

Appendix I
Section C. Faculty and Other Instructor's CV's

The Physics, EE and ME Departments use a slightly different format to present their CV's. All CV's contain the information required by ABET.

JAMES J. ALLEN Assistant Professor		
Education	Ph.D. 1996 1990	Mechanical and Manufacturing Engineering, University of Melbourne, Australia Honors Degree (H2A), Mechanical and Manufacturing Engineering, University of Melbourne, Australia
NMSU	2004-present	New Mexico State University Assistant Professor, Mechanical Engineering Department
Professional Experience	2000-2004 2000-2004 2002-2003 1999-2002 1998-1999 1998 1998	Ocean Power Technologies, Trenton New Jersey Senior hydrodynamicist and engineering consultant Ocean Power Technologies, Trenton New Jersey Senior hydrodynamicist and engineering consultant University of Poitiers Visiting Research Scientist Princeton University Research Scientist, Gas Dynamics Laboratory Department of Mechanical and Aerospace Engineering Georgia Institute of Technology Postdoctoral Research Fellow Department of Mechanical Engineering Monash University Postdoctoral Research University of Melbourne Contract lecturer, Faculty of Engineering
Teaching/Research Interests	Fluid Mechanics	
Consulting		
State(s) in which registered		
Principal publications of the past 5 years	<u>Journal Articles</u> Allen, J. J. and Naitoh, T., "Production of Optimal Vortex Rings." <i>Accepted Physics of Fluids</i> , 2005. Allen, J. J. and Smits, A.J., "Energy Harvesting Eel," <i>Journal of Fluids and Structures</i> , 15 , pp. 629-640, 2001. <u>Conference Papers</u> Bocanegra-Evans, H. and Allen, J.J., "Study of Asymmetric Wakes Using a Soap-Film," accepted <i>Physics of Fluids Gallery of Flow visualization</i> , APS-DFD meeting Seattle November 21-23, 2004. Allen, J.J. , Shockling, M.S. and Smits, A.J., "Effects of Surface Roughness on high Reynolds Number Turbulent Pipe Flow," <i>APS-DFD Meeting</i> Seattle, WA, November 21-23 2004. Buchholz, J.H.J., Jimenez, J.M., Allen, J.J. and Smits, A.J., "Hydrodynamics of Thrust Production in a Fish-Like Flapping Membrane," <i>13th International Symposium on Unmanned Untethered Submersible Technology (UUST)</i> , New England Center, Durham, New Hampshire, August 24 - 27, 2003. Naitoh, T. and Allen, J. J. Spanwise, "Instability of a Junction Vortex," <i>10th International Symposium on Flow Visualization</i> , Kyoto, August 26 - 29, 2002.	

	Jimenez, J. M., Allen, J. J. and Smits, A. J., "Preliminary Velocity Measurements in the Wake of a Submarine Model," <i>4th International Symposium on Particle Image Velocimetry</i> , Gottingen, Germany, September 17-19, 2001.
Scientific & Professional societies	
Honors and Awards	1997 – Fulbright Postdoctoral Award 1991-1996 Australian Postgraduate Award
Institutional and professional service in the past 5 years	
Professional development activities in the past 5 years	

THOMAS D. BURTON Professor		
Education	PhD – 1976 MS – 1972 BS – 1969	Mechanical Engineering and Applied Mechanics, University of Pennsylvania Mechanical Engineering and Applied Mechanics, University of Pennsylvania Engineering, California Institute of Technology
NMSU	2005 -	New Mexico State University Head, Department of Mechanical Engineering
Professional Experience	2004– 2005 1995-2004 1997-present 1994-1996 1991-1992 1988-1995 1982-1988 1977-1982 1984-1985 1979 1969-1977	Texas Tech University Professor of Mechanical Engineering Chair, Department of Mechanical Engineering Los Alamos National Laboratories Consultant Batelle Pacific Northwest Laboratory Affiliated Staff Scientist Washington State University Acting Department Head Professor Associate Professor Assistant Professor Virginia Tech Visiting Professor (sabbatical leave) Boeing Military Airplane Company Consulting Analyst General Electric Company, Missile and Space Division Engineer
Teaching/Research Interests	Dynamics and Vibrations	
Consulting/Patents, etc.	Los Alamos National Laboratories Sandia National Laboratories	
State(s) in which registered		
Principal publications of the past 5 years	<u>Journal Articles</u> Burton, T.D., “Numerical Calculation of Nonlinear Normal Modes in Structural Systems,” <i>Nonlinear Dynamics</i> , in press; accepted for publication, January, 2006. Meekangvan, P., Barhorst, A.A., Burton, T.D., Chatterjee, S. and Schovanec, L., “Nonlinear Dynamical Model and Response of Avian Cranial Kinesis,” <i>J. Theoretical Biology</i> , 240 , 32-47 (2006). <u>Journal Papers in Review</u> Kim, J. and Burton, T. D., “Reduction of Structural Dynamics Models with Nonlinear Damping,” <i>J. Vibration and Control</i> , original submission June, 2005; in revision. Burton, T.D., “Evidence of Nonlinear Resonance in a Randomly Excited Complex Structure,” <i>Nonlinear Dynamics</i> , submitted August, 2005 <u>Conference Proceedings</u> Kim, J. and Burton, T.D., “Reduction of Nonlinear Structural Models Having Non-Smooth	

	<p>Nonlinearities,” <i>Proc. IMAC XX</i>, pp. 324-330, Los Angeles, CA (2002).</p> <p>Kim, J. and Burton, T. D., “Reduction of Structural Dynamics Models Having Nonlinear Damping,” <i>ASME 2003 DETC, 19th Biennial Conf. On Vibration and Noise</i>, September 2-6, Chicago, IL (2003).</p>
Scientific & Professional societies	<p>ASME member</p> <p>Pi Tau Sigma (National President)</p>
Honors and Awards	<p>2004 Tau Beta Pi Award, Outstanding Instructor in TTU College of Engineering</p> <p>2003, 1999, 1996 Outstanding Undergraduate Teacher, ME Dept., Texas Tech University</p> <p>1995, 1994, 1991, 1986, 1980, 1978, Outstanding Undergraduate Teacher, ME Dept., Washington State University</p> <p>1991 Outstanding Undergraduate Instructor, College of Engineering, Washington State University</p> <p>1982 DOW ASEE Outstanding Young Faculty, Northwest Region</p>
Institutional and professional service in the past 5 years	<p>2006 - ADVANCE Transition Committee, NMSU</p> <p>2005 - X Prize Cup Symposium Planning Committee</p>
Professional development activities in the past 5 years	<p>1994 - present Editorial Board, <i>Journal of Vibration and Control</i></p> <p>1 - present Guest Editor, Special Issues of <i>Nonlinear Dynamics</i> in honor of DT Mook</p> <p>Accelerated Strategic Computing Initiative (ASCI) Milestone Review Panels, Sandia National Labs: Hostile Environments (2000 – present); Normal Environments (2001 – present); Abnormal Environments (2002 – present).</p> <p>4 - present ASCI Milestone Review Panel for structural response (Chair), Los Alamos National Lab</p> <p>3 National Director at Large, Pi Tau Sigma (ME Honorary), (2003) National President, Pi Tau Sigma (2004 -) Co-organizer, National Pi Tau Sigma Convention, Lubbock, TX, February, 2004.</p>

EDGAR G. CONLEY Associate Professor		
Education	Ph.D. 1986 M.S. 1979 B.S. 1971	Engineering Mechanics, Michigan State University Mechanical Engineering, Michigan State University Mechanical Engineering, Michigan State University
NMSU	1993-present 1988-1993	New Mexico State University Associate Professor, Mechanical Engineering Department Assistant Professor, Mechanical Engineering Department
Professional Experience	1986-1988	University of Alaska, Fairbanks Assistant Professor, Mechanical Engineering Department
Teaching/Research Interests	Mechanical design, optical metrology, experimental solid mechanics	
Consulting/Patents, etc.	Tumbleweed and Light Trash Collecting Machine – in process	
State(s) in which registered	Michigan	
Principal publications of the past 5 years	<p><u>Journal Articles</u></p> <p>Conley, E. and Tafoya, J., “Poor Man’s Detonator Circuit,” submitted to <i>IEEE Transactions</i>, in process.</p> <p>Conley, E., Dougherty M.D, P.J., Vickaryous M.D., and Hickerson, K., “Comparison of Two Temporary Femoral External Fixator Constructs for use in Military Field Hospitals,” <i>Clinical Orthopaedics and Related Research</i>, 111, p176, June 2003.</p> <p><u>Conference Papers</u></p> <p>Conley, E., “Measuring True Strain - An Application of the Logarithm,” <i>American Society for Engineering Education, for ASEE Annual Conference, Session 4655</i>, Salt Lake City, Utah, June 2004.</p> <p>Conley, E. and Riley, L., “Partnering for an Innovative Freshman Design Experience: The Case of Mechanical and Industrial Engineering,” <i>Science, Engineering, and Technology Annual Conference</i>, NMSU, Las Cruces, NM, January 2001.</p> <p>Conley, E., Stevens M.D., W., and Carbajal, L, “Use of Laser Speckle Photography in Biomechanical Analysis of a Goat Spinal Fusion,” <i>American Academy of Orthopaedic Surgeons Annual Meeting</i>., Orlando, FL, March 2000.</p>	
Scientific & Professional societies	American Society for Engineering Education American Society of Mechanical Engineers	
Honors and Awards	2005 Mechanical Engineering Academy Professor of the Year 2000 Mechanical Engineering Academy Professor of the Year 1989 Outstanding Journal Paper for 1989 awarded by the Computers in Education Division of the American Society for Engineering Education	
Institutional and professional service in the past 5 years	ASME Student Section Committee Senior Member (national appointment) ASME Faculty Advisor (local appointment)	
Professional development activities in the past 5 years	Technical and Professional Conference attendance (ASME, ASEE sponsors) Technical Conference attendance (NASA sponsor)	

