

Reza Abbaschian
Dean and Distinguished Professor

Degrees

Ph.D., Materials Science Technology, University of California, Berkeley, CA, 1971
M.S., Metallurgical Engineering, Michigan Tech. University, Houghton, MI, 1968
B.S., Mining (Metallurgy), University of Tehran, Tehran, Iran, 1965

University of California, Riverside, Service

Distinguished Professor, 9/1/2005
Dean, 9/1/2005

Other Professional Experience

Vladimir A. Grodsky Professor of Materials Science and Engineering(MSE), University of Florida (UF), Gainesville, 2/00-9/05. Chairman (2/87-5/02), Acting Chairman (8/86-2/87), MSE, UF. Professor (8/83-9/05), Associate Professor (12/80-7/83), MSE, UF.

Visiting Scientist, NASA Space Processing Laboratory, Huntsville, AL, 7/81-8/81.

Visiting Scientist, Massachusetts Institute of Technology, Cambridge, MA, 3/80-12/80.

Associate Professor (11/74-2/80) and Assistant Professor (2/72-11/74), Department of Materials Science and Engineering, Shiraz University (formerly Pahlavi University), Shiraz, Iran.

Visiting Associate Professor, Department of Metallurgy and Mining Engineering, University of Illinois, Urbana, IL, 8/76-7/78.

Chairman, Department of Materials Science and Engineering, Shiraz University, 9/74-8/76.

Consulting and Patents

Dr. Abbaschian has worked in the areas of solidification and materials processing. Recent research programs include interfacial kinetics, containerless processing, encapsulated float zone growth, high temperature intermetallics, composites, reactive hot compaction, and high temperature-high pressure growth of diamond single crystals for jewelry applications. The latter project has led to the commercial production of diamond crystals for jewelry applications by Gemesis Corporation.

Selected Publications

Abbaschian, R., and Clarke, C. (2005) Recent Progress in Growth of Diamond Crystals. Book chapter in *Innovative Superhard Materials and Sustainable Coatings for Advanced Manufacturing*, Ed. J. Lee and N. Novikov, Springer, pp. 193-202.

Balikci, E., and Abbaschian, R. (2005) The Seebeck Coefficient of the Solid and Liquid Germanium. *Journal of Materials Science*, 40:1475-1479.

Balikci, E.; Dean, A.; and Abbaschian, R. (2004) Antimony Doped Germanium Single Crystals Grown from the Melt by the Axial Heat Processing (AHP) Technique. *Journal of Crystal Growth*, 262:581-593.

Marchenko, M.P.; Frjazinov, I.V.; de Vahl Davis, G.; Leonardi, E.; Timchenko, V.; and Abbaschian, R. (2004) Numerical Study of Heat and Mass Transfer Processes during Solidification of Antimony-Doped Germanium using the AHP Crystal Growth Method. 4th International Conference on Computational Heat and Mass Transfer.

Leonardi, E.; de Vahl Davis, G.; Timchenko, V.; Chen, P.; and Abbaschian, R. (2004) Modeling of Binary Alloy Solidification in the MEPHISTO Experiment.” *Comptes Rendus Mecanique*, 332:5-6, pp. 403-411.

Chen, Y.-J.; Abbaschian, R.; and Steen, P.H. (2003) Thermocapillary Suppression of the Plateau-Rayleigh Instability: a Model for Long Encapsulated Liquid Zones. *Journal of Fluid Mechanics* 485:97-113.

Zhu, H., and Abbaschian, R. (2003) Reactive Processing of Nickel-Aluminide Intermetallic Compounds. *Journal of Materials Science* 38:3861-3870.

Professional Societies

Dr. Abbaschian has been active in several regional and national educational and professional organizations, including National Materials Advisory Board, NASA Space Station Users Advisory Committee, ASM Board of Trustees, TMS Board of Directors, Trustee of Federation of Materials Societies, NSF-Materials Research Advisory Committee, and Chairman of the University Materials Council. He has served or chaired numerous panels and committees, such as Chairman of the NSF panel for education in Materials Science and Engineering, Chairman of the ASM-MSD Materials Processing Committee, Office of Naval Research Board of Visitors in 1998, ARO- Materials Science Program Review in 2002. He is currently serving as president of ASM International.

Honors and awards

He has received several awards and citations including UF Top Researcher or Research Achievements Awards; the 1992 ASEE Southeastern Best Paper Award; the TMS1998 Educator Award; the TMS 1999 Leadership Award; and the Structural Material Division's 1999 Distinguished Scientist/Engineer Award. He was also elected as a Fellow of ASM for outstanding research in the science of solidification and materials processing in 1992 and a Fellow of TMS in 2000. He also received the Davis Productivity Award of the State of Florida recognizing the department for “Outstanding Research Funding to Enhance Higher Education” in 2002, and ASEE Donald E. Marlowe Award in 2003.

Guillermo Aguilar
Assistant Professor

Degrees

Ph.D., Mechanical Engineering, University of California Santa Barbara (UCSB), 1999
M.Sc., Electrical Engineering, University of California Santa Barbara (UCSB), 1995
B.Sc., Mechanical Engineering, Universidad Nacional Autonoma de Mexico (UNAM), 1993

University of California, Riverside, Service

Assistant Professor, III, 7/1/2003
Assistant Professor, IV (OS), 7/1/2005

Other Professional Experience

1999-2000: *Postdoctoral Researcher*, ChEMS and BLIMC at UCI
2000-2001: *Assistant Researcher*, Center for Biomedical Engineering, Department of Chemical and Biochemical Engineering & Material Science (CBEMS) and BLIMC, UCI
2001-2003: *Adjunct Assistant Professor*, Department of Biomedical Engineering and Beckman Laser Institute and Medical Clinic (BLIMC), UCI

Consulting and Patents (latest 2)

1. B.J.F. Wong, G. Aguilar, "Device For Controlling And Limiting Thermal Injury To Tissue During Thermal Procedures Where Tissue Is Simultaneously Mechanically Deformed (Primarily Nose)", UC Case No. 2003-132-1.
2. G. Aguilar and R. Romero-Mendez, "Confinement of Freezing Front by Laser Irradiation during Cryosurgery", UC Case No. 2005-515-1.

Registrations

N/A

Publications (Selected 3 publications)

- J1. G. Aguilar, K. Gasljevic, and E.F. Matthys, "Asymptotes of maximum friction and heat transfer reductions for drag-reducing surfactant solutions", *Int. J. of Heat and Mass Transfer*, 44, pp. 2835-2843, 2001.
- J2. G. Aguilar, L.O. Svaasand, and J.S. Nelson, "Effects of hypobaric pressure on human skin: feasibility study for port wine stain laser therapy (part I)", *Lasers in Surgery and Medicine*, 36, pp.124-129, 2005.
- J3. G. Aguilar, W. Franco, J. Liu, L.O. Svaasand, and J.S. Nelson, "Effects of hypobaric pressure on human skin: implications for cryogen spray cooling (part II)", *Lasers in Surgery and Medicine*, 36, pp.130-135, 2005.

Professional Societies

- American Society of Lasers in Medicine and Surgery (ASLMS), member since 2001, fellow since 2003.
- International Liquid Atomization and Spray Systems (ILASS), member since 2000.
- International Society for Optical Engineering (SPIE), member since 1999
- American Society of Mechanical Engineers (ASME), member since 1993.
- Society of Hispanic Professionals and Engineers (SHPE), member since 2004.
- Society for Advancement of Chicanos and Native Americans in Science (SACNAS), member since 2005.

Honors and awards

- Undergraduate Student Fellowship (Conacyt, Mexico), 1990 – 1991
- Undergraduate Student Fellowship (UNAM), 1992 – 1993
- Honorific Mention Award for B.S. coursework and thesis (UNAM), 1993
- Five-year scholarship (DGAPA-UNAM) for graduate studies at UCSB, 1993 – 1999
- Whitaker Foundation Fellowship for post doctoral research (UCI), 1999 – 2001
- Faculty Career Development Award (UCI), 1999 – 2001
- Faculty Career Development Award (UCI), 2001 – 2002
- Research Scientist Development Award (NIH-K01 Grant), 2002 – 2007

Service

- *ME Department and University Service*

	<i>Academic Year</i>
1. Faculty Advisor for the SHPE Chapter at UCR	2004-
2. Health Science Advisory Committee Member	2005-
3. Graduate Adviser for the Dept. of Mech. Eng.	2005-
4. Chair of the College of Engineering Faculty Retreat	2006
- *Reviewer for 12 Technical Journals*
- *Reviewer for 3 Funding Agencies and Publishers*
- *6 Conference Sessions Chaired or Co-Chaired*

John J. Dougherty
Lecturer

Degrees

Ph.D., Aerospace Engineering, University of California at Los Angeles, 1995.
M.S., Aeronautical and Astronautical Engineering, Stanford University, 1985.
B.S., Mechanical Engineering, University of Dayton, 1984.

