



THE ASME BOARD OF GOVERNORS confers the Fellow grade of membership on worthy candidates to recognize their outstanding engineering achievements.

Nominated by their peers, these 2010–2011 Fellows have had 10 or more years of active practice and at least 10 years of active corporate membership in ASME.

There are 137 new Fellows out of a total of 3,073.

**THE
ASME
FELLOW**

**A MEMBERSHIP
GRADE OF
DISTINCTION**

the 2010-2011 ASME Fellows

Douglas E. Adams



Douglas E. Adams and his students are internationally recognized for developing new experimental techniques to identify and model non-linear structural dynamic behavior in automotive, aerospace, and other engineered systems. Using these techniques, they have demonstrated that a wide variety of loads and damage in structural components can be identified long before failure. These findings have led to awards including a Presidential Early Career Award and Technical Medal of Achievement from the US Army. Adams holds four US patents, and several of his inventions have been commercialized for crack detection in military ground vehicles, subsurface damage detection in composite aircraft, and other applications. Ph.D. (2000), University of Cincinnati.

Ozan Akkus



Ozan Akkus's contributions have advanced musculoskeletal mechanics and biomaterials through understanding associations between composition and bone mechanics at the supramolecular scale, mitigation of gamma radiation induced embrittlement of cadaveric bone transplants, and replacement of tendons with engineered tissues. These applications of engineering to orthopaedics benefit elderly suffering from osteoporosis, people with substantial bone loss, and athletes and soldiers under intense training. Professional patent filings and a start-up company have resulted, with the potential to generate real-life impact by translating bench to the clinic. Akkus's research has been funded by the NIH, NSF, Whitaker Foundation, U.S. Army and the

Musculoskeletal Transplant Foundation. Ph.D. (2000), Case Western Reserve University.

M. Cengiz Altan



M. Cengiz Altan has been an educator and a leading researcher in the areas of manufacturing and characterization of composite materials for more than two decades. He has developed microstructural simulation techniques and unique experimental methods to describe process-induced properties during manufacturing of fiber-reinforced composites. His research has made significant contributions to the fabrication of high-performance, multicomponent composites. Altan has published more than 100 refereed publications and holds two patents on Computer-Controlled Curing

of Composite Materials. Altan is a Presidential Professor at the University of Oklahoma where he has received several teaching and research awards. Ph.D. (1989), University of Delaware.

Marco Amabili



Marco Amabili is distinctly known for his research on the nonlinear vibrations of shells and fluid-structure interaction. In 1999 he discovered the strongly subcritical divergence of circular shells conveying flow. In the last 13 years his contributions have made fundamental advancements in the knowledge of nonlinear vibrations of shells and plates. Amabili approaches problems analytically, numerically, and experimentally. In 2010 he and J.N. Reddy developed a new, highly

accurate, higher-order shear deformation shell theory that retains all the nonlinear terms in the displacements. He is the author of 105 journal papers and over 150 conference papers. Amabili received about 1400 citations and has H-Index 21. Ph.D. (1996), University of Bologna, Italy.

S. Massoud Amin



S. Massoud Amin has led national initiatives to enhance the security, resilience and efficiency of our nation's critical infrastructure. At EPRI he pioneered RD&D in smart grids and led the development of over 24 technologies. At Minnesota he leads three graduate programs at the Technological Leadership Institute. He founded the Master of Science in Security Technologies program and leads the Master of Science in Management of Technology program. He served ASME as chair of the energy security team for ASME's CAPI, and received recognition for services as a leader of CAPI's efforts to help the US formulate strategies to protect against future attacks. Amin has given seven congressional briefings for ASME. D.Sc. (1990), Washington University.

Nikolaos Aravas



Nikolaos Aravas won international acclaim for his research contributions in the areas of computational plasticity and nonlinear fracture mechanics. He developed numerical integration algorithms for many material systems (porous anisotropic, composites, biological) that have been implemented in commercial finite element codes, such as ABAQUS, and used extensively by the mechanics community. Aravas is also an educator with numerous awards for excellence in teaching of graduate and undergraduate courses at the Universities of Pennsylvania and Illinois. He has held leadership positions (Vice Rector, Dean of Engineering, University of Thessaly, Greece) and works for the promotion of mechanics within Europe. Ph.D. (1984), University of Illinois.

Joseph Timothy Arcano, Jr.



Joseph Timothy Arcano, Jr. has earned recognition in design, engineering, project management, and leadership in the engineering profession. As both a naval engineer and mechanical/nuclear engineer, he has made numerous lasting contributions of national significance. He has made contributions to the fields of design, engineering maintenance, project management of technologically complex nuclear submarines, diving and ship salvage, and emergency response. He has overseen high-hazard complex nuclear operations and facilities, and done strategic planning for the development of transformational technologies. For his significant contributions, Arcano has received numerous awards both in the US Navy—active and reserve—and as a civilian. Ph.D. (2002), University of Maryland.

Mehmet Arik



Mehmet Arik has fourteen years of experience in research and technology development. He developed the world's first high lumen, high efficiency LED downlight and is associate editor for ASME TSEA and IEEE CPT journals. He has published more than 75 papers in journals and conferences. Arik owns 28 patents (and has 10 pending). He has constantly served in government meetings (NSF, DOE) and has mentored more than 10 engineers and researchers in his professional career for the last 15 years. Ph.D. (2001), University of Minnesota.

Kenneth Balkey



Kenneth Balkey has made outstanding and innovative contributions to ASME to promote the art, science and practice of engineering and associated sciences to promote nuclear power. He has produced more than 140 publications and documents related to the risk evaluation of the integrity of piping, vessels and structures, and the performance of systems and components. His

work has been incorporated into ASME Code requirements to enhance the safety of nuclear power plants and other industrial facilities. Balkey has served in ASME leadership roles in technical divisions, research, strategic initiatives, and standards & certification. MSME (1980), University of Pittsburgh.

Rupak Kumar Banerjee



Rupak Kumar Banerjee, has successfully met the pressing challenge to engage in interdisciplinary research. He has developed expertise in numerous and diverse areas including bio-fluid, mass and heat transfer, fluid-structure interaction, electro-hydrodynamics and pharmacokinetics in biological systems. He has effectively linked patient diagnoses with bio-transport analyses for predicting and treating patho-physiologic conditions, defects, diseases, and device performances. In this area of biomechanical engineering, Banerjee has distinguished himself as both a theoretician and an experimentalist. And he is a skilled numerical analyst of empirical data. He has been distinctly successful in obtaining financial support from many institutions for his research. Ph.D. (1992), Drexel University.

Pinhas Bar-Yoseph



Pinhas Bar-Yoseph is a gifted researcher in numerical methods as applied to mechanical engineering, specifically finite element and spectral element techniques. He is a prolific researcher in applications of numerical methods to a wide spectrum of problems in engineering, classical and modern. Bar-Yoseph is a demanding and productive educator, and a visionary educational leader. D.Sc. (1978), Technion, Israel, Institute of Tech.

Nael Barakat



Nael Barakat is a widely recognized scholar and teacher. His expertise ranges from robotics and mechatronics to engi-

neering ethics and nanotechnology. A frequently invited speaker, his scholarship includes over 35 refereed papers and presentations as well as organization and leading conferences' tracks and sessions. He is an excellent mentor to his students and junior colleagues. He is also an accomplished leader in the engineering profession with services ranging from Chair of the ME program at GVSU and receiver of the Distinguished Early Career Award, to Chair-Elect of CESR at ASME and Student Section Advisor (receiving the Outstanding SSA award). Ph.D. (2000), McMaster University.

Hubert Paul Barringer



Hubert Paul Barringer is a renowned Engineering Consultant who has trained thousands of engineers throughout the world in reliability engineering, life cycle and process reliability. In addition to education, he has provided leadership to the engineering profession through linking engineering activities to business realities and solutions. Barringer has helped improve the performance of manufacturing plants worldwide through cost reduction, improved quality and improved reliability. M.S. (1960), North Carolina State University.

James C. Bellows



James C. Bellows has been a pioneer in applying fundamental science and practical measurement to the understanding of physics and chemistry in steam power cycles, with application to corrosion and deposition processes in turbines. His work has helped the power industry improve plant performance and reliability through better engineering design and water and steam chemistry. He is also a leader in national and international efforts and organizations concerned with water, steam, and the power industry, serving as an effective catalyst for research, development, and exchange of ideas to improve the state of steam power generation. Ph.D. (1975), Purdue University.