A.B. (BURL) DONALDSON College Professor		
Education	Sc.D. 1969 M.S. 1965 B.S. 1963	Mechanical Engineering, New Mexico State University Chemical Engineering, University of Utah Chemical Engineering, New Mexico State University
NMSU	1998-present	New Mexico State University College Professor, Mechanical Engineering Department
Professional Experience		
Academic	1995-1998	New Mexico Highlands University Visiting Professor of Engineering
	1990-1993	Qatar University Visiting Professor and Chemical Engineering Dept. Head
	1972-1975	Sandia National Laboratories Instructor of Continuing Education
	1969-1971	University of New Mexico Adjunct Professor of Mechanical Engineering
	1965-1968	New Mexico State University Instructor, Department of Mechanical Engineering
Industrial	1981-1989	Enhanced Energy Systems, Inc. Director of Design and Development Director of Field Operations
	1969-1981	Sandia National Laboratories Heat Transfer Group Electrochemical Components Group Deep Steam Project Group
Teaching/Research Interests	Thermodynamics and applications, heat transfer, fluid mechanics including gas dynamics, and combustion	
Consulting (Current/recent)	Nations Energy Company, Ltd. Tartan Energy, Inc. KTech Inc. Sandia National Laboratories Diamond Rash, PLC	
Patents, etc.	<ul style="list-style-type: none"> • <i>System and Method for Desalination of Brackish Water from an Underground Water Supply</i>, with J. Genin and M. Lavery; #7,037,430 • <i>Wetstacking Avoidance in Internal Combustion Engines</i>; #6,848,419 • <i>Steam Generator having a High Pressure Combustor with Controlled Thermal and Mechanical Stresses and Utilizing Pyrophoric Ignition</i>, with S. Eisenhower, A.J. Mulac and R.L. Fox; #4,648,835 • <i>Direct Contact Low Emissions Steam Generating System and Method Utilizing a Compact Multi-Fuel Burner</i>, with S. Eisenhower, A.J. Mulac and R.L. Fox; #4,498,542 • <i>Downhole Steam Generator with Preheating/Cooling Features</i>, with D.E. Hoke and A.J. Mulac; #4,411,618 • <i>Downhole Steam Injector</i>, with D.E. Hoke; #4,366,860 	
State(s) in which registered	New Mexico	
Principal publications of the past 5 years	<u>Recent Refereed Journal Publications</u> <ul style="list-style-type: none"> • Shouman, N. Yilmaz and A.B. Donaldson, "Thermodynamic Analysis of the 	

	<p>Flammability Limits of Fuel, Oxygen and Inert Mixtures,” (accepted for publication in International Journal of Applied Engineering Research).</p> <ul style="list-style-type: none"> • A.B. Donaldson, N. Yilmaz and A. Shouman, “Correlation of the Flammability Limits of Hydrocarbons with the Equivalence Ratio,” (accepted for publication in International Journal of Applied Engineering Research). • N. Yilmaz and A.B. Donaldson, “Consideration of Wind Barriers for an Inner Courtyard,” <i>International Journal of Architectural Engineering and Design Management</i>, Vol. 1, pp. 281-293, 2006. • N. Yilmaz and A.B. Donaldson, “Experimental and Computational Investigation of PAH Production in a Diesel Engine as a Function of Load,” <i>SAE Technical Paper Series</i>, No. 2006-01-1977, 2006. • N. Yilmaz and A.B. Donaldson, “Examination of Causes of Wetstacking in Diesel Engines,” <i>SAE Technical Paper Series</i>, No. 2005-01-3138, 2005. • N. Yilmaz, A.B. Donaldson and A. Johns, “Some Perspectives on Alcohol Utilization in a Compression Ignition Engine,” <i>SAE Transactions Journal of Fuels and Lubricants</i>, No. 2005-01-3135, pp. 1998-1203, 2005. <p><u>Recent Conference Papers</u></p> <ul style="list-style-type: none"> • N. Yilmaz and A.B. Donaldson, “Numerical Simulation of Chemical Processes in a Compression Ignition Engine Operating on Simple Alcohols,” <i>9th International Conference on Energy & Environment</i>, Cairo, Egypt, March 13-19, 2005. • A.B. Donaldson, A. Johns and N. Yilmaz, “Aspect of Operating a Compression Ignition Engine on Simple Alcohols,” <i>9th International Conference on Energy & Environment</i>, Cairo, Egypt, March 13-19, 2005. • <u>A.B. Donaldson, "Integrating Various Mathematical Tools with a Senior Mechanical Engineering Laboratory Experiment," <i>Annual ASEE Conference</i>, Salt Lake City, Utah, June 22-25, 2004</u> • <u>B. Varela, and A.B. Donaldson, "Evaluation of Thermal Properties of Geopolymeric Materials of the Na-PSS and Na-PSDS Families," <i>2003 North American Thermal Analysis Society Meeting</i>, Albuquerque, NM, September, 2003.</u> • <u>A.R. Shouman and A.B. Donaldson, "Thermodynamic Analysis of the Flammability Limits of Fuel, Oxygen and Inert Mixtures," <i>2003 North American Thermal Analysis Society Meeting</i>, Albuquerque, NM, September 2003.</u> • <u>A.B. Donaldson and A.R. Shouman, "Correlation of the Flammability Limits of Hydrocarbons with the Equivalence Ratio," <i>2003 North American Thermal Analysis Society Meeting</i>, Albuquerque, NM, September 2003.</u> • <u>A.B. Donaldson and B. Varela, "Evaluation of the Curing Kinetics for a Geopolymer using Differential Scanning Calorimetry," <i>2003 North American Thermal Analysis Society Meeting</i>, Albuquerque, NM, September 2003.</u> • A.B. Donaldson and L. Romero, “Observations on Diesel Engine/Generator Performance at Part Load,” <i>Engine Expo 2001</i>, Stuttgart, Germany, June 19-21, 2001.
Scientific & Professional societies	Professional Engineer (ME & Chemical) – New Mexico Combustion Institute, Member NFPA
Honors and Awards	NONE
Institutional and professional service in the past 5 years	NONE
Professional development activities in the past 5 years	NONE

GABE GARCIA Associate Professor		
Education	Ph.D. 1996 M.S. 1991 B.S. 1988	Civil Engineering, Texas A & M University Mechanical Engineering, New Mexico State University Mechanical Engineering, New Mexico State University
NMSU	2002-present 2003-2006 1996-2002 1990-1992	New Mexico State University Associate Professor, Mechanical Engineering Department Graduate Program Director Assistant Professor, Mechanical Engineering Department New Mexico State University Research/Teaching Assistant
Professional Experience	1994-1996 1993 1988-1990	Texas A & M University Research Assistant/Teaching Assistant Allied Signals, Inc. Structures Component Design Group EG & G Idaho, Inc. Associate Scientist
Teaching/Research Interests	Research: focus-vibration based non-destructive damage detection and localization	
Consulting/Patents, etc.	Methods of Measuring a Liquid Pool Volume Method of Non-contacting Ultrasonic Process Monitoring	
State(s) in which registered	None	
Principal publications of the past 5 years	<p><u>Journal Articles</u></p> <p>Jayawardana, S., Garcia, G.V., Nakotte, N., Clausen, B., Bourke, M., "Finite Element Modeling of Anisotropic Properties of Cu-Ag Metal Matrix Composites", <i>IEEE Transactions on Applied Superconductivity</i>, Vol. 10 (1), 2000.</p> <p>Conference Presentations</p> <p>I. H. Leslie and G. Garcia, "Improving Student Performance in Programming Courses Through Unlimited Access to Computer and Software Resources," <i>2005 ASEE Annual Conference & Exposition</i>, Portland, Oregon, June 12-15, 2005</p> <p>I. H. Leslie and G. Garcia, "High Level Programming Packages in Undergraduate Mechanical Engineering," <i>2004 ASEE Annual Conference & Exposition</i>, Salt Lake City, Utah, June 20-23, 2004</p> <p>L. A. Riley, B. Nassersharif, G. Garcia and J. Schaub, "An Automated Testing and Classification System For Identifying Defects in Nuclear Steam Generator Tubes Using a Learning Vector Quantization Neural Architecture," <i>Proceedings of the 2003 Advanced Simulation Technologies Conference</i>, Society for Computer Simulation International, Orlando, Florida, April 2003.</p> <p>Gabe V. Garcia, Robert McMurry, and Joe Garde, "Damage Detection Analysis of the Swiss Z24 Bridge Using Damage Index Method," <i>Smart Structures and Materials</i>, Los Angeles, California, February 2002.</p> <p>Gabe V. Garcia, Robert McMurry, and Joe Garde, "Damage Detection of a Bridge Structure Using Ambient Test Data," <i>20th International Modal Analysis Conference</i>, San Diego, California, March 2002.</p> <p>Nassersharif, B, Caffey, T. W. H., Garcia, G.V., Smith, P. R., Jedlicka, R. P., and Hensel, E. C., "An In-Tube Radar for Detecting Defects in Thin-Walled Metal Tubes," <i>16th International Conference on Structural Mechanics in Reactor Technology (SMiRT 16)</i>, August 2001.</p>	