University of California, Riverside, Service

Lecturer (part-time), 1997-present

Other Professional Experience

Engineer / Engineering Manager, Northrop Grumman Corp., 1986-present

Consulting and Patents

n/a

Registrations

Professional Mechanical Engineer, California

Publications

n/a

Professional Societies

AIAA

Honors and awards

n/a

Service

n/a

Professional Development

n/a

Salah Feteih, Ph.D., P.E.
Lecturer

Degrees

- Ph.D. ('90), Stanford University, Dept. of Aeronautics and Astronautics, majoring in Dynamics & Controls,
- M.Sc. ('84), Stanford University, Dept. of Aeronautics and Astronautics,
- Diplome Ingenieur, ('80), Ecole Nationale Supérieure D'Ingenieur de Construction Aeronautiques, (E.N.S.I.C.A), Toulouse, France,
- B.Sc. ('75), Cairo University, Aeronautical Engineering Dept., Cairo, Egypt.

University of California, Riverside, Service

- Taught Mechatronics (ME 133), Kinematics & Machine Design (ME 130), and Controls (ME 121) at the ME department since January 2003.

Other Professional Experience

- 07/02 – Present: Systems Engineer, Northrop Grumman Mission Systems (previously TRW) Guidance Navigation and Controls group, San Bernardino, California.
- 01/02 – 06/02: Consultant in the areas of MEMS, Mechanical and Aerospace Engineering, Fremont, California.
- 04/96 - 12/01: Senior Research Scientist, FANUC-Berkeley Laboratory, Union City, California.
- 07/92-04/96 Assistant Professor, ME Dept. the Florida State University.
- 01/92-08/93 Consultant for Trimble Navigation, Sunnyvale, California. Advised senior management on the customization of TrimPack for release and sale in the Middle East.
- 09/89-07/92 Visiting Assistant Professor, ME Dept.; the Florida State University.
- 09/85-12/89 Teaching Assistant for the Digital Control Laboratory & Research Assistant for the Gravity Probe B program, Stanford University.
- 12/80-12/82 Senior Project Engineer, Saudi Arabian Airlines.

Registrations

- Licensed Mechanical Professional Engineer (PE), California, license # 30720,

Publications

- Organizer & Chair of invited sessions and actively participated in the American Control Conference (ACC), Seattle, June 1995, the International Federation of Automatic Control's (IFAC) World Congress, San Francisco, June 1996, and the AIAA Guidance Navigation and Control (GNC) Conference, San Diego, July 1996.

- Published numerous papers in journals and conference proceedings (a complete list is in a separate attached file).
- Due to the nature of our work at Northrop Grumman, most of our reports are classified and are not published.

Professional Societies

- Private Pilot, member of APA.
- AIAA Senior Member # 5220, IEEE Member # 2077584, ASME Member # 4167219, ION Member # 937.

Service

- Served as a technical reviewer for the AIAA journal of guidance, control and dynamics, the IEEE control system society (CSS), the IEEE Society for Computer Simulation (SCS) journal Simulation, and the IEEE Transaction on Control Systems Technology. Also reviewed for conferences such as: the ``American Control Conference'' (ACC), the ``International Federation of Automatic Control'' (IFAC) world congress, and the IEEE Conference on Decision and Control (CDC).
- Awarded several funded grants from State, Federal, and Industrial entities.

Professional Development

- Six Sigma Green Belt training, January 2005.

Javier Garay
Assistant Professor

Degrees

Ph.D., Materials Science and Engineering, UC Davis, 2004
M.S., Materials Science and Engineering, UC Davis, 2002
B.S., Mechanical Engineering, UC Davis, 1999

University of California, Riverside, Service

Assistant Professor, II, 7/1/2004
Mechanical Engineering undergraduate curriculum committee (9/2004-8/2005)
Mechanical Engineering graduate committee (9/2005-Present)
UCR committee for academic integrity (3/2006-Present)

Other Professional Experience

Courses Taught:

ME 1A, Introduction to Mechanical Engineering: Required undergraduate course
ME 170A, Experimental Techniques: Required undergraduate course. Emphasizes laboratory skills and technical writing as well as fundamental
ME 278 , Imperfections in Solids: Graduate course.

teaching, industry, etc.

Consulting and Patents

Patent Filed 10/2005: "Preparation of Dense Nanostructured Functional Oxide Materials With Fine Crystallite Size (<20 nm) By Field Activation Sintering" Z. A. Munir, U. Anselmi-Tamburini and J. E. Garay.

identify consulting work and patents

Registrations

State(s) in which registered

Publications

Principal publications of last five years

J. E. Garay, S. C. Glade, U. Anselmi-Tamburini, P. Asoka-Kumar, and Z. A. Munir, "Characterization of densified fully stabilized nanometric zirconia by positron annihilation spectroscopy. " *Journal of Applied Physics* (2006), **99**, 024313.

G.D. Zhan, J. E. Garay and A. K. Mukherjee, "Ultralow-temperature superplasticity in nanoceramic composites." *Nano Letters* (2005), **5**, 2593-2597.

J. E. Garay, S. C. Glade, U. Anselmi-Tamburini, P. Asoka-Kumar, and Z. A. Munir, "Electric Current Enhanced Defect Mobility in Ni₃Ti Intermetallics." *Applied Physics Letters* (2004), **85**(4), 573-575.

U. Anselmi-Tamburini, J. E. Garay, Z. A. Munir, A. Tacca, F. Maglia, G. Spinolo, and G. Chiodelli, "Spark Plasma Sintering and Characterization of Bulk Nanostructured Fully-Stabilized Zirconia (FSZ): I. Densification Studies." *Journal of Materials Research* (2004), **19**(11), 3255-3262.

J. E. Garay, U. Anselmi-Tamburini, and Z. A. Munir, "Enhanced Growth of Intermetallic Phases in the Ni-Ti System by Current Effects." *Acta Materialia* (2003) **51**, 4487-4495.

G. D. Zhan, J. D. Kuntz, J.E. Garay and A. K. Mukherjee, "Electrical properties of nanoceramics reinforced with ropes of single-walled carbon nanotubes." *Applied Physics Letters* (2003), **83**(6), 1228-1230.

Professional Societies

Scientific and professional societies of which a member
TMS International (TMS)
The Materials Information Society (ASM International)
The American Ceramic Society (ACerS)

Honors and awards

Chancellor's Achievement Award, UC Davis 1995
ASM International Outstanding Undergraduate Scholastic Achievement Award, 1998
Army Research Office, Young Investigator Award (3 yr - \$150,000), beginning 2005

Service

NSF panel reviewer (DMII-MPM, DMR-Ceramics)
ARO proposal reviewer (Materials Division)

Ram Harihan
Lecturer

Degrees

Ph.D., Purdue University, 1993

University of California, Riverside, Service

UCR, Lecturer, 13 years.

Publications

Journal papers:

1. Ramamurthy, H., S. Ramadhyani and R. Viskanta. 1997. Development of fuel burn-up and wall heat transfer correlations for flows in radiant tubes. **Numerical Heat Transfer Part A-Applications**. 31(6): 563-584.
2. Venkatram, A., R. Hariharan and W. Carter. 1998. The concept of species age in photochemical modeling. **Atmospheric Environment**. 32(20): 3403-3413.

Conference proceedings:

1. Hariharan, R. and A. Venkatram. 1996. The sensitivity of numerical advection schemes to mass inconsistency in wind fields. Ninth Joint Conference on the Applications of Air Pollution Meteorology with the Air and Waste Management Association, Atlanta Georgia.

