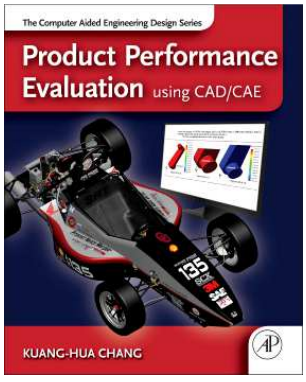
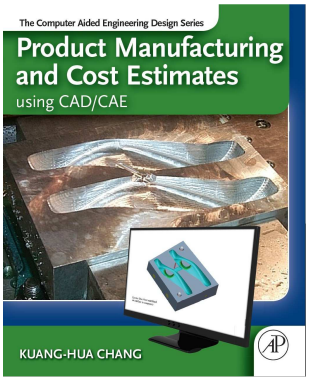
Dr. Kuang-Hua Chang is a *David Ross Boyd Professor* and *Williams Companies Foundation Presidential Professor* at the University of Oklahoma (OU), Norman, OK. He received his diploma in Mechanical Engineering from the National Taipei Institute of Technology, Taiwan, in 1980; and a M.S. and Ph.D. in Mechanical Engineering from the University of Iowa in 1987 and 1990, respectively. Since then, he has joined the Center for Computer-Aided Design (CCAD) at Iowa as a Research Scientist and CAE Technical Area Manager. In 1996, he joined Northern Illinois University as an Assistant Professor. In 1997, he joined OU. He teaches mechanical design and manufacturing, in addition to conducting research in computer-aided modeling and simulation for design and manufacturing of mechanical systems as well as bioengineering applications.

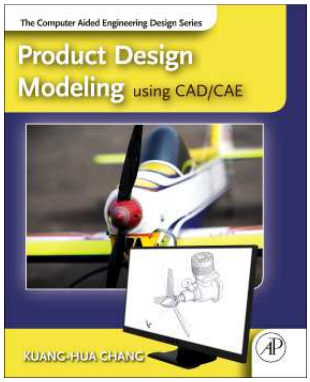
His work has been published in 8 books (see book covers below), and more than 120 articles in international journals and conference proceedings. His research has been funded by National Science Foundation, Air Force Research Lab, Whitaker Foundation, Oklahoma Center for Advancement in Science and Technology, Tinker Air Force Base, Air Force SBIR (Phases I and II), and private industry. He has also served as technical consultants to US industry and foreign companies, including LG-Electronics, Seagate Technology, etc.

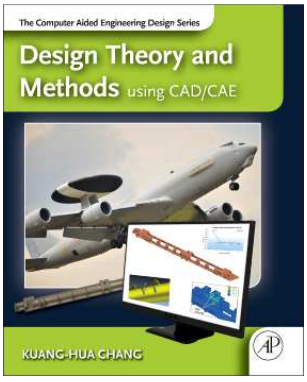
Dr. Chang received numerous awards for his teaching and research since joined OU, including the Williams Companies Foundation presidential professorship in 2005 for *meeting the highest standards of excellence in scholarship and teaching*, OU Regents Award for Superior Accomplishment in Research and Creative Activity in 2004, OU BP AMOCO Foundation Good Teaching Award in 2002, and OU Regents Award for Superior Teaching in 2010. He is a five-time recipient of CoE Alumni Teaching Award, given to top teachers in CoE. His research paper was given a Best Paper Award at the iCEER-2005 iNEER Conference for Engineering Education and Research in 2005. In 2006, he was awarded a Ralph R. Teetor Educational Award by SAE *in recognition of significant contributions to teaching, research and student development*. Dr. Chang was honored by the OKC Mayor's Committee on Disability Concerns with the 2009 Don Davis Award, which is *the highest honor granted in public recognition of extraordinarily meritorious service which has substantially advanced opportunities for people with disabilities by removing social, attitudinal & environmental barriers in the greater Oklahoma City area*. In 2013, Dr. Chang was named David Ross Boyd Professor, one of the highest honors at the University of Oklahoma, for *having consistently demonstrated outstanding teaching, guidance, and leadership for students in an academic discipline or in an interdisciplinary program within the University.*

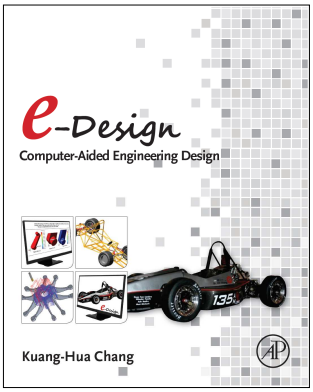
Dr. Chang serves as an Associate Editor for two international journals: Computer-Aided Design and Applications, and Mechanics Based Design of Structures and Machines. In addition, he serves on the Editorial Boards of ISRN Mechanical Engineering, International Journal of Scientific Computing, and Journal of Software Engineering and Applications. All are well-known and internationally reputable journals.

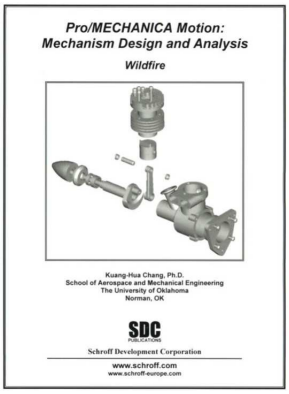


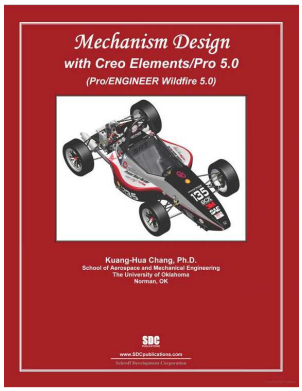


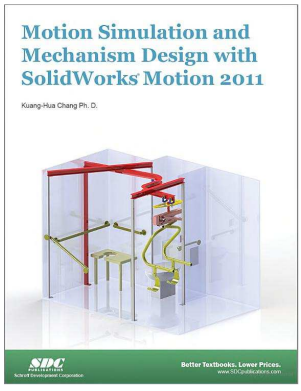












KUANG-HUA CHANG, Ph.D.

David Ross Boyd Professor and
Williams Companies Foundation Presidential Professor
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Associate Editor, Journal of Mechanics Based Design of Structures and Machines
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Norman, OK 73019
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EDUCATION

Ph.D.	Mechanical Engineering, December 1990, University of Iowa, Iowa City, IA
M.Sc.	Mechanical Engineering, May 1987, University of Iowa, Iowa City, IA
Diploma	Mechanical Engineering, June 1980, Taipei Institute of Technology, Taipei, Taiwan Presidential Award

PROFESSIONAL EXPERIENCE

2013~Present	David Ross Boyd Professor, the University of Oklahoma, Norman, OK
2005~Present	Professor, School of Aerospace and Mechanical Engineering The University of Oklahoma, Norman, OK
2005~Present	Williams Companies Foundation Presidential Professor, The University of Oklahoma, Norman, OK
2001~2005	Associate Professor, School of Aerospace and Mechanical Engineering The University of Oklahoma, Norman, OK
1997~2001	Assistant Professor, School of Aerospace and Mechanical Engineering The University of Oklahoma, Norman, OK
1998~Present	Director, Concurrent Design and Manufacturing Research Laboratory School of Aerospace and Mechanical Engineering The University of Oklahoma, Norman, OK
1998~2002	Director, Computer-Aided Design Laboratory School of Aerospace and Mechanical Engineering The University of Oklahoma, Norman, OK
2005~2007	Technical Consultant, Knowledge Systems Solutions, Inc., San Diego, CA
2005~2006	Technical Consultant, Anautics, Inc., Oklahoma City, OK
2003~2006	Technical Consultant, Tec-Masters, Inc., Huntsville, Alabama
2000~2002	Technical Consultant, LG-PRC, Korea
2000~2003	Technical Consultant, Altech Services, Inc., Midwest City, OK
Summer 2000, 2001, 2002, 2006	Senior Mechanical Engineer Air Logistics Center, OKC, OK (Tinker Air Force Base)
2000, 2006	Technical Consultant, YMCA of Tacoma Pierce County, Puyallup, WA
1999, 2003, 2007, 2008	Technical Consultant, Natural Structures, Baker City, OR
1999 Summer	Principal Development Engineer, Seagate Technology, OKC, OK
1996~1997	Assistant Professor (tenure track), Department of Mechanical Engineering Northern Illinois University, DeKalb, IL
1993~1997	Adjunct Assistant Professor (non-tenure track), Department of Mechanical Engineering The University of Iowa, Iowa City, IA
1994~1996	Manager, CAE R&D, Center for Computer-Aided Design The University of Iowa, Iowa City, IA
1991~1994	Research Scientist, Center for Computer-Aided Design The University of Iowa, Iowa City, IA