	Maeda1, K., Chang, S., Nakotte, H., Garcia, G., Barley, S., Richardson, J., Han, K., Embury, J.D., Clausen, B., and Bourke M., "Cyclic Loading and Residual Strains in Cu-25%Ag Composites," <i>2001 TMS Annual Meeting</i> , New Orleans, Louisiana, February, 2001
Scientific & Professional societies	Tau Beta Pi Pi Tau Sigma American Society for Optical Engineering Society for Experimental Mechanics American Society of Mechanical Engineers
Honors and Awards	2000 NSF Young Investigator Award 1998 Outstanding Professor NMSU Chicano Programs
Institutional and professional service in the past 5 years	NSF Proposal Panelist, Major Research Instrumentation Program (MRI) (2004) Reviewed Journal article for ASCE Journal of Structural Engineering (2004) Conference Session Chair for SPIE's Conference on Smart Systems for Bridges, Structures, and Highways (2003) NSF Proposal Panelist, Major Research Instrumentation Program (MRI) (2003) Reviewed Journal article for International Journal of SOLIDS and STRUCTURES (2003) NSF Proposal Panelist, Major Research Instrumentation Program (MRI) (2002) Conference Session Chair for SPIE's Conference on Smart Systems for Bridges, Structures, and Highways (2002) NASA Proposal Panelist, Faculty Awards for Research (FAR) (2001) Member of Program Committee for SPIE's Conference on Smart Systems for Bridges, Structures, and Highways (2000 – 2003) Department Library Liaison (2001-2002) Member of Engineering Dean Search Committee (2002 - 2004) Member of Engineering Research Council (2002 – 2004) Chair of Mechanical Engineering Graduate Committee (2003 – 2006)
Professional development activities in the past 5 years	Developed Web-CT based course evaluation for courses ME260, ME 234, ME 237 (2005) Taught a distance education course for Boeing in Finite Element Analysis (2004) In Spring 2003 initiated a computer loan program for students in ME 260 and ME 329 where 40 selected students were given a laptop computer for the semester. This program lasted through the Spring 2005 semester. The two ASEE conference papers were generated through this effort. The laptop computers were obtained through a grant from HP. Developed and taught a new course, ME 460 Applied Finite Elements (2003) In the Fall 2003 semester, restructured ME 260 (ME Problem Solving) such that the emphasis is on problem solving as opposed to teaching the C programming language. The new emphasis of the course is focused on teaching the students how to utilize the mathematical programs MATLAB and MATHCAD to solve engineering type problems. Developed and taught a new course, ME 518 Finite Element Analysis (2002) Attended pre-conference workshop on Modal Identification of Output-Only Systems (2001)

JOSEPH GENIN Professor		
Education	Ph.D. 1963 M.S. B.S.	Engineering Mechanics, University of Minnesota Structural Engineering, University of Arizona Civil Engineering, The City College of New York
NMSU	1981 - present 1985-1994 1981-1985	New Mexico State University Professor, Mechanical Engineering Department Director of the Optics and Material Sciences Laboratory Professor, Mechanical Engineering Department Dean of the College of Engineering Professor, Mechanical Engineering Department
Professional Experience	1975-1981 1971-1976 1968-1973 1964-1967 1963-1964 1959-1963 1956-1960 1956-1958 1954-1956 1954	Purdue University Head of Engineering Mechanics Division Professor, Mechanical Engineering Department Director of Advanced Transportation Center Professor of Aeronautics, Astronautics, and Engineering Sciences Associate Professor of Aeronautics, Astronautics, and Engineering Sciences General Dynamics Corporation , Fort Worth, Texas Senior Structures Engineer University of Minnesota Instructor of Aeronautics and Engineering Mechanics Joseph Genin, Consulting Engineers Structural design and analysis University of Arizona Instructor of Civil Engineering U.S. Army Corps of Engineers (while in the U.S. Army) Miscellaneous design and field projects related to military structures Ammann and Whitney , New York, New York Structural Engineer
Teaching/Research Interests	Aeroelasticity, bioengineering, dynamic stability, dynamics	
Consulting/Patents, etc.	Efficient Production Technologies, Inc. ATOMS, Inc. Corner Stone Enterprises Los Alamos National Laboratory State of New Mexico International Harvester Co. Marcel Dekker Publishing Co. Association of American Railroads Talbert Industries Lockheed Propulsion Company Allison Division of General Motors Zentralblatt Furr Mathematik McGraw-Hill Publishing Co. Holt, Rinehart and Winston Publishing Co. Midwest Applied Science Corporation	

	Argonne National Laboratory
State(s) in which registered	Minnesota
Principal publications of the past 5 years	<p><u>Journal Articles</u></p> <p>Genin, J. and Genin, G.M., "Sensor Placement for Angular Velocity Determination," – <i>ASME Journal of Dynamics, Measurements and Control</i>, June 2006.</p> <p>Genin, J., Prokopiev, O., Sevostianov, I., Munson-McGee, S., and Woodward., C., "Microstructure and Elastic Properties of Sintered Hydroxyapatite," <i>International Journal of Fracture</i>, 130, 2004, pp. 3-10. Also, <i>Proceedings of (and presented at) the 41st Annual Meeting of the Society of Engineering Sciences Technical Meeting</i>, Lincoln, Nebraska, October 10, 2004.</p> <p>Genin, J. and Darabseh, T.T., "Dynamic Stability of Viscoelastic Columns Loaded by a Follower Force," <i>Journal of Mechanical Engineering Science</i>, 218, No. 10, October 2004, pp. 1091-1101.</p> <p>Genin, J., and Wu, X., "Force Stream Function Method," <i>Journal of Stress Analysis</i>, 38, No. 2, March 2003, pp. 181-185.</p> <p>Genin, J., and Xu, W., "Plate Subjected to an Out-of-Plane Follower Force," <i>Journal of Mechanical Engineering Science</i>, 216, No. 9, September 2002, pp. 913-921.</p> <p>Genin, J., and Xu, W., "Elastostatic Inverse Formulation," <i>ZAMP, Journal of Applied Mathematics and Physics</i>, 53, No. 1, January 2002, pp. 90-102.</p> <p>Genin, J., "Static Follower Problem Revisited," <i>Journal of Mechanical Engineering Science</i>, 215, No. C9, December 2001, pp. 1139-1142.</p>
Scientific & Professional societies	Professional Engineer – State of Minnesota American Society for Engineering Education American Society of Mechanical Engineers National Society of Professional Engineers (1981-1986) American Institute of Aeronautics and Astronautics (1964-1967)
Honors and Awards	2001 Mechanical Engineering Academy Professor of the Year 2000 Who's Who Among America's Teachers 1998 Who's Who Among America's Teachers 1990 Elected to grade of "Fellow" by the American Society of Engineers 1985 Honored as 'Colonel, Aide-de-Camp' by Governor of New Mexico 1969 "Best Teacher" by Purdue Chapter of Sigma Gamma Tau 1968 "One of Ten Best Purdue Engineering Teachers" 1967 "One of Ten Best Purdue Engineering Teachers"
Institutional and professional service in the past 5 years	Review books and papers (under my by-line) for Zentralblatt for Applied Mathematics. Review papers for several journals (in particular ASME and AIAA).
Professional development activities in the past 5 years	Research and keeping abreast with the literature.