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Gary A. Benda



Gary A. Benda has had a leadership role in executive conferences, including ASME's series of International Conferences on Environmental Restoration and Waste Management, and the Annual Waste Management Symposium, which are widely regarded as the premier international conferences for the management of radioactive material and related topics. He has had a collaborative role in the resolution of leading issues in nuclear waste disposal, and a leadership role in teaching international professional courses, moderating public and government forums, and authoring over 25 publications. Benda has also made long term contributions to the Environmental Engineering Division and the Honors Committee. MBA, Seattle University.

Jordan M. Berg



Jordan M. Berg has contributed to the national and international engineering community through exemplary scholarship, education, and leadership. His research contributions in the area of micro- and nanosystems include advanced control techniques for electrostatic MEMS, design of a novel peristaltic pump, improved plasma bonding processes, and modification of the Wiedemann-Franz law for application to nanostructures. He has received several undergraduate teaching awards, and supervised 22 graduate students. Berg has been Associate or Technical Editor of three leading journals, and has provided outstanding professional service through the ASME Dynamic Systems and Control Division and the American Automatic Control Council. Ph.D. (1992), Drexel University.

Ali Beskok



Ali Beskok is internationally recognized for his seminal contributions to micro- and nano-scale gas transport, and microfluidics. He has published 2 books, 96 papers and 7 book chapters in micro- and nano-scale

thermal/fluidic transport. His journal publications have over 1,000 citations. Beskok served as the Associate Editor of the ASME *Journal of Fluids Engineering*. He was active in numerous ASME committees and has given several short courses and organized conferences and symposiums on microflows. He is one of the two cofounders of TEX-MEMS meetings. He graduated eight Ph.D. and eight Master's students, and has received two teaching and two mentoring awards. Ph.D. (1996), Princeton University.

Betty L. Bowersox



Betty L. Bowersox is an accomplished project manager, having successfully led multimillion-dollar multidisciplinary projects in the gas separation and heat recovery boiler industries. The complexity of these types of projects, which include customized design, fabrication, construction, and installation, require a project manager who can understand the total scope of a project and lead a team of engineers, craftsmen, and a variety of support personnel. Bowersox has also significantly contributed and provided leadership to ASME for over 25 years, previously served on Michigan State University's Engineering Alumni Board, and continues to support, encourage and mentor future engineers. She is currently a member-at-large on ASME's Board of Governors. MS (1985), Rensselaer Polytechnic Institute.

Rebecca M. Brannon



Rebecca M. Brannon has been, for over twenty years, a major contributor to the understanding of brittle material failure at high strain rates and large strains. Her research has covered a wide range of materials including piezoelectric materials, geological materials, energetic materials, and ceramics used for armor. Constitutive models Brannon developed are used in DoD and DoE production codes such as CTH and ALEGRA for defense applications, geomechanics, and other problems in the applied sciences. Ph.D. (1992), University of Wisconsin.

Diann Brei



Diann Brei is an international expert in Smart Material Device Innovation with significant contributions in shape memory alloy material research, fundamental device architecture synthesis, and applied transitional research in manufacturing methodologies. She has given significant time to various organizations within ASME, including the Adaptive Structures and Material Systems TC, the Aerospace Division Executive Committee, *Journal of Mechanical Design* Associate Editor, and the chair of several ASME conferences. Brei has successfully led several valuable initiatives including forming the ASME Smart Materials and Structures National Database, creating the ASME/AIAA Smart Materials and Structure e-newsletter and co-founding the successful ASME SMASIS conference. Ph.D. (1993), Arizona State University.

Christopher Brennen



Christopher Brennen has made major contributions to the fluids engineering community as an eminent scholar, an engineer, and an educator. On the practical side, he has made seminal discoveries on causes for flow instabilities within cavitating pumps, especially in rocket propulsion systems. On the fundamental side, he has contributed substantially to our understanding and modeling of multiphase flows, especially the physics of various forms of cavitation and associated acoustics. He has also performed pioneering research to model and elucidate granular flows. He has made a lifelong commitment to education and played a leadership role in the ASME Fluids Engineering Division. Ph.D. (1967), University of Oxford.

Frederick William Brust



Frederick William Brust's 29 years of research have advanced computational modeling and fracture. He has 280 journal and conference publications, has been invited to provide keynote

lectures and speak at numerous conferences and worldwide organizations, and has received three awards for research and three patents. His work is recognized and sponsored by the US government and major international companies in North America, South America, Europe, and Asia. In particular, Brust's accomplishments in the nuclear industry are well recognized. Ph.D. (1985), Georgia Tech.

Scott A. Burr



Scott A. Burr has demonstrated excellent leadership and service for many levels of the ASME. Through his creative approaches he has introduced effective strategies to recruit, deliver programs (webinars), and generate revenue for ASME units within highly constrained situations. He received the ASME Dedicated Service Award in 2009. As a Six Sigma Master and Lean pioneer at Space Systems/Loral, Burr dramatically improved manufacturing processes. As co-founder of Innovation Scientific LLC, he has applied inventive problem-solving (TRIZ and Structured Innovation) to achieve strategic and technological breakthroughs for leading companies. He is a leader in evolving the "art of innovation" into a scientific approach. B.S. (1982), Stanford University

Louis Cattafesta



Louis. Cattafesta has made seminal contributions to the development and implementation of and education concerning active flow control systems, with particular emphasis on novel actuators and methods for closed-loop flow control experiments. Ph.D. (1991), Pennsylvania State University.

Sanjeev Chandra



Sanjeev Chandra has made outstanding research contributions to the field of the dynamics of droplets and sprays,

which have been applied in spray coating and forming, spray cooling, ink jet printing, agricultural spraying and forensic science. He is a co-founder and Associate Director of the University of Toronto's Centre for Coating Technologies, one of the leading research centers in the area of thermal spray coatings. Chandra has collaborated with research groups and industrial partners around the world in the development of leading-edge technology in this area. Ph.D. (1990), Cornell University.

Yi-Tung Chen



Yi-Tung Chen of the University of Nevada Las Vegas has earned an excellent reputation in both research and education,

while providing exemplary service at the national and international level. He is an internationally recognized researcher in the experimental and computational aspects of thermal/fluid issues and energy conservation, with cutting edge contributions to the areas of solar thermochemical hydrogen production, nuclear hydrogen production, high temperature heat exchanger and decomposer design, corrosion modeling using cellular automaton and molecular dynamics, and fuel cell design. Chen has authored or coauthored over 300 technical publications and one book. Ph.D. (1991), University of Utah.

I-Ming Chen



I-Ming Chen is recognized as a pioneer in reconfigurable robotic systems, realization of large-scale system implementation, and development of critical actuator module technology. He is the author of *Design, Modeling and Experiments of 3-DOF Electromagnetic Spherical Actuators*, which features his contributions to actuator design. He served as Associate Editor and is Guest Lead Editor of the Focus Section on Electromagnetic Devices for *Precision Engineering* of IEEE/ASME *Transactions on Mechatronics*. Chen has authored more than 200 journal and conference papers, and organized many ASME sponsored conferences. Ph.D. (1994), California Institute of Technology.

Fu-pen Chiang



Foremost in Fu-pen Chiang's extensive research accomplishments is his development of a unified approach to analyze optical techniques involving the moiré methods. This approach was used to derive all field equations of in-plane, shadow moiré and reflection moiré methods, and the field equations of refraction and projection moiré methods. Starting with the in-plane moiré method, which morphed into the reflection and shadow moiré methods, he used interior speckles to measure 3-D deformation of solids. This led to the digital electron speckle photography technique via SEM and TEM. Chiang's interest then shifted to optical metrology and to biomechanics of the heart and monitoring the health of infrastructures. Ph.D. (1966), University of Florida.

Peter Childs



Peter Childs is the Professorial Lead in Engineering Design at Imperial College, London. His general interests include rotating flow, mechanical design, creativity tools, and sustainable energy system design. He was formerly the director of InQbate, the HEFCE funded Centre of Excellence in Creativity, director of the Rolls-Royce supported University Technology Centre for Aero-Thermal Systems and professor at the University of Sussex. His role at Imperial includes being the joint course leader for the Industrial Design Engineering double masters with the Royal College of Art and working with Design London. D.Phil (1991) University of Sussex.

