Michael E. Kassner

Choong Hoon Cho Chair and Professor of Chemical Engineering and Materials Science and Aerospace and Mechanical Engineering

University of Southern California

DEGREES

PhD Materials Science and Engineering, Stanford University, 1981
MS Materials Science and Engineering, Stanford University, 1979
MS Metallurgical Engineering, Illinois Institute of Technology, 1976
BSSE Science-Engineering, Northwestern University, 1972

ACADEMIC POSITIONS

University of Southern California

Choong Hoon Cho Chair and Professor of Aerospace Engineering, Mechanical Engineering and Materials Science, University of Southern California, Aug. 2003-present.
Director of Materials Science, July 20017-Pres.
Chairman**,** Aerospace and Mechanical Engineering, University of Southern California, Aug. 2003-July 2009.

Led a department of 27 full-time tenured/tenure-track faculty with about 1000 students (400 undergraduate and 600 graduate). Oversaw doubling of the student enrollment, the hiring of seven new faculty and increased faculty diversity. The sponsored research expenditures of the Department doubled. Initiated under-privileged community outreach in K-12 STEM education. The department underwent a formal review (occurs every ten years) by an external committee (UCAR) with an exceptionally high evaluation (available on request).

Oregon State University

Northwest Aluminum Professorship of Mechanical Engineering, Oregon State University, December 1997-Sept. 2003 (Courtesy Faculty 2004-2009)
Program Director, Graduate Program in Materials Science, Oregon State University, January 1995-Sept. 2003.
Chevron Professor of Mechanical Engineering, Oregon State University, 1996-1997
Professor, Dept. of Mechanical Engineering, Oregon State University, September 1994- Sept. 2003.
Associate Professor, Department of Mechanical Engineering, Oregon State University, March 1990-September 1994 (tenured September 1992)

University of California at San Diego

Professor-in-Residence, Department of Mechanical and Aerospace Engineering, University of California, San Diego, July 2003-Sept. 2003.
Adjunct Professor, Department of Mechanical and Aerospace Engineering, University of California, San Diego, July1999-July 2003.
Visiting Professor, Institute for Mechanics and Materials and Applied Mechanics and Engineering

Sciences, University of California, San Diego, 1997-1999

Naval Postgraduate School
Distinguished Visiting Professor, Jan. 2013-Aug. 2013.
Adjunct Teaching and Research Professor, Department of Mechanical Engineering, Naval Postgraduate School, Monterey, CA, June 1984-April 1986

Inha University
Adjunct Professor, Materials Science Dept, Aug. 2016.

Visiting Professorships. Etc.
Visiting Scholar, Department of Materials Science, Stanford University, 1981-1983
Visiting Scientist, Dept. of General Physics, Univ. of Groningen, The Netherlands, 1985-1987

NON-ACADEMIC POSITIONS

Office of Naval Research
Director of Research, Oct. 1, 2009-Sept. 30, 2012.

Oversaw a one billion dollar budget on basic (6.1 and early 6.2) research. Initiated the first peer review in history of ONR, enhanced data-base management of the grant program, and initiated the 100 million dollar Navy-wide STEM initiative on behalf of the Secretary of the Navy.

Office of Basic Energy Sciences, U.S. Dept. Energy
Program Manager, Division of Materials Sciences, Office of Basic Energy Sciences, Department of Energy, Washington, D.C., November 1, 1991-November 1, 1992 (part-time November 1, 1992 to December 30, 1996); October 1, 2001- October 1, 2003
Director, Department of Energy Center for Excellence for Synthesis and Processing of Advanced Materials (Metals Forming Project), January 1996-October 2000.

Lawrence Livermore National Laboratory
Metallurgist, Lawrence Livermore National Laboratory, March 1981-March 1990 (part-time November 1, 1992 to December 30, 1996)
Head, Physical Metallurgy, Joining and Coatings Section, February 1988-March 1990
Visiting Scientist, 1997-present

Sargent & Lundy Engineers
Metallurgist, Sargent and Lundy Engineers, Chicago, IL, March 1977-September 1977

U.S. Navy
U.S. Navy Officer, Engineering Officer Cruiser/Destroyer Squadrons, March 1972-January 1976

MISCELLANEOUS (current) APPOINTMENTS

Board of Directors, *Iridescent Learning* A Non-profit K-12 STEM outreach to underrepresented students. Sept. 2013- 2018.
Visiting Scientist, Lawrence Livermore National Laboratory, 1997-present.

CURRENT CLEARANCES
DOE "Q" Clearance (Top-Secret)
DoD Top Secret Clearance

FIELDS OF SPECIALIZATION

Creep of Metals and Alloys
Cyclic Deformation
Severe Plastic Deformation (SPD)
Phase Diagrams and Thermodynamics
Thin Films and Nanostructures
Recrystallization
Alloy Development
Environmental Effects

PROFESSIONAL ACTIVITIES

Professional Societies

AAAS (Fellow)
ASM (Fellow)
ASME (Fellow)
MRS
Sigma Xi
TMS

Professional Recognition/Awards

USC Mentoring (of Faculty) Award, 2018
Outstanding Reviewer, International Journal of Plasticity, Oct. 2016.
TMS (Minerals, Metals and Materials Society) Structural Materials Division Distinguished Scientist/Engineer Award, 2015
Choong Hoon Cho Chair in Aerospace and Mechanical Engineering USC, 2013
U.S. Navy Meritorious Public Service Medal, 2012
Institute of Advanced Study, Hong Kong Univ. of Science and Tech. Distinguished Lecture, 2011
USA Science and Engineering Festival "Nifty Fifty" 2011
President's Award, National Org. Black Chemists and Chemical Engineers, 2011
Fellow, AAAS, 2009
Fellow, ASME, 2009
ASEE AFOSR Summer Faculty Fellow, 2008
Fellow, ASM International (formerly American Society of Metals), 1998
Northwest Aluminum Professorship, Dept. of Mechanical Eng., Oregon State Univ., 1997-2003
Chevron Professorship, Dept. of Mechanical Engineering, Oregon State Univ, 1996
Oregon State Univ. College of Engineering Research Award for Outstanding and Sustained Research Leadership, 1995
Engineering Foundation Research Initiation Grant for New Faculty, 1990
Fulbright Senior Research Scholar, Metals Research Institute TNO, Apeldoorn, The Netherlands, 1983-1984

