

CURRICULUM VITAE: Katherine C. Chen

Materials Engineering Department
California Polytechnic State University
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EDUCATION

MICHIGAN STATE UNIVERSITY, East Lansing, Michigan
Honors College
B.A. in Chemistry, 1990
B.S. in Materials Science and Engineering, 1990
graduated with highest honor

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge, Massachusetts
Department of Defense Graduate Fellowship
Ph.D. in Material Science (Minor in Math), 1996
Thesis entitled "Compositional Influences on the Microstructures, Phase Stability, and Mechanical Properties of TiCr₂ Laves Phase Alloys"

EXPERIENCE

CALIFORNIA POLYTECHNIC STATE UNIVERSITY, San Luis Obispo, CA
Department Chair, Materials Engineering Department 9/06-9/09; 4/13-
Professor, Materials Engineering Department 9/07-
Associate Professor, Materials Engineering Department 9/02-9/07
Assistant Professor, Materials Engineering Department 9/99-9/02

NORTHWESTERN UNIVERSITY, Evanston, IL
Visiting Scientist, Materials Science and Engineering Department 8-12/05, 6-9/06

NITINOL DEVICES & COMPONENTS, Fremont, CA
Consultant, Manufacturing and Processing Group 6/04-8/04

MICHIGAN STATE UNIVERSITY, East Lansing, MI
Visiting Faculty, Chemical Engineering and Materials Science Department 8/07
Visiting Scientist, Chemical Engineering and Materials Science Department 7-12/01, 6-8/02

LOS ALAMOS NATIONAL LABORATORY, Los Alamos, NM (DOE Q-clearance)
Visiting Scientist, Material Science and Technology Division: Metallurgy Summer, 2000
Staff Member, Material Science and Technology Division: Metallurgy 1/98-8/99
Postdoctoral Research Associate, MST Division: Metallurgy 10/96-1/98
Volunteer Tutor, Santa Clara Pueblo, Santa Fe Indian School 10/97-6/99

NEW MEXICO TECH, Socorro, NM
Instructor, Materials Engineering Department Spring, 99

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge, MA
Postdoctoral Research Associate, Dept. Materials Science and Engineering 6/96-10/96
Research Assistant, Dept. Materials Science and Engineering 9/90-6/96
Teaching Assistant, Dept. Materials Science and Engineering Spring, 96
Tutor, Office of Minority Education and Dept. of Material Science and Engineering 1/91-6/94

CURRENT PROJECTS

PROGRAM FOR ENGINEERING EXCELLENCE FOR PARTNER SCHOOLS (PEEPS) www.peeps.calpoly.edu
PI, NSF S-STEM grant, \$600,000

Cal Poly College of Engineering Scholarship Program for admitted engineering students with high financial need and who come from a Cal Poly Partner High School. PEEPS is designed to support student success in their educational and career goals in engineering. Selection is based on the potential and commitment to succeed academically and professionally in engineering (and not on high school grades or test scores). Scholarships are up to \$10,000 per year for at least four years (depending on financial need and eligibility). Modeled after the “Posse” Foundation, PEEPS students will form a *learning community* to support one another and will take several engineering support courses together. Other PEEPS components include:

- Engineering Success courses
- Block scheduling of gateway Engineering support courses with supplemental workshops
- Personalized advising and quarterly check-ins
- Mentoring of personal, academic, and professional goals
- Professional development opportunities
- Socials and get-togethers with mentors
- Science, Technology, Engineering, and Math (STEM) outreach events and activities

CSU-STEM AMERICORPS VISTA www.calstate.edu/cce/vista/

Supervisor, Community Partner Liaison for STEM Initiatives

The CSU STEM AmeriCorps VISTA program supports the academic and professional success of traditionally underrepresented students in science, technology, engineering, and math (STEM), including low-income, first generation, students of color, and women. The Cal Poly VISTA member helps support PEEPS and is building capacity to bring the most effective program components to more engineering students. The VISTA is also building bridges to local community colleges through a new mentor program and by removing obstacles of community college students to successfully transfer to and graduate from Cal Poly. In addition the VISTA is embedding social justice into existing outreach efforts (e.g., SWE) to provide engaging STEM experiences to our local underserved community members.