RESEARCH INTERESTS

Research Areas—Theoretical and Methodology Development:

1. Computational mechanics and material design for impact energy mitigation
2. Multi-scale modeling and simulation for nano-mechanics and material design
3. Design for mechanical fatigue and Fracture using XFEM and bridging scale methods
4. Modeling and simulation for manufacturing process, sheet metal forming
5. Reverse engineering and fast prototyping

Research Areas—Bioengineering:

1. Assistive and rehabilitation devices
2. Geometric modeling and 3D printing for bio-engineering applications
3. Design of helmet and sporting goods

Design Projects:

1. Green tricycle
2. Design for animated characters and kinetic sculptures

HONORS AND AWARDS

1. Certificate of Excellence, Finalist of 2014 Oklahoma Medal for Excellence in Teaching and Administration
   In recognition of outstanding achievement in the field of teaching and administration by the Board of Trustees of the Oklahoma Foundation for Excellence
2. 2013 David Ross Boyd Professor, University of Oklahoma, April 18, 2013
   For having consistently demonstrated outstanding teaching, guidance, and leadership for students in an academic discipline or in an interdisciplinary program within the University.
3. 2010 Regents Award for Superior Teaching, University of Oklahoma, April 1, 2010
4. 2009 Don Davis Award, OKC Mayor's Committee on Disability Concerns, OKC, October 29, 2009
   The highest honor and is granted in public recognition of extraordinarily meritorious service which has substantially advanced opportunities for people with disabilities by removing social, attitudinal & environmental barriers in the greater Oklahoma City area
5. OU Alumni Teaching Award, University of Oklahoma, September 28, 2009 (AME4553 Design Practicum Spring 2009)
6. OU Alumni Teaching Award, University of Oklahoma, September 28, 2009 (AME3353 Design of Machine Components, Spring 2009)
7. OU Alumni Teaching Award, University of Oklahoma, April 6, 2009 (AME4283 Concurrent Design and Manufacturing, Fall 2008)
8. OU Alumni Teaching Award, University of Oklahoma, March 14, 2008 (AME4263 Computer-Integrated Manufacturing, Fall 2007)
9. OU Alumni Teaching Award, University of Oklahoma, July 23, 2007 (AME3553 Design of Machine Component, Spring 2007)
10. NSF Fellowships: NSF Summer Institute on Nano Mechanics and Materials, Northwestern University, July 2007
11. 2006 Ralph R. Teetor Educational Award, Society of Automotive Engineering (SAE), April 4, 2006
    In recognition of significant contributions to teaching, research, and student development
12. Williams Companies Foundation Presidential Professorship Award, University of Oklahoma, April 18, 2005
    For meeting the highest standards of excellence in scholarship and teaching
13. Best Paper Award, iCEER-2005 iNEER Conference for Engineering Education and Research, Tainan, Taiwan, March 1~5, 2005
14. 2004 Regents' Awards for Superior Accomplishment in Research and Creative Activity, University of Oklahoma, April 13, 2004
    In grateful recognition of superior accomplish in research and creative activity
15. 2003 Outstanding Asian American, Asian Society of Oklahoma, November 15, 2003
16. 2002 Public Employee Award, OKC Mayor's Committee on Disability Concerns, OKC, October 28, 2002
    This award honors an outstanding public agency employee for contributing to the removal of social, attitudinal & environmental barriers for people with disabilities in the agency in which he or she is employed.
17. FY02 BP AMOCO Foundation Good Teaching Award, University of Oklahoma, April 9, 2002

In recognition of excellence in teaching performance at the undergraduate level

18. FY01 Research/Creative Activity Equipment/Facilities Award, University of Oklahoma, 2001
19. FY99 Research/Creative Activity Equipment/Facilities Award, University of Oklahoma, 1999
20. Junior Faculty Research Program Award, University of Oklahoma, 1998
21. Faculty Career Enhancement Award, Northern Illinois University, 1997
22. Junior Faculty Career Development Award, Northern Illinois University, 1997
23. Presidential Award, Taipei Institute of Technology, Taiwan, 1980

AWARDS RECEIVED BY STUDENTS

1. Yunxiang Wang, Structural Design Optimization Using Bridging Scale Decomposition Method, BP Scholarship, Summer 2011
2. Gabriel Coss, Matthew Majors, Brian Ogle, and Jeffrey Semtner, Project title "Drive Shaft Vibration Test Bench", sponsored by Halliburton, First Place of Poster Fair Overall and $500 cash prize, First Place of Best Final Presentation and $300 cash prize, First Place in Test Category, and BP Innovation Award and $200 cash prize, ME Capstone Poster Fair, Thursday, May 5, 2011, The University of Oklahoma
3. Han Phan, Michael Ivey, Abin Abraham, and Todd Stair, Project title "Development of solutions to welding in cold environments with high humidity", sponsored by Schlumberger, 4th Place of Poster Fair Overall and $200 cash prize, First Place in Study Category, and BP Innovation Award and $200 cash prize, ME Capstone Poster Fair, Thursday, May 5, 2011, The University of Oklahoma
4. Jason Edwards, Gerardo Conanan, Zachary Vick, and Benjamin Graham, Project title "HT-2000 Pump – Valve Seat Removal Upgrade", sponsored by Halliburton, 5th Place of Poster Fair Overall and $100 cash prize, 2nd Place in Study Category, ME Capstone Poster Fair, Thursday, May 5, 2011, The University of Oklahoma
5. Richard Heller, Kevin Bagnall, Timothy Bussum and Allen Merk, Project title "Characterization of Elastic Screens in Micro-Scale", sponsored by Kimberly-Clark Corporation, First Place of Poster Fair Overall and $500 cash prize, First Place of Best Final Presentation and $300 cash prize, First Place in Studies Category, and BP Progressive Award and $200 cash prize, ME Capstone Poster Fair, Thursday, May 7, 2009, The University of Oklahoma
6. Nate Chonlahan, Justin Gabehart, John McElvany, and Long Nguyen, Project title "Diaper Ear Folding", sponsored by Kimberly-Clark Corporation, 3rd Place of Poster Fair Overall and $300 cash prize, and 2nd Place in Studies Category, ME Capstone Poster Fair, Thursday, May 7, 2009, The University of Oklahoma
7. Danny Hamilton, Adam Herrington, Mark Schoelen, and Travis Wilkes, Project title "Assistive Device for Linda", sponsored Schlumberger and UROP, 4th Place of Poster Fair Overall and $200 cash prize, 3rd Place of Best Final Presentation and $100 cash prize, and 1st Place in Prototype Design Category and BP Innovative Award and $200 cash prize, ME Capstone Poster Fair, Thursday, May 7, 2009, The University of Oklahoma
8. Jonathan Giuliano, Derek Geyer, Ryan Johnson, and Josh Davis, Project title "Mobile Radar System", sponsored OU Atmospheric Radar Research Center, 5th Place of Poster Fair Overall and $100 cash prize, 3rd Place of Best Final Presentation and $100 cash prize, and 2nd Place in Prototype Design Category, ME Capstone Poster Fair, Thursday, May 7, 2009, The University of Oklahoma
9. Mangesh Edke, Outstanding Research Performance Awards and $2,000, AME, April 15, 2009
10. Richard Heller, Kevin Bagnall, Timothy Bussum and Allen Merk, Phi Kappa Phi Award for distinguished undergraduate research and $300 cash prize, Student Research & Performance Day, presentation title "3-D Measurement of Rough Surfaces Using SEM and Optical Stereoscopy", on April 4, 2009, sponsored by Honors College, The University of Oklahoma
11. Shad Blackwell, Krystal Davis, Jeff Johnson, and Kevin McCollam, Project title "Waist Elastic Screen Optimization", sponsored by Kimberly-Clark Corporation, First Place of Poster Fair Overall and $500 cash prize, First Place in Test Category, and 3rd Place of BP Award and $100 cash prize, ME Capstone Poster Fair, Thursday, May 1, 2008, The University of Oklahoma
12. Jared Arney, Scott Herrmann, Uriah Hughes, and Paul Schoelen, Project title "Assistive Transfer Device", sponsored Schlumberger and UROP, Second Place of Poster Fair Overall and $400 cash prize, and First Place in Prototype Design Category, ME Capstone Poster Fair, Thursday, May 1, 2008, The University of Oklahoma
13. Erin Box, Jordan Brinkley, and Amber Hendricks, Project title "Packaging Throughput", sponsored by Kimberly-Clark Corporation, Second Place in Studies Category, ME Capstone Poster Fair, Thursday, May 1, 2008, The University of Oklahoma
14. Andrew Smith, Jaclyn Williams, and Chris Waters, Distinction in Undergraduate Research Award and $150 cash prize, Undergraduate Research Day, presentation title "Walker Modification", on March 31, 2007, sponsored by Honors College, The University of Oklahoma