Editorial Boards

Board of Review, *Metallurgical and Materials Transactions*, 1991-present; Chairman, 1997-1998
Editorial Board, *International Journal of Plasticity*, 2004-present
Editorial Board, *Journal of Metallurgy*, 2008-2017
Editorial Board, *Advances in Materials Science and Engineering,* 2017
Editorial Board*, Heliyon*, 2016 - present
Editorial Committee, *Journal of Materials Engineering and Performance*, 1999-2002
ASM-TMS Joint Commission for *Metallurgical and Materials Transactions*, 1998-2002; chairman, 2000-2001

Associate Editor, *Materials Letters*, 1985-1989
Contributing Editor, ASM/NIST Data Program for Alloy Phase Diagrams, 1985-1995

Conference Session – Chairman/Organizer

14th International Conference on Creep and Fracture of Engineering Materials and Structures, St. Petersburg, Russia June, 2017 (Session Chair, "Creep Mechanisms")
2nd TMS-ABM International Materials Congress, July, 2014, Sao Paulo, Brazil (Session Chair and Co-Organizer of "Mechanical Properties of Materials")
THERMEC 2013, Langdon Symposium, Dec. 4, 2013, Las Vegas, NV (Session Chair)
E-MRS Fall Meeting, Warsaw, Poland, Sept. 2012 Acta Materialia (Session Chair Gold Medal Session Chair "Grain Boundaries and Kinetics")
Plasticity '11, Puerto Vallarta, Mexico, "Nano to Micron Scale Creep of Materials Session" (Session Chair)
ASME Congress, Boston, Nov. 2008 "Creep and Fatigue" (Organizer and Session Chair)
Creep 2008, "Testing Techniques," Bad Berneck, Germany, May 2008 (Session Chair)
"Work Hardening and Size Effects," Hael Mughrabi, Honorary Symposium, New Orleans, March 2008 (Session Co-Chair)
Plasticity 2008, Kona, HI, ("Plasticity of Emerging Materials for Structural Applications at Ultra-High Temperatures III," Session Chair)
Plasticity 2006, Nova Scotia, ("3D Measurements and Simulations Session Chair)
ECF-16, Alexandropoulos, Greece, July 2006, (Failure Mechanisms Session Chair)
Langdon Symposium, Feb. 2005 ("Creep Session," Session Chair)
Hot Deformation of Aluminum Alloys, TMS, San Diego, March 2003 (Session Chair)
Creep Deformation: Fundamentals and Applications, TMS, Seattle, February 2002 (Creep Fundamentals Session Chair)
THERMEC 2000, Las Vegas, NV, December 2000 (Aluminum Session Chair and Organizer)
Plasticity 2000, Whistler, BC, Canada, July 2000 (Creep Session Chair and Organizer)
International Conference on the Hot Deformation of Aluminum and Aluminum Alloys, Rosemont, IL, October 1998 (Session Co-Chair)
Third International Conference on Recrystallization and Related Phenomena, Monterey, CA, October 1996 (Session Chair)
NSF Workshop on Mechanics and Processing of Advanced Engineered Materials II, Lake Lanier, GA, October 1994 (Session Chair)
3rd International Conference on High-Temperature Intermetallics, May 1994 (Session Chair)
Workshop on Grain Boundary and Interface Phenomena in High Temperature Plasticity of Solids, Oakland, CA, October 1992 (Session Chair)
SPIE Conference, San Diego, CA, June 1991 ("Optical Multilayers" Session Chair)

Recent Conference Organization

Symposium Co-Organizer of "Mechanical Properties of Materials", 2nd TMS-ABM International Materials Congress, July, 2014, Sao Paulo, Brazil.
An International Workshop on Processing-Microstructure-Property Relationship & Deformation Mechanisms of Magnesium Alloys, May 2013, Madrid, Spain (International Advisory Board)
Symposium Co-Organizer of "Mechanical Properties of Materials with Emphasis on Grain-Size Effects", 1st TMS-ABM International Materials Congress, July 26-30, 2010, Rio de Janeiro, Brazil.
"Latest Developments in Hot and Cold Deformation of Metals" Symposium to Honor Enrico Evangelista on the Occasion of his 70th Birthday, Como, Italy June, 2008 (Co-Conference Organizer and Session Chair)

ICOTOM-15 Organizing Committee, Pittsburgh, Pa, June 2008.
Scientific Committee, THERMEC'97; General Vice-Chair THERMEC 2000; International Advisory Committee, THERMEC 2003, THERMEC 2006, Executive Committee, THERMEC, 2009, Berlin, International Committee THERMEC 2013.
ECF-16, Scientific Advisory Board, 2006.
International Scientific Committee, Creep 2008-pres.
Co-Organizer, ASME Society-Wide Micro/Nano Forum at IMECE 2009, Oct. 2009, Orlando FL.
Co-Organizer, DOE Workshop on Future Directions in Mechanics, Warrenton, VA, Sept.2003.
Co-Organizer, McQueen Symposium, Light Metals of CIM, Montreal, Canada, 2002.
Co-Organizer, DOE-Nuclear Energy/Basic Energy Sciences High Temperature Reactor Materials Workshop, La Jolla, CA, March 2002
Chair and Organizer, MMC (ASME) 2001 Creep and Creep Fracture Symposium, San Diego, June 2001
Organizer, DOE-BES Sponsored La Jolla Creep Workshop, June 2001 (also a Symposium on Creep and Creep Fracture, ASME Mechanics and Materials (MMC) Symposium, MMC2001, San Diego, CA)
Organizer, DOE-BES Sponsored International Workshop on "Dislocation Reactions and the Formation of High-Angle Interfaces," Monterey, CA, October 1996
Co-Chairman and Co-Organizer, "Third International Conference on Recrystallization and Related Phenomena," Monterey, CA, 1996
Organizer and Chair, DOE-BES Sponsored International Workshop on "Grain Boundary and Interface Phenomena in High Temperature Plasticity of Solids," October 1992

