

Curriculum Vitae

Trevor S. Harding

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Materials Engineering
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EDUCATIONAL BACKGROUND

Ph.D.	University of Michigan	Materials Science and Engineering	1997-2000
M.S.E.	University of Michigan	Materials Science and Engineering	1995-1997
B.S.E.	University of Michigan	Materials Science and Engineering	1990-1995
B.S.E.	University of Michigan	Aerospace Engineering	1990-1995

PROFESSIONAL BACKGROUND

Associate Professor of Materials Engineering, California Polytechnic State U.	2006 – present
Associate Professor of Manufacturing Engineering, Kettering University	2003-2006
Assistant Professor of Manufacturing Engineering, Kettering University	2000-2003
Graduate Research Assistant, University of Michigan	1995-2000

PROFESSIONAL DEVELOPMENT ACTIVITIES (PAST THREE YEARS)

1. Research into biomedical materials is ongoing at Cal Poly. The primary area of interest is in understanding the degradation processes involved in orthopedic implants. Current projects are focused on wear debris and its dissociation in-vivo and the development of diamond-like carbon films for use in articulating joints. Please see **Professional Development Plan** for further details.
2. Principal investigator for a multi-university educational research project that examines ethical development in engineering undergraduates including their knowledge of ethics, ethical reasoning skills, and ethical behavior. Current research is focused on conducting a nation-wide assessment of ethics education pedagogies and their influences on the psychological constructs which underlie ethical decision-making and development.
3. Part of the Triple Bottom Line Awareness in Design (TriAD) team conducting research into developing new curricular and pedagogical methods within the Materials Engineering Department at Cal Poly. These new methods are intended to enhance students' motivation for self-directed learning, greater awareness of the social and environmental aspects of engineering, and improved ability to design complex systems. Primarily responsible for incorporating service learning into the curriculum as a mechanism for building citizenship and social responsibility among students.
4. Director of the Biomedical Materials Research Laboratory (BMRL) at Kettering University. The research team included graduate and undergraduate engineering students, medical students, and orthopedic surgical residents. Projects included the examination of wear damage accumulation in total hip replacements resulting from simulated patient activities, comparison of wear damage on total and hemi-arthroplasty humeral head implants for shoulder repair, and longitudinal examination of the influence of surface roughness on wear rate variability in total hip arthroplasty.
5. Director of the Environmental Scanning Electron Microscopy (ESEM) Laboratory. Principal investigator on NSF Major Research Instrumentation grant (CMS# 0116075) to acquire a computer controlled environmental scanning electron microscope for undergraduate courses and faculty research. The laboratory currently supports laboratory experiences in upper-level courses; research for numerous faculty, students, and corporate partners; and outreach programs to local K-12 schools.

TEACHING RELATED ACTIVITIES (PAST THREE YEARS)

COURSES TAUGHT:

Cal Poly:

MATE 110 Introduction to Materials Engineering
MATE 120 Introduction to Materials Engineering Practice (I)
MATE 130 Introduction to Materials Engineering Practice (II)
MATE 210 Materials Engineering
MATE 222 Materials Selection for the Life Cycle
MATE 310/350 Project-based Biomedical Materials Design

Kettering University:

IME 100 Introduction to Manufacturing Engineering
IME 301 Introduction to Engineering Materials and Laboratory
IME 302 Materials and Process Selection

PEDAGOGICAL DEVELOPMENT:

- Assisted with development of project-based learning junior design sequence.
- Redesigned MATE 222: Materials Selection for the Life Cycle to a project-based learning mode along with more emphasis on industry design practices (e.g. FEMA, LCA, cost modeling, etc.).
- Introduced application driven content to MATE 210 lectures, and incorporated new content in electronic materials to better reflect needs of local economy.
- Principal Investigator on NSF CCLI grant (DUE# 0511322) to develop a new course at Kettering University in environmentally conscious design and manufacturing. The project is a multi-disciplinary effort including faculty from engineering, business, science, and liberal studies, as well as students and staff. The course development is informed by an industrial advisory board with representatives from all three U.S. automobile manufacturers, and other local industries.