15. Kyle Walther, 2nd place and Dr. Bob Woods Trophy, 2006 SCCA Solo 2 Nationals, Topeka, Kansas, September 27-29, 2006
16. Matt Brown, 6th place trophy, 2006 SCCA Solo 2 Nationals, Topeka, Kansas, September 27-29, 2006
17. 2006 Sooner Racing Team, 8th place of the "Spirit of Excellent Award" and a $250 cash prize (Formula SAE West Competition, 8th place overall), California Speedway, Saturday, June 17, 2006
18. 2006 Sooner Racing Team, Accomplishment Award (Formula SAE Competition, 12th place overall), GM Vehicle Engineering Center-Warren Tech Center, Sunday, May 21, 2006
19. 2006 Sooner Racing Team, 2nd place of the "Ricardo Powertrain Award" and a $500 cash prize, GM Vehicle Engineering Center-Warren Tech Center, Sunday, May 21, 2006
20. 2005 Sooner Racing Team, PTC Awards in Education, College and University category, Formula SAE Vehicle, PTC/USER World Event, June 5-8, 2005, in Orlando, FL
21. 2005 Sooner Racing Team, Accomplishment Award (Formula SAE Competition, 25th place overall), GM Vehicle Engineering Center-Warren Tech Center, Sunday, May 22, 2005
22. 2004 Sooner Racing Team, First place of the "Continental Teves Best in Class Brake Systems Award" and a $1,250 cash prize, GM Vehicle Engineering Center-Warren Tech Center, Sunday, May 23, 2004
23. Craig Whaley, Eric Reagan, Matt Rodgers, Shaun Smith, and Will Willis, First place of the Senior Capstone Design Competition, "Pediatric Device", spring 2000, OU
24. Undergraduate Research Opportunity Program (UROP), Honors College, The University of Oklahoma
    a. Hiep Huong, *Impact Energy Mitigation*, $850, Spring 2015
    b. Jason Edwards, Zachary Vick, Benjamin Graham, and Gerardo Conanan, *Halliburton Valve Seat Upgrade*, $462, Spring 2011
    c. Mark Schoelen, Adam Herrington, Daniel Hamilton, and Travis Wilkes, *Assistive Transfer Device for Linda Shannon*, $500, Spring 2009
    d. Richard Heller and Andrew Hickman, *Handicap Apartment Door Opener*, $493, Fall 2008
    e. Uriah Hughes, Scott Herrmann, Paul Schoelen, and Jared Arney, *Assistive Transfer Device for a Disabled Lady in Norman*, $500, Fall 2007
    f. Petr Sramek and Thomas Cates, *Assistive Device for Wheelchair Soccer Game*, $497, Fall 2007
    g. Ryan Price, Tuhin Shah, and Torrey Prince, *Assistive Bowling Device*, $500, Fall 2007
    h. Tyler Bunting, *Independent Mobility for Damian*, $500, Spring 2007
    i. Zachary Butler, Matthew Seddelmeyer, Jay Alan Paulsgrove, and Tyler Bunting, *Assistive Transfer Arm*, $493, Fall 2006
    j. Aaron Dyer, Linh Ba, Christopher Heape, and Jonathan Mantooth, *Medical Equipment Cart for a Disabled Child*, $237, Fall 2006
    k. Andrew Smith, Chris Waters, and Jaclyn Williams, *Customizing a Child Walker*, $500, Fall 2006
    l. Jeff McCabe, Rapid Prototyping for Sooner Racing Team 06 FSAE Car, $500, Spring 2006
    m. Aaron Beese, Design and Manufacturing for a Bike Cart, $500, Spring 2003

TRAINING COURSES AND WORKSHOPS

1. Inspiring the Coalescence of Fundamental and Application Specific Functional Nanomaterial Development, Northwestern University, July 9-12, 2007
2. DoE Nanoscale Science Research Centers Workshop, Renaissance Hotel, Washington, D.C., February 26-28, 2003
3. MEMS Advanced Design Short Course, Albuquerque, New Mexico, September 24-26, 2002, offered by Sandia National Laboratories, Department of Energy, Albuquerque, New Mexico
4. MEMS Introductory Short Course, Albuquerque, New Mexico, August 20-22, 2002, offered by Sandia National Laboratories, Department of Energy, Albuquerque, New Mexico
5. ModelMaker II Users Training Course, Merrimack, NH, January 12~13, 1999, offered by Sanders Prototype, Inc., Merrimack, NH
6. The Science and Art of Practical Stress/Strain Measurement, Oklahoma City, OK, November 19, 1998, offered by Vishay Measurements Group, Inc., Raleigh, NC
7. Pro/ENGINEER Users Training Course, offered by Oklahoma City Branch Office of Parametric Technology Co., August 12~14, 1998
8. Rapid Prototyping: Technologies and Applications, offered by the UCLA Extension at the Department of Engineering, Information Systems, and Technical Management, UCLA, Los Angeles, California, May 5~7, 1997

SHORT COURSES OFFERED

1. Modeling and Simulation for Aircraft Structural Repair Using Modern FEA Tools; December 19-22, 2011; January 9-12, 2012; July 13-16, 2015
2. Solid Modeling using *SolidWorks*, Altech Services, Inc., Midwest City, OK, May 2~May 23, 2002
3. CAD-Based Mechanism Optimization, University of Iowa, Iowa City, IA, March 19-21, 2001

GRADUATE STUDENTS/VISITING SCHOLARS SUPERVISED

1. Design for structure fracture using 2D/3D bridging scale dynamic crack propagation
   Yunxiang Wang, Ph.D., 2014
2. Dusty Spurlock, M.Sc., Non-Thesis, Fall 2013
3. Yunxiang Wang, M.S., Energy Based Sensitivity Analysis for Coupled Atomistic and Continuum Simulations for 2-D Applications Using Bridging Scale Decomposition, Spring 2012
4. Tim Long, M.S., Rapid Prototyping for Large Scale Assemblies, Spring 2012
5. Chienchih Chen, M.S., Design, Prototyping, and Experimental Validation for Recreation Waterslides, Spring 2011
6. Don Arrowood, M.Sc., Non-Thesis, December 2010
7. Chad Nimmo, M.Sc., Non-Thesis, April 2010
8. Mangesh Edke, Ph.D., Shape Sensitivity Analysis and Optimization for Structural Fracture Using Extended FEM (XFEM), December 2009
9. Tyler Bunting, M.Sc., Independent Mobility for D., December 2009
10. Howard Chao, M.Sc., Non-Thesis, May 2008
11. Trey Wheeler, M.Sc., Vehicle Dynamic Simulation and Validation of A Formula SAE Car, November 2006
12. Sung-Hwan Joo, Ph.D. dissertation: CAD-Based Shape Design Sensitivity Analysis and Optimization for Waterslides, January 2006
13. Mangesh Edke, M.Sc., Shape Optimization of Heavy Load Carrying Components for Structural Performance and Manufacturing Cost, April 2005
14. David Gibson, M.Sc., CAD Feature Recognition from NURB Surface Models, December 2004
15. Qunli Sun, Ph.D. thesis: Laser Interferometry and Finite Element Modeling for Middle Ear Implant Transfer Functions, November 2001
16. Javier Silver, M.Sc. thesis: Concurrent Design and Manufacturing for Mechanical Systems, August 2000
17. Sung-Hwan Joo, M.Sc. thesis: Shape Design Optimization for Waterslides, January 2000
18. Poh-Soong Tang, M.Sc. thesis: Integration of Structural Topology and Shape Design Optimizations, October 1999
19. Xiaoming Yu, Ph.D. dissertation: Reliability and Durability Based Design Sensitivity Analysis and Optimization, Spring 1996
20. Iulian Grindeanu, M.Sc. thesis: Design Sensitivity Analysis and Optimization for Thermal Induced Fatigue, Summer 1996
21. Hsiu-Ying Hwang, Ph.D. dissertation: Shape Design Sensitivity Analysis and Optimization Using a p-Version FEA Code, STRESS CHECK, Fall 1995
22. Aurelia Rusu-Casandra, visiting scholar: Design Sensitivity Analysis and Optimization for Pressure Vessel, 1994~1995

EXTERNAL FUNDING (Total: ~7 Millions, ~$2 Million to Dr. Chang's Credit)