Plenary, Keynote and Significant Invited Lectures (94, usually with honorarium or full travel reimbursement)

"Dislocation Induced Long Range Internal Stresses in Plastically Deformed Single Phase Metals", Honorary Symposium for John Elmer, American Welding Society, Atlanta, GA, Nov. 7, 2018
"Strain Softening in Aluminum in Shear at Elevated-Temperatures", THERMEC 2018, July 11, 2018, Paris.
"Experimental Techniques to Assess Long Range Internal Stresses in Plastically Deformed Crystalline Solids" TMS Phoenix, AZ, March 14, 2018.
"Creep of Aluminum over a Very Wide Temperature Range", Keynote, 14th International Conference on Creep and Fracture of Engineering Materials and Structures, St. Petersburg, Russia, June, 2017
"Creep of Aluminum over a Very Wide Temperature Range", TMS San Diego, K.L. Murty Symposium, Keynote, Feb. 27, 2017.
"Synchrotron Studies of Long Range Internal Stresses in Plastically Deformed Materials", ASM Orange County Chapter, March 2016.
"Low Temperature Creep in Metals and Alloys". Plasticity 2016, Keynote, Jan. 4, 2016, Kona, HI.
"Long Range Internal Stresses in Plastically Deformed Crystalline Solids" NanoPrecision, El Segundo, CA, July 24, 2015.
"STEM", Keynote at *Sci*-Tech Expo. Provo, Utah, July, 2015 (Education Outreach Presentation)
"Long-range Internal Stresses in Plastically Deformed Materials", 2nd TMS-ABM International Materials Congress, July, 2014, Sao Paulo, Brazil.
"Synchrotron Studies of Stress Undulations in Uniformly Loaded Materials", College of Engineering, Inha Univ, South Korea, July 7, 2014.
"Long Range Internal Stresses in ECAP Aluminum" TMS San Diego, Feb. 2014.
"Large Strain Deformation of Zr to Large Strains at Elevated Temperature", THERMEC 2013, Dec. 2013, Las Vegas, NV.
"Severe Plastic Deformation of Zirconium", Acta Materialia Gold Medal Session. E-MRS Fall

Meeting, Warsaw, Poland, Sept. 2012.
"X-Ray Microbeams to Assess Long Range Internal Stresses in Deformed Solids" TomoDamage 2012, Freiburg, Germany, August, 2012.
"Long Range Internal Stresses in Creep", Keynote, Creep 2012, Kyoto, Japan, May, 2012.
"Basic Research at the Office of Naval Research", RAND, Arlington VA, Jan. 2012.
"Long-range internal Stresses in Single Phase Crystalline Materials", Plasticity '12, San Juan Jan. 2012.
Distinguished Lecture: "New Developments in Understanding Long Range Internal Stresses" Institute for Advanced Study, Hong Kong University of Science and Technology, Oct. 2011.
"Internal Stresses in Single-phase Deformed Materials", International Workshop on Field Assisted Sintering Technology, Penn State Univ, Aug, 2011.
"Sub-micron Analysis of Long-range Internal Stresses in Materials". Materials Research Society, International Materials Research Congress XX, Cancun, Mexico, Aug. 17, 2011.
"Federal Funding Workshop: Panel Discussion", TMS Annual Meeting, San Diego CA, Feb. 28, 2011.
"Creep and Fracture of Zirconium and Zirconium Alloys", Plasticity '11, Puerto Vallarta, Mexico, Jan. 2011.
"Basic Research at the Office of Naval Research" 28th Symposium on Naval Hydrodynamics, Caltech, Sept. 13, 2010.
"Ambient-Temperature Mechanical Properties of UFG Ag Using Microshear Tests",
"Mechanical Properties of Materials with Emphasis on Grain-Size Effects", 1st TMS-ABM International Materials Congress, July 26-30, 2010, Rio de Janeiro, Brazil.
"New Developments in Understanding Long Range Internal Stresses", Dept. of Mechanical Engineering, Univ. Peking, Beijing, China, July, 2009.
"Synchrotron Studies of Long Range Internal Stresses", Inst. Applied Physics, Chinese Academy of Sciences, Shanghai Synchrotron Facility, China, July, 2009.
"New Developments in Understanding Long Range Internal Stresses", Dept. of Materials Science and Engineering Shanghai Jiao Tong Univ., Shanghai, China, July, 2009.
"New Developments in Understanding Long Range Internal Stresses", ONR, Arlington, VA, May, 2009.
"Long Rang Internal Stresses in Monotonically and Cyclically Deformed Cu Single Crystals," IPSMA, Prague, Aug. 2008.
"Backstress the Bauschinger Effect and Cyclic Deformation" "Latest Developments in Hot and Cold Deformation of Metals" Symposium to Honor Enrico Evangelista on the Occasion of his 70th Birthday, Como, Italy June, 2008.
"New Experiments and Insights on Creep at Low Stress Levels," Creep 2008, Bad Berneck, Germany, May 2008.
"Long-Range Internal Stresses in Plastically Deformed Materials," U.C. Irvine, April 2008.
"Recent Experimental Development in Explaining Long Range Internal Stresses," Hael Mughrabi, Honorary Symposium, TMS New Orleans, March 2008.
"New Developments in Understanding Long-Range Internal Stresses in Materials", Distinguished Lecture, Bourns School of Engineering, University of California Riverside, Feb. 2008.
"New Experiments and Insights on Creep at Low Stress Levels," Kona, HI, Plasticity, 2008.
"New Developments in Understanding Long Range Internal Stresses," Department Mechanical and Aerospace Engineering, UCSD, Nov. 2007.
"Creep and Fracture of Zirconium and Zirconium Alloys" University of Saint Martin, Buenos Aires, Argentina, May, 2007.
"New Experiments and Insights on Creep at Low Stress Levels" First World Symposium of Multiscale Material Mechanics and Engineering Sciences, Dedicated to the Memory of Frank Nabarro, Edward Hart and Ronald Rivlin, Thessaloniki, Greece, April 29-May1, 2007.
"New Developments in Understanding Long Range Internal Stresses," Dept. of Mechanical Engineering, University of Texas, Austin, Oct. 2006.
"New Developments in Understanding Long Range Internal Stresses," Dept. of Mechanical and Aerospace Engineering, Naval Postgraduate School, Monterey, CA, Aug. 2006