HARRY C. HARDEE Professor		
Education	Ph.D. 1966 USAEC 1962 M.S. 1961 B.S. 1959	Mechanical Engineering, University of Texas (Austin) Special Fellowship in Nuclear Studies, MIT Mechanical Engineering, University of Texas (Austin) Mechanical Engineering, University of Texas (Austin)
NMSU	1991-present 1966-1966	New Mexico State University Professor, Mechanical Engineering Department Assistant Professor, Mechanical Engineering Department
Professional Experience	1990-1991 1982-1990 1979-1982 1974-1979 1967-1974 1963-1964 1964-1966	Sandia National Laboratories Supervisor of Geoinstrumentation Division Supervisor of Geophysics Division Supervisor of Geothermal Research Division Supervisor of Heat Transfer Division Technical Staff Staff Member University of Texas Instructor, Mechanical Engineering Department
Teaching/Research Interests	Interconnection Technology, Heat Transfer	
Consulting/Patents, etc.	Sandia National Laboratories BI, Inc. Technical Materials, Inc. TRW Handy & Harman Allen-Bradley Lucent Technologies, NASA Connector Lubricant Technology Corning-Gilbert 13 U.S. and foreign patents awarded – most recent: Electrical Contact Lubricant Composition for Inhibiting Fretting Failure Multi-Head, Interruptible-Sequence, Fretting Machine for Testing Pin/Socket Electrical Contacts	
State(s) in which registered	Texas, New Mexico	
Principal publications of the past 5 years	Hardee, H. C. (2002) "Multi-Heat, Interruptible-Sequence, Fretting Machine for Testing Pin/Socket Electrical Contacts," U.S. Patent No. 60/414,518. Hardee, H.C., and Neil R. Aukland (2001). "Electrical Contact Lubricant Composition For Inhibiting Fretting Failure," U.S. Patent No. 6,271,186. <u>Conference Papers</u> Gabel, B., H. C. Hardee and J. Hanlon (2002). "Ambient Humidity Effect on Fretting Performance of Gold Plated MDM Connectors," <i>Proceedings of the 35th International Institute of Connectors and Interconnection Technology</i>	

	<p><i>Symposium (IICIT), October, 2002, 31-37.</i></p> <p>Gabel, N., H. C. Hardee and P. Lees (2001). "Comparison Of Coefficient Of Friction And Contact Resistance During Sliding Wear On Clad Gold-Nickel Surfaces," <i>Proceedings of the 47th IEEE Holm Conference on Electrical Contacts</i>, 633-636.</p>
Scientific & Professional Societies	NONE
Honors and Awards	<p>2002 Mechanical Engineering Academy Professor of the Year</p> <p>1991 Sandia National Lab "Award for Excellence" in Instrumentation Development</p> <p>1990 Special Invitation Award by the Japanese Government</p> <p>1962 USAEC Special Fellowship in Nuclear Science and Engineering</p>
Institutional and professional service in the past 5 years	NONE
Professional development activities in the past 5 years	NONE

R. DEAN HILL College Professor		
Education	Ph.D. 1962 M.S. 1959 B.S. 1957	Chemistry, Michigan State University Chemistry, New Mexico State University Chemistry, University of Utah
NMSU	1982 - present 1960-1968	New Mexico State University College Professor, Mechanical Engineering Department Assistant Professor, Chemistry Department
Professional Experience	1968-1980	Rose-Hulman Institute of Technology Professor, Chemistry Department
Teaching/Research Interests	Internal Combustion Engines	
Consulting/Patents, etc.	NASA National Hot Rod Association	
State(s) in which registered		
Principal publications of the past 5 years		
Scientific & Professional societies	Sigma Xi	
Honors and Awards	Outstanding Teacher Award, Rose-Hulman Institute of Technology 1999-Lifetime Achievement Award for Excellence in Education	
Institutional and professional service in the past 5 years		
Professional development activities in the past 5 years		

RICHARD GUY HILLS Professor		
Education	Ph.D. 1979 M.S. 1974 B.S. 1972	Mechanical Engineering, New Mexico State University Mechanical Engineering, Purdue University Mechanical Engineering, New Mexico State University
NMSU	2004-present 2003-2004 2000-2003 1997-2000 1994-1997 1981-1994 1975-1980	New Mexico State University Professor, Mechanical Engineering Department Interim Vice Provost for Research Associate Dean/Director of the Engineering Research Center Professor, Mechanical Engineering Department Acting Department head and Department Head, Mechanical Engineering Department Assistant Professor, Associate Professor, and Professor, Mechanical Engineering Department Graduate Teaching Assistant
Professional Experience	1980-1981 1974-1975 1972-1974	Sandia National Laboratories Technical staff, Geophysical remote sensing, geophysical heat transfer Aerojet Nuclear Co. Research Scientist, Nuclear reactor safety and containment Purdue University Graduate Research Assistant
Teaching/Research Interests	Research-Validation of stochastic and deterministic models, inverse theory and optimization, modeling and simulation, CAD Teaching – Numerical analysis, analysis, CAD	
Consulting/Patents, etc.	Downhole Periodic Seismic Generator (with H. Hardee and R. Striker) Advanced Downhole Periodic Seismic Generator (with H. Hardee and R. Striker)	
State(s) in which registered	NONE	
Principal publications of the past 5 years	<p>Hills, R. G., (2005), "Model Validation: Model Parameter and Measurement Uncertainty," <i>Journal of Heat Transfer</i>, V. 128, pp 339-351, April.</p> <p>Hills, R. G. and K. Dowding, (2005), "Statistical Validation of Engineering and Scientific Models: Bounds, Calibration, and Extrapolation," SAND2005-1826, <i>Sandia National Laboratories</i>, Albuquerque.</p> <p>Dowding, K. J., R. G. Hills, I. Leslie, M. Pilch, B. M. Rutherford, and M. L. Hobbs (2004), "Case Study for Model Validation: Assessing a Model for Thermal Decomposition of Polyurethane Foam," SAND2004-3632, <i>Sandia National Laboratories</i>, Albuquerque, October.</p> <p>Hills, R. G., I. H. Leslie, and K. Dowding, (2004), "Statistical Validation of Engineering and Scientific Models: Application to the Abnormal Environment," SAND2004-1029, <i>Sandia National Laboratories</i>, Albuquerque, March.</p> <p>Hills, R. G., and I. H. Leslie (2003), "Statistical Validation of Engineering and Scientific Models: Validation Experiments to Application," SAND2003-0706, <i>Sandia National Laboratories</i>, Albuquerque.</p> <p>Hills, R. G. and T. G. Trucano (2002), "Statistical Validation of Engineering and Scientific Models: A Maximum Likelihood Based Metric," SAND2001-1783, <i>Sandia National Laboratories</i>, Albuquerque.</p> <p>Trucano, T. G., R. G. Easterling, K. J. Dowding, T. L. Paez, A. Urbina, V. J. Romero, B. M. Rutherford, and R. G. Hills, (2001), Description of Sandia Validation Metrics Project,"</p>	

	<p>SAND2001-1339, Sandia National Laboratories, Albuquerque.</p> <p>Hills, R. G. and T. G. Trucano (2001), "Statistical Validation of Engineering and Scientific Models with Application to CTH," SAND2001-0312, Sandia National Laboratories, Albuquerque.</p> <p><u>Conference Papers</u></p> <p>Hills, R. G. and I. H. Leslie, (2003), "The Use of Uncertainty Analysis in Model Validation," <i>2003 ASME International Mechanical Engineering Congress & Exposition, Proceedings of IMECE'03</i>, IMECE2003-41678, Washington, D.C, November.</p> <p>Hills, R. G. and I. Leslie (2002), "Model Validation: A Subsystem to Systems Level Approach", Presented at the <i>International Test and Evaluation Modeling & Simulation Workshop</i>, Las Cruces, Dec. 9-12.</p> <p>Hills, R. G. and I. Leslie (2002), "Model Validation Methodology: From Validation Experiments to Systems Level Application," <i>Proceedings of the VV&A Foundations 2002 Workshop</i>, John Hopkins University, Applied Physics Lab, Oct. 22-24</p>
Scientific & Professional societies	American Society of Mechanical Engineers
Honors and Awards	<p>1997 Most Valuable Professor, NMSU, ASME/Pi Tau Sigma student chapters</p> <p>1985 NMSU Bromilow Award for Research</p> <p>1984 Dow Award for Outstanding Young Educator (Gulf-Southwest section)</p> <p>1982 Dynamic Diveshaft Award, presented by NMSU ASME students for most "helpful" professor</p>
Institutional and professional service in the past 5 years	Member of ASME PTC 61 Code and Standards Committee for Model Verification and Model Validation
Professional development activities in the past 5 years	NONE