1. PI, "Study and Analysis of the Potential Degradation of Electrical Properties due to Ingressed Moisture in B1-B Radome and Development of an Integrated Reverse Engineering Environment Using State-of-the-Art Technology, Tasks 4-6," $418,275, November 1, 2011 – August 23, 2013, Chugach Co./Tinker
2. Co-PI, "Study and Analysis of the Potential Degradation of Electrical Properties due to Ingressed Moisture in B1-B Radome and Development of an Integrated Reverse Engineering Environment Using State-of-the-Art Technology, Tasks 7-9," $418,275, November 1, 2011 – August 23, 2013, Chugach Co./Tinker
3. PI, "Research and Recommendation of Advanced Reverse Engineering Tools," $85,000, May 1, 2010 – August 31, 2010, DRS Technologies/Tinker
4. Co-Investigator, "Shape Engineering for Advanced Manufacturing (SEAM)," $3,000,000, 2009-2011, OK-EDGE, State of Oklahoma, Economic Development Generating

5. PI, "Knowledge Capturing in Design," $58,140, 2007-2008, Knowledge Systems Solutions, Inc., San Diego, CA (SBIR Phase II)
6. PI, "Digital Engineering Process," $48,652 (with $950 OU match), 2006-2007, Air Logistics Center (Tinker Air Force Base), OKC, OK
7. PI, "An Investigation on Reverse Engineering and Automated Document Conversion Process for Aging Aircrafts," $25,331, 2005-2006, Knowledge Systems Solutions, Inc., San Diego, CA (SBIR Phase I)
8. PI, "Engineering and Fast Manufacturing for Impact-Induced Fatigue and Fracture for Aging Aircraft," $467,800, Air Force Research Lab, 2002-2005
9. PI, "Drawing Conversion Technology, OC-ALC," $16,403, 2002-2003, Air Logistics Center (Tinker Air Force Base), OKC, OK
10. PI, "Network Technical Database Search Engine," $60,931, Summer 2002, Air Logistics Center (Tinker Air Force Base), OKC, OK
11. PI, "Design Parameterization for CAD-Based Mechanism Optimization," $71,620, NSF I/UCRC, 2001-2002
12. PI, "Layer Standards for OC-ALC Vector Drawings," $43,792, Summer 2001, Air Logistics Center (Tinker Air Force Base), OKC, OK
13. PI, "Re-Engineering, Test, and Manufacturing of E-3 Torque Tubes," PI, $43,935, 2001-2002, Altech Services
14. PI, "Solid Modeling and Design Parameterization of E-3 Torque Tubes," $25,000, 2001, Altech Services
15. PI, "Information Integration for All-Digital Design," $23,641, Summer 2000, Air Logistics Center (Tinker Air Force Base), OKC, OK
16. Co-Investigator, "Intercampus Bioengineering Center at the University of Oklahoma," $1,000,000, 1999~2002, Biomedical Engineering Research Grants (Special Opportunity), Whitaker Foundation
17. Co-PI, "Laser Interferometry and Finite Element Modeling for Middle Ear Implant Transfer Functions," $209,976, 1998~2001, Whitaker Foundation
18. PI, "Computer Modeling and Simulation for Human Tooth Cavity Preparations," $105,000, 1998~2001, Oklahoma Center for Advancement of Science and Technology
19. PI, "Middle Ear Implantable Hearing Device Validation," $10,552, 1997~1999, OUHSC
20. Co-PI, "Samsung (Korea) technology transfer project on Simulation-Based Design," $587,970, 1996~1998

INTERNAL FUNDING AND AWARDS (Total: ~$150K)

1. Green Tricycle Design through Experiential Learning: An open courseware enriching engineering curriculum and entrepreneurship, 2015 Faculty Fellows Awards ($15,000)
2. Development of Tutorial Lessons for an e-Design Book, Ed Cline Faculty Development Awards Proposal Application AY 2014-15 ($2,500)
3. 2013 David Ross Boyd Professor, $7,000, University of Oklahoma, April 18, 2013
4. 2010 Regents Award for Superior Teaching, $2,000, University of Oklahoma, April 1, 2010
5. OU Alumni Teaching Award, $7,653, University of Oklahoma, September 28, 2009
6. OU Alumni Teaching Award, $5,000, University of Oklahoma, April 6, 2009
7. Presidential International Travel Fellowship, $1,200, University of Oklahoma, April 7, 2009
8. OU Alumni Teaching Award, $2,509, University of Oklahoma, March 14, 2008
9. OU Alumni Teaching Award, $2,662, University of Oklahoma, July 23, 2007
10. Presidential International Travel Fellowship, $1,000, University of Oklahoma, April 12, 2007
11. Williams Companies Foundation Presidential Professorship Award, $40,000, University of Oklahoma, April 18, 2005
12. 2004 Regents' Awards for Superior Accomplishment in Research and Creative Activity, $2,000, University of Oklahoma, April 13, 2004
13. FY02 BP AMOCO Good Teaching Award, $1,500, University of Oklahoma, April 9, 2002
14. "A Multidisciplinary Fast Prototyping Center," $24,200, FY01 Research/Creative Activity Equipment /Facilities Funds, University of Oklahoma, 2001
15. "Design for Solid Freeform Fabrication," $35,000 (including $10,000 CoE match), FY99 Research/Creative Activity Equipment /Facilities Funds, University of Oklahoma, 1999
16. "Structural Shape Design Optimization Using Meshless Methods," $6,000, Junior Faculty Research Award, University of Oklahoma, 1998
17. Faculty Career Enhancement Award, $3,000, FY1997, Northern Illinois University, 1997
18. Junior Faculty Career Development Award, $4,000, FY1997, Northern Illinois University, 1997

PUBLICATIONS (>150 Technical Papers, Book Chapters, and Books, Overall)

A. Books (8 published)

1. Chang, K.H., *e-Design: Computer-Aided Engineering Design*, Academic Press, Elsevier Science & Technology, 30 Corporate Drive, Suite 400, Burlington, MA 01803, ISBN 978-0-12-3820389, April 1, 2015
2. Chang, K.H., *Design Theory and Methods* using CAD/CAE, The Computer Aided Engineering Design Series, Academic Press, Elsevier Science & Technology, 30 Corporate Drive, Suite 400, Burlington, MA 01803, ISBN 978-0-12-398512-5, October 27, 2014
3. Chang, K.H., *Product Design Modeling* using CAD/CAE, The Computer Aided Engineering Design Series, Academic Press, Elsevier Science & Technology, 30 Corporate Drive, Suite 400, Burlington, MA 01803, ISBN 978-0-12-398513-2, February 7, 2014
4. Chang, K.H., *Product Manufacturing and Cost Estimate* using CAD/CAE, The Computer Aided Engineering Design Series, Academic Press, Elsevier Science & Technology, 30 Corporate Drive, Suite 400, Burlington, MA 01803, ISBN 978-0-12-401745-0, July 2013
5. Chang, K.H., *Product Performance Evaluation* using CAD/CAE, The Computer Aided Engineering Design Series, Academic Press, Elsevier Science & Technology, 30 Corporate Drive, Suite 400, Burlington, MA 01803, ISBN 978-0-12-398460-9, February 2013
6. Chang, K.H., "Dynamic Simulation and Mechanism Design with *COSMOSMotion 2007*," Schroff Development Corporation, P O Box 1334, Mission, KS 66222, ISBN 978-1-58503-482-6, June 2008
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1. Wang, Y. and Chang, K.H., "Shape Sensitivity Analysis for Non-differentiable Performance Measures in Multi-scale Crack Propagation Simulation Using Regression Hybrid Method," Submitted to Structural and Multidisciplinary Optimization, May 2014

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1. Wang, Y., Chang, K.H., and Staub, P.G., "Formability Investigation of a Thin-wall Part of Double Curvature Using an Integrated Reverse Engineering Environment," CAD and Applications, submitted September 2014, accepted, April 2015.
2. Wang, Y. and Chang, K.H., "Continuum-Based Shape Sensitivity Analysis for 2D Coupled Atomistic/Continuum Simulations Using Bridging Scale Decomposition," Submitted to Mechanics Based Design of Structures and Machines, April 2013, Accepted June 2014, final manuscript submitted July 3, 2014, Published online: 25 Sep 2014, Volume 43, Issue 2, pp. 236-264, 2015
3. Wang, Y. and Chang, K.H., "Continuum Shape Sensitivity Analysis and What-if Study for Two-dimensional Multi-scale Crack Propagation Problems Using Bridging Scale Decomposition," Submitted to Structural and Multidisciplinary Optimization, May 2013, Accepted April 2, 2014, published online November 20, 2014
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C. Referred Conference Papers with Proceedings (65 Presented and Published in Proceedings)