CENTER FOR EXCELLENCE IN STEM EDUCATION (CESAME) www.cesame.calpoly.edu

Engineering Liaison

Serve as an engineering education resource to CESAME in their efforts to improve Science, Technology, Engineering, and Mathematics (STEM) education, teacher education and professional development, and the workforce pipeline in California. CESAME cultivates collaborations among students, staff and faculty from across campus and nurtures partnerships with preschool through high school (P-12) teachers, community college faculty, as well as business, industry, government, and foundations in order to achieve its goals.

Examples of collaborations:

- Co-created and team-taught new engineering activity (wind energy) for the Learn By Doing Lab Practicum (<http://www.cesame.calpoly.edu/content/programs/for-cal-poly-students-LBDL>)
- Co-taught and provided engineering activities and context to science enrichment classes in local federally-funded after school programs (Bright Future) through the Mentors in Out-of-School Time (MOST) course (<http://www.cesame.calpoly.edu/mentors-out-school-time-most>)
- Participated in CESAME Bechtel grants for integrating engineering into science courses for pre-service teachers in preparation for the Next Generation Science Standards
- Conducted hands-on engineering activity and gave engineering presentation to Middle School Math Teachers as part of the CA Math and Science Partnerships grant
- Keynote speaker for Super STEM Saturday event with Science Middle and High School teachers in the CA Math and Science Partnerships

ENGINEERING EDUCATION RESEARCH: DEVELOPMENT OF LIFE LONG LEARNING

PI, NSF TUES grant, \$200,000

Collaborative research grant with Olin College of Engineering to study cohorts of engineering students as they enter college through graduation from a small private and a large public university. In order to effectively design curricula that support students’ emergence as empowered, adaptive learners, instructors need to gain more insight into how individuals transform from teacher-controlled to self-directed learners.

The mixed-methods study approach was based on established theoretical frameworks for motivation and self-regulated learning. Qualitative studies included focus group discussions, and resulted in themes of student/professional identity, tension between learning and grades, and evolving conceptions of self-directed learning.

ENGINEERING POSSIBILITIES IN COLLEGE (EPIC) SUMMER CAMP epic.calpoly.edu

Instructor, etc.

Cal Poly College of Engineering summer camp with weeklong tracks for middle school and for high school students. As one of the founding organizers of EPIC, I have developed and taught EPIC labs in Materials Engineering since 2008. I have also worked closely with the current Director to ensure that the original mission of providing engaging, hands-on engineering activities to under-represented groups (i.e., female and ethnically diverse) remained intact. Over the years, I have worked with colleagues to assess the camp and published two ASEE papers, and continue to provide survey questions for formative and summative assessment. I have also provided training to the EPIC lab instructors.

STEM / MATERIALS ENGINEERING OUTREACH

Coordinator, Trainer, Volunteer

Since becoming a faculty member in 1999, I have participated in STEM outreach events and have grown the repertoire of activities and audiences served. One of the most effective means is to cultivate and train current Materials Engineering students to facilitate outreach events. Due to our reputation, we are asked to host several on-campus visits by different groups, as well as going out to our local community. I work with other organizations and also host our own events (e.g., NanoDays). I also helped start up the SLO Mini Maker Faire through a small grant and partnership with the SLO Museum of Art.

Examples of outreach activities:

- Society of Women Engineers (SWE) Building an Engineer Workshop
- Exploring Your Horizons (EYH)
- Cuesta Community College Tech Fair
- Girl Scouts
- MESA
- Science for Girls Camp, Arroyo Grande
- Engineering Days, Los Osos Middle School
- Boys & Girls Club, Oceano Teen Center
- Cal Poly Open House
- National Engineers Week
- Alan Hancock Community College tour
- SLO Mini Maker Faire
- NanoDays (2008-): Science Café at Cal Poly Library, Bellevue Santa-Fe Charter School, San Luis Obispo Children's Museum, Exploration Station Museum

PAST RESEARCH PROJECTS

Characterization and Development Laves Phase Intermetallics, Los Alamos National Laboratory
Structure-Property Relationships of Shape Memory Alloys, Cal Poly CENG
Thermo-mechanical fatigue of Solder Materials, Michigan State University, NSF
Degradation Mechanisms of Plastic Encapsulated Microcircuits, Lockheed Martin
Development of Rechargeable Gas Mask Filters, Cal Poly subcontract to ONR
Structure Determination of NiTi-H Alloys, Nitinol Devices and Components
Development of K-12 Science modules on Nanoscience, NCLT, Northwestern University
Increasing the representation and advancement of women in STEM at Cal Poly, NSF-ADVANCE Start
STEM Stops: placing covert informal science and engineering experiences throughout town, Cal Poly
Developing new nano experiences for summer camps and undergrad labs, NISEnet mini-grant
Understanding Students' Development of Lifelong Learning Skills, Cal Poly and Olin, NSF-TUES
PEEPS: Program for Engineering Excellence for Partner Schools, NSF S-STEM