"New Developments in Understanding Long Range Internal Stresses," Plasticity, 2006, Halifax, July 2006.
"New Developments in Understanding Long-Range Internal Stresses," Polytechnic University, Marche, Italy, July 2006.
"New Developments in Understanding Long-Range Internal Stresses," CENIM-Madrid, Spain, June 2006.
"New Developments in Understanding Long-Range Internal Stresses," Univ. of Erlangen, Germany, June, 2006.
"Long Range Internal Stresses and Mechanisms of Cyclic and Monotonic Deformations," DOE-BES Contractors Meeting, San Antonio, Texas, March 2006.
"Microstructure and Internal Stresses in Cyclically Deformed Al and Cu Single Crystals", Dept.
"The Bauschinger Effect," Polytechnic University of Marche, Ancona, Italy, June 2005.
"Microstructure and Internal Stresses in Cyclically Deformed Al and Cu Single Crystals," Georgia Tech, April 2005.
"Microstructure and Internal Stresses in Cyclically Deformed Al and Cu Single Crystals", Los
"Recent Developments in Understanding the Mechanism of Five Power Law Creep." Langdon Symposium, TMS Feb. 2005.
"Microstructure and Internal Stresses in Cyclically Deformed Al and Cu Single Crystals,"
"Recent Advances in Five Power-Law Creep" Plasticity 2005, Kauai, Hawaii, Jan. 2005.
"Fatigue and Fracture" International Summer School for Doctoral Students on Fracture Mechanisms and Related Phenomena, 7 Sept. 2004, Brixen, Italy.
"Long-Range Internal Stress in Solids," Dept. Mechanics Polytechnic University of Marche,
"Microstructure and Internal Stresses in Cyclically Deformed Al and Cu Single Crystals," UCLA, Materials Science and Eng., May 2004.
"X-Ray Diffraction and the Existence of Long-range Internal Stresses," Plasticity 2003, in July 2003, Quebec, Canada.
"Ductile Fracture in Constrained Thin Films," University of Southern California, May 2003
"Large Strain Softening in Aluminum in Shear," Hot Deformation of Aluminum Alloys, TMS, San Diego, March 2003
"Ductile Fracture in Constrained Thin Films," University of Maryland, Department of Mechanical Engineering, November 2002
"Ductile Fracture in Constrained Thin Films," Sattlebogen Symposium Retreat – Univ. Erlangen-Nurnberg, October 2002
"Ductile Fracture in Constrained Thin Films," Dept. of Mechanics, University of Ancona, Italy, September 2002
"Creep and Creep Fracture," DOE-NE/BES Higher Temperature Reactor Materials Workshop, La Jolla, CA, March 2002
"Rate-Controlling Processes for Five Power Law Creep," Creep Deformation: Fundamentals and Applications, TMS Annual Meeting, Seattle, February 2002
"Ductile Fracture in Thin Constrained Metals," CENIM, Madrid, Spain, January 2002
"Internal Stresses in Creep," Department of Mechanics, University of Ancona, Italy, July 2001
"Cyclic Deformation Dislocation Mechanisms," Department of Mechanics, University of Ancona, Italy, July 2001
"Recent Develpements in Understanding Five Power Creep in Metals," THERMEC 2000, Las Vegas, NV, December 2000.
"Recent Developments in Understanding Five Power Law Creep in Metals," Plasticity 2000, Whistler, BC, July 2000.
"Subgrain Strengthening Revisited II," Symposium to Honor Oleg D. Sherby, TMS, Nashville, March 2000
"Cyclic Deformation Dislocation Microstructures," J.R. Weertman Symposium, Cincinnati, OH, October 1999
"Semi-Solid Forming of Al-Si Alloy Using SSTT," Norsk Hydro, Sundalsora, Norway, June 1999
"The New Aluminum Alloy A6069," Norsk Hydro, Sundalsora, Norway, June 1999

"Ductile Fracture in Thin Constrained Films," Northwestern University Materials Science Colloquium, February 1999
"Dynamic Recrystallization," Plasticity '99, Seventh International Symposium on Plasticity, Cancun, Mexico, January 1999
"Dwell Time Fatigue in Ti 6242," University of Ancona, Italy, 1998
"Metal Forming Research Within the U.S. Department of Energy," Association of Italian Metallurgists, Orvieto, Italy, 1998
"Large Strain Deformation of Aluminum Single Crystals at Elevated Temperature," International Conference on the Hot Deformation of Aluminum, Rosemont, IL, 1998
"Ductile Fracture Under High Triaxial Stresses," European Science Foundation Sponsored: 'Plasticity of Materials,' Granada, Spain, April 1998
"DOE/BES CSP Metal Forming Project," NIST, Gaithersburg, MD, 1998
Burgess Lecture: "Ductile Fracture under High Triaxial Stresses," ASM-ACS, Washington, DC, 1998
"Low Temperature Cyclic Deformation of Single Crystals and the Concept of Internal Stresses," University of California, Irvine, 1997
"Ductile Fracture in Thin Constrained Films," University of Perugia, Terni, Italy, 1997
"High Temperature Mechanical Behavior of Aluminum-Magnesium Alloys," 35th Annual Conference of Metallurgists, Canadian Inst. of Metallurgists, Montreal, 1996
"Residual Stresses and Microstructure of Thin-Film Mo/Si Multilayers," University of Ancona, Italy, 1996
"Dynamic Recrystallization in Pure Aluminum," Risø Conference on Recrystallization, Roskilde, Denmark, 1995
"Ductile Fracture of Constrained Thin Films," NSF Workshop on Mechanics and Processing of Advanced Engineering Materials II, Lake Lanier, GA, 1994
"Taylor Hardening During Primary and Steady-State Creep in Aluminum and Stainless Steel Alloys," Dynamics of Microstructures, Los Alamos National Laboratory, Los Alamos, NM , February 1991.
"Solid State Bonding and Large Strain Deformation," 2nd Symposium on Progress in Manufacturing, University of Mexico, Mexico City, June 1990.
"Deformation in Pure Aluminum to Large Steady-State Strains." May 1989, U.C. Davis
"Large Strain Deformation of Aluminum at Elevated Temperatures," 900th Anniversary of University of Bologna, 22nd International Metallurgy Conference, May 1988.
"Extended Ductility in Aluminum and α Fe Alloys," Lockheed Research Colloquia, Palo Alto, 1988.
"Transmission Electron Microscopy Techniques in Mechanical Behavior Studies," Stanford University, 1982.