Professional Societies

ASME
ASEE

Honors and awards

Best teacher award from the College of Engineering, 1999

Service

- Set-up labs for courses entitled Experimental Techniques (ME 170A), Mechanical Engineering Lab (ME 170B), and for Engineering Graphics and Design (ME-9).
- Updated the data acquisition software for the mechanical engineering labs from DaqView to LabView.
- Updated the Engineering Graphics software from AutoCAD to SolidWorks.
- Elected to and currently member of the Chancellor's Advisory Committee on Non-Senate Academic Affairs.

Professional Development

- Visited UCLA and UC San Diego mechanical engineering departments to study and understand the laboratories that are set up there and use that as a foundation for setting up the mechanical engineering labs in UCR.
- Attended LabView courses offered by National Instruments to learn about data acquisition and program the ME-170A and ME-170B experiments to run on the LabView environment.

Qing Jiang
Professor

Degrees

Ph.D., Applied Mechanics, California Institute of Technology, 1990
M.S., Mechanics, Huazhong University of Science and Technology, 1984
B.S., Mechanics, Huazhong University of Science and Technology, 1982

University of California, Riverside, Service

Professor, I, 1/1/1998
Professor, II, 7/1/2000
Professor, III, 7/1/2002
Professor, IV, 7/1/2004

Other Professional Experience

1991-1997. University of Nebraska, Lincoln. Professor of Mechanical Engineering (1997).
Associate Professor (1994-1997). Assistant Professor (1991-1994).
Summer 1995. National Institute of Standards and Technology. Guest Scientist
Summer 1997. Karlsruhe Research Center, Germany. Guest Scientist.

Consulting and Patents

RWB Aerospace Professionals, Austin, TX 2005 – present
TRW Space Technology, Redondo Beach, CA 1999 -- 2000
U.S. Naval Research Laboratory, Washington, DC 1996 -- 1997

Registrations

Publications

1. Q.S. Zheng and **Q. Jiang**. 2002. Multiwalled carbon nanotubes as gigahertz oscillators. *Physical Review Letters*. 88, Article 45503.
2. Q.S. Zheng, J.Z. Liu and **Q. Jiang**. 2002. The excess van der Waals interaction energy of a multiwalled carbon nanotube with an extruded core and the induced oscillation. *Physical Review B*, 65, Article 245409.
3. J.Z. Liu, Q.S. Zheng and **Q. Jiang**. 2003. Effect of bending instabilities on the measurements of mechanical properties of multiwalled carbon nanotubes. *Physical Review B*, 67, Article 075414. Also, *the Virtual Journal of Nanoscale Science & Technology*, the March 10, 2003 issue.
4. Z. Wang, J.E. Blendell, G.S. White and **Q. Jiang**. 2003. Atomic force microscope observations of domains in fine grain PZT ceramics. *Smart Materials and Structures*, 12: 217-222.
5. Y.T. Hu, X. Zhang, J.S. Yang, and **Q. Jiang**. 2003. Transmitting electric energy through a metal wall by acoustic waves using piezoelectric transducers. *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, 50: 773-781.
6. Y. Zhao, C.C. Ma, G.H. Chen and **Q. Jiang**. 2003. Energy dissipation mechanisms in carbon nanotube oscillators, *Physical Review Letters*. 91, Article 175504.
7. **Q. Jiang**, X. M. Yang, H. G. Zhou and J. S. Yang. 2005. Analysis of surface acoustic wave pressure sensors. *Sensors and Actuators A*, 118: 1-5.

8. J. Z. Liu, Q.-S. Zheng, L.-F. Wang, and **Q. Jiang**. 2005. Mechanical properties of single-walled carbon nanotube bundles as bulk materials. *Journal of Mechanics and Physics of Solids*, 53: 123-142.
9. Q. Wang, T. Hu, G.H. Chen and **Q. Jiang**. 2005. Bending instability characteristics of double-walled carbon nanotubes. *Physical Review B*, 71, 045403. Also, *the Virtual Journal of Nanoscale Science & Technology*, the January 17, 2005 issue.
10. C.C. Ma, Y. Zhao, C.Y. Yam, G.H. Chen and **Q. Jiang**. 2005. A tribological study of double-walled and triple-walled carbon nanotube oscillators. *Nanotechnology*, 16: 1253-1264.
11. L. Wang, Q.i Zheng, J.Z. Liu and **Q. Jiang**. 2005. Size dependence of the thin-shell model for carbon nanotubes. *Physical Review Letters*. 95, Article 105501. Also, *the Virtual Journal of Nanoscale Science & Technology*, the Sept 12, 2005 issue.
12. Y.T. Hu, S. Qin, T. Hu, K.W. Ferrara and **Q. Jiang**. 2005. Asymmetric oscillation of cavitation bubbles in a micro vessel and its implications upon mechanisms of clinical vessel injury in shock-wave lithotripsy. *International Journal of Nonlinear Mechanics*. 40: 341-350.

Professional Societies

American Society of Mechanical Engineers

Honors and awards

Karman Fellowship, Karman Fellowship Foundation, 1987

Recognition Award, Teaching Council and Parents Association, U. of Nebraska, 1992

Layman Award, Layman Foundation, 1993

Research Initiation Award, National Science Foundation, 1993

Outstanding Teaching Award, U. of Nebraska-Lincoln, 1993

Outstanding Research Award, U. of Nebraska-Lincoln, 1996

Visit/Study Fellowship, German Academic Exchange Office, 1997

Service

Journal Editorship

◆ Guest Editor, *Mathematics and Mechanics of Solids*, 2001 - 2003

◆ Member of International Editorial Board, *Acta Mechanica Solida Sinica*, 2001-present

Organizing Conferences

◆ Program Committee, International Symposium on Smart Materials and Structures, San Diego, CA, March, 2006

◆ Program Committee, International Symposium on Smart Materials and Structures, San Diego, CA, March, 2005

◆ Program Committee, International Symposium on Smart Materials and Structures, San Diego, CA, March, 2004

◆ Program Committee, International Symposium on Smart Materials and Structures, San Diego, CA, March, 2003

◆ Organizer, Symposium for Contemporary Mechanics, U.S. Congress of Theoretical and Applied Mechanics, Blacksburg, VA, June, 2002

◆ Program Committee, International Symposium on Smart Materials and Structures, San Diego, CA, March, 2002

Shankar Mahalingam
Professor

Degrees

Ph.D., Mechanical Engineering, Stanford University, 1989
M.S., Mechanical Engineering, State University of New York at Stony Brook, 1982
B. Tech, Mechanical Engineering, Indian Institute of Technology, Madras, 1980

University of California, Riverside, Service

Professor, I, 7/1/2000
Professor, II, 7/1/2003
Professor, III, 7/1/2005

Chair 2002 to 2006

Other Professional Experience

1989-2000. University of Colorado, Boulder. Associate Professor, Department of Mechanical Engineering, and Affiliated Faculty Member in the Department of Applied Mathematics (1996-2000). Assistant Professor (1989-1996).

1982-1984. Singer Co., Silver Spring, MD. Systems Engineer II, Link Simulation Systems Division.

Consulting and Patents

McGraw Hill Book, West Educational Publishing, Oxford University Press, Dietrich Standard Company, Boulder, Childrens Hospital, Denver, TekQuity Inc., Louisville, Colorado, Prentice Hall, Addison Wesley Longman, Southern California Edison

Registrations

State(s) in which registered NONE

Publications

Principal publications of last five years

X. Zhou, S. Mahalingam, and D. Weise, "Experimental Study and Large Eddy Simulation of Effect of Terrain Slope on Marginal Burning in Shrub Fuel Beds," accepted *Proceedings of The Combustion Institute*, **31**, 2006.

L. Sun, X. Zhou, S. Mahalingam, and D. R. Weise, "Comparision of burning characteristics of live and dead fuels," *Combustion and Flame*, **144**, pp. 349-359, 2006.

Weise, D. R., X. Zhou, L. Sun, and S. Mahalingam, "Fire spread in chaparral – "go or no-go?"

