Ph.D.</i>		
Amir Khalajhedayati	UC Irvine, ChEMS	Fall 2011 – present
David Bober	UC Irvine, MAE	Winter 2012 – present
Jason Panzarino	UC Irvine, MAE	Fall 2012 – present
Joseph Ludy	UC Irvine, MAE	Summer 2014 – present
<i>M.S.</i>		
Simon Pun	UC Irvine, MAE	Summer 2014 – present

- *Undergraduate Researchers:*

Jesus Ramos	UC Irvine, MAE	Fall 2013 – Spring 2014
Simon Pun	UC Irvine, MAE	Fall 2013 – Spring 2014
Manash Sharma	UC Irvine, ChEMS	Spring 2013 – Fall 2013
Abdullaah Tarif	UC Irvine, MAE	Spring 2013 – Fall 2013
Trent Nash	UC Riverside, ME	Summer 2013
Daniel Grant	UC Irvine, MAE	Spring 2012 – Summer 2013
Andrew Moodie	UC Irvine, MAE	Winter 2012 – Spring 2013
Clarita Vargas	UC Irvine, MAE	Spring 2012 – Spring 2013
Danny Rodriguez	UC Irvine, MAE	Summer 2012
Kent Codilla	UC Irvine, MAE	Summer 2011
Chao Shen	UC Irvine, MAE	Summer 2011
Jason Douglas	MIT, DMSE	Spring 2010
Pantea Khodami	MIT, DMSE	Spring 2008

- *High School Researchers:*

Rocky Mandayam	Irvine High School	Summer 2013 – Summer 2014
Maria Zepeda	Century High School	Summer 2014
Jesus Garcia	Saddleback High School	Summer 2014
Meril Tomy	University High School	Summer 2012 – Summer 2013

PROFESSIONAL SERVICE

- *Board of Review:*
 - Metallurgical and Materials Transactions A

- *Technical Manuscript Reviewer:*
 - Acta Materialia
 - Applied Physics Letters
 - Computational Materials Science
 - International Journal of Plasticity
 - Journal of Alloys and Compounds
 - Journal of Engineering Tribology
 - Journal of Materials Research
 - Journal of Vacuum Science and Technology A
 - Materials Research Letters
 - Materials Letters
 - Metallurgical and Materials Transactions A
 - Microscopy and Microanalysis
 - Nanoletters
 - Review of Scientific Instruments
 - Science of Advanced Materials
 - Scientific Reports
 - Wear

- *Grant Proposal Reviewer:*
 - Army Research Office (ARO)

Department of Energy (DOE) – Office of Basic Energy Sciences (BES)
National Science Foundation (NSF) – Civil, Mechanical and Manufacturing Innovation
Natural Sciences and Engineering Research Council (NSERC) of Canada
University of California Institute for Mexico and the United States (UC MEXUS)

- *Symposium Organizer:*
 - “Light Alloys and Metal-based Composites” at 2014 International Conference of Young Researchers on Advanced Materials (ICYRAM)
 - “Elasticity, Plasticity and Inelastic Deformations in Hierarchical Materials: Mechanisms to Mechanics” at 2014 U.S. National Congress on Theoretical and Applied Mechanics (USNCTAM)
 - “Mechanics of Crystalline Nanostructures” at 2012 Society of Engineering Science (SES)

- *Session Chair:*
 - “Plasticity and Micro-structural Evolution in Nanostructured Materials II” at 2015 International Symposium on Plasticity
 - “Viscoplasticity and Cyclic Plasticity in Nanocrystalline and Ultrafine Grained Materials I” at 2015 International Symposium on Plasticity
 - “E2 Light Alloys and Metal-based Composites” at 2014 International Conference of Young Researchers on Advanced Materials (ICYRAM)
 - “Elasticity, Plasticity and Inelastic Deformations in Hierarchical Materials: Mechanisms to Mechanics” at 2014 U.S. National Congress on Theoretical and Applied Mechanics (USNCTAM)
 - “Mechanical Behavior at the Nanoscale II” at 2014 TMS Annual Meeting & Exhibition
 - “From Atomistics to Reality: Spanning Scales in Simulations and Experiments” at 2013 Society of Engineering Science (SES)

- *Member:*
 - The Minerals, Metals and Materials Society (TMS)
 - Materials Research Society (MRS)

- *Founding Member and Chairman:*
 - American Institute of Aeronautics and Astronautics (AIAA), Johns Hopkins University Student Branch

UNIVERSITY AND DEPARTMENT SERVICE

- **Chair**, HSSoE Graduate Studies Committee (2014 – present)
- **Chair**, HSSoE Committee on Research and Travel (2013 – present)
- **Graduate Advisor**, Mechanical and Aerospace Engineering (2013 – present)
- HSSoE Committee on Research and Travel (2012 – present)
- UCI Academic Senate, Council on Student Experience (2012 – present)
- MAE Seminar Coordinator (2011 – 2014)
- Faculty Mentor, MAE Senior Design Group (2011 – 2012)
- *Graduate Committee Service:*

Shehreen Dheda	UC Irvine, ChEMS	Qualifying Exam Committee, 2011
Fernan Saiz	UC Irvine, MAE	Qualifying Exam Committee, 2012
Leiting Dong	UC Irvine, MAE	Qualifying Exam Committee, 2012