Selected National/International Feature Articles and Guest Appearances on M.E. Kassner Activities

Guest on NPR *Science Fridays*, March 16, 2012
Stars and Stripes Nov. 6, 2011 http://www.stripes.com/news/onr-could-face-innovation-decline-as-key-employees-head-to-retirement-1.159957
USC *Viterbi Engineer,* Fall 2011, p. 27
The White House, http://www.whitehouse.gov/blog/2011/10/17/joining-forces-partner-expands-program-students-military-families
Science, 21 October 2011, Vol. 334, p. 300.
Advanced Materials and Processes June 2011, vol 169 No. 6, Inside back cover.
Live Better Magazine, 2010, Nov./Dec. No. 7, Lead Story, pp.1-7
Nature,|vol. 466, 29 July 2010, pp. 656-657.
Advanced Materials and Processes, Jan. 2010, p. 43.
USC *Chronicle*, vol, 25, No, 15, Jan 11, 2010, p. 3.
Journal of Metals, Jan. 2010 *(Members in the News)*

Daily Northwestern, 1/18/08
Nature Materials, 5, 2006, p. 601-602
Materials Today, September 2006, p.10
Aluminum Today, August/September 1999, pp. 39-40 and 22-24.
Materials Technology, Vol. 11, 1996, pp. 72-75.
Science, November 17, 1995, Vol. 270, p. 1125

Committees, Commissions and Boards

TMS Honors and Professional Recognition Committee, 2018-present
Chair, TMS Awards Committee for Mathewson Gold Medal, Professional Recognition, Mehl Medal and 2003- present (currently Chair)
TMS/SMD Young Leaders Award, 2003-2017
Council of Fellows, ASM International, 2003- 2006
ASM Nominating Committee, 2006-2007 (choose ASM President)
Director, Department of Energy Center for Excellence for Synthesis and Processing of Advanced Materials (Metals Forming Project), January 1996-2001
External Member Ph.D. Dissertation Committees:
Department of Mechanical Engineering, Naval Postgraduate School, Monterey, CA, 1994-1996
Department of Mechanical Engineering, University of California, Davis, 1988-1990
Department of Materials Technology and Electrochemistry, Norwegian University of Science and Technology (NTNU) Trondheim, 1999
Department of Mechanical Engineering, University of Canterbury, New Zealand, 2007.
TMS Mechanical Behavior Committee, Member, 1990-1995
ASM-TMS Joint Commission for Metallurgical and Materials Transactions, 1998-present; Chairman 2000-2001
ASM Thermodynamics and Phase Equil. Committee, Member, 1990-1995; Vice-Chairman, 1990-1995
ASM Howe Medal and Grossman Award Committee, 1999-2002; Chair 2002
ASM Albert Sauveur Achievement Award Selection Committee, 2004-2006
Board of Review, *Metallurgical and Materials Transactions*, 1991-present; vice-chairman, 1996-1997; chairman, 1997-1998

Other Significant Review Boards

National Academy Review Board of NIST (2017)
National Science Foundation
13 Panels 2000-2006
Individual Proposals,
DMR
International Programs
National Research Council
Air Force Office of Scientific Research- 2 Panels 2000-2004
Division of Eng. Phys. Sci. Rept. 2014
Department of Energy
External Scientific Panel, DOE-BES Materials Science Programs at Los Alamos National Laboratory (2001)
Department of Defense Basic Research Review Panel, Arlington, VA (June 2002)
Italian Ministry for Education, University and Research (2006-2017)
External Promotion and Tenure Reviewer for various universities

FSU	(1999)
UIUC	(2000)
U. Texas	(2004)

Naval Postgraduate School	(2005)
UCSD	(2008)
Michigan State University	(2008)
Sultan Qaboos Univ, Oman	(2011)
University of Jordan	(2012)
University of Central Florida	(2013)
Naval Postgraduate School	(2014)
Hong Kong Polytechnic Univ.	(2015)
ETH Zurich	(2017)
Texas A&M	(2018)
Univ. Idaho	(2018)

RECENT SIGNIFICANT CONSULTING

Defense Nuclear Facilities Safety Board, Washington DC, 2009-Present.
NanoPrecision, El Segundo CA, 2016

PATENTS

Preparation of Nanostructured Metals by Accumulative Roll Bonding-200600492, March 1, 2006, (Spain)

PUBLICATIONS (over 240)

Books

M.E. Kassner and D.E. Peterson, *Phase Diagrams of Binary Actinide Alloys*, ASM International, Materials Park, OH, 1995, pp. 1-489.

M.E. Kassner and M.-T. Perez-Prado, *Fundamentals of Creep in Metals and Alloys*, Elsevier, 2004, pp. 1-279. (second printing 2006)

M.E. Kassner, *Fundamentals of Creep in Metals and Alloys*, Elsevier, Second Edition 2009, pp. 1-295.