PUBLICATIONS

- K.C. Chen, R. Herter, and J. Stolk, "Lifelong Learner Growth: In what ways does College Instruction Help and Hinder?," International Conference on Education and New Developments (END) 2015, June 2015.
- K.C. Chen, R. Herter, and J. Stolk, "Moving from Quantitative to Qualitative Analysis to Capture the Development of Self-Directed Learning for a Cohort of Engineering Students," ASEE Annual Conference, June 2015.
- A. Bergen, K.C. Chen, "Designing Engineering Curriculum for Pre-Service Teachers in preparation for NGSS: Medical Mission Drop," ASEE Annual Conference Proceedings, K-12 Division, June 2014.
- K.C. Chen, "Materials Engineering with a Social Context: a Course on Materials, Ethics, and Society," Materials Research Society Fall Meeting, November 2012.
- L. Schlemer, J. Oliver, K.C. Chen, S. Rodriguez Mata, E. Kim, "Outreach Assessment: Measuring Engagement, An Integrated Approach for Learning," Frontiers in Education (FIE), October 2012.
- J. Stolk, R. Martello, T. Lobe, B. Taratutin, K. Chen and R. Herter, "En route to lifelong learning? Academic Motivations, Goal Orientations, and Learning Conceptions of Entering First-Year Engineering Students," Frontiers in Education, October 2012.
- B. Taratutin, T. Lobe, J. Stolk, R. Martello, K. Chen and R. Herter, "How do first-year engineering students develop as self-directed learners?," Frontiers in Education, October 2012.
- D. Apelian, K.C. Chen, and R. LeSar, "Teaching Sustainable Development in Undergraduate Programs," MRS Bulletin, Vol. 37, No. 4, p. 449-454, April 2012.
- K.C. Chen, L. Schlemer, T. Fredeen, and Heather Smith, "Evolving a Summer Engineering Camp through Assessment," ASEE Annual Conference Proceedings, June 2011.
- K.C. Chen, D. Belter, T. Fredeen, S. Magnusson, and Heather Smith, "Inspiring a diverse population of high school students to choose engineering as a career path," ASEE Annual Conference Proceedings, June 2009.
- K.C. Chen, L. Vanasupa, B. London, T. Harding, R. Savage, W. Hughes, and J. Stolk, "Creating a project-based curriculum in Materials Engineering," *Journal of Materials*, Vol. 31 (1-2): 37-44, 2009.
- L. Vanasupa, K.C. Chen, J. Stolk, R. Savage, T. Harding, B. London, and W. Hughes, "Converting traditional materials labs to project-based learning experiences: Aiding students' development of higher-order cognitive skills," *MRS Symposium Proceedings*, December 2007, and *Journal of Materials Education*, August 2009.
- R. Savage, K.C. Chen and L. Vanasupa, "Integrating Project-based Learning throughout the Undergraduate Engineering Curriculum," *Journal of STEM Education*, Vol 8, Issue 3 & 4, June-December 2007.
- K.C. Chen, "Exciting Students about Materials Science & Engineering: a project-based, service-learning museum design course," ASEE Annual Conference Proceedings, June 2007.
- K.C. Chen and B. London, "WIP: Crossing the Engineering Border into Art and Society with a Materials Selection for the Life Cycle course," *Frontiers in Engineering Education*, 2006.
- K.C. Chen, L. Vanasupa, B. London, and R. Savage, "Infusing the Materials Engineering Curriculum with Sustainability Principles," ASEE Annual Conference Proceedings, June 2006.
- Amanda Runciman, K.C. Chen, A. R. Pelton, and C. Trepanier, "Effects of Hydrogen on the Phases and Transition Temperatures of NiTi," *Shape Memory and Superelastic Technologies*, May 2006.
- L. Vanasupa, L. Slivovsky, and K.C. Chen, "Global challenges as inspiration: A classroom strategy to foster social responsibility," *Science and Engineering Ethics*, Vol. 12, 373-380, 2006.
- L. Vanasupa, K.C. Chen, and F. Splitt, "Classroom Techniques to Promote Engineering Solutions for a Sustainable Future," *IUMRS Proceedings and Journal of Materials Education*, July 2005.