Yun Doreen Chin



As an engineer in the petroleum industry, Yun Doreen Chin was one of the early explorers in Flow Assurance Engineering. She has helped to broaden the Flow Assurance Engineering concept and to develop it as an engineering discipline in the

petroleum offshore industry. She has been promoting Flow Assurance awareness through research, publications, and presentations. She has been active in professional societies and served for the ASME subcommittee at the Offshore Technical Conference (OTC) for many years. Chin serves as technical editor of the Society of Petroleum Engineers (SPE) technical journals. She is the recipient of the ASME/OTC Arthur Lubinsky Best Paper Award and the ASME Petroleum - Jacobson Best Paper Award. Ph.D. (1997), University of Houston.

Robin N. Coger



Robin N. Coger is a Professor of Mechanical Engineering, and the Director of the Center for Biomedical Engineering Systems at the University of North Carolina at Charlotte. She has been an active ASME member for over 25 years. Her professional career has been distinguished by honors in research and education, in the areas of span heat and mass transport, thermodynamics, cryopreservation, and tissue and organ replacement device design. Coger is a Fellow of the American Institute for Medical and Biological Engineers (AIMBE) and a study section roster member of the Gene and Drug Delivery study section of NIH. Ph.D. (1993), University of California, Berkeley.

Jeffrey Cohen



Jeffrey Cohen has made notable contributions to gas turbine combustion research and development for over 20 years. He has worked on and led teams that have spanned the range of R&D, from fundamental lab-scale experiments to full-engine demonstrations of new technology. He has been actively engaged with the gas turbine research community since early in his career, through ASME, the International Gas Turbine Institute, and AIAA. He has served as a peer reviewer for many archival journals and conferences including the ASME Turbo Expo and the *Journal of Engineering for Gas Turbines and Power*. Ph.D. (1995), University of Connecticut.

Richard H. Crawford



Richard H. Crawford has generated new technologies and shared knowledge with the community while simultaneously pursuing novel ways to educate both his own students and future university students. His contributions to the field of layered manufacturing, including computational support tools, have been significant. Moreover, his efforts in developing world class educational and outreach programs for K-12 education have been truly transformative. Crawford has led through action and has shown others how research and teaching can best complement each other for the good of society. Ph.D. (1989), Purdue University.

Charles Cross



Charles Cross has developed an outstanding reputation in both the research and development of gas turbine engines and the development of the future engineering workforce through mentorship of young engineers and adjunct service to universities. As a known expert in turbine engine aeromechanics, Cross has been a key contributor to keeping USAF systems flight-worthy. He has not only led structural developments for advanced engines, but has applied his knowledge to numerous operational engines including those that power the F-15, F-16, F-18, F-22, F-35 and the B-1. Through his efforts, multiple safety and reliability issues have been resolved or mitigated. Ph.D. (1998), Purdue University.

Jian Dai

Jian Dai is Professor of Mechanisms and Robotics at King's College London in the United Kingdom. His leading research contributions in mechanisms and robotics research include the creation of a new class of mechanisms called metamorphic mechanisms, the development of fundamental theory and applications in robotic kinematics and dynamics, and the introduction of new medical devices. He has published over 300 peer-reviewed publica-

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tions and has received numerous awards recognizing his research contributions. Ph.D. (1993) University of Salford.

Liming Dai



Liming Dai's most significant contributions include innovative approaches in quantitatively analyzing piecewise constant and piecewise linear systems, numerical approaches in solving nonlinear dynamic systems with higher accuracy and efficiency, innovative methods for diagnosing nonlinear characteristics of dynamic systems with higher applicability and wider coverage, and controllable wave propagation in porous media for enhanced oil recovery and industrial noise control. He has published three technical books in nonlinear dynamics and more than 150 peer reviewed papers. Dai has one patent and is an ASME Committee member and has organized numerous ASME conferences and symposia. Ph.D. (1995), University of Calgary.

Ayodeji O. Demuren



Ayodeji O. Demuren has made contributions in three broad areas: Complex turbulence flow computations with Reynolds stress modeling, environmental fluid mechanics through modeling of jets in cross flow, and analysis and development of numerical methods for CFD applications. His pioneering work on turbulence-driven secondary motion in non-circular ducts has been recognized worldwide. He received recognition for his research publications with the 1995 Lewis Moody award of the ASME Fluids Engineering Division. Demuren has developed and taught numerous courses: fluid mechanics, computational methods, heat transfer, turbulence. Ph.D. (1979), Imperial College London.

Burton Dicht



As an engineer for Northrop Grumman, Burton Dicht made significant contributions to the development of modern

fighter aircraft. His 29-year ASME career as a member, volunteer and staff member is a testament to his dedication, commitment and passion for the mission and ideals of ASME. Having focused on providing high value products to ASME's members, ensuring ASME's volunteers have the resources they need to do their jobs and that students and early career engineers are well prepared for rewarding and satisfying careers, Dicht has established a lasting legacy of ASME accomplishments. B.S. (1982), Temple University.

Frederick L. Dryer



Frederick L. Dryer's notable contributions include: chemistry/chemical kinetics for fuels and hazardous waste materials; non-petroleum-derived alternative fuels (production, chemical kinetic properties, U.S. energy security/reduction in net carbon cycle emissions, other pollutant concerns); fire safety related issues (on Earth and in reduced gravity environments); solid phase/gas phase interactions (particle burning phenomena, nano-catalyst materials); internal combustion engine emissions (hydrocarbons, nitrogen oxides, aerosol particulates); emissions interactions (chlorine, sulfur and ash [metals] in stationary energy conversion). Since 1981 his research efforts supported 39 graduate M.S.E./Ph.D. degrees, 14 post-doctoral research associates, seven professional research staff, six book chapters, and over 140 archival papers. Ph.D. (1972), Princeton University.

Régis Y. Dufour



Régis Y. Dufour, professor in mechanical engineering at INSA Lyon, is an expert in the nonlinear dynamics of structures and rotors. He was Director of the Laboratory LDMS-CNRS 5006 and President of the Board of Directors at INSA Faculty Senate. Today, he is Deputy Director of the Laboratory LaM-CoS-CNRS 5259, where he also manages a research group of 40 people. He is editor-in-chief of *Mécanique & Industries*, Associate

Editor of *Shock and Vibration*, and a member of the Editorial Board of the *Journal of Vibration and Control*. He organizes symposiums or sessions (ASME, IFTOMM, IGTI) and reviews numerous manuscripts for international journals and especially ASME journals. Ph.D. (1985), INSA Lyon.

Pradip Dutta



Pradip Dutta's research on heat transfer and advanced thermal processing has led to significant advancement in the basic scientific understanding and development of breakthrough technologies for industrial applications. Specific examples include the invention of a one-step rheocasting process for semisolid processing and a new loop heat pipe system for space applications. He has directly supervised 13 Ph.D.'s, 40 Masters students and has instructed numerous undergraduate and graduate students. He has also contributed significantly to the engineering profession through Indo-US and ASME related activities. As a sign of professional recognition, Dutta was elected as Fellow of the prestigious Indian National Academy of Engineering. Ph.D. (1982), Columbia University.

Isaac Elishakoff



Isaac Elishakoff is a distinguished leader in several fields of theoretical and applied mechanics—elastic stability, random vibrations, convex modeling of uncertainty, structural reliability, functionally graded structures, and, most recently, nanotechnology. He has made seminal contributions to these branches of engineering. Elishakoff is the author or co-author of 10 highly acclaimed monographs published by prestigious publishing houses, including Cambridge UP, Oxford UP, Imperial CP, and the ASME Press. He is also the editor or co-editor of 12 books and has authored or co-authored over 370 papers in leading scientific journals worldwide. Ph.D. (1971), Moscow Energetic Institute.

Elsayed A. Elsayed



Elsayed A. Elsayed has made outstanding accomplishments in three major areas. The first is in reliability engineering where he (along with others at Bell Labs) developed models for reliability estimation of the first transatlantic fiber optics cable in 1987. The second is the sheet folding theory and technology where he co-developed mathematical theory and technology to generate 3-D patterns by simply folding a flat sheet of material into intricate engineering designs. The third is the investigation (with FAA) of the effect of safe reduced vertical separations minima in the airspace which led to its implementation around the globe. Ph.D. (1976), University of Windsor.