IAN H. LESLIE Associate Professor		
Education	Ph.D. 1984 M.S. 1977 B.S. 1976	Mechanical Engineering, Stanford University Mechanical Engineering, University of Michigan at Ann Arbor Mechanical Engineering, University of California at Berkley
NMSU	1984 -present	New Mexico State University Associate/Assistant Professor, Mechanical Engineering Department
Professional Experience		
Teaching/Research Interests	Heat transfer, numerical methods, wildfire modeling, model validation,	
Consulting/Patents, etc.	Livingston Associates Star Labs	
State(s) in which registered		
Principal publications of the past 5 years	<p>R. Hills and I. Leslie, 'Statistical Validation of Engineering and Scientific Models: Validation Experiments to Application,' Sandia Report SAND2003-0706, March, 2003.</p> <p>R. Hills, I. Leslie and K. Dowding, Final report to Sandia National Laboratories, 'Statistical Validation of Engineering and Scientific Models: Application to Abnormal Environment,' September, 2002.</p> <p>R. Hills, I. Leslie and T. Trucano, Final report to Sandia National Laboratories, 'Statistical Validation of Engineering and Scientific Models: Validation Experiments to Application,' October, 2001.</p> <p><u>Conference Papers</u></p> <p>I. Leslie and G. Garcia, "Improving Student Performance in Programming Courses Through Unlimited Access to Computer and Software Resources," <i>2005 ASEE annual Conference</i>, June 2005, Portland, OR.</p> <p>I. Leslie and G. Garcia, "High Level Programming Packages in Undergraduate Mechanical Engineering," Paper presented at the <i>2004 ASEE Annual Conference</i>, June 2004, Salt Lake City, UT.</p> <p>R. Hills and I. Leslie, 'The Role of Uncertainty Analysis in Model Validation,' <i>Proceedings of IMECE'03</i>, Washington, D.C., November 16-21, 2003.</p> <p>R. Hills and I. Leslie, 'Model Validation Methodology,' <i>Proceedings for National Defense Industrial Association VV&A Foundations 2002</i>, Johns Hopkins Univ., October, 2002</p>	
Scientific & Professional societies	American Society for Engineering Education American Society of Mechanical Engineers Combustion Institute	
Honors and Awards		
Institutional and professional service in the past 5 years	<p>Member of ABET Outcomes and Assessment Committee (2006) Search chair for CFD position in Mechanical Engineering (2005-2006) Member of Mechanical Engineering department head search (2004-2005) Member of ME undergraduate curriculum review committee (2004) Poster judge for NM AGEPE (2004) Search chair for thermal science position in Mechanical Engineering (2003-2004) Member of Graduate Committee in Mechanical Engineering (2003-2004) Member of ME promotion and tenure committee (ongoing)</p> <p>Book review for McGraw Hill (2006) Paper review for ASME (2006) Paper review for ASEE (2005) Book review for John Wiley & Sons (2005) Paper review for ASEE (2004) Proposal review for W. M. Keck Foundation (2004) Paper review for ICMECE'03 (2003) Book review for McGraw Hill (2002)</p>	

	<p>Manuscript review for <i>Combustion and Flame</i> (2001)</p> <p>Session Chair for ITEA Meeting, Dec. 2003, Las Cruces, NM</p>
Professional development activities in the past 5 years	<p>Attended Southwestern Borderlands Ecosystem Management Research, Douglas, AZ, May 2003</p> <p>Attended workshop on Wildland Fire Modeling and Prediction in the Southeast United States, Florida State University, March 2003</p> <p>Diversity workshop sponsored by NMSU (2002)</p> <p>Attended Sixth International Microgravity Combustion Workshop , Cleveland , OH, May 2001</p>

OU MA Associate Professor		
Education	Ph.D. 1991 M.S. 1987 B.Sc. 1982	Mechanical Engineering and Center of Intelligent Machines, McGill University Mechanical Engineering and Center of Intelligent Machines, McGill University Mechanical Engineering, Zhejiang University, China
NMSU	2002-present	New Mexico State University, Las Cruces, NM Associate Professor, Mechanical Engineering Department
Professional Experience	1996-2002 1991-1996 1982-1985	MDA Space Missions, Ltd., Brampton, Canada Senior R&D Technical Leader and Project Engineer Spar Aerospace Ltd., Brampton, Canada Control and Analysis Engineer Zhejiang University, Hangzhou, China Faculty Member, Mechanical Engineering Department
Teaching/Research Interests	Dynamics, Controls, and Robotics (all for aerospace applications)	
Consulting/Patents, etc.	MDA Space Missions, Canadian Space Agency, Dynacs Inc.	
State(s) in which registered	Ontario, Canada	
Principal publications of the past 5 years	<p><u>Journal Articles</u></p> <p>Weber, M., Patel, K., Ma, O., and Sharf, I., "Identification of Contact Dynamics Model Parameters from Constrained Robotic Operations," to appear in <i>ASME Journal of Dyn. Syst., Meas., and Control</i>, Vol.128, No.2, June, 2006.</p> <p>Zhang, M., Ma, O., and Diao, X., "Dynamics Modeling and Analysis of Inkjet Technology Based Oligo DNA Microarray Spotting," <i>IEEE Trans. on Automation Science and Eng.</i>, Vol.3, No.2, 2006, pp.159-168.</p> <p>Ma, O., Wang, J., Misra, S., and Liu, M., "On the Validation of SPDM Task Verification Facility," <i>Journal of Robotic Systems</i>, Vol.21, No.5, 2004, pp.219-235.</p> <p>Another three journal papers have been submitted.</p> <p><u>Conference Papers</u></p> <p>Tao W., Zhang M., and Ma O., "Modelling and Vibration Suppression for Industrial Track Robots", <i>IEEE Int. Conf. on Robotics and Auto.</i>, May 15-19, Orlando, FL.</p> <p>Ma O. and Boyden S., "A Robotics-based Testbed for Verifying a Method of Identifying Contact-Dynamics Model Parameters", <i>SPIE Defense and Security Symp</i>, Orlando, FL, April 18-21, 2006, Paper #6221-2.</p> <p>Diao X., Ma O., and Liu M., "Dynamics of a Robotics-based Hardware-in-the-Loop Simulator for Verifying Microgravity Contact Dynamics", <i>SPIE Defense and Security Symp</i>, Orlando, FL, April 18-21, 2006, Paper #6221-4.</p> <p>Ma O. and Horan S., "NMSU Nanosatellite with robotics capabilities", <i>Proc. the 8th Int. Symp. on Artificial Intelligence, Robotics and Auto. in Space</i>, Munich, Germany, Sept.5-9, 2005, pp.145-148.</p> <p>Ma O., Yang G. and Diao X., "Experimental Validation of CDT-based Satellite Docking Simulations using SOSS Testbed", <i>Proc. the 8th Int. Symp. on Artificial Intelligence, Robotics and Auto. in Space</i>, Munich, Germany, Sept.5-9, 2005, pp.441-447.</p> <p>Ma O. and Diao X., "Dynamics Analysis of a Cable-Driven Parallel Manipulator for Hardware-in-the-Loop Dynamic Simulation," <i>Proc. the IEEE/ASME Int. Conf. on Advanced Intelligent Mechatronics (AIM 2005)</i>, 24- 28 July, 2005, Monterey, California.</p> <p>Ma O., "Model Order Reduction for Contact Dynamics Simulations of Flexible Multibody Systems," <i>Proc. the 46th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics & Materials Conference</i>, Paper # 2005-2262, April 18-21, 2005, Austin, Texas.</p> <p>M. Zhang and O. Ma, "Dynamic Modeling and Analysis of Oligo DNA Microarray Spotting," <i>IEEE 2005 American Control Conference</i>, Portland, Oregon, June 8-10, 2005.</p>	

	<p>Ma O., "Model Order Reduction for Contact Dynamics Simulations of Manipulator systems," <i>Proc. IEEE Int. Conf. on Robotics and Auto.</i>, April 27-30, 2004, New Orleans, LA, pp.1814-1819.</p> <p>E. Dupris, M. Doyon, E. Martin, P. Allard, J.C. Piedboeuf, and O. Ma, "Autonomous Operations for Space Robots," <i>Proc., 55th Int. Astronautical Congress</i>, Vancouver, Oct.4-8, 2004, Paper #IAC-04-IAA.U.5.03.</p> <p>Ma, O., Wang J., Misra S., and Liu M., "On the Validation of SPDM Task Verification Facility," <i>Proc. the 7th Int. Symp. on Artificial Intelligence, Robotics and Auto. in Space</i>, Nara, Japan, May 19-23, 2003.</p> <p>Ma O., Crabtree D., Jones H., Yang G., Martin E., Carr R., and Piedboeuf J.C., "Development and Applications of A Simulink-Based Satellite Docking Simulator with Generic Contact Dynamics Capabilities," <i>Proc. of the 2002 IAF World Space Congress</i>, Oct.10-19, 2002, Houston, USA.</p> <p>Weber M., Ma O., and Sharf I., "Identification of Contact Dynamics Model Parameters from Constrained Robotic Operations," <i>ASME Design Eng. Tech. Conf. and Computers in Eng Conf.</i>, Sept.29-Oct.2, 2002, Montreal, DETC2002/MECH-34357.</p> <p>Carretero J.A., Nahon M., and Ma O., "Using Genetic Algorithms with Niche Formation to Solve the Minimum Distance Problem amongst Concave Objects," <i>ASME Design Eng. Tech. Conf. and Computers in Eng Conf.</i>, Sept.29-Oct.2, 2002, Montreal, DETC2002-DAC34105.</p> <p>J. A. Carretero, M. A. Nahon and O. Ma, "Solving distance problems with concave bodies using Simulated Annealing," <i>Proc the 2001 IROS Conf.</i>, Maui, Hawaii, US, October 29-November 3, 2001, pp. 1507-1512.</p> <p>Carr R., Ma O., Yang G., Jones H., Bolger J. Martin E., Piedboeuf J.C., and Crabtree D., "A Simulink-Based Satellite Docking Simulator with Generic Contact Dynamics Capabilities," <i>The 6th Int. Symp. on Artificial Intelligence, Robotics, and Automation in Space</i>, Montreal, Canada, June 18-22, 2001</p>
Scientific & Professional societies	<ul style="list-style-type: none"> - Registered Professional Engineer (PEO), Ontario, Canada - American Institute of Aeronautics and Astronautics (AIAA) - Institute of Electrical and Electronics Engineers (IEEE) - American Society of Mechanical Engineers (ASME)
Honors and Awards	<ul style="list-style-type: none"> - Technical Innovation Award, MDA Space Missions, 2000. - Technical Innovation Award, MDA Space Missions, 1996. - FCAR Graduate Fellowship, Quebec, Canada, 1987-1990. - David Stewart Memorial Fellowship, McGill University, 1985-1986. - Honor student, Zhejiang University, 1978-1982
Institutional and professional service in the past 5 years	<ul style="list-style-type: none"> - <u>Institutional Committees:</u> Graduate committee, aerospace program committee, lab committee, faculty search committee, library liaison for ME department - <u>Conference Committees:</u> 5th Int. Symp. on Artificial Int., Robotics and Auto. in Space, 2001, SPIE East - Intelligent Manufacturing Systems 2005, IEEE Int. Conf. on Intelligent Robots and Systems 2006, SPIE Smart Structures and Materials Conf., - <u>Conference Session Chairs:</u> 5th and 6th Int. Sympos. on Artificial Int., Robotics and Auto. in Space, 2001 and 2003, IEEE Int. Conf. on Intelligent Robots and Systems 2006 - <u>Paper Reviewers:</u> IEEE Trans. on Robotics, IEEE Trans. on Mechatronics, Int. J. of Robotics Res., J. of Robotic Systems, Robotica, Mechatronics (book)
Professional development activities in the past 5 years	<ul style="list-style-type: none"> - Attended 11 technical conferences and presented 13 papers there. - Participated in the mentor program for two years organized by Advance Program - Attended teaching & paper-writing workshops organized by NMSU Teaching Academy - Attended two NSF workshops on proposal development