K.C. Chen, L. Christensen, and A. Runciman, "Passport to the Materials World: Materials Engineering Outreach Activities," ASEE Annual Conference Proceedings, June 2005.

K.C. Chen, B. London, L. Vanasupa, T.T. Orling, and L. Christensen, "Travelogue from the Materials World: A first week laboratory activity," ASEE Annual Conference Proceedings, 2004.

W.C. Crone, E.J. Voss, and K.C. Chen, "Interactive Demonstrations and Laboratories Using Shape Memory Alloys," ASEE Annual Conference Proceedings, 2004.

K.C. Chen, W.C. Crone, and E.J. Voss "Shape Memory Alloys for Classroom Demonstrations, Laboratories, and Student Projects," *MRS Symposium Proceedings*, April 2004, and *Journal of Materials Education*.

J.G. Lee, K.C. Chen, and K.N. Subramanian, "Formation and Growth of Intermetallics around Metallic Particles in Eutectic Sn-Ag Solder," *Journal of Electronic Materials*, 33, November 2003, 1240-1248.

H. Rhee, F. Guo, J.G. Lee, K.C. Chen, and K.N. Subramanian, "Effects of Intermetallic Morphology at the Metallic Particle/Solder Interface on Mechanical Properties of Sn-Ag-Based Solder Joints," *Journal of Electronic Materials*, 33, November 2003, 1257-1264.

L. Vanasupa and K.C. Chen, "MATERIALS SCIENCE AND ENGINEERING IN THE U.S.: *A review of practices and trends*," *Journal of Materials Education*, October 2003.

A. R. Pelton, C. Trépanier, X-Y Gong, A. Wick, and K.C. Chen, "Structural And Diffusional Effects Of Hydrogen in TiNi," submitted to *Proceedings of the Materials & Processes for Medical Devices Conference*, ASM International, September 2003.

K.C. Chen and V. Ravi, "Physical Metallurgy – Providing Unifying Principles in Diverse Areas of Materials Engineering," *JOM*, TMS, May 2003.

A. R. Pelton, C. Trépanier, X-Y Gong, A. Wick, and K.C. Chen, "Structural And Diffusional Effects Of Hydrogen in TiNi," to be published in *Proceedings of the Conference on Shape Memory and Superelastic Technologies, SMST-2003*, May 2003.

K.C. Chen, "Entering the Metals Zone," chapter in the textbook, Navigating the Materials World: A guide to understanding materials behavior, ed., C. Baille and L. Vanasupa, Academic Press, 2003.

K.C. Chen, "How we learned to love the phase diagram with a Ti-Cr alloy characterization lab," ASEE Annual Conference Proceedings, 2003.

K.C. Chen, L. Vanasupa, and T. Orling, "A multi-functional Introductory Materials Science course: emphasizing engineering and achieving accreditation objectives," *MRS Symposium Proceedings*, JJ6.4, December 2002, and *Journal of Materials Education* Vol. 25, No. 1-3, p. 101, 2002.

K.C. Chen, "NiTi – Magic or Phase Transformations?," *New Educators Workshop Update 2002: Standard Experiments in Engineering, Materials Science and Technology*, 2002.

K.C. Chen, "Metallic Glass: Driving Far from Equilibrium and Returning Back," *New Educators Workshop Update 2002: Standard Experiments in Engineering, Materials Science and Technology*, 2002.

K.C. Chen, A. Telang, J.G. Lee, and K.N. Subramanian, "Damage Accumulation under Repeated Reverse Stressing of Sn-Ag Solder Joints," *Journal of Electronic Materials*, November 2002.

D.J. Thoma, K.A. Nibur, K.C. Chen, J.C. Cooley, L.B. Dauelsberg, W.L. Hults, and P.G. Kotula, "The Effect of Alloying on the Properties of (Nb,Ti)Cr₂ C15 Laves Phases," *Materials Science and Engineering A*, Volumes 329-331, June 2002, p. 408-415.

R.E. Hackenberg, D.C. Swift, J.C. Cooley, K.C. Chen, D.J. Thoma, D.L. Paisley and A. Hauer, "Phase Changes in Ni-Ti under Laser Shock Loading," *International Workshop on New Models and Hydrocodes for Shock Wave Processes in Condensed Matter Proceedings*, May 2002.