SENIOR PROJECT SUPERVISION:

- 2007-2008: 12 senior project students and 6 masters/4+1 students
- 2006-2007: 6 senior project students and 2 masters/4+1 students
- Prior to 2006: Ave. 6 senior thesis projects per year at Kettering University

PUBLICATIONS

Refereed Journal Articles

1. Mayhew, M.J., Hubbard, S.M., Finelli, C.J., **Harding, T.S.** & Carpenter, D.D. (2008). Using structural equations modeling to validate the theory of planned behavior as a model for predicting student cheating with implications for researchers interested in transitional versus consolidated phases of moral reasoning development. Accepted for publication in *Research in Higher Education*. 08/10/08.
2. Shorez, J.P., **Harding, T.S.**, Atkinson, P.J. & Walter, N. (2008). The addition of loading profile transitions during artificial hip wear testing alters the amount and morphology of wear particles. *Proceedings of the Institute of Mechanical Engineers, Part H: Journal of Engineering in Medicine*. (in press)
3. **Harding, T.S.**, Mayhew, M.J., Finelli, C.J. & Carpenter, D.D. (2007). The theory of planned behavior as a model of academic dishonesty in humanities and engineering undergraduates. *Ethics and Behavior*. 17(3), 255-279.
4. Brkaric, M., Baker, K.C., Israel, R., **Harding, T.**, Montgomery, D.M., Herkowitz, H.N. (2007). Early Failure of Bioabsorbable Anterior Cervical Fusion Plates: Case Report and Failure Analysis. *Journal of Spinal Disorders and Techniques*. Vol. 20, 248-254.

5. Carpenter, D.D., **Harding, T.S.**, Finelli, C.J., Montgomery, S.M., & Passow, H.J. (2006). Perceptions and attitudes toward cheating among engineering students (PACES)—Review of initial findings. *Journal of Engineering Education*. 95 (3), 181 – 194. (Invited reflective essays by the authors were posted to the Annals of Research in Engineering Education website, www.areeonline.org)
6. Passow, H.J., Mayhew, M.J., Finelli, C.J., **Harding, T.S.**, & Carpenter, D.D. (2006). Factors influencing engineering students' decisions to cheat by type of assessment. *Research in Higher Education*. Vol. 47(7), 643 – 684.
7. Borchers, A.S., **Harding, T.**, Lynch-Caris, T., Redekop, B., Hoff, C., El-Sayed, J. & Doyle, D. (2005). Undergraduate course in environmental design and manufacturing. *Journal of Manufacturing Systems*. Vol. 24, n.3, 1-6.
8. **Harding, T.S.**, Carpenter, D.D., Finelli, C.J., & Passow, H.J. (2004). Does academic dishonesty relate to unethical behavior in professional practice? An exploratory study. *Science and Engineering Ethics*, 10, 311–324.
9. **Harding, T.S.** & Jones, J.W. (2001). Evaluation of a threshold-based model of the elevated temperature fatigue of impact damaged gamma-TiAl. *Metallurgical & Material Transactions A*. 32A, 2975-2984.
10. **Harding, T.S.** & Jones, J.W. (2000). Effect of Foreign Object Damage on the Fatigue Strength of an XDTM γ -TiAl Alloy. *Scripta Materialia* 43, 631-636.
11. **Harding, T.S.** & Jones, J.W. (2000). Fatigue Thresholds of Cracks Resulting from Impact Damaged γ -TiAl. *Scripta Materialia*. 43, 623 - 629.
12. **Harding, T.S.** & Jones, J.W. (2000). Behavior of gamma TiAl subjected to impact damage and elevated temperature fatigue. *Scripta Materialia*. 42, 129-135.
13. **Harding, T.S.** & Jones, J.W. (2000). The effect of impact damage on the room temperature fatigue behavior of γ -TiAl. *Metallurgical & Materials Transactions*. 31A, 1741-1752.
14. **Harding, T.S.**, Jones, J.W., Pollock, T.M. & Steif, P.S. (1999). Room temperature fatigue response of γ -TiAl to impact damage. *Scripta Materialia*. 40(4), 445-449.