- International Journal of Wildland Fire*, **14**, pp. 99-106, 2005.
- Zhou, X., Pakdee, W., and S. Mahalingam, "Assessment of a Flame Surface Density-Based Subgrid Turbulent Combustion Model for Nonpremixed Flames of Wood Pyrolysis Gas," *Physics of Fluids*, **16** (10), pp. 3795-3807, 2004.
- Coen, J., S. Mahalingam, and J. W. Daily, "Infrared imagery of crownfire dynamics during FROSTFIRE," *Journal of Applied Meteorology*, **43**(9), pp. 1241-1259, 2004.
- Khunatorn, Y., R. Shandas, C. DeGroat, and S. Mahalingam, "Comparison of *in vitro* velocity field measurements in a scaled total cavopulmonary connection with computational predictions," *Annals of Biomedical Engineering*, **31**(7), pp. 810-822, 2003.
- Hsu, J., and S. Mahalingam. "Performance of reduced reaction mechanisms in unsteady nonpremixed flame simulations," *Combustion Theory and Modelling*, **7**, pp. 365-382, 2003.

Professional Societies

Scientific and professional societies of which a member

Sigma Xi, American Physical Society, Combustion Institute, ASME, International Association of Fire Safety Science (IAFSS), AIAA

Honors and awards

Pi Tau Sigma award of "Outstanding ME Professor at CU", U. of Colorado at Boulder, Spring and Fall 1991

U. of Colorado "Outstanding Undergraduate Advisor", 1991 – 1992

NASA AMES/Stanford Center for Turbulence Research Summer Fellow, 1992 and 1994

DOE-AWU Faculty Fellowship Award, 1993

DOE-AWU Faculty Fellowship Award, 1994

Invited Professor, Laboratoire EM2C, Ecole Centrale, Paris, France, 6/1997 - 12/1997

Associate Editor, AIAA Journal, Term of appointment: 2002 – 2005

Associate Fellow of AIAA

Service

As Chair of the Graduate Committee at the University of Colorado from 1998-2000, I was responsible for graduate admissions, TA assignments, reformulating the Ph.D. preliminary examination, etc. I developed advanced graduate courses in Turbulence, Combustion Theory, and Computational Fluid Dynamics. I served as Member-at-large of the Board of the Western States Section of the Combustion Institute (1990-1998, 2003-current). I was a member of the Host Committee for the 15th ICDERS Meeting (1995) and the International Combustion Symposium (1998). I served as Graduate Advisor 2000-2002 and helped establish the graduate program in the ME department at UCR. I served as Chair of the department of Mechanical Engineering at UCR from 2002-2006.

Professional Development

Numerous professional conferences in my field of research.

Cengiz Ozkan
Assistant Professor

Degrees

Ph.D., Materials Science, Stanford University, 1997

M.S., Materials Science, Stanford University, 1993

M.S., Metallurgical Engineering, Middle East Technical University, Turkey, 1989

B.S., Metallurgical Engineering, Middle East Technical University, Turkey, 1986

University of California, Riverside, Service

Assistant Professor, III, 7/1/2001

Assistant Professor, IV, 7/1/2003

Assistant Professor, V (OS), 7/1/2005

Other Professional Experience

Summer 2002. Max Planck Institute, Stuttgart, Germany. Research Fellow (invited).

August 1997-August 2001. Applied Micro Circuits Corp., San Diego, CA. Senior Engineer.

September 1997-June 2000. University of California, San Diego. Lecturer, Electrical Engineering and Materials Science.

Consulting and Patents (Most Recent of 7)

H. Xin, J. Leonard, Q. Jiang, J. Garay, C.S. Ozkan, "PARTICLE EMBEDDED NANOSWITCH". UCCASENO: 2005-467-1, Date Disclosed: February 2005, Attorney Docket No: RAYTH.2600.

C.S. Ozkan, "HETEROJUNCTION BIPOLAR TRANSISTOR (HBT) WITH THREE DIMENSIONAL BASE CONTACT". Date Disclosed: August 1998, Date Filed: March 2000, Date Issued: August 2003 U.S. Patent No. or International Patent No: SERIAL NO. 6,437,376

C.S. Ozkan, A. Salmi, "SiGe HETEROJUNCTION BIPOLAR TRANSISTOR (HBT) FABRICATION USING A SELECTIVELY DEPOSITED SILICON GERMANIUM (SiGe)". Date Disclosed: October 1999, Date Filed: February 2002, Date Issued: March 2003, U.S. Patent No. or International Patent No: SERIAL NO. 6,531,369

Registrations

California

Publications

X. Zhang, S. Prasad, S. Niyogi, A. Morgan, M. Ozkan, C.S. Ozkan, "Guided Neurite Growth on Patterned Carbon Nanotube Substrates", *Sensors and Actuators B: Chemical*, 106, 2, 843-850, 2005.

S. Ravindran, C.S. Ozkan, "Self-assembly of ZnO nanoparticles to electrostatic coordination sites of functionalized carbon nanotubes", *Nanotechnology*, 16, 8, 1130-1136, 2005.

- S. Ravindran, C. Tsai, K.V. Singh, S. Andavan G.T., Y. Gao, M. Ozkan, E. Hu, C.S.Ozkan, "Nano-patterned liquid metal electrode for the synthesis of novel prussian blue nanotubes and nanowires," August, Nanotechnology, 17, 3, 714-718, 2006.
- S. Ravindran, S. Andavan G.T., C.S. Ozkan, "Selective and controlled self assembly of zinc oxide hollow spheres on single walled carbon nanotube templates," August, Nanotechnology, 17, 3, 723-727, 2006.
- X. Wang, R. Pandey, K.V. Singh, C. Tsai, R. Lake, M. Ozkan, C.S. Ozkan, "Synthesis and characterization of peptide nucleic acid-platinum complexes," Nanotechnology, 17, 1177-1183, 2006.
- K.V. Singh, X. Wang, R. Pandey, A. Martinez, K. Wang, R. Lake, A. Balandin, C.S. Ozkan, M. Ozkan, "SWNT-PNA-SWNT Conjugates: Synthesis, Characterization and Modeling," Carbon, 14 manuscript pages, in press.
- K. Galatsis, Y.Y. Botros, K. Wang, Y. Yang, F. Stoddart, J. Liu, M. Ozkan, C. Ozkan, C. Zhou, K.W. Kim Y.H. Xie, R. Kaner, "Emerging Memory Devices based on Nanomaterials & Nanostructures", IEEE Circuits and Devices, 30 manuscript pages, in press.

Professional Societies

MRS, Materials Research Society, 1993-present
 ASME, American Society for Mechanical Engineers, 1999-present
 ACS, American Chemical Society, 2001-present
 CHI, Cambridge HealthTech Institute, BioMEMS and Nanotechnology, 2000-present
 BMES, Biomedical Engineering Society, 1999-present

Honors and awards

Recognition by the Materials Research Society for Symposium Organization, 2001
 Academic Senate Faculty Excellence Award, 2002
 Invited Research Fellow, Max-Planck Institute, Bio-Nano Group, Stuttgart, 2002
 Achievement in technical ingenuity Award, 2003
 Recognition by the Materials Research Society for Symposium Organization, 2003

Service

Cooperating faculty, Chemical and Environmental Engineering Department, UCR Supervising two Ph.D. students in the CEE department (July 2002-present).

Co-operating faculty, Electrical Engineering Department, UCR Potential ME/EE cross-listed course: ME230: Nanoscale Characterization of Materials (Sept. 2001-present).

Supervising Faculty for founding the *UCR STUDENT CHAPTER OF THE MATERIALS RESEARCH SOCIETY* (April 2002-present).

Author/co-author of four book chapters and edited two conference proceedings books.

Editorial board member for "Sensor Letters" and "Catalysis Today".

Member of the Academic Affairs Committee, Materials Research Society.

Leading Symposium Organizer: "Assembly at the Nanoscale: Towards Functional Nanostructured Materials", Fall 2005 Meeting of the Materials Research Society, Boston, MA, December, 2005.

Leading Symposium Organizer: "Multifunctional Nanocarbon Materials for Active Electronics and Nanosystems", 229th National Meeting of the ACS, San Diego, CA, March 13-17, 2005.

Marko Princevac
Assistant Professor

Degrees

Ph.D., Fluid Mechanics, Arizona State University, Tempe, Arizona, 2003
B.Sc., Mechanical Engineering and Naval Architecture, University of Belgrade, Belgrade, Serbia, 1997

University of California, Riverside, Service

Assistant Professor, II, 8/10/2004

Other Professional Experience

1999-2004. Arizona State University. Post-doctoral scientist (2003-2004). Research Assistant (1999-2003).