Jordi Esteveadoral



Jordi Esteveadoral has made unique contributions to propulsion and power generation systems for over a decade, working closely with government agencies, universities, small businesses, and engine companies. His accomplishments on thermal-fluid sciences, advanced optical and laser diagnostics, flow control, and hypersonic and scramjet diagnostic applications have been reported in over 100 publications. He has invented new diagnostic techniques and specializes in applying state-of-the-art measurement technologies to harsh environments, such as aircraft and gas turbine engines. Esteveadoral's contributions have been instrumental for design, validation, development, and monitoring of current technology systems, as well as the design of future technology concepts. Ph.D. (1996), University of Houston.

Dani Fadda



Dani Fadda is a professional engineer in Texas with a successful career in mechanical engineering. He was awarded two patents and has published over 25 technical papers on nuclear steam dryers, oil/gas separators, marine

air intake systems, and post combustion environmental systems. Fadda is product manager of the nuclear separation systems business unit at Peerless Mfg. Co. He is responsible for the design and construction of nuclear steam dryers. He is also an adjunct professor at the University of Texas at Dallas. Ph.D. (1996), Southern Methodist University.

Joseph P. Gallagher



Joseph P. Gallagher is recognized internationally for developing and applying important fracture mechanics techniques

that have ensured the airworthiness of aircraft, engine, and mechanical subsystems. As a USAF executive level technical advisor, he managed the structural integrity of all USAF aircraft. He led the aircraft community in re-establishing and updating the structural integrity military standard. His two USAF *Damage Tolerant Design* Handbooks have provided guidance and data for the design and management of aircraft structures. Gallagher's contributions have been recognized through his elected leadership positions in ASTM, by ASTM and ASM Fellow Awards, and by numerous research awards. Ph.D. (1968), University of Illinois, Urbana.

Ranjan Ganguli

Ranjan Ganguli is an internationally recognized scholar with research interests in helicopter dynamics, smart structures, health monitoring and design optimization. He has shown the importance of dynamic hysteresis effects on helicopter vibration control and material uncertainty effects in nonlinear helicopter dynamics. He has found new methods for robust design optimization of composite rotor blades and discovered rotating beams which share an eigenpair with non-rotating beams. He has developed new algorithms to address model and measurement uncertainty effects in health monitoring. Ganguli's research has led to a deeper scientific understanding of dynamical systems and has significantly contributed to their flight safety. Ph.D. (1994), University of Maryland, College Park.

Xin-Lin Gao



Xin-Lin Gao has conducted research in a variety of areas in mechanics and materials and is an author or co-author of 76 journal papers and 90 book and conference publications. His research has significantly contributed to the enhancement of knowledge in mechanics and materials. He has been a PI or co-PI of funded research projects worth over \$7.2 million. Having been a reviewer for 75 international journals, 8 publishers and 13 funding organizations, and an organizer for 18 symposia at major conferences, he has served ASME and other professional societies generously. Gao has also been a guest editor of three special issues for technical journals. Ph.D. (1998) University of Wisconsin, Madison.

Ephraim Garcia

Ephraim Garcia has been a professor of mechanical engineering at Vanderbilt University, from 1991-1998, a Program Manager at DARPA, from 1998-2002, and is currently a professor of Mechanical and Aerospace Engineering at Cornell University. His research has focused on developing novel, bio-inspired and smart material based systems for a multitude of topics, notably ornithopters, morphing aircraft and bio-inspired robotics. Garcia is Editor-in-Chief of *Smart Materials and Structures* and serves on panels for the NAE pertaining to vehicle and robotics technology. Ph.D. (1990), State University of New York at Buffalo.

Frank Gerner



Frank Gerner has developed three simultaneous careers. He is an educator, a researcher, and an academic administrator.

Gerner is recognized as one of the best engineering professors at the University of Cincinnati and he is an internationally known expert in microscale heat transfer. He has provided exemplary leadership in administering Engineering College programs and finances during especially challenging times. Gerner has been the principal advisor of 36 graduate students, the author of 170 articles, papers, and reports, six books, and the admin-

istrator of 45 research grants and contracts. Ph.D. (1988), University of California, Berkeley.

Jorge E. Gonzalez



Jorge E. Gonzalez, NOAA Professor in Mechanical Engineering at the City College of New York, has been active in ASME for the last 20 years, especially in the ASME Solar Energy Division. He has served both as Technical and Conference Chairs, and is a past President. Gonzalez's leadership over the years within SED and ASME has been significant as have been his research contributions in solar energy, energy in building, heat island effect, and climate change modeling. He has attracted over \$10 million in sponsored research and has contributed enormously in these fields through publications, research supervision of graduate students and undergraduate teaching. Ph.D. (1994), Georgia Institute of Technology.

Kenneth E. Goodson

Kenneth E. Goodson is Professor and Vice Chair of Mechanical Engineering at Stanford University, where his group studies thermal phenomena in electronic nanostructures, energy conversion devices, and microfluidic heat exchangers. With nearly 30 Ph.D. alumni, which include Professors at UC Berkeley, MIT, UCLA, The University of Illinois at Urbana-Champaign, and the University of Michigan, as well as senior staff at Intel, AMD, Tesla, Freescale, and other high-tech companies, he has co-authored more than 120 archival journal articles, 24 patents, two books, and eight book chapters. Goodson is a founder and former CTO of Cooligy, which builds microcoolers for computers and was acquired in 2005 by Emerson. Ph.D. (1993), Massachusetts Institute of Technology.

Michele J. Grimm



Michele J. Grimm has made outstanding contributions to the advancement of biomedical engineering academic programs both at her university and within the Bioengineering Division of ASME. As Associate Dean for Academic Affairs at Wayne State

University, she has been responsible for program development, approval, and accreditation. She has been instrumental in the development of several innovative programs for the College of Engineering at both undergraduate and graduate levels and for underrepresented student groups. Grimm has also been a catalyst helping to provide innovative student programs at the ASME Summer Bioengineering Conference. Ph.D. (1994), University of Pennsylvania.

James B. Grotberg



James B. Grotberg is the leading bio-fluid dynamicist in the United States and among the top two or three in the world. His research has had a major impact on our understanding of fluid flow and interfacial phenomena in the lung, and how the related physical mechanisms explored explain normal and abnormal lung function and disease, as well as treatment of those diseases. Ph.D. (1977), Johns Hopkins University.

Wei Yong Gu



Wei Yong Gu's academic record is outstanding. He has received many awards and has published more than 130 original papers and meeting abstracts, all marked by a high degree of engineering rigor and establishing the foundation for his future work. Gu has mentored many undergraduate and graduate students. He is leading the field in understanding the mechano-signal transductions in cells for modulating metabolic events in order to understand growth and maintenance of homeostasis of biological tissues. Ph.D. (1994), Columbia University.

Yuebin Guo



Yuebin Guo's ground breaking research and development focuses on the interdisciplinary integration of multiscale manufacturing processes, surface integrity, and surface functionality. He has made seminal contributions to precision hard machining, hybrid manufacturing, laser mi-

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crofabrication, and bulk nanofabrication. He has published more than 200 peer refereed journal and conference papers and given over 100 presentations, invited keynotes, and seminars. Guo has already actively contributed more than 12 years to ASME. He has received numerous major national and international awards for his outstanding research accomplishments and directly advised 25 graduate students, over 20 undergraduate research assistants, and hosted many visiting scholars. Ph.D. (2000), Purdue University.

Robert D. Hancock



Robert D. Hancock is a national leader in the development of innovative propulsion concepts and related technologies for military aircraft. He leads an in-house research team of 147 scientists, engineers and technicians as the Turbine Engine Division Deputy for Science within the Air Force Research Laboratory. He championed the development of five innovative combustors for turbine engines and the first-ever pulsed detonation engine powered flight demonstration. Hancock guided the establishment of a world-class laser diagnostics research laboratory for combustion diagnostics and the development of a small engine research laboratory wherein work is being done to dramatically improve remotely piloted aircraft engine performance. Ph.D. (1996), University of Illinois at Urbana-Champaign.

Juergen Haukohl



Juergen Haukohl has made numerous notable contributions to engineering over the course of a long and illustrious career that continues to the present day. From his early days contributing to the NASA space mission in the 60's and 70's, through his leadership in persuading the state of Alabama to adopt ASME Uniform Standards for Boilers and Pressure Vessels in the 90's, to his present mentorship of the next generation of energy-conscious engineers, he has been a credit to the profession. His diligence and persistence add luster to all engineers. M.S. (1966), University of Alabama.