Conference Papers/Presentations

1. **Harding, T.S.** (2008). The Psychology of 'Ought'. Invited paper accepted for presentation at the 38th *Frontiers in Education Conference*, Saratoga, NY, October 2008.
2. Sutkus, J.A., Carpenter, D.D., Finelli, C.J. & **Harding, T.S.** (2008). Work in Progress: Building the Survey of Engineering Ethical Development (SEED) instrument. Paper accepted for presentation at the 38th *Frontiers in Education Conference*, Saratoga, NY, October 2008.
3. Finelli, C.J., Sutkus, J.A., Carpenter, D.D. & **Harding, T.S.** (2008). A longitudinal study of the ethical development of engineering and non-engineering students at a national research university. Abstract accepted for presentation at *Research in Engineering Education Symposium*, Davos, Switzerland, July 2008.
4. Carpenter, D.D., Finelli, C.J. & **Harding, T.S.** (2008). Investigating linkages between unethical professional behaviors and engineering undergraduate cheating. Abstract accepted for presentation at *Research in Engineering Education Symposium*, Davos, Switzerland, July 2008.
5. Vanasupa, L., Hughes, W., & **Harding, T.S.** (2008). Beyond Green Engineering: Fostering the Ethic That Powers the Action. *12th Annual Green Chemistry and Engineering Conference*, Washington D.C.
6. **Harding, T.S.** (2007). Educating the ethical engineer of 2020. Invited presentation given at *2007 Materials Research Society Fall Meeting*, Boston, MA, November 2007.

7. Mayhew, M.J., **Harding, T.S.**, Carpenter, D.D. & Finelli, C.J. (2007) Using Structural Equation Modeling to Validate Theoretical Models for Predicting Student Cheating. Paper accepted for presentation at the *2007 American Educational Research Association Annual Meeting*.
8. Finelli, C.J., Harding, T.S., Carpenter, D.D. & Sutkus, J.A. (2007). Academic integrity among engineering undergraduates: Seven years of research by the E³ team. Poster presented for the *NSF Engineering Education Awardees Conference*, Arlington, NY.
9. **Harding, T.S.**, Vanasupa, L., Savage, R.N. & Stolk, J.D. (2007). Work in Progress – Self-directed Learning and Motivation in a Project-based Learning Environment. *Proceedings of the 37th Frontiers in Education Conference, Milwaukee, WI*. (IEEE Catalog Number: 07CH37888C).
10. Vanasupa, L., Stolk, J., **Harding, T.**, & Savage, R. (2007). A Systemic Model of Development: Strategically Enhancing Students' Cognitive, Psychomotor, Affective, and Social Development. Paper presented at the *International Conference on Research in Engineering Education*, Honolulu, HI.
11. Finelli, C., **Harding, T.S.** & Carpenter, D.D. (2007). Academic Integrity Among Engineering Undergraduates: Seven Years of Research by the E³ Team. Paper presented at the *ASEE Annual Conference and Exposition*, Honolulu, HI.
12. Mayhew, M.J., **Harding, T.S.**, Carpenter, D.D. & Finelli, C.J. (2006). Examining the underlying motivations of undergraduates to behave unethically. Paper accepted for presentation at the *2006 American Educational Research Association Annual Meeting*.
13. Shorez, J., **Harding, T.**, Atkinson, P. & Walter, N. (2006). The effect of introducing loading transitions to in-vitro hip wear testing. Paper accepted for poster presentation at the *2006 Orthopaedic Research Society Annual Meeting*.
14. **Harding, T.S.**, Israel, R., Shorez, J., Baker, K.C., Greene, P.W. & Herkowitz, H.N. (2006). The effects of imaging parameters and observer training on an SEM-based visual damage rating system. Paper accepted for poster presentation at the *2006 Orthopaedic Research Society Annual Meeting*.
15. Shorez, J., **Harding, T.**, Atkinson, P. & Walter, N. (2006). The effect of introducing transitions from walking to dwell on in-vitro wear of metal-on-polyethylene total hip prostheses. Paper presented at the *2006 Michigan Orthopaedic Society Annual Meeting*.
16. Shorez, J., **Harding, T.** & Walter, N. (2006). A literature review of total hip arthroplasty (THA) patient activity and its potential role in wear. Paper presented at the *2006 Flint Area Medical Education Conference*.
17. Kinkartz, J., Bahu, M., George, J., Shorez, J., Walter, N. & **Harding, T.S.** (2006). Comparison of enzyme and acid digestion techniques for separation of ultrahigh molecular weight polyethylene hip prosthesis wear particles. Paper presented at the *2006 Flint Area Medical Education Conference*.
18. Carpenter, D.D., **Harding, T.S.** & Finelli, C.J. (2006). The implications of academic dishonesty in undergraduate engineering on professional ethical practice. Paper presented at the *2006 Environmental Water Resource Institute Annual Meeting*.
19. **Harding, T.S.**, Carpenter, D.D., & Finelli, C.J. (2006). Examining the underlying motivations of engineering undergraduates to behave unethically. Paper presented at the *ASEE Annual Conference and Exposition*, Chicago, IL.
20. **Harding, T.S.**, Finelli, C.J., & Carpenter, D.D. (2006). Cheating in college and its influence on ethical behavior in professional engineering practice. Paper presented at the *ASEE Annual Conference and Exposition*, Chicago, IL.