M.E. Kassner, *Fundamentals of Creep in Metals and Alloys*, Elsevier, Third Edition 2015, pp. 1-338.

H. J. McQueen, S. Spigarelli, M.E. Kassner, E. Evangelista, *Hot Deformation and Processing of Aluminum Alloys*. CRC Press, Taylor and Francis Group, Boca Raton, 2011, pp. 1-728.

Edited Volumes

M.E. Kassner and T.G. Langdon, eds, *Grain Boundary and Interface Phenomena in High Temperature Plasticity of Solids*, Elsevier, 1993, pp. 1-246.

Journals

O.D. Sherby, A.K. Miller, and M.E. Kassner, "Subgrain Strengthening Revisited," *Metals Forum*, *4*, pp. 53-56, 1981.

M.E. Kassner, "Failure Control Mechanisms in the Indium-4140 Steel Solid and Liquid Metal Induced Embrittlement System," *Res Mechanica Lett.*, *1*, pp. 463-469, 1981.

M.E. Kassner, "Additional Data and Insight Bearing on the Relation Between Dislocation Substructure and Power Law Breakdown," *Scripta Metall.*, *16*, pp. 265-266, 1982.

M.E. Kassner, A.K. Miller, and O.D. Sherby, "The Separate Roles of Forest Dislocations and Subgrains in the Isotropic Hardening of Type 304 Stainless Steel," *Metall. Trans.*, *13A*, pp. 1977-1986, 1982.

M.E. Kassner, "Alterations in the Microstructure of 304 Stainless Steel Produced by Small Strain Deformation at Ambient Temperature," *Res Mechanica*, *7*, pp. 79-84, 1983.

M.E. Kassner, "Deformation in Punched Specimens of Type 304 Stainless Steel," *Scripta Metall.*, *17*, pp. 425-426, 1983.

M.E. Kassner, "A Simple Constitutive Equation to Predict the Low Temperature Yield Strength of Type 21-6-9 Stainless Steel," *J. of Eng. Mater. and Tech.*, *105H*, pp. 231-233, 1983.

M.E. Kassner and A.K. Mukherjee, "Rate-Dependent Plastic Flow in Polycrystalline Silver at Ambient Temperature," *Scripta Metall.*, *17*, pp. 741-744, 1983.

M.E. Kassner, "Power-Law Breakdown and the Dislocation Microstructure in Type 304 Stainless Steel," *Materials Lett.*, *5B*, pp. 451-454, 1984.

M.E. Kassner, A.A. Ziaai-Moayyed, and A.K. Miller, "Some Trends Observed in the Elevated Temperature Kinematic and Isotropic Hardening of Type 304 Stainless Steel," *Metall. Trans.*, *16A*, pp. 1069-1076, 1985.

M.E. Kassner, "Power-Law Breakdown and the Variation of the Strain-Rate Sensitivity of Annealed Nickel over a Wide Range of Temperature," *Res Mechanica*, *18*, pp. 179-188, 1986.

M.E. Kassner and C.J. Echer, "Mechanical Damage Introduced into Annealed Aluminum Monocrystals by Conventional TEM Thin-Foil Preparation Techniques," *Metallogr.*, *19*, pp. 127-132, 1986.

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I. Sabirov, J.M. Molina-Aldareguia, L. Jiang, M.E. Kassner, M.T. Perez-Prado, "Effect of Accumulative Roll Bonding on Plastic Flow Properties of Commercially Pure Zirconium", *Proc. ESAFORM Conf.,* Belfast, Apr. 2011, G. Menary ed. AIP, vol. 1353, pp. 487-492.

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M.E. Kassner, "Office of Basic Energy Sciences (OBES)," *Current Status, Research Needs, and Opportunities in Applications of Surface Processing to Transportation and Utilities Technology*, Proceedings of a December 1991 Workshop, A.W. Czanderna and A.R. Landgrebe, eds., NREL/CP-412-5007, September 1992, pp. A1-1 to A1-3.

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R.S. Rosen and M.E. Kassner, "Waster Treatment Plant Design Dynamic Stress-strain Curves for Stainless Steel", Staff Information Paper to the Board, Defense Nuclear Facilities Safety Board, 30 pp, June 2011.

UNIVERSITY RESEARCH GRANTS (Over 7 million dollars funded – 1992-present)

University of Southern California (Sept. 2003-present)

"Elevated-Temperature Mechanical Behavior of Additive Manufactured INCONEL for Jet Engine Components" Pratt and Whitney (PWICE) **$208,000**, 8/1/17-7/31/20.

"IRES: US-Germany Collaborative Research on Novel Fabrication Techniques for Enhanced Properties of Nanostructured Materials" (co-PI with A.M. Hodge) NSF, **$241,639,** 7/1/15-6/30/19. (MEK portion approx. **$50,000**)

"Synchrotron Studies of Long Range Internal Stresses in Plastically Deformed Materials" NSF, $205,985, 8/1/14-8/31/19.

"Synthesis and Mechanical Properties of Next Generation Structural Amorphous Metals and Their Performance under Ballistic Impact" (co-PI with, A. Hodge, V. Eliasson, O.A. Graeve), Defense Threat Reduction Agency, $849,253 (MEK portion approx. **$100,000**), Aug. 2011 to Sept. 2015.

"Dislocation Induced Backstresses in Crystalline Materials" NSF, **$15,000**, 9/1/09-9/31/12.

"Long-range Internal Stresses in Plastically Deformed Materials" NSF, **$239,594**, 7/1/09-6/30/14.

Unrestricted Gift Account. University of Southern California, **$31,165**, July 2008 to July 2009.

Support for the Conference on "Recent Developments in the Processing and Applications of Structural Metals and Alloys," Office of Naval Research Global (through Polytechnic Univ. Marche, Ancona, Italy) **$15,000**, June 2008.

"Low Stress Deformation of Pure Aluminum," Lawrence Livermore National Laboratory, **$30,000**, July 2005-June 2006.