Theodore J. Heindel



Theodore J. Heindel has made accomplishments in advancing the field of complex multi-phase flow systems, particularly with respect to novel x-ray imaging methods and application to bio-renewable technologies. Heindel has served the profession in a variety of leadership roles. Ph.D. (1994), Purdue University.

Jeffrey F. Henry

Jeffrey F. Henry is recognized worldwide as a leading authority on creep strength enhanced ferritic steels. He chairs the ASME BPV II Standards Committee on Materials and their task group on CSEFSSs. As a member of these groups and BPV I (Power Boilers), Henry works tirelessly to define and refine rules needed for safe, long-term application of this fickle class of materials. He has integrated his understanding of materials behavior with knowledge of design, fabrication and boiler operation practice to enhance public safety. He is internationally respected as a course instructor, conference presenter, and peer reviewer of research. M.S. (1988), University of Tennessee at Knoxville.

Mahantesh Hiremath



Mahantesh Hiremath has practiced systems design engineering for over 20 years, with extensive experience in spacecraft design analysis, testing and development. His professional contributions in structural dynamic analysis for the U.S. spacecraft industry are highly recognized. His extensive work in system mechanical testing has led to publication of detailed practices for systematic planning, testing, data collection and interpretation. Prior to joining the aerospace industry, he provided very meaningful contributions to a number of California seismic retrofit projects. Hiremath is currently serving ASME in the capacity of District D Leader covering 8 US states and two Canadian Provinces of Western North America. Ph.D. (1987), Ohio State University.

Brian P. Holbrook



Brian P. Holbrook, P.E., is a long time member of the ASME Codes & Standards activity and is eminently appreciated by his fellow C&S members for his leadership and technical contributions. His ability to develop timely historical and new technical data and to devise solutions to difficult technical problems in high pressure, high temperature piping is heavily relied upon by his C&S and professional associates. Holbrook has over 100 years cumulative ASME committee membership in various B31 committees. In his 40-year professional career he has demonstrated an unusual loyalty to his employers, remarkably only two, demonstrating management and technical expertise. M.S. (1977), University of Lowell.

George Q. Huang



George Q. Huang has earned an outstanding reputation in scholarship, education and professional service while providing exemplary service and citizenship. He has published extensively in the areas of product design and manufacturing and logistics and supply chain management, including two monographs, two edited reference books and two international conference proceedings in addition to over 200 refereed journal papers, conference papers and book chapters. Huang has served as editor and member on editorial boards of reputable international journals. He has successfully supervised over 20 Ph.D./M.Phil post-graduate research students in addition to numerous research assistants and post-doctoral research fellows. Ph.D. (1991), Cardiff University.

James R. Hutton



Over the last six decades, James R. Hutton has been a leader in multinational companies supporting the energy industry. He has renowned skills within the rotating equipment and technical sales communities. In addition to providing leadership to industry, he has supported the engineering community and profes-

sion. Hutton has dedicated himself to developing organizations and people, especially the interface between technical engineering and practical applications. B.B.A. (1947), University of Texas, Austin.

Clément Imbert

Clément Imbert has lectured at The University of the West Indies since 1980 where he is Professor of Materials and Manufacturing. He is well known for his work in continuing engineering education and the steelpan. He has served on or chaired the board of several private and public organizations nationally and internationally. Imbert has attained the highest awards from the university and the engineering profession as well as awards from his high school, the Bureau of Standards, and the Chaconia Medal Gold, the second highest national award, as a member of the team that developed the G-Pan. Ph.D., The University of the West Indies, St. Augustine.

Kathy Jacobson



Kathy Jacobson has 30 years of industrial experience, specializing in applying Design for Manufacturing and Affordability in the early product design phases. She has held positions with General Electric and Lockheed Martin in manufacturing engineering, systems engineering, finance, and conceptual design. Jacobson has made significant contributions through her leadership roles within ASME, including chairing the Design for Manufacturing Technical Committee and chairing the Design Engineering Division Special Committee on K-12 Awareness of Design Engineering. Her active involvement in outreach to K-12 students has provided engineering and STEM opportunities for thousands of youth through Girl Scout and Science Olympiad programs. B.S. (1979), UCLA.

Yeau-Ren Jeng



Affiliated with the National Chung Cheng University in Taiwan, Yeau-Ren Jeng is an endowed chair professor in the Department of Mechanical Engineering and Executive Vice President of the University. Jeng has

made continuous and significant contributions to the mechanical engineering field through research, education, and leadership activities. Jeng's research activities cover a wide spectrum of subjects, from fundamental lubrication theory and nanomechanics to electronics packaging and semiconductor fabrication. He has conducted pioneering research in the area of chemical mechanical polishing associated with wafer planarization and wire bonding of electrical interconnects. The insights provided by his work have substantially benefited the microelectronic industry in its quest to achieve a more effective and efficient process. On another front, his work associated with the tribology of micro-contact and surface roughness effects has contributed significantly to the understanding of complex tribological behavior of machinery components. Ph.D. (1985), Case Western Reserve University.

Yan Jin



Yan Jin has established himself in the field of engineering design. His contributions in theory and technologies have been in the areas of organization modeling, collaborative design, design cognition, and design methods. He approaches the problem of engineering design from three perspectives—cognition, collaboration, and computing—and aims to develop synthesized theories and integrated technologies to deepen our understanding and support engineering design practice. His work has been influential to academic research communities, the automobile industry and project management industry. Jin has over 100 peer reviewed publications, and over 10 students awarded Ph.D. degrees. Ph.D. (1988), University of Tokyo.

Milind A. Jog



Milind A. Jog is nationally and internationally renowned for his research contributions in liquid atomization, plasma heat transfer, interfacial phenomena and heat transfer enhancement. He has co-authored a graduate textbook on advanced

thermodynamics and has over 130 archival papers. He has distinguished himself with his commitment to education, concern for students, teaching excellence, and student mentoring. Jog is a professional leader in the field of thermal science with participation in ASME and ILASS that includes conference chairmanships, workshop organization, and journal editorships. Ph.D. (1993), University of Pennsylvania.

David Jones



David Jones has 40 years experience in structural design analysis and was lead consultant and developer on the structural design standards used in the US Naval Reactor program. He has been an active contributor to the ASME Boiler and Pressure Vessel Code Committees. He has published over 40 papers on the topics of fatigue, fatigue crack growth, fracture mechanics, computational structural mechanics methods, non-linear structural analysis methods, post-processing finite element results for ASME Boiler and Pressure Vessel Code Section III assessment, limit load technology, and elastic-plastic fracture mechanics. Jones has also served as Associate Editor of the ASME *Journal of Pressure Vessel Technology*. Ph.D. (1973), Carnegie Mellon University.

Markland G. Jones



Markland G. Jones has retired from a successful professional career but stays busy with consulting and ASME activities. He is currently treasurer and past chair of the Arizona Section of ASME. He was instrumental in starting the Gas Turbine Technical Chapter Arizona. He holds a B.S. and M.S. in Mechanical Engineering from the University of California, Berkeley, where he specialized in aerodynamics with additional studies at the University of Florida, Gainesville. Jones's work at Honeywell/AlliedSignal/Garrett Engines included managing teams developing complex fan/compressor designs. He has co-authored and presented compressor technical papers and has participated as a panel member at the

IGTI Gas Turbine Conference on multiple occasions. Engineers Degree (1971), University of Florida.

Surya R. Kalidindi



Surya R. Kalidindi has made major contributions to the mechanics of material field. These include the development of finite element crystal plasticity modeling tools for various metal forming operations, the study of deformation twinning in cubic and hexagonal metals, the development of a novel mathematical framework for the design of a material's microstructure to meet or exceed designer specified performance criteria, and the extraction of meaningful material properties from analyses of raw data acquired in spherical nano-indentation. His leadership in the materials science and mechanical engineering departments at Drexel have pushed these programs to top national rankings. Ph.D. (1992), Massachusetts Institute of Technology.