D.J. Thoma, K.C. Chen, M.I. Baskes, and E.J. Peterson, "The Effect of Stoichiometry in C15 HfCo₂," The Fourth Pacific Rim International Conference on Advanced Material and Processing (PRICM 4) Proceedings, TMS, 2001.

- K.C. Chen, F. Chu, and D.J. Thoma, "HfCo₂ Laves Phases Intermetallics Part II: Elastic and Mechanical Properties as a Function of Composition," *Intermetallics* **9**, 785, 2001.
- K.C. Chen, E.J. Peterson, P.G. Kotula, and D.J. Thoma, "HfCo₂ Laves Phases Intermetallics Part I: Solubility Limits and Defect Mechanisms," *Intermetallics* **9**, 771, 2001.
- L. Vanasupa, H. Smith, B. London, K. Chen, D. Niebuhr, L. Griffin, and J. Jones, "The Foundation Series on Corrosion: Integrating Science, Math, Engineering & Technology in a Lab Setting," *ASEE Annual Conference Proceedings*, 2001.
- K.C. Chen and P.T. Adalian Jr., "Incorporating Information Competence into Classes," *Impacting Society through Materials Science and Engineering Education*, *MRS Symposium Proceedings*, GG6.10, 2001, and in *Journal of Material Education*, Vol. 23, No. 1-6, p. 143, 2001.
- L. Vanasupa and K.C. Chen, "Innovations in Materials Science and Engineering Education: From Wulff to Web," *MRS Bulletin* Vol. 25, April 2000.
- K.C. Chen, P.G. Kotula, F. Chu, and D.J. Thoma, "Microstructures and Mechanical Properties of Two-Phase Alloys Based on NbCr₂," High-Temperature-Ordered Intermetallic Alloys VIII, *MRS Symposium Proceedings*, Vol. 552, p. KK7.5.1, 1998.
- P.G. Kotula, C.B. Carter, K.C. Chen, D.J. Thoma, F. Chu, and T.E. Mitchell, "Defects and Site Occupancies in Nb-Cr-Ti C15 Laves Phase Alloys," *Scripta Materialia* **39**, 619, 1998.
- R.H. Hanrahan Jr., K.C. Chen, and M.P. Brady, "The Effects of Beryllium Additions on the Oxidation of Nickel Aluminide and Titanium Aluminide Based Intermetallics," High Temperature Corrosion and Materials Chemistry, P.Y. Hou, M.J. McNallan, R. Oltra, E.J. Opila, and D.A. Shores (Eds.), *ECS*, pp. 458-465, 1998.
- K.C. Chen, S.M. Allen, and J.D. Livingston, "Factors Affecting the Room-Temperature Mechanical Properties of TiCr₂-base Laves Phase Alloys," *Materials Science and Engineering* **A242**, 163, 1998.
- K.C. Chen, D.J. Thoma, F. Chu, P.G. Kotula, C.M. Cady, G.T. Gray III, P.S. Dunn, D.R. Korzekwa, W.O. Soboyejo, and C. Mercer, "Processing and Properties of Dual Phase Alloys in the Nb-Cr-Ti System," The Third Pacific Rim International Conference on Advanced Material and Processing (PRICM 3) Proceedings, *TMS*, p. 1431, 1998.
- K.C. Chen, P.G. Kotula, F. Chu, and D.J. Thoma, "Formation of a Metastable BCC Solid Solution and Decomposition to a C15 Laves Phase in Melt-Spun CrNb₁₀Ti₁₀," Phase Transformations and Systems Driven Far from Equilibrium, *MRS Symposium Proceedings*, Vol. 481, p. 89, 1997.
- D.J. Thoma, F. Chu, P. Peralta, P.G. Kotula, K.C. Chen, and T.E. Mitchell, "Elastic and Mechanical Properties of Nb(Cr,V)₂ C15 Laves Phases," *Materials Science and Engineering* **A239-240**, 251, 1997.
- D.J. Thoma, G.K. Lewis, J.O. Milewski, K.C. Chen, and R.B. Nemec, "Rapid Fabrication of Materials Using Directed Light Fabrication," THERMEC '97, 1997.
- P.G. Kotula, K.C. Chen, D.J. Thoma, F. Chu, and T.E. Mitchell, "Orientation Relationships in the System Nb-NbCr₂," Proceedings of Microscopy and Microanalysis 1997, *EMSA*, 1997.
- K.C. Chen, S.M. Allen, and J.D. Livingston, "Microstructures of Two-Phase Ti-Cr Alloys Containing the TiCr₂ Laves Phase Intermetallic," *Journal of Materials Research*, **12**, 1472, 1997.
- K.C. Chen, S.M. Allen, and J.D. Livingston, "Assessment of the Compositional Influences on the Toughness of TiCr₂-base Laves Phase Alloys," High-Temperature-Ordered Intermetallic Alloys VII, *MRS Symposium Proceedings*, Vol. 460, p. 695, 1996.
- K.C. Chen, S.M. Allen, and J.D. Livingston, "Stoichiometry and Alloying Effects on the Phase Stability and Mechanical Properties of TiCr₂-base Laves Phase Alloys," High-Temperature-Ordered Intermetallic Alloys VI, *MRS Symposium Proceedings*, Vol. 364, p. 1401, 1994.
- K.C. Chen, S.M. Allen, and J.D. Livingston, "Morphology, Deformation, and Defect Structures of TiCr₂ in Ti-Cr Alloys," High-Temperature-Ordered Intermetallic Alloys VI, *MRS Symposium Proceedings*, Vol. 288, p. 373, 1992.