"The Mechanisms of Grain Refinement in HCP Metals and Alloys with Severe Plastic Deformation Leading to Nanoscale Microstructures", NSF **$180,000,** 09/01/05 – 08/30/07.

"Long-Range Internal Stresses and Mechanisms of Cyclic and Monotonic Deformation" **$380,958**, Basic Energy Sciences-U.S. Dept. of Energy, July 1, 2004-June 30, 2007.

"The Microstructure of Grain Refinement with Severe Plastic Deformation Leading to Nanoscale Microstructures" (with V. Lubarda and M.A. Meyers) NSF, $200,000, (MEK portion approx. **$140,000**)Aug. 2003-Apr. 2006.

"Mechanisms of Cyclic Plastic Deformation in Metals: National Science Foundation," **$75,200**. June 2003-July 2004.

University of California San Diego (April 1998-2003)

"Microstructure and Mechanical Behavior of Welded Cu-Ni-Fe Inert Anode Alloys", Lawrence Livermore National Laboratory, Sept. 2003 Aug. 2004. **$21,495**.

"Prediction of Ductile Creep Rupture in Zircaloy Used for Interim Dry Storage of Spent Nuclear Waste," LLNL, **$225,000**, April 1998-September 2003

"Thermal and Mechanical Processing of Zirconium: Dynamic Restoration Mechanisms and Discontinuous Dynamic Recrystallization," Lawrence Livermore National Lab., **$40,000**, March 1, 2002-June 30, 2003

"Basic Mechanisms of Creep and Cyclic Deformation in Aluminum and Other Close-Packed Structures," Oregon State University**, $200,000**, October 1, 1999-September 30, 2002

"Temperature, Stress and Microstructural Influences on the Luminescence Properties of Rare Earth Activated Yttrium," (co-PI with J. McKittrick), National Science Foundation, $**345,000**, July 1, 1999-June 30, 2002

"Intermediate Temperature Creep and Creep-Fracture Mechanisms in Zirconium," Lawrence Livermore National Lab. MRI, **$25,500**, October 1, 2000-September 31, 2001

"Development of Efficient Semi-Solid Forming Processes for Aluminum Alloys," Lawrence Livermore National Lab., **$24,000**, October 1, 1999-September 30, 2000

"Intermediate Temperature Creep and Creep-Fracture Mechanisms in Zirconium," Sigma Xi, (support for graduate student Troy Hayes), **$800**, June 2000

"Thermal Effects on Luminescence Properties of Rare Earth Activated Yttrium Oxide," (Co-PI with J. McKittrick), LANL, **$20,000**, January 1, 1999-September 30, 1999

Oregon State University (June 1990-2003)

"Rate Controlling Processes for Five Power Law Creep," Basic Energy Sciences - DOE, **$488,506**, June 1, 1999-March 31, 2004

"Mechanisms of Cyclic Plastic Deformation in Metals," National Science Foundation, **$177,578** February 1, 2001-November. 11, 2003

"Northwest Aluminum Professorship," **$500,000**, for 1998-2003

"Development of New Inert Alloys for Aluminum Reduction," DOE/Northwest Aluminum/OJGSE, **$325,677**, September 1998-2002

"New Alloy Development," Northwest Aluminum/OJGSE, **$100,000**, September 2000-September 2002

"Coordination of DOE-BES SBIR Metal Forming Activities," Oak Ridge Nat. Lab., **$83,806**, August 30, 1999-May 1, 2002

"Mechanical Behavior of Transportation Alloys," Freightliner/OJGSE, **$10,000**, July 1, 2000-June 30, 2001

"In-Situ Reversed Deformation Experiments in the High Voltage Transmission Electron Microscope," NSF, **$229,787**, July 15, 1992-June 1, 2001

"Coordinator Activities for Center for Excellence in the Synthesis and Processing of Advanced Materials," DOE/Basic Energy Sciences, **$89,972**, June 1997-May 2000

"Development of Efficient Semi-Solid Production Processes for Aluminum Alloys," Lawrence Livermore National Laboratory/NATO, **$70,279**, December 1995-December 1999

"Improving Stress Rupture Properties of Ti-Alloy," OREMET—WAH-CHANG/OJGSE, **$110,000**, September 1995-September 1999

"Structural Analysis of a Concentric Canister Launcher," (with T.C. Kennedy), Naval Sea Systems Command, **$38,609**, October 1, 1998-October 1999

"Effect of Prior Deformation on the Aging and Recrystallization of Aluminum Alloys," USBM/State of Oregon/Northwest Aluminum Company, **$581,545**, July 1, 1990-December 30, 1998

"Ductile Fracture in Constrained Thin Metal Films," NSF, **$145,537**, September 1, 1995-August 31, 1998

"Prediction of Ductile Creep Rupture in Zircaloy Used for Interim Dry Storage of Spent Nuclear Waste," LLNL, **$62,047**, December 1995-April 1998

"Study of Failure of Chromium-Coated Stainless Steel Belts and Development of Alloys for Panel Fabrication," Teledyne Wah-Chang/Domtar, OEDD/OJGSE, **$65,836**, March 26, 1993-December 31, 1996

"High Temperature Titanium Alloys for CCL Applications," Naval Sea Systems Command, **$9,500,** July 1, 1996-September 30, 1996

"Development of Efficient Semi-Solid Production Processes for Aluminum Alloys," NSF, **$26,945**, June 1, 1995-May 31, 1996

"Creep Studies of Titanium Alloys," USBM/State of Oregon/ORMET, **$160,000**, July 1, 1990-December 30, 1995

"Ductile Fracture of Metals Under High Triaxial Stresses," LLNL-DOE, **$54,523**, October 1993-October 1995

"New Mechanisms of Ductile Creep Rupture in Meals Under High Triaxial Stresses – Emphasis on Zircaloy," LLNL, **$20,000**, January 1995-September 1995

"Thermodynamic Assessment of Selected Actinide Binary Systems and the Preparation of a Monograph on Phase Diagrams of All Actinide Binary Systems," ASM/LANL/ LLNL-DOE, **$39,628**, October 1, 1990-May 30, 1995