1997-1999. University of Belgrade. Lecturer.

1995. Premezclados del Norte, Matamoros, Mexico. Laboratory supervisor.

Publications

Princevac, M., H.J.S. Fernando, and C.D. Whiteman, “Turbulent entrainment into natural gravity-driven flows”, *Journal of Fluid Mechanics*, 533, 259-268, 2005.

Lee, S.M., W. Giori, M. Princevac, and H.J.S. Fernando, “A Turbulence Parameterization For a Nocturnal PBL Over Complex Terrain”, *Boundary Layer Meteorology*, *in press*.

Newsom R.K., D. Ligon, R. Calhoun, R. Heap, E. Cregan, and M. Princevac, “Retrieval of Microscale Wind and Temperature Fields from Single- and Dual-Doppler Lidar Data”, *Journal of Applied Meteorology*, 44(9), pages 1324-1345, 2005.

Hunt, J.C.R., H.J.S. Fernando, and M. Princevac, “Unsteady Thermally Driven Flows on Gentle Slopes”, *Journal of the Atmospheric Sciences*, Vol. 60, No. 17, pp. 2169–2182, 2003.

Lee, S.M., H.J.S. Fernando, M. Princevac, M. Sinesi, D. Zajic, and J. Anderson, “Transport and Diffusion of Ozone in the Nocturnal and Morning PBL of the Phoenix Valley”, *Journal of Environmental Fluid Dynamics*, Vol 3 (4), 331-362, 2003

Monti, P., H.J.S. Fernando, M. Princevac, W.C. Chan, T.A. Kowalewski and E. R. Pardyjak, “Observations of Flow and Turbulence in the Nocturnal Boundary Layer Over a Slope”, *Journal of the Atmospheric Sciences*, Vol 59 (17), 2513-2534, 2002

Professional Societies

American Society of Mechanical Engineers (ASME), - college representative of the California Inland Section

Air and Waste Management Association (A&WMA)

Honors and awards

1986 - 1992, Several times winning national and regional competitions organized by the national Association of Young Scientists and Engineers

1992, Best student of generation

1995, JAT fellowship as IAESTE nominee

1997, Best student in department

1999, "Graduate Assistantship in Area of National Need" (GAANN) scholarship, US Department of Education

2003, Air & Waste Management scholarship

2003, Arizona State University recognition for an exemplary job of serving students

2005, Regents' Faculty Fellowship/Faculty Development Award

Service

NSF panel review, April 2006

Research Integrated Safety Committee, since August 2005

ME undergraduate committee, since October 2004

ASME Inland Section College Representative, since August 2005

Demonstration of the instrumentations for the MESA Day, March 2006

Presentations at the Bourns Science and Engineering Day, March 2006

Professional Development

QEM NSF Career workshop

QEM NSF MRI workshop

James P. Sawyer, Ph.D.
Lecturer

Degrees

Ph.D. Mechanical Engineering, Purdue University, 1996.
M.E. Mechanical Engineering, Cal Polytechnic University, Pomona, 1990.
B.S. Mechanical Engineering, San Diego State University, 1984.

University of California, Riverside, Service

1998-Present Lecturer, Department of Mechanical Engineering
Appointed April 1, 1998.
Post-Six-Year Continuing Appointment awarded in 2004.
Eight years of service to date.

Other Professional Experience

1997 - Present Executive Vice President, Pacific Plastic Technology, Inc.
Rancho Cucamonga, California.

Responsible for all engineering and product development aspects of a multi-million dollar engineering and manufacturing business that specializes in plastic injection molding technology. Areas of practice include product design consultation, rapid prototyping, mold design, and the development of manufacturing and quality assurance programs.

1992-1997 Research Assistant, Teaching Assistant, Post-Doctoral Researcher;
Purdue University, West Lafayette, Indiana.

1987-1991 Director of Engineering, Pacific Plastic Technology, Inc.
South El Monte, California.

1984-1987 Member of the Technical Staff, Space Transportation Systems Division,
Rockwell International, Downey, California.

Registrations

California, EIT Certification, No. 060047

Publications

J. P. Sawyer and S. S. Rao, "Structural Damage Detection and Identification Using Fuzzy Logic," *AIAA Journal*, Vol. 38, No. 12, pp. 2328-2335, 2000.

J. P. Sawyer and S. S. Rao, "Strength Based Reliability and Fracture Assessment of Fuzzy Mechanical and Structural Systems," *AIAA Journal*, Vol. 37, No. 1, pp. 84-92, 1999.

S. S. Rao and J. P. Sawyer, "Fuzzy Finite Element Approach for the Analysis of Imprecisely Defined Systems," *AIAA Journal*, Vol. 33, No. 12, pp. 2364-2370, 1995.

Sawyer, J. P. and Rao, S. S., "Fault Tree Analysis of Fuzzy Mechanical Systems," *Microelectronics and Reliability*, Vol. 34, No. 4, pp. 653-667, 1994.

Professional Societies

American Society of Mechanical Engineers (ASME)
American Society for Engineering Education (ASEE)
Society of Plastics Engineers (SPE)

Honors and Awards

2003-2004 Outstanding Lecturer Award, Bourns College of Engineering, University of California, Riverside, 2005.

General Electric/Steinmetz Graduate Studies Award, Purdue University, 1992.

Sustained Superior Performance Award, Rockwell International, 1985.

Service

2003 - Present Served on the Undergraduate Committee, Department of Mechanical Engineering, University of California, Riverside.

1998 - Present Served as the Faculty Advisor for the Student Section of the American Society of Mechanical Engineers (ASME) at of the University of California, Riverside.

Professional Development

Engineering Education Workshops Attended:

BestTeams. A faculty training workshop that focused on team skills for upper-level design courses. Key dimensions of effective teams were discussed, as well as steps for the successful incorporation of teaming and team training in engineering courses. ASEE Annual Conference, 2001.

Fundamentals of Teaching. A faculty training workshop that focused on course planning, learning styles, methods to promote active learning, and implementation of cooperative learning in engineering courses. ASEE Annual Conference, 2001.

Thomas Stahovich
Associate Professor

Degrees

Ph.D., Mechanical Eng., Artificial Intelligence, Massachusetts Institute of Technology, Cambridge, MA, 1995

S.M., Mechanical Engineering, Massachusetts Institute of Technology, Cambridge, MA, 1990

B.S., Mechanical Engineering, University of California, Berkeley, 1988

University of California, Riverside, Service

Associate Professor, II, 7/1/2003

Associate Professor, III, 7/1/2005

Other Professional Experience

2000 – 2003 Affiliated Faculty. Center for Automated Learning and Discovery, Computer Science Dept., Carnegie Mellon University, Pittsburgh, PA.

1996 – 2003 Associate / Assistant Professor. Carnegie Mellon University, Department of Mechanical Engineering, Pittsburgh, PA.

1995 – 1996 Postdoctoral research fellow. Artificial Intelligence Laboratory, MIT, Cambridge, MA.

1992 – 1995 Graduate research assistant. Artificial Intelligence Laboratory, MIT, Cambridge, MA.

1988 – 1992 Graduate research assistant. Computer Aided Design Laboratory, MIT, Cambridge, MA.

Publications

Kurtoglu, T. and Stahovich, T. F., “Interpreting schematic sketches using physical reasoning,” in Proc. AAAI 2002 Spring Symposium on Sketch Understanding, 2002.

Kara, L. B. and T. F. Stahovich, “Hierarchical parsing and recognition of hand-sketched diagrams,” in Proc. 17th Annual ACM Symposium on User Interface Software and Technology, UIST 2004, pp. 13-22, 2004.

Gennari, L. M, Kara, L. B, and Stahovich, T. F., “Combining Geometry and Domain Knowledge to Interpret Hand-Drawn Diagrams,” Computers & Graphics, Vol. 29, No. 4, pp 547-562, 2005.

Stahovich, T. F., “Segmentation of Pen Strokes Using Pen Speed,” in Proc. AAAI 2004 Fall Symposium on Making Pen-Based Interaction Intelligent and Natural, pp 152 – 158, 2004.

Kara, L. B., Gennari, L., and T.F. Stahovich, “A Sketch-Based Interface for the Design and Analysis of Simple Vibratory Mechanical Systems,” in Proc. ASME/ DETC 2004.