21. **Harding, T.S.**, Borchers, A.S., & Lynch-Caris, T. (2006). The Role of industry in supporting education in environmentally responsible engineering. Paper presented at the *ASEE Annual Conference and Exposition*, Chicago, IL.
22. Borchers, A. S., **Harding, T. S.**, Lynch-Caris, T., Redekop, B., Hoff, C., El-Sayed, J., & Doyle, D. (2005). Undergraduate course in environmental design and manufacturing. *Proceedings of the SME/CIRP International Conference on Manufacturing Engineering Education*, San Luis Obispo, CA.
23. **Harding, T.**, Adams, J., Joubron, J., Rogers, C., Sullivan, L. & Walter, N. (2005). Assessment of femoral head roughness as a contribution to UHMWPE acetabular wear variability. *Proceedings of the 2005 Michigan Orthopaedic Society Annual Scientific Meeting*, Traverse City, MI.
24. Finelli, C.J., Szwalek, J.L., **Harding, T.S.**, & Carpenter, D.D. (2005). A case study of research in engineering education: Designing, testing, and administering the PACES-2 Survey on academic integrity. *Proceedings of the 35th Frontiers in Education Conference*, Indianapolis, IN. (IEEE Catalog Number: 05CH37667C)
25. Carpenter, D.D., **Harding, T.S.**, & Finelli, C.J. (2005). Work-in-progress: An investigation into the effect of an institutional honor code policy on academic behavior. *Proceedings of the 35th Frontiers in Education Conference*, Indianapolis, IN. (IEEE Catalog Number: 05CH37667C)
26. **Harding, T.S.**, Carpenter, D.D., Finelli, C.J., & Mayhew, M.J. (2005). Cheating in college and the workplace: An examination of engineering undergraduates' ethical behavior. Paper presented at the *ASEE Annual Conference and Exposition*, Portland, OR.
27. Passow, H.J., Mayhew, M.J., Finelli, C.J., Carpenter, D.D., & **Harding, T.S.** (2005). Factors influencing engineering students' decisions to cheat by type of assignment. Paper presented at the *2005 Annual Meeting of the American Educational Research Association Proceedings of the ASEE Annual Conference and Exposition*, Montréal, Québec, Canada.
28. Bahu, M., George, J., Sullivan, L., **Harding, T.** & Walter, N. (2005). Hip wear simulator – optimizing protein digestion. *Proceedings of the 2005 Flint Area Medical Education Conference*, Flint, MI.
29. Adams, J. **Harding, T.**, Sullivan, L. & Walter, N. (2005). Assessment of CoCr head roughness as a contribution to UHMWPE socket wear. *Proceedings of the 2005 Flint Area Medical Education Conference*, Flint, MI.
30. Jubran, J., **Harding, T.** & Walter, N. (2005). Measurement of CoCr femoral head surface roughness via white light interferometry. *Proceedings of the 2005 Flint Area Medical Education Conference*, Flint, MI.
31. Etter, B.K., **Harding, T.S.**, Finelli, C.J., & Carpenter, D.D. (2004). The role of moral philosophy in promoting academic integrity among engineering students. *Proceedings of the 34th Frontiers in Education Conference*, Savannah, GA. (IEEE Catalog Number: 04CH37579C)
32. **Harding, T.S.**, Carpenter, D.D., Finelli, C.J., & Passow, H.J. (2004). The influence of academic dishonesty on ethical decision making in the workplace: A study of engineering students. *Proceedings of the ASEE Annual Conference and Exposition*, Salt Lake City, UT.
33. **Harding, T.S.** (2004). Life cycle assessment as a tool for green manufacturing education. *Proceedings of the ASEE Annual Conference and Exposition*, Salt Lake City, UT.
34. **Harding, T. S.**, Carpenter, D. D., Finelli, C. J., & Passow, H. J. (2003). An examination of the relationship between academic dishonesty and professional behavior. *Proceedings of the 33rd Annual Frontiers in Education Conference*, Boulder, CO. (IEEE Catalog Number: 03CH37487C)