1. Chang, K.H. and Wang, Y., "Continuum Shape Sensitivity Analysis and What-if Study for Two-dimensional Multi-scale Crack Propagation Problems Using the Bridging Scale Method," Paper ID: 5454, WCSMO-10, May 19-24, 2013, Orlando, FL
2. Wang, Y. and Chang, K.H., "Continuum-based Shape Sensitivity Analysis for 2-D Coupled Atomistic/Continuum Simulations Using Bridging Scale Decomposition," Paper ID: 4962, WCSMO-10, May 19-24, 2013, Orlando, FL
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6. Chang, K.H. and Chen, C., "Design, Prototyping, and Experimental Validation for Recreation Waterslides," Paper No. A33, The 3rd International Conference on Advanced Manufacture, Kengting, Taiwan, February 2-5, 2010
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9. Chang, K.H. and Edke, M., "Shape Optimization for Structural Fracture Using Extended FEM (XFEM)," Paper No. 1125, WCSMO8: 8th World Congress on Structural and Multidisciplinary Optimization, 1 - 5 June 2009, Lisbon, Portugal
10. Chang, K.H., and Edke, M., "Shape Design Sensitivity Analysis (DSA) for Structural Fracture Using Extended FEM (XFEM)," Fifth International Conference of Applied Mathematics and Computing, Plovdiv, Bulgaria, August 12 - 18, 2008, invited lecture

11. Chang, K.H., "Advanced Surface Construction for Topology and Shape Optimizations," Fifth International Conference of Applied Mathematics and Computing, Plovdiv, Bulgaria, August 12 - 18, 2008, invited lecture
12. Chang, K.H., "Shape Sensitivity Analysis for Waterslides in CAD Flume Sections," Fourth International Conference of Applied Mathematics and Computing, Plovdiv, Bulgaria, August 12 - 18, 2007, invited lecture
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48. Rusu-Casandra, A., Grindeanu, I., and Chang, K.H., "Sizing Design Sensitivity Analysis and Optimization of a Hemispherical Shell With a Nonradial Penetrated Nozzle," Proceedings of The 1997 ASME Pressure Vessels and Piping Conference, Orlando, Florida, July 27~31, 1997
49. Chang, K.H., Grindeanu, I., Choi, K.K., and Chen, J.S., "Design Sensitivity Analysis for Hyperelasticity Materials Using a Meshless Method," The 6th AIAA/USAF/NASA/ISSMO Symposium on Multidisciplinary Analysis and Optimization, Paper No. 96-4175, pp. 1681~1691, Hyatt Regency Bellevue, Bellevue, WA, September 4~6, 1996

50. Chang, K.H., Yu, X., and Choi, K.K., "Probabilistic Structural Durability Prediction," The 6th AIAA/USAF/NASA/ISSMO Symposium on Multidisciplinary Analysis and Optimization, Paper No. 96-4064, pp. 796~806, Hyatt Regency Bellevue, Bellevue, WA, September 4~6, 1996
51. Choi, K.K., Yu, X., and Chang, K.H., "A Mixed Design Approach For Probabilistic Structural Durability," The 6th AIAA/USAF/NASA/ISSMO Symposium on Multidisciplinary Analysis and Optimization, Paper No. 96-4063, pp. 785~795, Hyatt Regency Bellevue, Bellevue, WA, September 4~6, 1996
52. Hardee, E., Chang, K.H., Choi, K.K., Yu, X., and Grindeanu, I., "A CAD-Based Design Sensitivity Analysis and Optimization For Structural Shape Design Applications," The 6th AIAA/USAF/NASA/ISSMO Symposium on Multidisciplinary Analysis and Optimization, Paper No. 96-3990, pp. 77~87, Hyatt Regency Bellevue, Bellevue, WA, September 4~6, 1996
53. Tsai, C.S., Chang, K.H., and Wang, J., "Integration Infrastructure for a Simulation-Based Design Environment," Proceedings of the Computers in Engineering Conference and the Engineering Data Symposium, ASME Design Theory and Methodology Conference, pp. 9~20, Boston, MA, August 1995
54. Choi, K.K., Chang, K.H., Wang, J., Tang, J., Orgarevic, V., Tsai, C.S., and Vujosevic, R., "Simulation-Based Concurrent Engineering Tools And Infrastructure," The First World Congress of Structural and Multidisciplinary Optimization, Goslar, Lower Saxony, Germany, May 28~June 3, 1995
55. Chang, K.H., Yu, X., and Choi, K.K., "Design Sensitivity Analysis And Optimization (DSO)—Structural Reliability Analysis," The First World Congress of Structural and Multidisciplinary Optimization, Ed. by Olhoff and Rozvany, pp. 889~894, Goslar, Lower Saxony, Germany, May 28~June 3, 1995, Pergamon Co., Germany, 1996
56. Chang, K.H., Duan, W., and Choi, K.K., "Buckling Design Sensitivity Analysis for Frame Structures," 5th AIAA/NASA/USAF/ISSMO Symposium on Multidisciplinary Analysis and Optimization, Paper No. 94-4317, pp. 613~618, Panama City, Florida, September 7~9, 1994
57. Chang, K.H., Choi, K.K., Tsai, C.S., Chen, C.J., Choi, B.S., and Yu, X. "Design Sensitivity Analysis and Optimization Tool (DSO) for Shape Design Applications," SAE Earthmoving Industry Conference, Paper No. 941090, Peoria, Illinois, April 12~13, 1994
58. Choi, K.K., Wu, J.K., Chang, K.H., Tang, J., Wang, J., and Haug, E.J., "Large Scale Tracked Vehicle Concurrent Engineering Environment," STRUCTURAL OPTIMIZATION 93, The World Congress on Optimal Design of Structural Systems (Ed. by J. Herskovitz), Rio de Janeiro, Brazil, August 2~6, 1993, pp. 447~482, Kluwer Academic Publishers, Dordrecht, The Netherlands, 1995
59. Khera, S.C., Goel, V.K., Gurusami, S., Chen, R.C.S. and Chang, K.H., "Changes in Stress Gradients in Human Teeth: Effects of Cavity Preparations and Restorative Materials," Proceedings of ASME Summer Bioengineering Conference, Breckenridge, CO, June 25 ~ 29, 1993
60. Choi, K.K. and Chang, K.H., "Design Sensitivity Analysis and Optimization Tool for Automotive Structures," Proceedings of the Korean Federation of Science and Technology Societies Workshop on Automation and Mechanics, Seoul, Korea, October 12~14, 1992
61. Chang, K.H., Choi, K.K., and Perng, J.H., "Design Sensitivity Analysis and Optimization Tool for Sizing Design Applications," Fourth AIAA/AIR Force/NASA/OAI Symposium on Multidisciplinary Analysis and Optimization, Paper No. 92-4798, pp. 867~877, Cleveland, Ohio, September 21~23, 1992
62. Choi, K.K. and Chang, K.H., "Design Sensitivity Analysis and Optimization Tool for Concurrent Engineering," Concurrent Engineering Tools and Technologies For Mechanical System Design, NATO-Army-NASA Advanced Study Institute, Edited by E. J. Haug, Springer-Verlag, pp. 587~626, Iowa City, Iowa, May~June 1992
63. Chang, K.H. and Choi, K.K., "Design Sensitivity Analysis and What-if Tool for 3-D Design Applications," Concurrent Engineering Tools and Technologies For Mechanical System Design, NATO-Army-NASA Advanced Study Institute, Edited by E. J. Haug, Springer-Verlag, pp. 737~765, Iowa City, Iowa, May~June 1992
64. Choi, K.K. and Chang, K.H., "Shape Design Sensitivity Analysis and What-if Workstation For Elastic Solids," AIAA 32nd SDM Conference, Paper No. 91-1206, pp. 578~587, Baltimore, Maryland, April 8~10, 1991
65. Santos, J.L.T., Godse, M.M., Chang, K.H., and Stone, T.A., "An Interactive System for Structural Design Sensitivity Analysis and Optimization," Proceedings of First International Conference on Computer Aided Optimum Design of Structures, Southampton, UK, June 1989

D. Non-Referred Conference Papers (28 Presented and/or Published in Proceedings)

1. Joo. S., Chang, K.H., and Striz, A., "Shape Design Optimization of CAD-Based Flume Section," pp. 38, XXVI Oklahoma AIAA/ASME Symposium, April 15, 2006, Norman, OK