Kara, L. B. and T.F. Stahovich, “An Image-Based Trainable Symbol Recognizer for Sketch-Based Interfaces,” Computers & Graphics, Vol. 29, No. 4, pp 501-517, 2005.

Kara, L. B. and T.F. Stahovich, “Sim-U-Sketch: a sketch-based interface for SimuLink,” in Proc. International Working Conference on Advanced Visual Interfaces, AVI-2004, pp 354 – 357, 2004.

Stahovich, T. F., Calhoun, C., Kurtoglu, T., and Kara, L. B., “Recognizing multi-stroke symbols,” in Proc. AAAI 2002 Spring Symposium on Sketch Understanding, 2002.

Honors and awards

Henry Ford II Scholar Award for academic performance in engineering at UC Berkeley, 1987
Rohsenow Fellowship, Massachusetts Institute of Technology, 1988

Service

Chaired the 2002 AAAI Spring Symposium on Sketch Understanding. The symposium was intended to help disseminate initial research results from the small but growing community of researchers working in sketch understanding and to establish a research agenda for the field.

Co-Chaired the 2004 AAAI Fall Symposium on Making Pen-Based Interaction Intelligent and Natural. The goal of the symposium was to provide a focus for the growing community interested in making pen-based computing more natural by making it smarter, and interested in uses of pen-based computing that go beyond handwriting recognition.

Currently serving as guest editor for the journal “Computers & Graphics” for a special issue on pen-based computing.

Recently obtained approval for a new graduate course on “Pen-Based Computing” to be taught at UC Riverside.

Kambiz Vafai
Professor

Degrees

Ph.D., Mechanical Engineering, UC Berkeley, 1980
M.S., Mechanical Engineering, UC Berkeley, 1977
B.S., Mechanical Engineering, University of Minnesota at Minneapolis, 1975

University of California, Riverside, Service

Professor, VI, 7/1/2000
Professor, VII, 7/1/2001
Professor, VIII, 7/1/2004

Patents

Two-Layered Micro Channel Heat Sink, Devices and Systems Incorporating Same, by K. Vafai and L. Zhu, US patent # 6,457,515 (issued on October 1, 2002)
Multi-Layered Micro Channel Heat Sink, Devices and Systems Incorporating Same by K. Vafai and L. Zhu, US patent # 6,675,875 (issued on January 13, 2004)
Microcantilevers For Biological And Chemical Arrays And Methods Of Making And Using Thereof by K. Vafai, C. Ozkan, R. Haddon, A.R.A. Khaled and M. Yang [Serial# 10/422,776] Patent filed- Pending
Cooling Enhancements And Control Of Flow And Thermal Conditions In Thin Films Supported By Flexible Complex Seals: Applications To Electronic Cooling, Biotechnology And Internal Combustion by K. Vafai, and A.R.A. Khaled [Serial#60/470850] Patent filed- Pending

Selected Journal Publications, Last 2 Years

Ali, A., and Vafai, K., "An Investigation of Heat and Mass Transfer between Air and Desiccant Film in an Inclined Parallel and Counter Flow Channels" **International Journal of Heat and Mass Transfer**, 47, 1297-1304 (2004)
Haji-Sheik, A., and Vafai, K., "Analysis of Flow and Heat Transfer in Porous Media Imbedded Inside Various-Shaped Ducts" **International Journal of Heat and Mass Transfer**, 47, 1889-1905 (2004)
Khaled, A.R.A., and Vafai, K., "Optimization Modeling of Analyte Adhesion Over an Inclined Microcantilever-Based Biosensor" **Journal of Micromechanics and Microengineering**, 14, 1220-1229 (2004)
Khanafer, K., Khaled, A.R.A., and Vafai, K., "Spatial Optimization of an Array of Aligned Microcantilever Biosensors " **Journal of Micromechanics and Microengineering**, 14, 1328-1336 (2004)
Khanafer, and Vafai, K., "Geometrical and Flow Configurations for Enhanced Microcantilever Detection Within a Fluidic Cell" **International Journal of Heat and Mass Transfer**, 48, 2886-2895 (2005)

Ai, L., and Vafai, K., “An Investigation of Stokes Second Problem for Non-Newtonian Fluids“ **Numerical Heat Transfer Journal**, 47, 955-980 (2005)

Khaled, A.R.A., and Vafai, K., “Similarity Solutions for Heat Transfer Inside Nonisothermal Squeezed Thin Films “ **Numerical Heat Transfer Journal**, 48, 2172-2185 (2005)

Vafai, K., and Khaled, A.R.A., “Analysis of Flexible Microchannel Heat Sink Systems“ **International Journal of Heat and Mass Transfer**, 48, 1739-1746 (2005)

Khaled, A.R.A., and Vafai, K., “Heat Transfer Enhancement Through Control of Thermal Dispersion Effects” **International Journal of Heat and Mass Transfer**, 48, 2172-2185 (2005)

Manca, M., Nardini, S. and Vafai, K., “Experimental Investigation of Mixed Convection in a Channel with an Open Cavity” **Experimental Heat Transfer Journal** 19, 53-68 (2006)

Yang, N., and Vafai, K., “Modeling of Low-Density Lipoprotein (LDL) Transport in the Artery- Effects of Hypertension” **International Journal of Heat and Mass Transfer**, 49, 850-867 (2006)

Professional Societies

Fellow of AAAS (American Association for Advancement of Science), Fellow of ASME (American Society of Mechanical Engineers), Fellow of WIF (World Innovation Foundation), Associate Fellow of AIAA, member AAUP

Honors and awards

Director/Chair of the Second International Conference on Porous Media and its Applications in Science, Engineering and Industry sponsored by Engineering Conferences International, sponsored by NSF and ECI, Kauai, Hawaii (2007)

Listed in ISI Highly Cited (2/04 –present)

Fellow of American Association for Advancement of Science (AAAS) 2002

Fellow of World Innovation Foundation (WIF) 10/2003

Presidential Chair, University of California, Riverside (7/00-7/02)

Service (Past 5 Years)

Member of the US Scientific Committee for the 13th International Heat Transfer Conference in Sydney, Australia (8/2006)

Chair of Symposium on Heat Transfer in Bioporous Systems, ASME National Heat Transfer Conference, San Francisco, CA (2006)

Chair and presenter of the Panel on Transport Phenomena in Porous Media at the AIAA/ASME Joint Thermophysics meeting in San Francisco, California (6/2006)

Member of the UC Discovery Biotech Panel Review (3/2006)

Professional Development

Member of the International Organizing Committee for the Conference in Porous Media Applications in Morocco (2006)

Member of the International Organizing Committee for the Conference in Porous Media Applications in Portugal (2004)

Sundararajan Venkatadriagaram
Professor

Degrees

Ph.D., Mechanical Engineering, University of California, Berkeley, 2000
M.S., Mechanical Engineering, University of California, Berkeley, 1997
B.E., Mechanical Engineering, Government College of Engineering, University of Pune, Pune, India, 1995

University of California, Riverside, Service

Assistant Professor, II, 8/10/2004

Other Professional Experience

2001 – 2004	Associate Specialist, University of California, Berkeley
2000 – 2001	Developer, Redspark Inc.
1995 – 2000	Graduate Student Researcher, University of California, Berkeley