YOUNG HO PARK Assistant Professor		
Education	Ph.D. 1994 M.S. 1988 B.S. 1986	Mechanical Engineering, University of Iowa Mechanical Design & Production Engineering, Seoul National University Mechanical Engineering, Seoul National University
NMSU	2000-present	New Mexico State University Assistant Professor, Mechanical Engineering Department
Professional Experience	1999-2000 1996-2000 1994-1996 1991-1994	University of Iowa Adjunct Assistant Professor Center for Computer-Aided Design, University of Iowa Research Scientist Ford Motor Company Research Engineer Center for Computer-Aided Design, University of Iowa Research Assistant
Teaching/Research Interests	Computational mechanics, statistical modeling and analysis, finite element and meshfree methods for nonlinear mechanics, computational fracture mechanics, fatigue life prediction, structural reliability analysis	
Consulting/Patents, etc.		
State(s) in which registered		
Principal publications of the past 5 years	<p><u>Journal Articles:</u></p> <p>Young Ho Park and Jun Tang, "An efficient Methodology for Fatigue Reliability Analysis for Mechanical Components," <i>ASME Journal of Pressure Vessel Technology</i>, 2005 (accepted for publication).</p> <p>Young Ho Park and Jun Tang, "Optimal Replacement Decision of Mechanical Components for Fatigue Failure," <i>ASME Journal of Pressure Vessel Technology</i>, 2005 (under review).</p> <p>Young H. Park, "Rigid Plastic Meshfree Analysis for Metal Forming Simulation." <i>Journal of Material Processing Technology</i>, 2005 (under review)</p> <p>Byeng D. Youn, Kyung K. Choi, and Young H. Park, "Hybrid Analysis Method For Reliability-Based Design Optimization," <i>ASME Journal of Mechanical Design</i>, 125, 221-232, 2003.</p> <p>Chen, G., Rahman, S., and Y. H. Park, "Shape Sensitivity Analysis of Linear-Elastic Cracked Structures," <i>Journal of Pressure Vessel Technology – Transactions of the ASME</i>, Vol. 124, No. 5, 2002. pp. 476-482.</p> <p>N.H. Kim, Y.H. Park, and K.K. Choi, "An Optimization of Hyper-Elastic Structure with Multibody Contact Using Continuum-Based Shape Design Sensitivity Analysis," <i>Structural Optimization</i>, Vol. 21, No.3, 2001, pp. 196-208.</p> <p>Guofeng Chen, Sharif Rahman, and Young Ho Park, "Shape Sensitivity and Reliability Analyses of Linear-Elastic Cracked Structures," <i>International Journal of Fracture</i>, Vol. 112, 2001, pp. 223-246.</p> <p>Kyung K. Choi, Jian Tu, and Young H. Park, "Extension of Design Potential Concept for Reliability-Based Design Optimization to Non-Smooth and Extreme Cases," <i>Structural and Multidisciplinary Optimization</i>, Vol. 22, No. 5, pp. 335-350, 2001.</p> <p>Guofeng Chen, Sharif Rahman, and Young Ho Park, "Shape Sensitivity Analysis in Mixed-Mode Fracture Mechanics," <i>Computational Mechanics</i>, Vol. 27, 2001, pp. 282-291.</p> <p>Jian Tu, Kyung K. Choi, and Young H. Park, "Design Potential Method for Robust System Parameter Design," <i>AIAA Journal</i>, 2001, Vol. 39, No.4, pp.667-677.</p> <p><u>Conference Papers</u></p> <p>Jun Tang, Edwin Hardee, and Young Ho Park, "Fatigue Reliability Based Optimal Replacement</p>	

	<p>Decision Based on First Order Reliability Method," <i>Proceedings of 2005, ASME Pressure Vessels and Piping Conference</i>, Denver, Colorado, July 17-21, 2005.</p> <p>Young Ho Park, "Numerical Study of Metal Forming Simulation Using Elasto-Plastic and Rigid-Plastic Meshfree Analysis," <i>Proceedings of 2005, ASME Pressure Vessels and Piping Conference</i>, Denver, Colorado, July 17-21, 2005.</p> <p>Y.H. Park and W. Morgan, "Effective Elastic Moduli of Cracked Solid and application to Functionally Graded Material," <i>Proceedings of 2004, ASME Pressure Vessels and Piping Conference</i>, San Diego, California, July 25-29, 2004.</p> <p>Jun Tang and Young Ho Park, "Fatigue Reliability Based Optimal Replacement Decision of Mechanical Components," <i>Proceedings of 2004, ASME Pressure Vessels and Piping Conference</i>, San Diego, California, July 25-29, 2004.</p> <p>Patricia Wojahn, Linda Ann Riley, and Young Ho Park, "Teaming Engineers and Technical COmmunications in Interdisciplinary Classrooms: Working With and Against Compartmentalized Knowledge," <i>IEEE International Professional Communication Conference (IPCC)</i>, Minneapolis, Minnesota , September 29-October 2, 2004</p> <p>Young H. Park and Wesley Morgan, "Study of Effective Elastic Moduli of Cracked Solid," <i>Proceedings of 2003, ASME Pressure Vessels and Piping Conference</i>, Cleveland, Ohio, July 20-24, 2003.</p> <p>Other papers published in peer-reviewed conference proceedings: 10</p>
Scientific & Professional societies	<p>American Society of Mechanical Engineers American Institute of Aeronautics and Astronautics Korean-American Scientist and Engineers Association Association of Korean-American Professionals in Automotive Industries</p>
Honors and Awards	<p>2004 Mechanical Engineering Academy Professor of the Year 2003 Outstanding Teacher, NMSU ASME/Pi Tau Sigma Student chapters 2003 Mechanical Engineering Innovative Teaching Award, NMSU 2002 Who's Who in Engineering Education 2001 Cited in Strathmore's Who's Who 2001 Outstanding Faculty, NMSU ASME/Pi Tau Sigma Student chapter 1989, Korean Education Ministry Government Scholarship Winner</p>
Institutional and professional service in the past 5 years	<p>Associate editor, Journal of Pressure Vessel Technology Referee for Journals: International Journal for Vehicle Design, ASME Journal of Mechanical Design, Journal of Optimization and Engineering, Journal of the Franklin Institute Referee for Conference Proceedings: ASME Pressure Vessels and Piping, ASME Design Automation, AIAA/ISSMO Multidisciplinary Analysis and Optimization Computer Technology Committee Member, ASME Pressure Vessels and Piping Conference Computer Technology Technical Program Representative, ASME Pressure Vessels and Piping Conference, July 25-29, 2004, San Diego, California Session Developer & Chair, Recent Developments in Computational Methods, ASME Pressure Vessels and Piping Conference, 2001-present Session Developer & Chair, Optimization 2, ASME DETC Design Engineering Technical Conferences, 2001 and 2002 Judge, Third Annual Mars Settlement Design Competition sponsored by NASA White Sands Test Facility and NASA Johnson Space Center, November 9-11, Las Cruces, 2001 Faculty advisor, NMSU Mechanical Engineering Competition Club Faculty advisor, NMSU Mini-Baja Team (2002-2005)</p>
Professional development activities in the past 5 years	<p>Conferences and workshop attended: ASME Pressure Vessel and Piping Conference ASME Design Engineering Conference U.S. National Congress on Computational Mechanics Glovebox Glove Integrity Meeting, Los Alamos National Laboratory Science, Engineering & Technology Education Conference Essential Teaching Seminar for Engineering Faculty</p>