2. Chen, Z., Edke, M., Siddique, Z., and Chang, K.H., "A Testbed to Integrate Reverse Engineering, Re-Engineering and Fast Manufacturing," pp. 37, XXVI Oklahoma AIAA/ASME Symposium, April 15, 2006, Norman, OK
3. McCabe, J. and Chang, K.H., " Rapid Prototyping of the Sooner Race Team Vehicle," pp. 13, XXVI Oklahoma AIAA/ASME Symposium, April 15, 2006, Norman, OK
4. Brown, M. and Chang, K.H., "Designing a Powertrain for A Restricted Formula SAE Vehicle," pp. 14, XXVI Oklahoma AIAA/ASME Symposium, April 15, 2006, Norman, OK
5. Edke, M. and Chang, K.H., "Shape Optimization for Structural Performance and Manufacturing Cost of Heavy Load Carrying Components," pp. 16, XXVI Oklahoma AIAA/ASME Symposium, April 15, 2006, Norman, OK
6. Chang, K.H., Siddique, Z., Edke, M., and Chen, Z., "An Integrated Testbed for Reverse Engineering of Aging Systems and Components," pp. 36, XXVI Oklahoma AIAA/ASME Symposium, April 15, 2006, Norman, OK
7. Chang, K.H., and Siddique, Z., "Reengineering And Fast Manufacturing For Impact-Induced Fatigue And Fracture Problems In Aging Aircrafts," Air Force Office of Scientific Research Contractor's Meeting in Mechanics of Materials and Devices & Structural Mechanics, Eldorado Hotel, Santa Fe, NM, August 29~September 1, 2005 (proceedings in CD-ROM)
8. Wheeler, R.M., Oubre, D., and Chang, K.H., "Detailed CAD Modeling of a Formula SAE Vehicle," 25th Oklahoma AIAA/ASME Symposium, Saturday, February 12, 2005, Advanced Technology Research Center, Oklahoma State University, Stillwater, OK
9. Edke, M. and Chang, K.H., "Concurrent Shape Optimization of Structural Components," 25th Oklahoma AIAA/ASME Symposium, Saturday, February 12, 2005, Advanced Technology Research Center, Oklahoma State University, Stillwater, OK
10. Chang, K.H., and Siddique, Z., "Reengineering And Fast Manufacturing For Impact-Induced Fatigue And Fracture Problems In Aging Aircrafts," Air Force Office of Scientific Research Contractor's Meeting in Mechanics of Materials and Devices & Structural Mechanics, Wintergreen Resort, Wintergreen, VA, August 16~20, 2004 (proceedings in CD-ROM)
11. Edke, M. and Chang, K.H., "Shape Optimization for Cost and Performance of Structural Components," 2004 Graduate Student Research Poster Session, Beaird Lounge, OU Student Union, March 31, 2004, Norman, OK
12. Chang, K.H., and Siddique, Z., "Reengineering And Fast Manufacturing For Impact-Induced Fatigue And Fracture Problems In Aging Aircrafts," Air Force Office of Scientific Research Contractor's Meeting in Mechanics of Materials and Devices & Structural Mechanics, Eldorado Hotel, Santa Fe, NM, September 8~11, 2003 (proceedings in CD-ROM)
13. Bryant, I. IV and Chang, K.H., "Reverse Engineering and Redesign of E-3 Torque Tube," XXIII Oklahoma AIAA/ASME Symposium, Saturday, March 8, 2003, Norman, OK
14. Joo, S-H. and Chang, K.H., "Design Parameterization for CAD-Based Mechanism Optimization," XXIII Oklahoma AIAA/ASME Symposium, Saturday, March 8, 2003, Norman, OK
15. Gibson, D.C. and Chang, K.H., "Creating Parametric Solid Models from Point Cloud Scans of Physical Source Parts," XXIII Oklahoma AIAA/ASME Symposium, Saturday, March 8, 2003, Norman, OK
16. Siddique, Z. and Chang, K.H., "Reengineering And Fast Manufacturing For Impact-Induced Fatigue And Fracture Problems In Aging Aircrafts," Air Force Office of Scientific Research Contractor's Meeting in Mechanics of Materials and Devices & Structural Mechanics, Holiday Inn, Rosslyn at Key Bridge, Arlington, VA, September 25~27, 2002 (proceedings in CD-ROM)
17. Richard T. Braley and Chang, K.H., "Network Technology Database Search Engine," pp. 83~84, Research Day for Regional Universities, UCO, Edmond, OK, October 11, 2002
18. Chang, K.H., "Computer Modeling and Simulation for Human Tooth Cavity Preparations—A Summary of Year4 Progress," Sixteen Oklahoma Annual Health Science Conference, Oklahoma City, OK, April 16, 2002
19. Chang, K.H., "Layer Standard for OC-ALC Vector Drawings," CACI Summer Research Conference 2001, Tinker AFB, OK, July 11, 2001
20. Chang, K.H., "Computer Modeling and Simulation for Human Tooth Cavity Preparations—A Summary of Year2 Progress," Fourteen Oklahoma Annual Health Science Conference, Oklahoma City, OK, April 18, 2000.
21. Chang, K.H., "Computer Modeling and Simulation for Human Tooth Cavity Preparations," Thirteen Oklahoma Annual Health Science Conference, Oklahoma City, OK, September 21, 1999
22. Sun, Q., Gan, R., and Chang, K.H., "3-D Computer Modeling of Human Middle Ear Mechanics," Graduate Research Education and Technology Symposium, University of Oklahoma Health Science Center, Oklahoma City, OK, April 13~17, 1998
23. Choi, K.K., Grindeanu, I., Chang, K.H., and Chen, J.S., "Shape Design Sensitivity Analysis and Optimization Using Meshless Method," Critical Technologies for Modeling and Simulation of Ground Vehicles, Proceedings of the ARC Conference 1997, sponsored by Automotive Research Center and U.S. Army TARDEC National

Automotive Center, FXB Building, North Campus, University of Michigan, Ann Arbor, Michigan, June 3-4, 1997

24. Choi, K.K., Yu, X., and Chang, K.H., "Reliability-Based Design Optimization for Fatigue Life," Critical Technologies for Modeling and Simulation of Ground Vehicles, Proceedings of the ARC Conference 1997, sponsored by Automotive Research Center and U.S. Army TARDEC National Automotive Center, FXB Building, North Campus, University of Michigan, Ann Arbor, Michigan, June 3-4, 1997
25. Choi, K.K., Grindeanu, I., and Chang, K.H., "Shape Design Sensitivity Analysis and Optimization of Thermoelastic Structures for Durability," Proceedings of the Korean Federation of Science and Technology Societies Workshop on Automation and Mechanics, Seoul, Korea, October 31~November 1, 1996
26. Chang, K.H., Choi, K.K., and Yu, X., "Reliability-Based Design Sensitivity Analysis and Optimization for Structural Durability," Proceedings of the ARC Conference 1997, sponsored by Automotive Research Center and U.S. Army TARDEC National Automotive Center, University of Michigan, Ann Arbor, Michigan, May 29-30, 1996
27. Choi, K.K., Chang, K.H., Tsai, C.S., and Wang, J., "Information Integration for Simulation Based Design," Proceedings of the 1996 NSF Design and Manufacturing Grantees Conference, pp. 123~124, Albuquerque, New Mexico, January 3~5, 1996
28. Goel, V.K., Khera, S.C., Ralston, J.L., and Chang, K.H., "Stresses at the DEJ of Human Teeth: A Preliminary Finite Element Investigation," Presented at the Iowa section of AADR/IADR meeting, February 1989

F. Technology Disclosures (2)

1. OU Disclosure No. 01NOR002, "Integrated Design and Manufacturing for Mechanical Components," November 28, 2000, Office of Technology Development
2. OU Disclosure No. 01NOR001, "Computer Modeling and Simulation for the Design of Recreational Waterslides," December 12, 2000, Office of Technology Development

COURSES TAUGHT

University of Oklahoma (with Student Course Evaluation Scores)

Semester/Course			Enroll-ment	Preparedness (Q2)			Effectiveness (Q10)		
				KHC	D	C	**KHC**	D	C
Fall '15	AME 5740.002	Deign Theory and Methods	8						
Sum '15	AME 3143	Solid Mechanics	16	**5.000**	4.649	4.281	**5.000**	4.649	4.371
Sp '15	AME 4283/5283	Concurrent Design and Manufacturing	22 (15+7)	**5.000**	4.214	4.356	**5.000**	4.119	4.252
Sp '15	AME 4193.001	Introduction To CAD	17	**4.818**	4.214	4.356	**4.818**	4.119	4.252
Fall '14	AME 4263/5263	Computer-Integrated Manufacturing	17 (9+8)	**4.800**	4.122	4.319	**5.000**	3.950	4.172
Sp '14	AME 4283/5283	Concurrent Design and Manufacturing	19	**5.000**	4.192	4.349	**4.875**	4.104	4.261
Sp '14	AME 3353.002	Design of Machine Components	49	**4.800**	4.192	4.349	**4.200**	4.104	4.261
Sp '13	AME 4283/5283	Concurrent Design and Manufacturing	18	**4.933**	4.229	4.343	**4.733**	4.100	4.257
Sp '13	AME 3353.002	Design of Machine Components	31	**4.824**	4.229	4.343	**4.647**	4.100	4.257
Fall '12	AME 4263/5263	Computer-Integrated Manufacturing	16 (8+8)	**4.750**	4.206	4.229	**4.750**	3.979	4.078
Sp '12	AME 4283/5283	Concurrent Design and Manufacturing	18	**4.700**	4.150	4.193	**4.500**	4.001	4.115
Sp '12	AME 3353	Design of Machine Components	43	**4.563**	4.150	4.193	**4.500**	4.001	4.115
Sp '11	AME 4553	Design Practicum	16	**4.500**	4.197	4.272	**4.500**	4.117	4.233
Sp '11	AME 3353	Design of Machine Components	45	**4.524**	4.197	4.272	**4.429**	4.117	4.233
Sp '11	AME 5740	Computational Methods in Structural Design	5	**4.500**	4.197	4.272	**3.750**	4.117	4.233
Fall '10	AME 4263/5263	Computer-Integrated Manufacturing	21 (15+6)	**4.700**	4.126	4.264	**4.800**	3.906	4.122
Sum '10	AME 3353	Design of Machine Components	14	**5.000**	4.563	4.471	**5.000**	4.563	4.426
Fall '09	AME 4263	Computer-Integrated	28 17	**4.867**	4.250	4.241	**4.867**	4.128	4.156