Consulting and Patents

Registrations

Publications

1. Corney, J., Hayes, C., Sundararajan V., Wright P., The CAD/CAM Interface: A 25-Year Retrospective, *Journal of Computing and Information Science in Engineering* -- September 2005 -- Volume 5, Issue 3, pp. 188-197
2. S. Roundy, E. Leland, J. Baker, E. Carleton, E. Reilly, E. Lai, B. Otis, J. Rabaey, V. Sundararajan and P.K. Wright, Improving Power Output for Vibration-Based Energy Scavengers, *IEEE Pervasive Computing*, Vol 4, No 1, 2005, pp 28 – 36
3. Mishra D., Sundararajan V., Wright P., Zig-zag tool path generation for sculptured surface finishing, *Accepted for publication by AMS/ DIMACS Volume on Computer-Aided Design and Manufacturing*, 2004 (Originally presented at DIMACS Workshop on CAD/ CAM., Rutgers University, Oct 7 – 9, 2003)
4. K. Castelino, V. Sundararajan, R. D'Souza, B. Kannan, and P. Wright, Automated Process Planning in a Modular Manufacturing System, American Society of Mechanical Engineers, *Journal of Computing and Information Science in Engineering*, Volume 4, Number 3, September 2004, pp. 235-241.
5. Wright P. K., Dornfeld D., Sundararajan V., Mishra D., Tool Path Generation for Finish Machining of Freeform Surfaces in the Cybercut Process Planning Pipeline, *Transactions of the North American Mfg. Research Institution of SME* 2004, vol 32, 2004, pp 159-166
6. Sundararajan V., Wright, P., Volumetric Feature Recognition for machining components with freeform surfaces, *Computer-Aided Design*, 2004, vol 36, no 1, pp 11 – 25
7. Sundararajan V., Wright, P., Feature Based Macroplanning Including Fixturing, *Journal of Computing and Information Science in Engineering*, 2002, vol 2, No 3, pp. 179 – 192
8. S. Ahn, V. Sundararajan, C. Smith, B. Kannan, R. D'Souza, G. Sun, A. Mohole, P. Wright, J. Kim, S. McMains, J. Smith, and C. Sequin, "CyberCut: An Internet-based CAD/CAM system," *ASME, Journal of Computing and Information Science in Engineering*, vol 1, 2001, pp. 52-58.
9. Sundararajan V., Wright P., Identification of Multiple Feature Representations by Volume Decomposition for 2.5D Components, *Transactions of the Journal of Manufacturing Science and Engineering*, Feb 2000, vol 122, no 1, pp. 280 – 290

10. Dornfeld D., Wright P., Wang F., Sheng P., Stori J., Sundararajan V., Krishnan N., Chu C., Multi-Agent Process Planning for a Networked Machining Service, *Transactions of the North American Manufacturing Research Institution of SME 1999*

PUBLICATIONS - REFEREED CONFERENCES

1. Sundararajan V., Redfern A., Schneider M., Wright P., Evan J., Wireless Sensor Networks for Machinery Monitoring, Accepted for Presentation at the IMECE-2005, Orlando, Florida
2. Gudal S., Pan Y., Liou S., Sundararajan V., Antonetti D., Wright P., Design System for Composite Transmission Error Prediction for Automatic Transmissions, Accepted for Presentation at the ASME Design Engineering Technical Conference, 2005, Long Beach, CA
3. Roundy S, Sundararajan V, Baker J, Carleton E, Reilly E, Otis B, Rabaey J, Wright PK, 2005. "Energy Scavenging in Support of Ambient Intelligence: Techniques, Challenges, and Future Directions", Hardware Technology Drivers of Ambient Intelligence (Aml), December 9-10, 2004, Veldhoven, The Netherlands.
4. Sundararajan V., Redfern A., Watts W., Wright P., Distributed Monitoring of Steady-State System Performance using Wireless Sensor Networks, Presented at the IMECE-2004, November 2004, Anaheim, CA
5. Gudal S., Pan Y., Liou S., Sundararajan V., Antonetti D., Wright P., Design System for Composite Transmission Error Prediction for Automatic Transmissions, 2004 ASME Design Engineering Technical Conference, Sept 28 – Oct 2, 2004, Salt Lake City, Utah
6. Sundararajan V., Wright P., Identification of Multiple Feature Representations by Volume Decomposition for 2.5D Components, International Mechanical Engineering Congress and Exposition, Anaheim, CA, Nov 1998

OTHER CONFERENCES

1. Mishra D., Sundararajan V., Wright P., Zigzag toolpath generation for sculptured surface machining, DIMACS Workshop on CAD/ CAM., Rutgers University, Oct 7 – 9, 2003
2. Sundararajan V., Wright P., CyberCut – A Networked Manufacturing Service, Poster Session at the National Science Foundation Design and Manufacturing Research Conference, Vancouver, Canada, Jan 2000
3. Finger S., Weiss L., Siewiorek D., Baraff D., Witkin A., Sundararajan V., Wright P., “Rapid Design: Integrating Virtual and Physical Prototyping”, *The Proceedings of the 1999 NSF Design and Manufacturing Grantees Conference*, January 1999, held in Long Beach, California hosted by USC

Professional Societies

American Society of Mechanical Engineers

Honors and awards

Regents Faculty Fellowship/Faculty Development Award, 9/2005

Service

Review Coordinator and Session for the Computer Aided Product Development Division of the ASME Design Engineering Technology Conference 2006

Review Coordinator for the Computer-Aided Product Development Division of the ASME International Mechanical Engineering Congress and Exposition. 2005

Review Coordinator and Session for the Computer Aided Product Development Division of the ASME Design Engineering Technology Conference 2005

Reviewer of numerous journal articles in Journal of Computer-Aided Design, Journal of Robotics and Automation, Journal of Research in Engineering Design.

Akula Venkatram
Professor

Degrees

Ph.D., Mechanical Engineering, Purdue University, 1976
M.S., Mechanical Engineering, Brigham Young University, Provo, Utah, 1972
B.S., Mechanical Engineering, Indian Institute of Technology, Madras, India, 1971

University of California, Riverside, Service

Professor, II (OS), 7/1/1993
Professor, III (OS), 7/1/1996
Professor, IV (OS), 7/1/1999
Professor, V (OS), 7/1/2002
Professor, VI (OS), 7/1/2005

Other Professional Experience

1981-1993. ENSR Consulting and Engineering, Camarillo, CA. Vice President of Air Sciences.
1977-1981. Ontario Ministry of the Environment, Toronto, Canada. Head of Model Development.
1976-1977. Environment Canada, Toronto. Research Scientist.

Consulting and Patents

identify consulting work and patents

Registrations

State(s) in which registered

Publications

Venkatram, A., R. Brode, A. Cimorelli, R. Lee, R. Paine, S. Perry, W. Peters, J. Weil, and R. Wilson. 2001. A complex terrain dispersion model for regulatory applications. Atmos. Environ. 35:4211-4221.

Venkatram, A., V. Isakov, J. Yuan, and D. Pankratz. 2004. Modeling dispersion at distances of meters from urban sources. Atmos. Environ. 38:4633-4641.

Venkatram, A., V. Isakov, D. Pankratz, J. Heumann, and J. Yuan. 2004. The analysis of data from an urban dispersion experiment. Atmos. Environ. 38:3647-3659.

Venkatram, A. 2004. The role of meteorological inputs in estimating dispersion from surface releases. *Atmos. Environ.* 38:2439-2446.

Venkatram, A. 2004. On estimating emissions through horizontal fluxes. *Atmos. Environ.* 38:1337-1344.

Isakov, V., T. Sax, A. Venkatram, D. Pankratz, J. Heumann, and D. Fitz. 2004. Near field dispersion modeling for regulatory applications. *J. A&WMA.* 54:473-482.

Venkatram, A. 2003. Short range air pollution modeling for regulatory applications. *Proc. Indian Natn. Sci. Acad.* 69(A) No.6:697-708.

Venkatram, A. 2002. Accounting for averaging time in air pollution modeling. *Atmos. Environ.* 36:2165-2170.

Professional Societies

Air Pollution Control Association; Air and Waste Management Association, since 1986;
American Meteorological Society's Steering Committee that advised EPA on modeling, since 1990;

USEPA Committee on Regulatory Model Improvement (AERMIC), 1990 -

Member, Advisory Committee, South Coast Air Quality Management District, 1991 - 1996;

Associate Editor, *J. of Applied Meteorology*, 1993 - 1996;

American Society of Mechanical Engineers (ASME), since 1995;

AMS Committee on Meteorological Aspects of Air Pollution, 1997 - 2000;

USEPA Modeling Forum on Visibility in the Western United States, 1998 -

Service

Invited plenary speaker, NATO Conference on Air Pollution Modeling and Its Application, Denver, Colorado, 2000

Invited plenary speaker at Clean Air Congress, Brisbane, Australia, 1992

Invited plenary speaker, NATO Conference on Air Pollution Modeling, Vancouver, Canada, 1990

Junlan Wang
Assistant Professor

Degrees

Ph.D., Theoretical and Applied Mechanics, University of Illinois at Urbana-Champaign, 2002
M.S., Mechanics and Mechanical Engineering, University of Science and Technology of China, Hefei, China, 1997
B.S., Mechanics and Mechanical Engineering, University of Science and Technology of China, Hefei, China, 1994

University of California, Riverside, Service

Assistant Professor, II, 7/1/2003
Assistant Professor, III, 7/1/2005

Other Professional Experience

2002-2003. Brown University. Postdoctoral Research Associate in Solid Mechanics.
1997-2000. University of Illinois, Urbana-Champaign. Course Instructor (summer 2000).
Research & Teaching Assistant (1997-2002).
1994-1997. University of Science and Technology of China. Research and Teaching Assistant.