Mary Kasarda



Mary Kasarda is an associate professor in the Department of Mechanical Engineering at Virginia Tech. She has authored over 70 publications in the areas of magnetic bearings, rotating machinery health monitoring, and engineering education. She has contributed to increasing engineering content in public schools, and improving the retention of women in engineering programs. She was a member of the development team for the new engineering program at the all-women Sweet Briar College. She has been involved with undergraduate education as an ABET Program Evaluator for ASME, and as the 2010-2011 chair of the ASME Committee on Engineering Accreditation. Ph.D. (1997), University of Virginia.

Morse B. Kent



Morse B. Kent demonstrated engineering leadership qualities while working for Schlumberger and later NL MWD where he was among the first engineers responsible for the de-

ployment and testing of earliest MWD (measurement while drilling) technologies at NL Baroid-Sperry Sun. Kent worked in applications engineering and technical sales selling industrial machinery protection and machinery management/diagnostic systems for Bently Nevada Corp. He is currently a sales manager with GE Energy, Measurement and Control Solutions responsible for south Texas. Kent has been involved in ASME South Texas Section since the early 1990's. Kent is also a member of the International Society of Automation and Controls. He became active in the ASME Gas Turbine Technical Chapter-Houston where he has served as Treasurer, Vice Chairman and Chairman. B.S.M.E. (1981), Auburn University.

Amir Khajepour



Amir Khajepour is a professor at the University of Waterloo, Canada, research chair in "Mechatronic Vehicle Systems" and executive director of the Waterloo Center for Automotive Research. An expert in the modeling and control of dynamic systems, he has developed research programs that have been used in several key multidisciplinary areas. His research has resulted in several patents and technology transfers, and over 250 publications including 3 books and 6 book chapters. He is a Fellow of the Canadian Society for Mechanical Engineering, editorial member of international journals and recipient of many awards. He has supervised over 100 graduate students, postdoctoral and research fellows and engineers. Ph.D. (1996), University of Waterloo.

Tariq A. Khraishi



Tariq A. Khraishi is a top researcher with over 100 refereed papers, in journals such as *Nature*, the ASME *Journal of Biomechanical Engineering*, and the ASME *Journal of Engineering Materials and Technology*. He is highly regarded by his peers and supervisors both as a Mechanical Engineering Professor and as a graduate student. Khraishi has won many awards in recognition of his exemplary research and teaching.

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He is a world leader in the study of dislocation dynamics theory and of mandibular fractures and fixation. His work has resulted in patents. Ph.D. (2000), Washington State University.

Chang-Jin Kim



Chang-Jin Kim is among the top handful of leaders in the field of microelectromechanical systems (MEMS). He has made seminal contributions across a spectrum of subjects in MEMS, including pioneering work in the electrowetting-on-dielectric (EWOD)-based droplet (or digital) microfluidics, which has profoundly influenced bio-MEMS technology. In education, Kim established the first complete MEMS graduate curriculum in mechanical engineering, which has been followed by many universities as a model. Kim is also a leader in serving the profession and was one of the founders of the MEMS Division in ASME. Ph.D. (1991), University of California, Berkeley.

William P. King



William P. King is a leader in the engineering of micrometer and nanometer-scale thermal systems. He has made substantial contributions to the field of mechanical engineering through his development of nanometer-scale thermal processing and thermal measurement techniques, and through new physical insights made possible by these techniques. He has authored over 120 journal articles, holds 15 patents, and has launched two companies from his laboratory. He has directly instructed over 1000 undergraduate and graduate students and postdoctoral researchers. His former graduate advisees work in academia, industry and national laboratories. Ph.D. (2002), Stanford University.

Sundar Krishnamurty



Sundar Krishnamurty has demonstrated leadership contributions and established a well-funded, multidisciplinary research program in the general area of mechanical design with recent

contributions in decision-based design and information modeling to support engineering design in a distributed environment, and bio-design with a focus on therapeutic and safety devices. Krishnamurty has advised over thirty doctoral and master students, and his research has been reported in two book chapters, thirty-one journal papers, and over sixty refereed conference papers. He is currently the site-director for the NSF/IUCRC-supported Center for e-Design. Ph.D. (1989), University of Wisconsin, Madison.

Raganathan Kumar



Raganathan Kumar has served the international engineering community through interdisciplinary research in the field of microfluids/nanofluids, optical diagnostics, droplets and sprays, and boiling heat transfer. His research is diversified with extensive experience at both the industry and university level. He has received teaching and research awards, supervised over 30 graduate students, and has written over 160 technical articles, including over 60 in journals. He has served ASME as Chair of the K-19 Committee on Heat Transfer in Environmental Systems, member of Long-Range Planning and Development Committee, and member of the Basic Engineering Group. Ph.D. (1983), University of Illinois at Urbana-Champaign.

Thomas E. Lacy Jr.



Thomas E. Lacy Jr. has a distinguished record of balanced contributions in interdisciplinary solid mechanics research, mentoring and advising students, curriculum development, and service to the engineering profession. His research interests include aerospace structures, computational solid mechanics, durability and damage tolerance, and composite materials. Lacy has published over 60 refereed journal articles, conference proceedings, and technical reports and has been recognized for his contributions to both teaching and research. Lacy has received numerous awards for outstanding teaching, including a 2009 SAE Ralph R. Teetor Educational Award. He is a member of

the Mississippi State University's Bagley College of Engineering Academy for Distinguished Teachers. He is currently the chair of the Emerging Technologies Division of the American Society for Composites, an associate fellow in the American Institute of Aeronautics and Astronautics, and serves as a scientific advisor for *Golf Digest*. Ph.D. (1998), Georgia Institute of Technology.

Poh-Sang Lam



Poh-Sang Lam is an expert in areas of nonlinear fracture mechanics and computational methods at Savannah River National Laboratory. He developed fracture methodologies to ensure the structural integrity of DOE defense nuclear reactors and high level nuclear waste tanks. He works on projects that benefit the energy sector, electronics industry, groundwater management, and homeland security. These include studying the effects of hydrogen on materials used in energy storage, tin whisker growth in lead-free solders and mitigation technology, micro-scale characterization of cementitious materials used in environmental management, and development of micro/nanofluidic sensors for detecting chemical and biological agents. Lam served in the ASME Pressure Vessel and Piping Division as the Chair of the Materials and Fabrication Committee, and as an Associate Editor to the ASME *Journal of Pressure Vessel Technology*. Ph.D. (1982), University of Illinois at Urbana-Champaign.

Carlos Lasarte



Visionary, entrepreneur, altruist, mentor. These are some of the words that describe Carlos Lasarte. Lasarte has had an active role in creating the momentum required for the foundation of the ASME Latin America & Caribbean District. He has been actively promoting the integration process of ASME student sections, local groups, technical chapters, and industry throughout Latin America and the Caribbean. He also has been encouraging communication and interaction among different chapters. M.Sc. (Currently attending-2010), Central University of Venezuela.

Jinkook Lee



Jinkook Lee has had more than 32 years of hands-on experience in design and R&D in turbomachinery fields, such as inducer and impeller for industrial pumps, jet engine and airframe fuel pumps for commercial and military aircraft, cryogenic pumps for LNG and LPG, and turbopumps for space applications. Of particular significance was his novel design, development, and qualification of centrifugal jet engine fuel pumps for the most advanced and powerful engines such as GE90-115B, PW-4098, and Rolls Royce Trent for Boeing 777, CFM56-7 for Boeing 737, BR700 series for Boeing 717 and Gulfstream, CF34-8 and -10 for Canadian Regional Jets and numerous airframe fuel pumps for commercial and military applications. Lee's design method increased the safety of air travelers around the world by reducing the number of in-flight engine shutdowns due to fuel pump failure. Lee is currently serving as Executive Committee Member of the Fluids Engineering Division of ASME, and served as Chair of the Fluids Applications and Systems Technical Committee (FASTC) from 2004 to 2006, and Associate Technical Editor of *Journal of Fluids Engineering* from 2003 to 2006. He also served as Lead organizer and Session Chair of the Fluid Machinery Forum at the summer meeting from 1997 to 2009. Ph.D. (1991), Cleveland State University.

Naomi E. Leonard



The Edwin S. Wilsey Professor of Mechanical and Aerospace Engineering at Princeton University, Naomi E. Leonard is internationally recognized for outstanding theoretical and applied contributions in the fields of geometric control, underwater vehicles, and collective dynamics. She has authored or co-authored over 100 peer-reviewed publications and has directed or co-directed over \$20 million in funded research, including two Multidisciplinary University Research Initiatives. Leonard has received the National Science Foundation CAREER Award, the Office of Naval Research Young Investigator Award, the *Automatica* Prize

Paper Award, the MacArthur Foundation Fellowship, the Mohammed Dahleh Distinguished Lecture Award, and Fellowship in the IEEE. Ph.D. (1994), University of Maryland.