	AME 5263	Manufacturing		11	**4.909**	4.250	4.241	**4.818**	4.128	4.156
Sp '09	AME 4553*	Design Practicum	16		**5.000**	4.318	4.374	**5.000**	4.155	4.243
Sp '09	AME 3353*	Design of Machine Components	39		**4.962**	4.318	4.374	**4.769**	4.155	4.243
Fall '08	AME 4283*	Concurrent Design and Manufacturing	16		**5.000**	4.312	4.319	**5.000**	4.259	4.244
Sp '08	AME 4553	Design Practicum	14		**4.538**	4.229	4.259	**4.286**	4.133	4.226
Sp '08	AME 3353	Design of Machine Components	40		**4.839**	4.229	4.259	**4.645**	4.133	4.226
Fall '07	AME 5263*	Computer-Integrated Manufacturing	20		**4.933**	4.233	4.221	**4.643**	4.103	4.112
Sp '07	AME 3353*	Design of Machine Components	37		**4.815**	4.274	4.346	**4.593**	3.896	3.945
Fall '06	AME4980/5990	Research/Special Project (SAE)	16		**5.000**	4.228	4.238	**4.778**	3.835	3.811
	AME 5263	Computer-Integrated Manufacturing	16		**5.000**	4.228	4.238	**5.000**	3.835	3.811
Sum '06	AME 3353	Design of Machine Components	14		**4.643**	4.812	4.628	**4.857**	4.750	4.533
Sp 06	AME 3353	Design of Machine Components	129		**4.811**	4.163	4.237	**4.400**	3.805	3.879
Fall '05	AME4980/5990	Research/Special Project (SAE)	11		**4.714**	4.179	4.272	**4.625**	3.796	3.872
	AME 4263	Computer-Integrated	19	7	**4.714**	4.179	4.272	**4.857**	3.796	3.872
	AME 5263	Manufacturing		12	**4.636**	4.179	4.272	**4.273**	3.796	3.872
Sp '05	AME 3353	Design of Machine Components	134		**4.580**	4.282	4.271	**4.030**	3.904	3.883
Fall '04	AME4980/5990	Research/Special Project (SAE)	11		**5.000**	4.005	4.254	**5.000**	3.577	3.834
Sum '04	AME 5740	CAD and CNC Machining	16		**5.000**	4.910	4.549	**4.940**	4.819	4.282
Sp '04	AME 5740.001	Introd to CAD/CAM	14		**4.730**	4.161	4.292	**4.550**	3.823	3.884
	AME 5740.003	Introd to CAD/CAM	15		**5.000**	4.161	4.292	**4.870**	3.823	3.884
	AME 3353	Design of Machine Components	94		**4.570**	4.161	4.292	**4.070**	3.823	3.884
Fall '03	AME 3143.002	Solid Mechanics	75		**4.730**	4.080	4.256	**4.180**	3.699	3.877
Sp '03	AME 5740	Virtual Machining and Fast Prototyping	15		**4.590**	4.229	4.250	**4.420**	3.882	3.881
	AME 3353	Design of Machine Components	70		**4.710**	4.229	4.250	**4.300**	3.882	3.881
Fall '02	AME 4283	Concurrent Design	18	14	**4.880**	4.120	4.192	**4.880**	3.732	3.812
	AME 5283	and Manufacturing		4	**4.800**	4.120	4.192	**4.560**	3.732	3.812
	AME 5740	Intro to CAD/CAE/CAM	10		**5.000**	4.449	4.377	**4.900**	3.900	3.777
Sp '02	AME 4193	Intro to CAD	13		**4.900**	4.117	4.218	**4.700**	3.638	3.836
	AME 4263	Computer-Integrated	18	8	**5.000**	4.117	4.218	**5.000**	3.638	3.836
	AME 5263	Manufacturing		10	**4.860**	4.117	4.218	**5.000**	3.638	3.836
Fall '01	AME 4283	Concurrent Design	25	15	**4.580**	4.120	4.192	**5.000**	3.732	3.812
	AME 5283	and Manufacturing		10	**4.900**	4.120	4.192	**4.900**	3.732	3.812
Sp '01	AME 4193	Intro to CAD	17		**4.900**	4.154	4.224	**4.800**	3.816	3.874
	AME 4553	Design Practicum	10		**5.000**	4.154	4.224	**4.750**	3.816	3.874
Fall '00	AME 4283	Concurrent Design	22	14	**4.750**	4.301	4.152	**4.170**	3.878	3.795
	AME 5283	and Manufacturing		8	**4.860**	4.301	4.152	**4.840**	3.878	3.795
Sp '00	ENGR 4510	Computer-Integrated	18	4	**5.000**	4.071	4.181	**4.340**	3.751	3.867
	AME 5740	Manufacturing		14	**4.890**	4.162	4.181	**5.000**	3.782	3.867
Fall '99	ENGR 4510	Concurrent Design	29	16	**4.460**	4.173	4.236	**3.910**	3.797	3.851
	AME 5740	and Manufacturing		13	**4.730**	4.293	4.236	**4.600**	4.000	3.851
Sp '99	ENGR 4510	Computer-Integrated	19	8	**5.000**	4.225	4.191	**5.000**	3.885	3.851
	AME 5740	Manufacturing		11	**5.000**	4.362	4.191	**5.000**	4.028	3.851
Fall '98	ENGR 4510	Concurrent Design and Manufacturing	15		**5.000**	4.266	4.377	**4.780**	3.599	3.777
	AME 5740	Intro to CAD/CAE/CAM	14		**5.000**	4.449	4.377	**5.000**	3.900	3.777
Sp '98	AME 4163	Principles of Engineering Design	64		**4.770**	4.624	4.456	**4.040**	4.131	3.856
	AME 5740	Design Sensitivity Analysis	5		**5.000**	4.624	4.456	**4.500**	4.131	3.856
Overall Average			1,318		**4.83**	4.25	4.28	**4.67**	3.97	4.01

KHC: Dr. Chang's Scores, D: Department Scores (AME), C: College Scores
Question 2(or 4 before fall 2012): Instructor was well organized and made adequate preparation for class, 5: Strongly Agree, 1: Strongly Disagree;
Question 10 (or 7/8 before fall 2012): In general, the instructor taught this course effectively, 5: Strongly Agree, 1: Strongly Disagree.
* Alumni Teaching Award (offered by CoE between Spring 2007 and Spring 2009)

Northern Illinois University

1997	Spring:	MEE470	Design of Machine Elements
1997	Spring:	MEE220	Mechanism Design
1996	Fall:	MEE470	Design of Machine Elements
1996	Fall:	MEE220	Mechanism Design