PRESENTATIONS

Education and New Developments (END) Conference, Porto, Portugal (poster)	6/15
American Society for Engineering Education (ASEE), Seattle, WA	6/15
Super STEM Saturday Keynote Speaker, San Luis Obispo, CA - <i>invited</i>	12/14
Materials Research Society (MRS) Fall Meeting, Boston, MA	12/13
Materials Research Society (MRS) Fall Meeting, Boston, MA	11/12
American Society for Engineering Education (ASEE), Vancouver, BC	6/11
Materials Research Society (MRS) Spring Meeting, San Francisco, CA	4/11
The Minerals, Metals, and Materials Society (TMS) Annual Conference, Seattle, WA	2/10
American Society for Engineering Education (ASEE), Austin, TX	6/09
UC Santa Barbara NanoSystems Institute Educators Workshop - <i>invited</i>	9/08
IUMRS - International Conference on Electronic Materials, Sydney, Australia - <i>invited</i>	8/08
Materials Research Society (MRS) Spring Meeting, San Francisco, CA - <i>invited</i>	3/08
Materials Research Society (MRS) Fall Meeting, Boston, MA	12/07
American Society for Engineering Education (ASEE), Honolulu, HI	6/07
Engineering Projects in Community Service (EPICS), San Diego, CA (poster)	5/07
The Minerals, Metals, and Materials Society (TMS) Annual Conference, Orlando - <i>invited</i>	2/07
Frontiers in Education (FIE), San Diego, CA	10/06
American Society for Engineering Education (ASEE), Chicago, IL	6/06
Northwestern University - <i>invited</i>	12/05
MS&T 05, Pittsburg, PA	10/05
International Conference on Materials for Advanced Technologies, Singapore	7/05
American Society for Engineering Education (ASEE), Portland, OR	6/05
The Minerals, Metals, and Materials Society (TMS) Annual Conference, San Francisco, CA	2/05
California Polytechnic State University, Pomona, CA	10/04
American Society for Engineering Education (ASEE), Salt Lake City, UT	6/04
Materials Research Society (MRS) Spring Meeting, San Francisco, CA	4/04
American Society for Engineering Education (ASEE), Nashville, TN	6/03
Materials Research Society (MRS) Fall Meeting, Boston, MA	12/02
National Educators Workshop: Update 2002, San Jose, CA	10/02
American Society for Engineering Education (ASEE), Montreal, Quebec	6/02
The Minerals, Metals, and Materials Society (TMS) Annual Conference, Seattle, WA	2/02
Materials Research Society (MRS) Spring Meeting, San Francisco, CA	4/01
TMS Annual Conference, New Orleans, LA	2/01
Cal Poly Physics Colloquium, San Luis Obispo, CA	11/00
American Society for Engineering Education (ASEE), St. Louis, MO	6/00
TMS Annual Conference, San Diego, CA	3/99
California Polytechnic State University, San Luis Obispo, CA	2/99
Wayne State University, Detroit, MI	1/99
MRS Fall Meeting, Boston, MA	12/98
Third Pacific Rim Int. Conf. Advanced Materials and Processing (PRICM/TMS), Honolulu, HI	7/98
University of California, Los Angeles (UCLA), CA	5/98
Engineering Foundation Conference on Nonstoichiometric Intermetallics, Kona, HI (poster)	4/98
Illinois Institute of Technology, Chicago, IL	3/98
Arizona State University, Tempe, AZ	3/98
Wayne State University, Detroit, MI	2/98
TMS Annual Meeting, San Antonio, TX	2/98
MRS Fall Meeting, Boston, MA (poster)	12/97
Brown University, Providence, RI	5/97
General Motors, Research and Development Technology Center, Detroit, MI	2/97
MRS Fall Meeting, Boston, MA	12/96
Gordon Conference on Physical Metallurgy, Holderness, NH (poster)	7/96
Los Alamos National Laboratory, Los Alamos, NM	5/96
Harvard University, Materials Science Seminar, Cambridge, MA	2/96
Rome Air Force Laboratory, Hanscom AF Base, MA	12/95
MRS Fall Meeting, Boston, MA	12/94