Kemper Lewis



Kemper Lewis has made significant contributions in mechanical engineering and engineering design through his research in decision modeling in design, distributed design, product archaeology, multi-objective optimization, and cyberinfrastructure initiatives in design. He has led multi-university initiatives in decision-based design, including a series of workshops over eight years and textbooks that have impacted researchers, educators, and practitioners around the world. As Executive Director of the New York State Center for Engineering Design and Industrial Innovation, Lewis continues to integrate academic research, industrial implementation, and educational innovations to create an engineering design program of sustained distinction. Ph.D. (1996), Georgia Institute of Technology.

Frank K. Lu



Frank K. Lu's major accomplishments are in gas dynamics and detonations with contributions ranging from fundamental studies to applications. He has made significant contributions to the understanding of shock/turbulent boundary-layer interactions, including the use of microvortex generators as a passive control device. Professor Lu also made contributions in test facilities, instrumentation and data processing such as the detonation driver technique for shock tunnels as a viable alternative to free-piston drivers. He has also made contributions toward the practical development of pulse and rotating detonation engines (PDEs and RDEs). He and his team have recently finished developing a large PDE ground demonstrator that uses liquid fuels. He and his colleagues were the first US-based inventors to file a US patent on RDEs. Ph.D. (1988), Pennsylvania State University.

Robert P. Lucht



Robert P. Lucht has been an active researcher in the development of numerous laser diagnostic techniques and the application of these techniques in practical combustion devices such as gas turbines and internal combustion engines. He is especially well known for his activities in the development and application of nonlinear optical techniques, pioneering the development of dual-pump coherent anti-Stokes Raman scattering for multiple species measurements and femtosecond CARS for high-data-rate temperature and species measurements in flames. Lucht has authored or co-authored over 120 archival journal articles and advised 26 Ph.D. and 18 M.S. students. Ph.D. (1981), Purdue University.

Kai H. Luo



Kai H. Luo has made outstanding contributions to mechanical engineering through scholarship, education, and leadership. He has been at the forefront of advancing fundamental knowledge and developing predictive tools for complex multi-scale, multi-physics phenomena in thermal-fluids engineering, energy and propulsion technologies. His work has been widely disseminated in over 160 original papers and recognized by prestigious research awards. He has successfully led large research groups and projects, as well as a national research consortium in the U.K. Through teaching, administration, program and curriculum development, he has improved the quality of education for thousands of engineering students. Ph.D. (1992), Cambridge University.

Vic Mahaney



Vic Mahaney's graduate research was in the field of heat transfer, specifically related to electronic cooling. Over the next 20 plus years at IBM he has subsequently developed novel air cooling solutions for a wide variety of platforms (desktop, desktop, serv-

ers and blades). On the liquid side, he led development of low temperature functional testers which were employed to test and speed/power sort multiple generations of IBM's power processors. Focusing on energy efficiency challenges within the industry, Mahaney has participated in the SVLG ChillOff competitions, has developed rear door heat exchanger solutions to improve energy efficiency within the data-center, and is currently developing cooling solutions for a large warm-water cooled datacenter. He holds 30 patents with more pending. Ph.D. (1989), Purdue University.

Hassan Mahfuz



Hassan Mahfuz is a Professor of Ocean and Mechanical Engineering at Florida Atlantic University. He has made significant contributions in the manufacturing of advanced composites and their high strain rate characterization. His pioneering work with the infusion of CNTs into nylon is well recognized. Mahfuz was the first to show the enhanced ballistic resistance of sandwich composites with a nanophased core. He established the Materials Science and Engineering program at Tuskegee University, first in an HBCU. He has organized numerous ASME symposia and he is the Chair of the AMD Composites Committee. Ph.D. (1989), Florida Atlantic University.

Alan Male



Alan Male is a metallurgical and manufacturing research manager with extensive experience in conducting applications-oriented research and development on various aspects of melting and deformation processing of a wide variety of metals and alloys. He is an internationally recognized expert on friction, lubrication, and microstructure/property effects in metalworking operations. Male has over ninety technical publications and sixteen patents in this field. He is perhaps best known for work on the development of the Ring Compression Test, now a widely adopted standard technique for studying

friction under conditions of bulk plastic deformation. Ph.D. (1962), University of Birmingham.

Dennis H. Martens



Dennis H. Martens retired from full time employment at Black & Veatch, where he served as chief engineer of the Gas, Oil and Chemical Division, in 2008. He continues to consult and offer technical advice to engineering and operating companies. Martens draws on his considerable engineering and management experience in the process and refining industries to develop and manage engineering solutions for major project execution and critical engineering evaluations. His knowledge of practical engineering approaches coupled with state-of-the-art tools is invaluable in developing engineering strategies for major capital projects, planning and executing detailed engineering analysis activities, addressing equipment failure response, or bringing a process demonstration unit to a commercial reality. B.S.M.E. (1964), North Dakota State University.

P. Ruby Mawasha



P. Ruby Mawasha is the Assistant Dean of Engineering and Computer Science at Wright State University and director of Engineering and Computer Science Programs at the WSU-Lake Campus. As Director he provides oversight to the administrative and curricular aspects of the new initiative in mechanical engineering. This includes a focus on manufacturing workforce development and promotes the growth of co-op and internship opportunities for students. Mawasha has implemented several academic, research, and professional development programs for students in engineering such as the Wright STEPP Pre-Engineering Program, WSU Glenn-Stokes Undergraduate Research Program, and Interdisciplinary Based Engineering Education through the High Altitude Balloon Experience. His Scholarly activities and leadership are well reflected through his leadership in engineering education, record of scholarly publications, grants fostering and promoting education

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and research, oral technical presentations, classroom instruction, and several awards. Ph.D. (1998), University of Akron.

Sandip Mazumder

Sandip Mazumder is internationally recognized for seminal contributions in three important mechanical engineering fields. His early groundbreaking work on the interactions between turbulence and thermal radiation remains the foundation for this important topic in the field of combustion. His rigorous models of PEM fuel cells have had a great impact and have been used by many researchers and widely cited. He was also the first to use Monte Carlo methods to model cooling of miniature electronic devices. This pioneering work forms the basis of later research by others. Mazumder has made extensive contributions to the mechanical engineering profession and ASME. Ph.D. (1997), Pennsylvania State University.

Rajat Mittal



Rajat Mittal has made seminal contributions in the area of computational fluid dynamics. He has worked in the development of immersed boundary methods and their application to moving boundary problems, fluid-structure interaction, bio-inspired locomotion, physiological flows and flow-control. Ph.D. (1995), University of Illinois at Urbana-Champaign.

Habib P. Mohamadian

Habib P. Mohamadian has a distinguished career as an engineering educator and researcher. He has served at Southern University for over 30 years, introducing educational and research initiatives, enhancing research capabilities, and advancing faculty and student recruitment efforts. He has developed new techniques for engineering education outcomes assessment and has collaborated with his colleagues on many research projects, resulting in more than 100 journal and conference publications. As a dean, Mohamadian has supported the innovative pedagogical practices and research efforts of more than 35 faculty members. He has a distinguished record of service in several engineering professional organizations. Ph.D. (1982), Louisiana State University.

Nam-Trung Nguyen



With his pioneering work in the field of micro/nanofluidics, Nam-Trung Nguyen's research bridges the gap between engineering and chemistry. He has contributed to the development of polymeric micro-technologies, fundamentals of micro/nanofluidic transport phenomena, and micro optofluidics and their applications for analytical chemistry as well as life sciences. Nguyen is an Associate Professor in the School of Mechanical and Aerospace Engineering at Nanyang Technological University in Singapore. Ph.D. (2004), Chemnitz University of Technology.

Paul Y. Oh



Paul Y. Oh has served as ASME Faculty advisor since 2000, growing the chapter to be the seventh largest in the world and the fifth largest in North America. He received the 2006 Student Section Advisor Award and his chapter holds distinctions for two Charles T. Main Awardees, the ASME Diversity Action Grant for five consecutive years, and the ASME Lucy and Clarke Scholarship for two years. Academically, he received the NSF Career Award, the SAE Ralph Teetor Award for engineering education excellence and faculty fellowships at NASS, ONR and Boeing. From 2008-2010 he served in an NSF Program for robotics research. Ph.D. (1999), Columbia University.