Peter Bishay	UC Irvine, MAE	Qualifying Exam Committee, 2012
Matthew Schnoor	UC Irvine, MAE	Qualifying Exam Committee, 2012
Rafael Borrajo	UC Irvine, MAE	Qualifying Exam Committee, 2012
Zhongyan Qian	UC Irvine, MAE	Qualifying Exam Committee, 2013
Enric Grustan	UC Irvine, MAE	Qualifying Exam Committee, 2013
Amir Khalajhedayati	UC Irvine, ChEMS	Qualifying Exam Committee, 2013
Ladan Sharif	UC Irvine, MAE	Qualifying Exam Committee, 2013
Elham Wakil	UC Irvine, MAE	Qualifying Exam Committee, 2013
Ethan Hill	UC Irvine, Chemistry	Qualifying Exam Committee, 2013
Timothy Montalbano	UC Irvine, ChEMS	Qualifying Exam Committee, 2014
Patrick Nguyen	UC Irvine, MMT	Qualifying Exam Committee, 2014
Luis Herrera	UC Irvine, CEE	Qualifying Exam Committee, 2014
Sam Mann	UC Irvine, Chemistry	Qualifying Exam Committee, 2014
Xiao Song	UC Irvine, MMT	M.S. Comp. Exam Committee, 2013
Jeffery Catterlin	UC Irvine, MMT	M.S. Comp. Exam Committee, 2014
Charlene Bermudez	UC Irvine, MMT	M.S. Comp. Exam Committee, 2014
Albert Luu	UC Irvine, CEE	M.S. Thesis Committee, 2013
Sharada Bhavanam	UC Irvine, MAE	M.S. Thesis Committee, 2014
Danju Men	UC Irvine, ChEMS	Ph.D. Thesis Committee, 2012
Shehreen Dheda	UC Irvine, ChEMS	Ph.D. Thesis Committee, 2012
Matthew Schnoor	UC Irvine, MAE	Ph.D. Thesis Committee, 2013
Leiting Dong	UC Irvine, MAE	Ph.D. Thesis Committee, 2013
Zhongyan Qian	UC Irvine, MAE	Ph.D. Thesis Committee, 2013
Peter Bishay	UC Irvine, MAE	Ph.D. Thesis Committee, 2014
Jessie Angle	UC Irvine, ChEMS	Ph.D. Thesis Committee, 2014
Patrick Nguyen	UC Irvine, MMT	Ph.D. Thesis Committee, 2014
Enric Grustan	UC Irvine, MAE	Ph.D. Thesis Committee, 2014
Colin Arnold	UC Irvine, ChEMS	Ph.D. Thesis Committee, 2014
Amir Khalajhedayati	UC Irvine, ChEMS	Ph.D. Thesis Committee, 2015
Ladan Sharif	UC Irvine, MAE	Ph.D. Thesis Committee, 2015
Elham Wakil	UC Irvine, MAE	Ph.D. Thesis Committee, 2015
Timothy Montalbano	UC Irvine, ChEMS	Ph.D. Thesis Committee, 2016

TEACHING EXPERIENCE

University of California, Irvine		Department of Mechanical and Aerospace Engineering
Winter 2015	MAE 157 Lightweight Structures	
Fall 2014	MAE 295 Nanomechanics	(3.97/4.00)
Spring 2014	MAE 259 Mechanical Behavior of Solids: Atomistic Theories	(3.86/4.00)
Winter 2014	MAE 157 Lightweight Structures	(3.79/4.00)
Fall 2013	MAE 295 Nanomechanics	(4.00/4.00)
Spring 2013	MAE 295 Mechanical Behavior of Solids: Atomistic Theories	
Winter 2013	MAE 157 Lightweight Structures	(3.48/4.00)
Fall 2012	MAE 295 Nanomechanics	(3.97/4.00)
Spring 2012	MAE 295 Mechanical Behavior of Solids: Microscopic Theories	(3.93/4.00)
Winter 2012	MAE 157 Lightweight Structures	<u>Instructor Evaluation:</u> (3.51/4.00)

Massachusetts Institute of Technology Department of Materials Science and Engineering
Fall 2010 3.012 Fundamentals of Materials Science and Engineering (Teaching Assistant)
Fall 2009 3.032 Mech. Behav. of Mat. (Teaching Assistant)
3.034 Org. and Biomat. Chem. (Teaching Assistant)

Johns Hopkins University Department of Mechanical Engineering
Fall 2006 530.352 Materials Selection (Teaching Assistant)

OUTREACH ACTIVITIES

- **Panel Speaker**, Graduate Admissions Workshop at UC Irvine (2014)
- **Lead Organizer and Speaker**, “UCI: Materials Discovery in Engineering and Science” STEM outreach event (2014)
- **Research Mentor**, The University of California's Leadership Excellence through Advanced Degrees (UC LEADS) Program for disadvantaged students (2013 – present)
- **Research Mentor**, California Alliance for Minority Participation (CAMP) Summer Science Scholars Program for underrepresented minorities (2012 – present)
- **Panel Speaker**, Young Investigator Workshop at UC Irvine (2013)
- **Panel Speaker**, Graduate Women in Engineering Group and the Engineering Diversity Council at UC Irvine (2013)
- **Faculty Host**, UC Irvine/Salman Bin Abdel-Aziz University Summer Exchange Program (2012)
- **Panel Speaker**, Science-Technology-Engineering-Math Careers, CAMP Summer Science Scholars Program for underrepresented minorities (2011)
- **Mentor**, MIT Undergraduate Research Opportunities Program (2008 – 2010)
- Participant in Science-Engineering-Technology Congressional Visit Day, Washington, D.C. (2006, 2007)