RONALD J. PEDERSON Associate Professor		
Education	Ph.D. 1976 M.S. 1969 B.S. 1967	Mechanical Engineering, University of Minnesota Aeronautical Engineering, University of Arizona Mechanical Engineering, South Dakota State University
NMSU	1984-present 2003-2005 1997 1994-present	New Mexico State University Associate Professor, Mechanical Engineering Department Interim Department Head, Mechanical Engineering Department Acting Department Head, Mechanical Engineering Department Associate Department Head, Mechanical Engineering Department
Professional Experience	1977-1984 1976-1977	Texas Tech University Assistant Professor, Mechanical Engineering Department Iowa State University Visiting Assistant Professor, Mechanical Engineering Department
Teaching/Research Interests	Computer Assisted Design and Manufacturing	
Consulting/Patents, etc.	Graphics Textbooks Review, McGraw-Hill Publishing Co.	
State(s) in which registered	Texas	
Principal publications of the past 5 years	Smith, P.R., Pederson, R., Vennes, J., "Computational Education within Mechanical Engineering Programs," <i>2004 ASEE Annual Conference Proceedings</i>	
Scientific & Professional Societies	American Society for Engineering Education American Society of Mechanical Engineers	
Honors and Awards	2003 – Mechanical Engineering Academy Professor of the Year, NMSU-ME 1994 – Donald C. Roush Award for Teaching Excellence, NMSU-ME 1992 – Member, Tau Beta Pi 1985 – Most Helpful Professor Award, Dept. of Mechanical Engineering, NMSU 1984 – Outstanding Professor Award, Dept. of Mechanical Engineering, Texas Tech University 1982 – Outstanding Professor Award, Dept. of Mechanical Engineering, Texas Tech University Member, Pi Tau Sigma	
Institutional and professional service in the past 5 years	2003-2005 – Interim Department Head, Mechanical Engineering Department 2002-Present – NMSU Faculty Senate 1994-Present – Associate Department Head, Mechanical Engineering Department	
Professional development activities in the past 5 years	2004 – BANNER Financial Systems and Human Resources Systems Training, NMSU 2001 – WebCT Course Development Training, NMSU	

IGOR SEVOSTIANOV Associate Professor		
Education	Ph.D. 1993 B.S./M.S. 1988	Solid Mechanics, St. Petersburg State University (Russia) Solid Mechanics, St. Petersburg State University (Russia)
NMSU	2001-2006 August 2006-now	New Mexico State University Assistant Professor, Mechanical Engineering Department Associate Professor, Mechanical Engineering Department
Professional Experience	1998-2001 1991-2001 1997-1998 1993-1997 1993-1996	Tufts University Senior Research Assistant, Mechanical Engineering Department Suffolk University Adjunct Faculty, Department of Mathematics and Computer Science University of Natal, Durban, South Africa Senior Research Assistant St Petersburg State University, Russia Assistant Professor, Department of Theory of Elasticity Max-Planck Institute, Dresden, Germany Visiting Scientist
Teaching/Research Interests	Micromechanics : general, applied, experimental and computational	
Consulting/Patents, etc.	General Electric Corporation ALSTOM Power, Inc. Max-Planck Institute for Materials Research	
State(s) in which registered		
Principal publications of the past 5 years Current ISI citation index - 108, self references and references by co-authors are excluded.	<p><u>Journal Articles (total number of journal articles published 2001-2006 is 31, 3 are in press)</u></p> <p>Sevostianov, I., Kováčik, J. and Šimančík, F. Elastic and electric properties of closed-cell aluminum foams. Cross-property connection. <i>Materials Sci Eng</i>, A-420, 87-99.</p> <p>Sevostianov, I. and Kachanov, M. Plastic yield surfaces of anisotropic porous materials in terms of electric conductivities. <i>Mech Materials</i>, 38, 2006, 908-923.</p> <p>Sevostianov, I., Yilmaz, N., Kushch, V. and Levin, V. Effective elastic properties of matrix composites with transversely-isotropic phases. <i>Int J Solids Structures</i> 42, 2005, 455-476.</p> <p>Kachanov, M. and Sevostianov, I. On quantitative characterization of microstructures and effective properties. <i>Int J Solids Structures</i> 42, 2005, 309-336.</p> <p>Levin, V. and Sevostianov, I. Micromechanical modeling of the effective viscoelastic properties of inhomogeneous materials using fraction-exponential operators. <i>Int J Fracture</i> 134, 2004, L37-L44.</p> <p>Prokopiev, O., Sevostianov, I., Genin, J., Manson McGee, S., Woodward, C. Microstructure and elastic properties of sintered hydroxyapatite. <i>Int J Fracture</i>, 130, 2004, L3-L10.</p> <p>Sevostianov, I., Kachanov, M., Ruud, J., Lorraine, P., Dubois, M. Quantitative characterization of microstructures of plasma-sprayed coatings and their conductive and elastic properties. <i>Materials Sci Eng</i>, A- 386, 2004, 164-174.</p> <p>Sevostianov, I. and Kachanov, M. Connection between elastic and conductive properties of microstructures with Hertzian contacts. <i>Proc. Roy. Soc. London</i>: A-460, 2004, 1529-1534.</p> <p>Sevostianov, I., Agnihotri, G., and Flores Garay, J. On the connection between 3-D microstructure of inhomogeneous material and its 2-D images. <i>Int J Fracture</i> 126, 2004, 65-72.</p> <p>Kushch, V. and Sevostianov I. Effective elastic moduli tensor of particulate composite with transversely isotropic phases. <i>Int J Solids Structures</i> 41, 2004, 885-906.</p> <p>Sevostianov, I. Explicit relations between elastic and conductive properties of a material containing annular cracks. <i>Phil Trans Roy Soc London</i> A-361, 2003, 987-999.</p> <p>Sevostianov, I., Verijenko, V., and Verijenko, B. Evaluation of microstructure and properties deterioration in short fiber reinforced thermoplastics subjected to hydrothermal aging. <i>Comp</i></p>	

	<p><i>Struct</i> 62, 2003, 411-417.</p> <p>Sevostianov, I. and Kachanov, M. Correlations between elastic moduli and thermal conductivities of anisotropic short fiber reinforced thermoplastics: theory and experimental verification. <i>Materials Sci Eng</i>, A-360, 2003, 339-344.</p> <p>Sevostianov, I., Sookay, N.K., von Klemperer, C.J. and Verijenko, V.E. Environmental degradation using functionally graded material approach <i>Comp Struct</i>, 62, 2003, 419-423.</p> <p>Sevostianov, I. and Kachanov, M. Explicit cross-property correlations for anisotropic two-phase composite materials. <i>J. Mech Phys Solids</i>, 50, 2002, 253-282.</p> <p>Karapetian, E., Kachanov, M. and Sevostianov, I. The principle of correspondence between elastic and piezoelectric problems. <i>Arch Appl Mech</i> 2002, 72, 564-587.</p> <p>Sevostianov, I. Correlation between mechanical and conductive properties of porous/microcracked metals. <i>Int J Theor Appl Mech</i> 28-29, 2002, 289-324.</p> <p>Zohdi, T., Kachanov, M. and Sevostianov, I. A microscale numerical analysis of a plastic flow in a porous material. <i>Int J Plasticity</i>, 18, 2002, 1649-1659.</p> <p>Sevostianov, I., Bogarapu, M. and Tabakov, P. Correlation between elastic and electric properties for cyclically loaded metals. <i>Int J Fracture</i>, 115, 2002, L15-L20.</p> <p>Sevostianov, I., Verijenko, V.E. and Kachanov, M. Cross-property correlations for short fiber reinforced composites with damage and their experimental verification. <i>Composites- B</i>, 33, 2002, 205-213.</p> <p>Sevostianov, I., Kováčik, J. and Simančík, F. Cross-property correlation for metal foams: theory and experiment. <i>Int J Fracture</i>, 114, 2002, L23-L28.</p> <p>Sevostianov, I., Kachanov, M. and Ruud, J. On the elastic properties of PVD coatings in relation to their microstructure. <i>ASME J Eng Mat Tech</i>, 124, 2002, 246-249.</p> <p>Sevostianov, I. and Kachanov, M. On elastic compliances of irregularly shaped cracks. <i>Int J Fracture</i>, 114, 2002, 245-257. (2)</p> <p>Sevostianov, I., Levin, V. and Kachanov, M. On the modeling and design of piezocomposites with prescribed properties. <i>Arch Appl Mech</i> 2001, 71, 733-747.</p> <p>Sevostianov, I., Gorbatikh, L. and Kachanov, M. Recovery of information on the microstructure of porous/microcracked materials from the effective elastic/conductive properties. <i>Materials Sci Eng</i>, A-318, 2001, 1-14.</p> <p>Sevostianov, I. and Kachanov, M. On the yield condition for anisotropic porous materials. <i>Materials Sci Eng</i>, A-313, 2001, 1-15.</p> <p>Sevostianov, I. and Vakulenko, A. Inclusion with non-linear properties in elastic medium, <i>Int J Fracture</i>, 107, 2001, L9-L14.</p> <p><u>Other papers. Total number of papers published in reviewed conference proceedings and collections of papers is 6</u></p>
Scientific & Professional societies	American Society of Mechanical Engineers American Association for the Advancement of Science
Honors and Awards	NMSU Research Council Award, 2006
Institutional and professional service in the past 5 years	<p>Reviewer for the following journals: Proceedings of the Royal Society of London; ASME Applied Mechanics Review; Acta Materialia; Journal of Biomechanics; Mechanics of Materials; International Journal of Solids and Structures; International Journal of Engineering Sciences; International Journal of Fracture; Composite Science and Technology; Composites – part A; Composites – part B; Composite Structures; Engineering Fracture Mechanics; Journal of the royal Society Interface.</p> <p>Proposals reviewer for South African National Research Foundation; U.S. Civilian Research and Development Foundation</p> <p>Session chair 11-th International Conference on Composites Engineering, Hilton Head, SC 2004.</p> <p>Member of International Scientific Committee 15-th International Conference on Composite Materials, Durban, South Africa 2005.</p> <p>Member of the NMSU Fellowship Committee.</p> <p>Member of Faculty Search Committees (ME 2004, 2006; Physics -2002) and ME Department head Search Committee (2005)</p> <p>Member of graduate committees (more than 20, various departments)</p>
Professional development activities in the past 5 years	Essential Teaching Seminar for Engineering Faculty (Boston, October 10-12, 2002) Writing groups. NMSU Teaching Academy Seminar, Spring 2006.