Publications

- J. Wang, J. Lian, J. R. Greer, W. D. Nix, and K.-S. Kim, "Size Effect in Contact Compression of Nano and Microscale Pyramid Structures", *Acta Materialia*, (accepted, 2006)
- M. Johnson, Z. Li, J. Wang, Y. Yan, "Mechanical Characterization of Zeolite Low Dielectric Constant Thin Films by Nanoindentation", *Thin Solid Films* (in press, 2006)
- L. Hu, J. Wang, Z. Li, S. Li and Y. Yan, "Interfacial Adhesion of Nanoporous Zeolite Thin Films", *Journal of Materials Research*, **21** (2), 505- 511 (2006)
- J. Wang, P. Shrotriya, and K.-S. Kim, "Surface Residual Stress Measurement using Curvature Interferometry", *Experimental Mechanics*, 46(1), 39-46 (2006)
- J. Wang, N.R. Sottos, and R.L. Weaver, "Tensile and mixed-mode strength of a thin film-substrate interface under laser induced pulse loading", *Journal of the Mechanics and Physics of Solids*, **52** (5), 999-1022 (2004)
- J. Wang, R.L. Weaver, and N.R. Sottos, "Laser induced decompression shock development in fused silica", *Journal of Applied Physics*, **93** (12), 9529-9536 (2003)
- J. Wang, N.R. Sottos, and R. L. Weaver, "Mixed-mode failure of thin films using laser generated shear waves", *Experimental Mechanics*, **43** (3), 323-330 (2003)
- J. Wang, R. L. Weaver, and N. R. Sottos, "A parametric study of laser induced thin film spallation", *Experimental Mechanics*, **42** (1), 74 - 83 (2002)

Professional Societies

Society for Experimental Mechanics
American Society of Mechanical Engineers
Materials Research Society
American Society for Engineering Education

Honors and awards

People's Scholarship, University of Science and Technology, China, 1989 – 1994
Ranked No. 1 in solid mechanics major class for 5 years, 1989 - 1994,
Admitted to graduate school exempt from entrance examination, 1994 at the University of Science and Technology, China
ELITE Experimental Science Award, University of Science and Technology, China, 1994
Guang-Hua Graduate Award, University of Science and Technology, China, 1995
Fred B. Seely Graduate Award, University of Illinois at Urbana-Champaign, 2000
Best Student Paper Competition Finalist, 37th technical meeting, Society of Engineering Science, South Carolina, 2000
Graduate Conference Travel Fellowship, University of Illinois at Urbana-Champaign, 2000
Thomas J. Dolan Graduate Award, University of Illinois at Urbana-Champaign, 2001
Dissertation Completion Fellowship, University of Illinois at Urbana-Champaign, 2001 – 2002
Graduate Teacher Certificate, University of Illinois at Urbana-Champaign, 2002
Regents' Faculty Fellowship Award, June 2004
M. Hetenyi Award, Society for Experimental Mechanics, 2004

Service

Co-Chair (2005- 06), to be Chair (2007-08), Multifunctional Materials Technical Committee, American Society of Mechanical Engineers (ASME)
Session Chair for Mindlin Centennial Symposium, US National Congress on Theoretical and Applied Mechanics, Boulder, CO (2006)
Symposium organizer for “Multifunctional nanostructured materials” for ASME International Mechanical Engineering Congress and Exposition, Orlando, FL (2005), Chicago, IL (2006)
Session chair, “Nanomechanics and MEMS” at China International Conference on Nanoscience and Technology, Beijing, China (2005)
Organizer, UCR Mechanical Engineering regular and distinguished colloquia (2004-05)
Undergraduate Freshman Mentor, UCR Mechanical Engineering department (2004-2005)
Distinguished panel member for Society of Women Engineers, UCR chapter (Feb. 2004)
Judge for Perris elementary school science fair, CA (Mar. 2004)
Proposal reviewer, NSF, AFOSR (2004)
Journal Reviewer, Experimental Mechanics, Materials Research Society Proceedings, ASME journals and proceedings, Journal of Composite Materials, Journal of Applied Nanoscience, Journal of Materials Science, Journal of Materials Research, Journal of Applied Mechanics

Guanshui Xu
Associate Professor

Degrees

Ph.D., Engineering, Brown University, 1994
M.S., Mathematics, Brown University, 1992
B.S., Mechanics, University of Science and Technology, China, 1986

University of California, Riverside, Service

Assistant Professor, III, 7/1/1998
Assistant Professor, IV, 7/1/2000
Assistant Professor, V, 7/1/2002
Associate Professor, II, 7/1/2003
Associate Professor, III, 7/1/2005

Other Professional Experience

1995-1998. TerraTek Inc., Salt Lake City, UT. Project Engineer, Geomechanics and Core Analysis Laboratory.
1993-1995. Massachusetts Institute of Technology. Postdoctoral Associate.
1989-1993. Brown University. Research Assistant.
1986-1989. Chinese Academy of Sciences, Beijing. Research Assistant, Institute of Mechanics.

Consulting and Patents

TerraTek, Inc.

Registrations

N/A

Publications

1. Xu, G. Dislocation Nucleation from Crack Tips and Brittle to Ductile Transitions in Cleavage Fracture. In: Nabarro, F. R. N. and Hirth, J. P. (Eds.), Dislocations in Solids, Vol 12, 81-145 (2004).
2. Wei, Y. and Xu G. A Multiscale Model for Ductile Fracture of Crystalline Materials, International Journal of Plasticity, 21, 2123–2149, (2005)
3. Zhang, C., Oglesby, D. D., and Xu, G. Nucleation of Earthquakes on Dip Slip Faults, Journal of Geophysical Research, 109, B11302, doi:10.1029/2003JB002894, (2004).
4. Zhang, C., Xu, G. and Jiang, Q. Characterization of the Squeeze Film Damping Effect on the Quality Factor of a Microbeam Resonator, Journal of Micromechanics and Microengineering, 14, 1302-1306 (2004).

5. Xu, G. and Zhang, C. Analysis of Dislocation Nucleation from a Crystal Surface Based on the Peierls-Nabarro Dislocation Model. Journal of the Mechanics and Physics of Solids, 51, 1371-1394 (2003).

Professional Societies

American Society of Mechanical Engineers (ASME), American Physical Society (APS), Material Research Society (MRS).

Honors and awards

UC Regents Faculty Fellowship and Development Award, 1999
NSF CAREER Award, 2002

Service

Academic and outreach: Undergraduate advisor; advisor for California Alliance for Minority Participation program funded by NSF; Judge for Riverside Unified School District Science Fair.

7th World Computational Mechanics Conference Symposium Organizer

Review panels: National Science Foundation Nanoscale Science and Engineering Panel
Reviewer; UC Discovery Grant Research Council Member.

Professional Development

Invited Presentations

1. Dislocation Nucleation at Surface Nanostructures. Micromechanics and Microstructure Evolution: Modeling Simulation and Experiments. Madrid, Spain, Sept 12-16, 2005.
2. Dislocation Nucleation at Surface Nanostructures. The International Union of Theoretical and Applied Mechanics Symposium on Mechanical Behavior and Micromechanics of Nanostructured Materials. Beijing, China, June 27-30, 2005.
3. Dislocation Nucleation at Crystal Surfaces. Lawrence Livermore National Laboratory, Livermore, U.S.A., May 20, 2005.
4. Mechanism Based Modeling and Simulation in Nanomechanics, National Science Foundation Nanoscale Science and Engineering Grantee's Conference, Washington, D. C., December 11-13, 2002.
5. Dislocation Nucleation in Crystals. Max Planck Institute for Metals Research, Stuttgart, Germany, August 12, 2002.