35. **Harding, T. S.**, Carpenter, D. D., Finelli, C. J., & Passow, H. J. (2003). The relationship between academic dishonesty and ethical behavior in engineering practice. Paper presented at the *2003 Ethics and Social Responsibility in Engineering and Technology Conference*, New Orleans, LA.
36. Finelli, C. J., **Harding, T. S.**, Carpenter, D. D., & Passow, H. J. (2003). Students' perceptions of both the certainty and the deterrent effect of potential consequences of cheating. *Proceedings of the 2003 ASEE Annual Conference and Exposition, Nashville, TN.*
37. **Harding, T.**, Anseth, S., Van Pelt, C. and Refenes, J. (2003). Fluid absorption and debris separation in bovine calf serum used for artificial hip wear studies. *Proceedings of the 2003 Flint Area Medical Education Conference, Flint, MI.*
38. **Harding, T. S.**, Carpenter, D. D., Montgomery, S. M., & Steneck, N. H. (2002). A comparison of the role of academic dishonesty policies of several colleges on the cheating behavior of engineering and pre-engineering students. *Proceedings of the 32nd Frontiers in Education Conference, Boston, MA.* (IEEE Catalog Number: 02CH37351C)
39. Carpenter, D. D., **Harding, T. S.**, Montgomery, S. M., Steneck, N. H., & Dey, E. (2002). Student perceptions of institutional and instructor based techniques for dealing with academic dishonesty. *Proceedings of the 32nd Frontiers in Education Conference, Boston, MA.* (IEEE Catalog Number: 02CH37351C)
40. **Harding, T.S.** & Finelli, C.J. (2002). Suggestions for Establishing Centers for Engineering Education. *Proceedings of the 2002 ASEE Annual Conference & Exposition, Montréal, Québec, Canada.*
41. Carpenter, D. D., **Harding, T. S.**, Montgomery, S. M., & Steneck, N. H. (2002). P.A.C.E.S.--A study on academic integrity among engineering undergraduates (preliminary conclusions). *Proceedings of the 2002 ASEE Annual Conference & Exposition, Montréal, Québec, Canada.*
42. **Harding, T.S.**, Lai, G.-Y., Tuttle, B.L. & White, C.V. (2002). Integrating manufacturing, design and teamwork into a materials and process selection course. *Proceedings of the 2002 ASEE Annual Conference & Exposition, Montréal, Québec, Canada.*
43. **Harding, T. S.**, Carpenter, D. D., Montgomery, S. M., & Steneck, N. H. (2001). The current state of research on academic dishonesty among engineering students. *Proceedings of the 31st Frontiers in Education Conference, Reno, NV.* (IEEE Catalog Number: 01CH37193C)
44. **Harding, T. S.** (2001). Useful approaches to preventing academic dishonesty in the classroom. *Proceedings of the ASEE Annual Conference & Exposition, Albuquerque, NM.*
45. **Harding, T. S.** (2001). On the frequency and causes of academic dishonesty among engineering students. *Proceedings of the ASEE Annual Conference & Exposition, Albuquerque, NM.*
46. Kadlowec, J., DeGoede, K., **Harding, T.S.**, & Lorenz, C. (2001). ASEE student chapters: from student members to faculty. *Proceedings of the ASEE Annual Conference & Exposition, Albuquerque, NM.*
47. Smith, R.W., **Harding, T.S.**, Jones, J.W., Steif, P. & Pollock, T.M. (2001). The role of impact damage and fatigue strength reduction in gamma titanium aluminide alloys. In *Proceedings of Third International Symposium on Structural Intermetallics*, Hemker, K.J., Dimiduk, K.M., Clemens, H. & et al. (eds.) Warrendale, PA:TMS, 259-268.
48. Steif, P.S., McKenna, V.T., Jones, J.W., Smith, R.W., **Harding, T.S.** & Gilchrist, A. (2001). Accounting for small particle impact in the design of γ -TiAl turbine blades. In *Proceedings of Third International Symposium on Structural Intermetallics*, Hemker, K.J., Dimiduk, K.M., Clemens, H. & et al. (eds.). Warrendale, PA:TMS, 363-370.