BANAVARA N. SHASHIKANTH Assistant Professor		
Education	Ph.D. 1998 M.E. 1991 B.Tech 1989	Aerospace Engineering, University of Southern California Aerospace Engineering, Indian Institute of Science Aerospace Engineering, Indian Institute of Technology
NMSU	2001-present	New Mexico State University Assistant Professor, Mechanical Engineering Department
Professional Experience	1998-2000 1993-1998 1991-1993	California Institute of Technology Postdoctoral Scholar, Department of Control and Dynamical Systems University of Southern California Teaching and Research Assistant National Aerospace Laboratories, India Research Scientist, Experimental Aerodynamics Division
Teaching/Research Interests	Theoretical fluid mechanics, dynamical systems and nonlinear control theory	
Consulting/Patents, etc.		
State(s) in which registered		
Principal publications of the past 5 years	<p><u>Journal Articles</u></p> <p>Shashikanth, B. N., “Poisson brackets for the dynamically interacting system of a 2D rigid cylinder and N point vortices: the case of arbitrary smooth cylinder shapes,” <i>Regular and Chaotic Dynamics</i>, Vol.10(1), pp. 1-14, 2005.</p> <p>Shashikanth, B. N. and Marsden, J. E., “Leapfrogging Vortex Rings: Hamiltonian structure, geometric phases and discrete reduction,” <i>Fluid Dynamics Research</i>, Vol.33 (4), pp 333-356, 2003.</p> <p>Shashikanth, B. N., Marsden, J. E., Burdick, J.W. and Kelly, S.D., “The Hamiltonian Structure of a 2-D rigid cylinder interacting dynamically with N point vortices,” <i>Physics of Fluids</i>, vol.14 (3), pp. 1214—1227, 2002.</p> <p>Shashikanth, B. N. and Newton, P.K., “Geometric phases for co-rotating elliptical vortex patches,” <i>Journal of Mathematical Physics</i>, vol.41 (12), pp.8148-8162, 2000.</p> <p><u>Conference papers (peer-reviewed)</u></p> <p>Z. Ma and B. N. Shashikanth, Dynamics and control of the system of a 2D rigid circular cylinder and point vortices, <i>Proceedings of the American Control Conference 2006, Minneapolis, USA (to appear)</i>.</p>	
Scientific & Professional societies		
Honors and Awards		
Institutional and professional service in the past 5 years	<p><u>ME Department.</u> I have been a member of 4 faculty search committees (2001—2006), member of the graduate admissions committee (2001 to present), member of the thermal sciences undergraduate course rotation committee (2002), member of the thermal science graduate course rotation committee (2002), member of the aerospace engineering program committee (2002) and member of the thermal science qualifying exam review committee (2003).</p> <p><u>Scientific community.</u> I am a reviewer for 4 international scientific journals and have also reviewed conference papers and book proposals. I have co-organized a joint mini-symposium at a national conference on controls.</p>	
Professional development activities in the past 5 years	<p><u>Conference and invited talks</u></p> <p>Dynamics and control of a moving cylinder and point vortices, <i>77th Annual Meeting of the Gesellschaft für Angewandte Mathematik und Mechanik (GAMM), TU Berlin, Berlin, Germany, March 27—31, 2006.</i></p>	

	<p>Poisson brackets for rigid bodies in vortical fluids, <i>Workshop on Dynamical Systems Methods in Fluid Dynamics (Organizers: Jerrold E. Marsden and Jurgen Scheurle), Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach, Germany, July31—Aug5, 2005.</i></p> <p>Symmetries and Poisson brackets for the Hamiltonian system of a rigid body+ideal fluid, <i>AIMS' Fifth International Conference on Dynamical Systems and Differential Equations, Cal State Polytechnic, Pomona, California, June 16-19, 2004</i></p> <p>Geometry, Dynamics and Control of Vortex Flows, <i>Colloquium, Department of Mathematics, University of New Mexico, Albuquerque, Oct 31, 2003</i></p> <p>Dynamically Interacting Solid Body-Vorticity Field Systems, <i>SIAM Conference on Applications of Dynamical Systems, Snowbird, Utah, May 27-31, 2003</i></p> <p>On the Hamiltonian model of Axisymmetric Vortex Rings, <i>Annual Spring Meeting of the American Geophysical Union, Washington DC, May 28--31, 2002</i></p> <p>The Hamiltonian structure of a 2-D rigid cylinder interacting dynamically with N point vortices, <i>SIAM Conference on Applications of Dynamical Systems, Snowbird, Utah, May 19-24, 2001.</i></p> <p>Geometric Phases in Inviscid Vortex Models, <i>Annual General Assembly of the European Geophysical Society, Nice, France, March 26-30, 2001.</i></p>
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Phillip R. Smith Emeritus Professor		
Education	Ph.D. 1966 MSAE. 1960 BSME. 1957	Engineering Mechanics, University of Kansas, Lawrence, Kansas Aeronautical Engineering, Purdue University, West Lafayette, Indiana Mechanical Engineering, Purdue University, West Lafayette, Indiana
NMSU	1964 to 2000 2000 to present	New Mexico State University Professor, Mechanical Engineering Department Emeritus Professor, Mechanical Engineering Department, NMSU
Professional Experience	1953-1956 1957-1958 1958-1960 6/60-8/60 1960-1964 6/62-8/62 1964-2000 Summers of 1967-1969 6/87-5/88 6/90-8/90 1965-2000	Republic Steel Corp., Chicago, Illinois, Co-op Engineer Allison Division of GMC, Indianapolis, Indiana, Detail Engineer Purdue University, West Lafayette, Indiana, Teaching Assistant Douglas Aircraft Co., Santa Monica, California, Engineer University of Kansas, Lawrence, Research & Teaching Assist. Douglas Aircraft Co., Santa Monica, California, Engineer New Mexico State University, Las Cruces, NM, Professor Bell Laboratories, White Sands Missile Range, Mem. Tech. Staff Los Alamos National Lab., Los Alamos, NM, Staff Member(sabbatical) Atmospheric Research Lab., White Sands Missile Range, ASEE Fellow Principal Investigator, 59 research grants
Teaching/Research Interests	Fluid Mechanics, Turbulence, Computational Fluids, Engineering Analysis	
Consulting/Patents, etc.	Consulting: Douglas Aircraft Co., 1962-1964; Bell Laboratories, 1966-1970; Los Alamos Laboratories, 1974-1982; Duke-Cogema Engineering, 2000-2006; Physical Science Laboratory (NMSU), 1968-1990	
State(s) in which registered	New Mexico	
Principal publications of the past 5 years	Smith, P.R. "Mathematical Challenges of Teaching a Graduate Fluids Course from Both the Classical and Numerical Standpoint," <i>2006 ASEE Annual Conference Proceedings</i> . Smith, P.R., Pederson, R., Vennes, J., "Computational Education within Mechanical Engineering Programs," <i>2004 ASEE Annual Conference Proceedings</i> Smith, P.R., "Teaching Computational Fluid Mechanics over the Internet," <i>2002 ASEE Annual Conference Proceedings</i> .	
Scientific & Professional societies	ASME, ASEE	
Honors and Awards	Outstanding Researcher Lecturer, University Research Council (NMSU), 1987 Frank Bromilow Excellence in Research Award (NMSU), 1979 ASME Students' Teaching Award (NMSU), 1974, 1977, 1978 Ford Foundation Fellowship, 1962-1964;	
Institutional and professional service in the past 5 years	Board of Directors, ASEE Math Division, 2001-2005 Chair, ASEE Math Division, 2004 Web Master of ASEE Math Division, 2005-present Paper Reviewer, ASEE Math Division, 2001-present Paper Reviewer, ASEE Mechanical Engineering Division, 2001-present Web Master of Mechanical Engineering Academy (NMSU), 2004-present	
Professional development activities in the past 5 years	Taught a distance education course for Boeing in computational fluid mechanics.	