University of Iowa

1993	Fall:	28:259	Mechanical Design in Structures

SERVICE DUTIES

A. Professional

1. 2015~Present Associate Editor, Computer-Aided Design and Applications
2. 2012~Present Member, Editorial Board, Journal of Software Engineering and Applications
3. 2010~Present Associate Editor, Journal of Mechanics Based Design of Structures and Machines
4. 2010~Present Member, Editorial Board, ISRN Mechanical Engineering
5. 2008~Present Member, Editorial Board, Journal of Scientific Computing
6. Session Chair, Session 4a: Shape and Topology Optimization, WCSMO-10, May 19-24, 2013, Orlando, FL
7. Session Chair, Session 9: Structural Optimization, WCSMO-10, May 19-24, 2013, Orlando, FL
8. Session Chair, Session S: Rapid Prototyping, CAD'11 Conference, June 27-30, 2011, Taipei, Taiwan
9. Session Chair, Session L: Reverse Engineering, CAD'11 Conference, June 27-30, 2011, Taipei, Taiwan
10. Session Chair, Session 5C: Rapid Prototyping, The 3rd International Conference on Advanced Manufacture, Kengting, Taiwan, February 2-5, 2010
11. Session Chair, Session D: Process Planning, CAD 06: 2006 International CAD Conference and Exhibition, Phuket Island, Thailand, June 19-23, 2006
12. Co-Organizer, XXVI Oklahoma AIAA/ASME Symposium, Saturday, April 15, 2006, The University of Oklahoma, Norman
13. Session Chair, Fourth World Congress of Structural and Multidisciplinary Optimization (WCSMO), Dalian, China, June 4~8, 2001
14. Session Chair, 08-SOA1, Third World Congress of Structural and Multidisciplinary Optimization (WCSMO), Niagara Falls/Amherst, New York, May 17~21, 1999
15. Session Chair, University/Industry Conference, NSF and Oklahoma EPSCoR, October 31, 1997, Oklahoma City, OK
16. Member, International Society for Structural and Multidisciplinary Optimization (ISSMO)
17. Member, World Congress of Structural and Multidisciplinary Optimization (WCSMO)
18. Member, Society of Automotive Engineers (SAE)
19. Paper review:
    Mechanics of Structures and Machines
    International Journal of Numerical Methods in Engineering
    Journal of Finite Elements in Analysis and Design
    Journal of Multidisciplinary Structural Optimization
    AIAA Journal
    ASME Transactions Journal of Mechanical Design
    ASME Journal of Manufacturing Science and Engineering
    ASME Journal of Mechanical Design
    Journal of Computational Mechanics
    ASME DETC99
    ASME DETC00
    ASME DETC01
    CAD'06
    CAD'09
    CAD'11

15. Book review:

Shigley's Mechanical Engineering Design, Richard G. Budynas and J. Keith Nisbett, 8th Edition, McGraw Hill, November 2006
Fundamentals of Machine Component Design, Robert Juvinall and Kurt Marshek, Wiley, December 2004.
Engineering and Technology Management: Tools, Modern Concepts, and Applications, by B.S. Dhillon, October 2000
Engineering Design with SolidWorks, by Marie P. Planchard and David C. Planchard, 1999

19. Served as technical consultant to 8 US and foreign companies

2006-2007	Knowledge Solution Systems, Inc., San Diego, CA
2005	Technical Consultant, Anautics, Inc., Oklahoma City, OK
2003~2005	Technical Consultant, Tec-Masters, Inc., Huntsville, Alabama
2000~2002	Technical Consultant, LG-PRC, Korea
2000~2003	Technical Consultant, Altech Services, Inc., Midwest City, OK
2000, 2001, 2002 Summer	Senior Mechanical Engineer Air Logistics Center, OKC, OK (Tinker Air Force Base)
2000 Spring	Technical Consultant, YMCA of Tacoma Pierce County, Puyallup, WA
1999, 2003, 2007, 2008	Technical Consultant, Natural Structures, Sherwood, OR
1999 Summer	Principle Development Engineer, Seagate Technology, OKC, OK

B. Departmental/College/University

1. Chair, AME Graduate Committee and Graduate Liaison, Summer 2014-present
2. Chair, UGME Committee, AME, Fall 2010-Summer 2013
3. English Assessment Program TEACH Tests, Spring 2011
4. Chair, UG Design Committee and Capstone Program Coordinator, AME, summer 2008-Fall 2009
5. Faculty advisor, ASME, Fall 2007-2008
6. Session Chair, Engineering III, Undergraduate Research Day, Honors College, University of Oklahoma, March 31, 2007.
7. Member, Solid Mechanics Faculty Search Committee, 2005-2006
8. Member, Manufacturing Faculty Search Committee (IE), 2005-2006
9. Served 2 CoE Boards for Academic Misconduct and Grade Appealing Hearings, 2005
10. Faculty advisor, SAE and Sooner Racing Team, 2003~2006
11. Faculty advisor, ASME, Fall 2003
12. Member, Program Review Committee, AME, 2001
13. ABET Coordinator, Mechanical Engineering, 2001~2003
14. Committee Member, 1999 Annual Provost's Dissertation Awards, The University of Oklahoma, 2000
15. Committee Member, 1998 Graduate Teaching Assistant Awards, The University of Oklahoma, 1999
16. Member, L.A. Comp Chair Faculty Search Committee, 1999
17. Member, Wilkinson Professorship Faculty Search Committee, 1999
18. Member, Bioengineering Faculty Search Committee, 1999
19. Member, Design Faculty Search Committee, 1999
20. Member, Review Committee, University of Oklahoma Bioengineering Center Seed Grant program, 1999
21. Director, Concurrent Design and Manufacturing Research Laboratory, 1998~present
22. Director, Computer-Aided Design Laboratory, 1998~2002
23. Member, Design Faculty Search Committee, 1998
24. Group Representative, ME Design, 1997~present
25. Member, UG Design/Computing Committee, 1997~present

C. Invited Talks in US

1. Legacy to Life, Public Lecture Series, Bruce Goff: A Creative Mind, Mary Eddy and Fred Jones Auditorium, Fred Jones Jr. Museum of Art, University of Oklahoma, Norman, OK, October 22, 2010
2. Keynote speech at the luncheon of annual Asian-Pacific Islander American Heritage month at Tinker Air Force Base, May 5, 2005
3. All Digital Design and Manufacturing, University of Alabama, Tuscaloosa, Alabama, March 19, 2004
4. All Digital Design and Manufacturing, University of Utah, Salt Lake City, Utah, February 20, 2004
5. A Brief Summary on Tinker Projects, Brooks AFB and Hill AFB, Technology Trade Fair, Rose State College, Midwest City, OK, March 21, 2002

6. Reverse Engineering and Re-Engineering for E-3 Torque Tubes, OC-ALC, Oklahoma City, OK, February 18, 2002
7. Technology and Software Tools for Vector Drawing Conversions, Altech Services, Inc., April 23 and May 7, 2001
8. Layer Standards for OC-ALC Vector Drawings, Tinker Air Force Base, August 28, 2001
9. A Summary on Candidate Technical Tasks for ADCS Project, Tinker Air Force Base, August 23, 2000
10. Solid Freeform Fabrication, Technology, Applications, and Research, SME Seminar, University of Oklahoma, Norman, OK, November 16, 2000
11. Concurrent Design and Manufacturing of Mechanical Systems, Graduate and Undergraduate Seminar, School of Aerospace and Mechanical Engineering, University of Oklahoma, Norman, OK, April 15, 1999
12. Information Integration for Design And Manufacturing of Tooling Systems Via Electronic Media, Seagate Technology, OKC, April 2, 1998
13. All Digital Design for Engineering Products, Halliburton Energy, Duncan, OK, November 20, 1997
14. All Digital Design for Engineering Products, Seagate Technology, Oklahoma City, OK, October 20, 1997
15. Reliability-Based Design Sensitivity Analysis and Optimization for Structural Durability, Department of Mechanical and Aerospace Engineering, University of Missouri-Columbia, Columbia, MO, March 6, 1997
16. Reliability-Based Design Sensitivity Analysis and Optimization for Structural Durability, Sundstrand Aerospace Inc., Rockford, Illinois, September 18, 1996
17. An Overview of Advanced Computer-Aided Engineering Research, Department of Naval Architect and Marine Engineering, University of Michigan, Ann Arbor, Michigan, June 6, 1996
18. Reliability-Based Design Sensitivity Analysis and Optimization for Structural Durability, Automotive Research Center Annual Review Meeting, Ann Arbor, Michigan, May 29~30, 1996
19. Reliability-Based Durability Design Sensitivity Analysis and Optimization, Department of Mechanical Engineering, Northern Illinois University, DeKalb, Illinois, April 10, 1996
20. Design Sensitivity Analysis and Optimization for Hyperelastic Materials," Bridgestone/Firestone Inc., Akron, Ohio, March 15, 1996
21. An Overview of Computer-Aided Research Activities at Center for Computer-Aided Design, Goodyear Tire Co., Akron, Ohio, March 15, 1996

D. Invited Talks Overseas

1. Fifth International Conference of Applied Mathematics and Computing, Plovdiv, Bulgaria, August 12-18, 2008
2. Fourth International Conference of Applied Mathematics and Computing, Plovdiv, Bulgaria, August 12-18, 2007
3. Structural Shape Optimization—From Concept to Manufacturing, LG-Electronics, Seoul, Korea, June 25, 2001
4. All Digital Design for Industrial Automations, LG-Electronics, Seoul, Korea, June 25, 2001
5. Computer-Aided Mechanical Design and Applications, China Coal Research Center, Beijing, China, June 1, 2001