49. **Harding, T. S.** (2000). Cheating: Student attitudes and practical approaches to dealing with it. *Proceedings of the 30th Frontiers in Education Conference, Kansas City, MO.* (IEEE Catalog Number: 00CH37135C)
50. Soderstrom, S., Lorenz, C., Keinath, M. & **Harding, T.S.** (2000). Implementing an engineering teaching development program for graduate student instructors. *Proceedings of the ASEE Annual Conference & Exposition, St. Louis, MO.*
51. **Harding, T.S.**, Keinath, M. & Lorenz, C.D. (2000). Graduate student mentoring at the University of Michigan, *Proceedings of the ASEE North Central Section Meeting, East Lansing, MI.*
52. **Harding, T.S.** (1999). Training graduate student instructors effectively: The University of Michigan model, *Proceedings of the ASEE Annual Conference & Exposition, Charlotte, N.C.*
53. **Harding, T.S.**, Jones, J.W., Larsen, J.M. & Steif, P.S. (1999). Influence of impact damage on the elevated temperature fatigue behavior of gamma titanium aluminide alloys. *Proceedings of Second International Symposium on Gamma Titanium Aluminide.* Kim, Y.-W., et al. (eds.), Warrendale, PA:TMS.
54. Kadlowec, J., Shriver, J., **Harding, T.**, & Choi, C. (1998). Promoting excellence in education with an outstanding student instructor award program. *Proceedings of the ASEE Annual Conference & Exposition, Seattle, WA.*
55. **Harding, T.S.**, Jones, J.W., Pollock, T.M., Steif, P.S., & Rubal, M.P. (1997). Impact damage and fatigue behavior of gamma TiAl. *High Cycle Fatigue of Structural Materials.* Srivatsan, T.S. & Sobojeyo, W.O. (eds.), Warrendale, PA:TMS.
56. Steif, P.S., Jones, J.W., **Harding, T.S.**, Rubal, M.P., Gandelsman, V.Z. Biery. N. & Pollock, T.M. (1997). Reduction in fatigue strength in gamma titanium aluminide associated with surface damage. *Proceedings of Second International Symposium on Structural Intermetallics.* Nathal, M.V. et al (eds.), Warrendale, PA:TMS.

WORKSHOPS DELIVERED (PAST THREE YEARS)

1. **Harding, T.S.** (2008). Student motivation, pedagogy, and engineering education. Invited workshop to be given at Witwatersrand, Pretoria, and Northwestern Universities, South Africa.
2. **Harding, T.S.** (2008). Research Ethics. Invited workshop given as part of *University of California Santa Barbara, Summer Research Intern Seminar Series*, Santa Barbara, CA.
3. **Harding, T.S.**, Finelli, C.J. & Carpenter, D.D. (2008). Ethics education or ethical development: What is the best goal for engineering education? Workshop presented at the *2008 ASEE Annual Conference & Exposition, Pittsburgh, PA.*
4. **Harding, T.S.** (2008). Why grades are terrible things. *Center for Teaching and Learning "Teaching Well" Workshop.* California Polytechnic State University, San Luis Obispo, CA.
5. **Harding, T.S.**, Finelli, C.J., Carpenter, D.D. & Mayhew, M.J. (2007). Factors influencing moral development in professional education. Roundtable discussion conducted at *33rd Annual Conference of the Association for Moral Education, New York, NY.*
6. **Harding, T.S.** (2007). Implementing Professionalism. *Center for Teaching and Learning "Teaching Well" Workshop.* California Polytechnic State University, San Luis Obispo, CA.
7. **Harding, T.S.** (2007). Academic Dishonesty and Moral Development. *Center for Teaching and Learning "Teaching Well" Workshop.* California Polytechnic State University, San Luis Obispo, CA.