PROFESSIONAL SOCIETIES and ACTIVITIES

San Luis Obispo Children's Museum Board (2010-2012), Exhibits Committee (Chair, 2011)
Nanoscale Informal Science Education Network (NISEnet)
American Society for Materials (ASM International): Cal Poly Student Chapter Faculty Advisor
The Minerals, Metals, and Materials Society (TMS): Cal Poly Student Chapter Faculty Advisor
Sustainability Committee (2012), Young Leaders Intern (2000)
Structural Materials Committee: Division Representative for Student Affairs
Physical Metallurgy Committee: JOM editor
Association for Iron & Steel Technology (AIST)
Materials Research Society (MRS): Academic Affairs Committee, University Chapters,
Education Symposium organizer
American Society for Engineering Education (ASEE): Materials, ERM, MIND, K-12 Divisions
The American Ceramic Society (ACerS)
Society of Women Engineers (SWE)
Tau Beta Pi Engineering Honor Society
Alpha Sigma Mu Materials Honor Society: Cal Poly Student Chapter Faculty Advisor, Board member
Phi Kappa Phi Honor Society
Mortar Board Honor Society
Sigma Xi Research Honor Society
Order of the Engineer

CAL POLY SERVICE

Faculty Advisor to Materials Advantage Student Chapter, 2008-present
Materials Research Society (MRS) University Chapter, 1999-2004
AMS-TMS Student Chapter, 1999-2004
Alpha Sigma Mu Materials Honor Society, 2000-present
Cal Poly Salsa Dance Club, 2000-2004
Society of Women Engineers (SWE) Team Tech, 2003-2004
MATE Department Outreach Coordinator, 1999-present
Status of Women Committee (CENG representative), 2001-2006
Technology Park Academic Advisory Committee, 2004-2006
Women in Science and Technology Lecture Series Committee, 2000-2001
CENG workload taskforce, 2006
CENG Societal Impact Award selection committee, 2010
Radiation and Safety Committee, 2006-present
LAES Academic Advisory Board, 2009-2014
LEAP planning committee, 2007-2014
CENG graduation rates taskforce, 2013
CENG enrollment taskforce, 2014-15

Learning Communities: Sophomore Success, Diversity in STEM, First Generation

Reading Circles (Center for Teaching, Learning, and Technology): First-Generation College Students: Understanding and Improving the Experience from Recruitment to Commencement (L. Ward, M. Siegel, and Z. Davenport), Mindset (C. Deweck), Scholarship Reconsidered: Priorities of the Professoriate (E. Boyer), Teaching Inclusively in Higher Education (ed. M. Fallon and S. Brown), Excellent Sheep: The Miseducation of the American Elite and the Way to a Meaningful Life (W. Deresiewicz)

HONORS AND AWARDS

Alpha Sigma Mu Fellow, 2013
Cal Poly President's Community Service Award to Materials Engineering Department, 2008
Lockheed Martin Endowed Professorship, CENG, 2004-2006
Northrop Grumman Excellence in Teaching Award, CENG, 2003
Most Supportive Professor Award, Cal Poly SWE, 2003
Outstanding Faculty Advisor Award, Cal Poly Engineering Student Council, 2001
Los Alamos National Laboratory Teamwork Award, 1999