"Dynamic Restoration Mechanisms in Aluminum and Aluminum-Magnesium Alloys Deformed to Large Plastic Strains," NSF, **$12,000**, May 1992-October 1994

"High Resolution TEM Studies of Multilayers and / Thermal and Mechanical Stability of MoSi Multilayers Using HREM and Advanced Diagnostics," LLNL-DOE, **$150,566**, July 1990-December 1993

"Nitrogen Addition to High Strength Low Alloy Steels," USBM/State of Oregon/Blount, Inc. (co-PI with W. Warnes), **$32,000**, September 1991-September 1993

"Ductile Fracture of Metals Under High Triaxial Stresses" (support for Graduate Student – M. Tolle), Sigma Xi, **$350**, February 1, 1992-February 2, 1993
"Grain Boundary and Interface Phenomena in the High Temperature Plasticity of Solids Workshop," **$39,000**, OBES-DOE, October 1992.
"The Fabrication and Mechanical Behavior of Thin Silver Interlayer Diffusion Bonds," Univ. of Cincinnati, **$15,000**, October 1991-September 1992
General Grant, Optical Society of America, **$584**, July 23, 1992
"In-situ Reversed Deformation of Metals in the Transmission Electron Microscope," NATO, **$5,236**, March 1990-March 1992
"In-Situ Fatigue Experiments in the High-Voltage Transmission Electron Microscope," AFOSR-Engineering Foundation Research Initiation Grant, **$20,000**, December 30, 1990-December 30, 1991
"Fundamental Aspects of Metal Plasticity Under Extreme Conditions," LLNL-DOE, **$19,340**, October 1990-September 1991
"Deformation of Silver-Interlayer Diffusion Bonds in a SEM," Univ. Cincinnati, **$10,000**, April 1990-November 1990

Naval Postgraduate School (October 1984-September 1986)
"Dislocations and the Plasticity of Aluminum," ONR/NPS Foundation Research Program, **$56,401**, October 1984-September 1986

GRADUATE STUDENTS AND POSTDOCTORAL SCHOLARS DIRECTED BY M.E. KASSNER
(current or latest known employment)

Research Associates, Postdoctoral Scholars, Research Professors under M.E. Kassner Direction
Prof. Emanuela Cerri, Univ. Parma, Parma, Italy
Prof. Jun Koike, Tohoku Univ, Sendai, Japan
Dr. Teresa Pérez-Prado, Senior Reseacher, IMDEA, Madrid, Spain
Dr. Mingzhang Wang, Sr. Reliability Eng, Medtronic, Minneapolis, MN.

Ph.D. Students
Dr. Robert S. Rosen, 1990; Defense Nuclear Facilities Safety Board, Washington, DC
Dr. Michael C. Tolle, 1994; IBM Research, San Jose, CA (Retired)
Dr. Xiao Li, 1996; LSI Logic, Gresham, OR
Dr. Karol K. Schrems, 1999, Engineer, Dept. of Energy, Albany Research Center, Albany, OR
Dr. Troy A. Hayes, 2004, Exponent/Failure Analysis Associates, Menlo Park, CA
Dr. Isabella Gallino, 2004, Researcher, Univ. Saarbrucken
Dr. Stephane Barrabes, Sept. 2005, Research Scientist, A1 Technologies, Los Angeles, CA
Dr. Michael Delos-Reyes, 2005, Hewlett-Packard, Corvallis, OR
Dr. Ling Jiang, 2007, Implant Direct.
Prof. Praveen Kumar, 2007 (with T.G.Langdon) Indian Institute of Science (IISc) Bangalore.
Dr. Peter Geantil, 2013, Flux Power, San Diego.
Dr. Yifu Zhao (with Prof. A. Hodge) 2014.
Dr. Yvonne Lee, 2015
Dr. Thien Phan, 2015, Research Engineer, NIST
Dr. Kamia Smith, 2017 Research Engineer, Air Force Resh. Lab, Edwards AFB
Roya Ermagan (current)
Kwangtae Son (current)
Shobit Singh (co-advised with P. Kumar at IISc Bangalore)

M.S. Thesis Students
Scott Wetter, 1986; United States Navy (Ret.)
Paul Mieszcznski, 1986; United States Navy (Ret.)

Dr. Michael McMahon, 1986; Rear Admiral (Ret.), United States Navy
Kurt Thiehsen, 1992; Engineer, Hewlett Packard, Vancouver, WA
Utkarsh Kansal, 1992; Project Manager, MCI Telecommunications, Washington, DC
Frank Weber, 1995; Engineer, Lawrence Livermore National Laboratory, Livermore, CA
Michael Viliardos, 1993
Dr. Robyn Litvay, 1998; Boeing
Amanda Ge, 1999; Echelon, San Jose, CA
Stephen Paddon, 1999; CH2M Hill, Design Corp. Div.
Dr. Milhang Cho, 2000; Iowa State University
Prof. Saleh Alhajeri, 2002, Asst. Professor, Kuwait Inst. of Technology, Kuwait City, Kuwait
Yang Li, 2004
Dr. Christopher Way, 2003; (co-advised with T.C. Kennedy)
Michael Long, 2006; Hewlett Packard, Corvallis, OR

Laurea in Mechanical Engineering with Honors (Italian equivalent to M.S. with thesis)
Prof. Chiara Daraio (Caltech) with Prof. E. Evangelista of Polytech. Marche, Ancona, Italy

Non-Thesis MS with Research Participation with a Final Report
Ryan Roehnelt, 1996; Engineer, Lawrence Livermore National Laboratory, Livermore, CA
Kevin Kyle 2003, National Nuclear Security Administration, Washington DC

Non-Degree Graduate Students with Significant Research Participation
Jeff Pollard, 1992; Engineer, Hewlett Packard, Corvallis, OR
Dinara Abdrakhmanova 2010
Henry Gao, 2005; Implant Direct

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