RESEARCH AND EDUCATIONAL GRANTS

Funded/Pending Grants (12 unfunded proposals not shown)

1. Garcia, J., **Harding, T.S.**, Herter, R., Lehr, J. & Vanasupa, L. (2008). Promoting the Valuing of Diverse Perspectives in Engineering Education. *Cal Poly Extramural Funding Initiative*. Submitted 7/12/08.
2. **Harding, T.S.**, Hughes, W.L. & Baker, K. (2007). Validation of In-Situ Conductive AFM Technique for Evaluation of Corrosion in Biomedical Materials at the Nanoscale. *C3RP Cal Poly Grant Program*. \$13,600 awarded 3/23/2007.
3. **Harding, T.S.**, Finelli, C.J. & Carpenter, D.D. (2006). Collaborative Research: A Holistic Assessment of the Ethical Development of Engineering Undergraduates, *National Science Foundation – Engineering Education Centers*, \$850,802 (\$181,669 to Cal Poly) awarded 11/22/06, (EEC # 0647929).
4. **Harding, T.S.**, Walter, N. & Atkinson, P. (2005). Influence of Loading Profile on Wear in Total Hip Replacement Devices. *The McLaren Foundation*. \$44,792.84 awarded 11/15/05.
5. **Harding, T.S.**, Lynch-Caris, T., Redekop, B., Borchers, A., Doyle, A., El-Sayed, J. & Hoff, C., (2005). Adaptation and Implementation for Development of a Green Engineering and Management Course for Undergraduate Students, *National Science Foundation - Course, Curriculum and Laboratory Improvement Program*, \$100,000 awarded 11/15/05 (DUE # 0511322).
6. **Harding, T.S.** (2004). Longitudinal study of in-vitro total hip replacement component wear. *The McLaren Foundation*. \$28,075 awarded 7/29/04.
7. **Harding, T.S.** (2004). McLaren Orthopaedic Residency Program. *DePuy Educational Grant*. \$25,000 awarded 07/12/04.
8. **Harding, T.S.** (2004). Predicting academic dishonesty in engineering college students. *Center for Academic Integrity and Templeton Foundation*. \$20,000 fellowship awarded 06/01/04.
9. Carpenter, D.D., **Harding, T.S.**, & Finelli, C.J. (2003). An investigation into the relationships between students' level of moral development and their academic integrity. *Kern Family Foundation*. \$24,450 awarded 12/17/03.
10. **Harding, T.S.** & Walter, N. (2003). Hip Simulator Research. *McLaren Foundation*, \$20,000 awarded 02/07/03.
11. **Harding, T.S.**, Carpenter, D.D., & Finelli, C.J. (2003). A comparison of factors that influence cheating in engineering undergraduates. *ASEE Educational Research and Methods Minigrant Program*. \$2500 awarded 06/23/03.
12. **Harding, T.S.** & Scheller, W.L. (2002). Fatigue Response of Gamma Titanium Aluminide to Conventional Machining. *Kettering University R/I Grant Program*. \$5,000 awarded 06/15/02.
13. **Harding, T.S.**, Aronson, C., Atkinson, P., Hargrove, J.B., & Sullivan, L.L. (2001). Acquisition of an Environmental Scanning Electron Microscope for Undergraduate Education in Materials Characterization. *National Science Foundation Major Research Instrumentation Grant*. \$299,867 awarded 08/02/01.
14. **Harding, T.S.**, Lai, G.-Y., Tuttle, B.L. & White, C.V. (2001). Development of a Team-based Materials and Process Selection Course at Kettering University for Manufacturing Undergraduates. *National Science Foundation Course Curriculum Laboratory Improvement Grant*. \$45,671 awarded 01/08/01.

SERVICE BACKGROUND**PROFESSIONAL LEADERSHIP****Advances in Engineering Education**

Associate Editor (2008 – present)

American Society for Engineering Education

Program Chair 2009 Meeting, ERM Division (2008 – present)

Program Chair 2008 & 2009 Meetings, Materials Division (2007 – present)

Chair, Benjamin Dasher Award Committee, ERM Division (2006-2008)

Member, ERM Division Board of Directors (2004 - 2006)

Chair, ERM Mini-grant Task Force (2004 - 2005)

PROFESSIONAL SERVICE**Manuscript Reviewer**

Biomedical Materials

Metallurgical and Materials Transactions A

Third International Symposium on Structural Intermetallics

American Society for Engineering Education Annual Meeting (2001 – 2008)

Frontiers in Education Conference (2001 – 2008)

Proposal Reviewer

National Science Foundation CCLI Program (2001, 2007)

National Science Foundation EESE Program (2006)

Cal Poly C3RP Internal Grants (2007)

PROFESSIONAL MEMBERSHIPS

American Society for Engineering Education (1997 – present)

American Society of Materials (1995 – 1997, 2002 – present)

Association for Moral Education (2008 – present)

The Minerals, Metals and Materials Society (1995 – 2005)

American Society for Mechanical Engineers (2005 – 2008)

UNIVERSITY SERVICE**Cal Poly:**

Member	Acad. Senate – Grants Review Committee (2007 – present)
	CENG – Curriculum Committee (2007 – present)
	CENG – RPT Task Force (2007 – 2008)
	CENG/CLA Task Force (2008 – present)

Kettering University:

Director	Biomedical Materials Research Laboratory (2003 - 2006)
	ESEM Laboratory (2002 - 2006)
	Teaching Fellows Program (2000 - 2002)
Chair	IME Program Senior Thesis Committee (2003 - 2004)
	IME Program Assessment Committee (2003 - 2006)
	Faculty Senate Senior Thesis Task Force (2002 - 2003)
Member	CETL Advisory Board (2002 - 2006)
	Research Steering Council (2002 - 2006)
	Faculty Senate (2001-2004)
	Teaching Evaluation Task Force (2002)
	Promotion & Tenure Policy Revision Task Force (2002)

HONORS AND AWARDS

- President's 2008 Service Learning Award, Cal Poly, 2008
- Faculty/Staff Member of the Year, Kettering University, 2006
- Alpha Sigma Alpha Sorority, Professor of the Year, 2006
- Tau Beta Pi Kettering University Chapter, Professor of Excellence Award, 2004
- Kettering/GMI Alumni Association Outstanding Teaching Award, 2003
- Best Paper Award, 2003 ASEE Annual Meeting, ERM Division
- Best Poster Award, 2nd Annual CETL Educational Research Conf., Kettering University, 2003
- Best Paper Award, 2000 ASEE Annual Meeting, Graduate Studies Division
- New Faculty Fellows Grant, 2000 Frontiers in Education Conference
- Best Paper Award, 1999 ASEE Annual Meeting, Graduate Studies Division
- Rackham Graduate School Pedagogical Award, 1999-2001
- University of Michigan Rackham Pre-doctoral Fellowship, 1999-2000
- American Society for Engineering Education Apprentice Faculty Grant, 1999
- U. of Michigan College of Engineering Distinguished Leadership Award, 1999
- U. of Michigan College of Engineering Distinguished Achievement Award, 1999
- Dept. of Materials Science and Engineering Best Overall Teaching Assistant, 1998
- Robert Cadell Memorial Achievement Award, 1998
- ASEE, U. of Michigan Chapter, Outstanding Student Instructor Award, 1997
- Dept. of Materials Science and Engineering Best Overall Teaching Assistant, 1997
- Dept. of Materials Science and Engineering Best Overall Written Doctoral Exam, 1997
- U. of Michigan, College of Engineering, Distinguished Achievement Award in Material Science, 1997
- Vulcans, Senior Engineering Honor Society, inducted 1995
- U. of Michigan College of Engineering Distinguished Leadership Award, 1995
- Epeians, Michigan Engineering Honor Society, inducted 1994
- Invitee to *Leadershape Institute*, University of Illinois-Champaign/Urbana, 1994
- Clarence A. Siebert Memorial Scholarship, 1994
- Tau Beta Pi, National Engineering Honor Society, inducted 1993
- Alpha Sigma Mu, National Materials Honor Society, inducted 1992
- Sigma Gamma Tau, National Aerospace Engineering Honor Society, inducted 1992