Ernian Pan



Ernian Pan is a Professor of Civil Engineering at the University of Akron. He has made outstanding contributions in boundary integral equation methods, as applied to anisotropic magneto-electroelastic solids in general and to quantum nanostructures in particular. He is a well-recognized expert in anisotropic and multi-layered Green's functions, and edited in 2005 a special issue on "Anisotropic Green's Functions and BEMs" for *Engineering Analysis of Boundary Elements*. He has also pioneered various benchmark solutions for multiphase and multilayered composites with func-

tionally graded materials. Pan has played various active roles in the Green's function research and education. Ph.D. (1993), University of Colorado-Boulder.

Joel T. Park



Joel T. Park is renowned for his achievements in experimental fluid mechanics, in particular, for his contributions in analyzing data with uncertainty. At the Navy's Large Cavitation Channel in Memphis, he conducted measurements of submarine turbulent wakes and characterized turbulent boundary layers for development of next generation of naval vehicles. He developed and taught a course on uncertainty analysis based on his measurement experience which has become a mandatory class for all Naval Surface Warfare Center Carderock Division engineers working in fluid related naval applications. Prior to his civilian service with the U. S. Navy, Park was employed at Southwest Research Institute in San Antonio, Texas, for 17 years in a variety of experimental programs in fluid mechanics. Subsequently, he was a visiting scientist in gas flow metrology for 18 months at the Korea Research Institute of Standards and Science in Daejeon, Republic of Korea. Park has served on the Fluids Engineering Division Executive Committee since 2006 and chaired FED during 2009-2010. Ph.D. (1976), University of California at San Diego.

Daniel T. Peters



Daniel T. Peters has made significant contributions to the mechanical engineering profession by his technical work in the field of high pressure vessel design and analysis, his leadership positions in the ASME Pressure Vessel and Piping Division and the Boiler and Pressure Vessel Code, and his consulting to the fossil fuel power generation industry. He presently serves as Chair of the ASME Subgroup on High Pressure Vessels, as Vice-Chair of the ASME Codes and Standards Post Construction Committee and as Program Chair of the Pressure and Vessel Piping Division. M.S. (1999), Gannon University.

Catalin R. Picu

Catalin R. Picu has made significant contributions to the field of mechanics of materials. His work on multiscale aspects of deformation and fracture has been published in over 100 journal articles and book chapters. Picu made advances in the understanding of the nature of rate sensitivity in metals and polymers and of stress production in polymeric materials. Ph.D. (1995), Dartmouth College.

Michael A. Porter



Michael A. Porter's major efforts have been devoted to the diagnosis and solution of problems related to stress and vibration in components and systems. During his 40 plus year career, he has also been responsible for the design and implementation of cost-efficient and reliable field measurement systems and procedures. He currently serves as Principal Engineer with the consulting firm Porter McGuffie, Inc. He is a recognized expert in the application of Finite Element Analysis and Computational Fluid Dynamics to real world problems. Porter has published more than 40 ASME conference and journal papers, as well as several books. He is a co-author of the "Cyclic, Impact and Impulse Loads" chapter in the Companion Guide to the ASME Boiler and Pressure Vessel Code. B.S. (1968), University of Illinois.

John Pumwa



John Pumwa has contributed significantly to research and education over the last 30 years. At New Britain Palm Oil, he was responsible for the processing, production, and quality control for palm oil for exporting and maintenance for the oil milling machinery. At Papua New Guinea University of Technology he is the head for the Mechanical Engineering Department and he has contributed enormously to the development and progress of the university. He has been the leader of industry and academic research in the use of coconut oil and waste cooking oil and its derivatives as a fuel substitute for diesel engines. He has also been involved in the establishment of a Non-Destructive Center, which is the only center

in the country used for research and for providing non-destructive services to local industries in Papua New Guinea. Ph.D. (1997), Texas A&M University.

Melur Ramasubramanian



Melur Ramasubramanian is a versatile researcher, engineer, educator, and administrator, as well as a pioneer in interdisciplinary graduate education. He has made significant research contributions in a wide variety of areas including mechanics and manufacturing of cellulosic fiber structures, bio-mechanics, biomimetics, and tissue engineering. Ramasubramanian has graduated nearly 40 M.S. and Ph.D. students with successful careers. He has been instrumental in establishing an interdisciplinary graduate curriculum in Mechatronics at North Carolina State University, where he is a professor of Mechanical Engineering. Currently, he is a Program Director at the National Science Foundation, managing one of NSF's flagship cross-cutting programs, the IGERT. Ph.D. (1987), Syracuse University.

Ravi M. Rangan



Ravi M. Rangan directed and provided market, industry and ASME CIE/EDBP leadership in the area of engineering information management and product lifecycle management. He was a founding Associate Editor of ASME JCISE and recipient of the 1990 CIE/EDBP best paper award. Rangan has done engineering information management consulting for IBM, USAF, Chrysler, Xerox, and Goodyear. At Boeing DCAC/MRM he was the implementation architect for Metaphase PLM and he was appointed SDRC Experteam Corporate Director for PLM. He was also the co-founder of Product Sight Corporation to innovate and rapidly deploy affordable PLM systems to several automotive, aerospace, and industrial companies. Currently he is delivering PLM to markets such as consumer goods, fashion and luxury as CTO of Centric Software, Inc. Ph.D. (1990) Georgia Institute of Technology.

Peter C. Rasmussen

Peter C. Rasmussen recently retired from ExxonMobil after a distinguished career of over 32 years. After joining Mobil in 1978, he held numerous positions of increasing responsibility, including Supervisor of Faculty Engineering, Coordinator of Offshore Technical Services, and Manager, Machinery and Power. After transitioning to the ExxonMobil Corporation, he continued to advance, ultimately being named a Senior Advisor in Engineering. Rasmussen is a recognized expert in the areas of LNG technology, rotating equipment applications, maintenance and reliability systems, and methods for increasing the capacity of existing compression systems. B.S. (1974), Florida Atlantic University, Boca Raton.

George Rawls

George Rawls is a recognized expert in the field of structural mechanics and the application of C&S to PVP systems. He has 20 plus years of experience in the design and analysis of systems, structures, and components for chemical processing systems. He has used this expertise for the betterment of ASME through various means, such as serving on committees to provide changes to design rules for ASME Section VIII PVP Code, serving as Editor of ASME PVP Conference Proceedings and Technical Representative for Seismic Engineering. Rawls is an active member on the ASME Project Team on Hydrogen Storage and Transport Tanks. M.E. (1991), University of South Carolina.

Jack C. Roberts



Jack C. Roberts is the Chief Scientist on the Biomechanics and Injury Systems programs at JHU/APL. He has been a program Manager and Principal Investigator on programs that resulted in the formation of a new \$20 million business area. He is the recipient of numerous awards, including the APL-Master Inventor Award, Outstanding Paper Award, Inventor of the Year Award, the George Westinghouse Signature Award of Excellence, the Bendix Special Commendation Award, and the Senior Technical Fellow Emerald Award (received from *Science Spectrum* magazine). He has over 100 publications and presen-

tations, 13 patents and 3 book chapters. Ph.D. (1980), Rensselaer Polytechnic Institute.

Clay Rodery



Clay Rodery has demonstrated leadership in making ASME Codes and Standards requirements available to industry to enhance public safety. Examples of his contributions include actions taken to prevent the use of check valves as an isolation valve upstream of pressure relief valves, oversight of rewrite activity for ASME Section VIII, Division 2 Parts on Fabrication & Examination, development of repair articles for ASME PCC-2, collaboration in development of an ASME PCC-1 qualification program for bolting technicians, and serving the PVP Design & Analysis Committee as an author, reviewer, session chair, technical program representative, and tutorial leader. B.S.C.E. (1981), Purdue University.

Jesse Shijie Ruan



Jesse Shijie Ruan has developed a whole body model of the musculoskeletal system that is used extensively by Ford engineers for designing safety features for their cars. Because of his contributions in the field of automotive safety injury and biomechanics, he has been invited to be a keynote speaker in many conferences. His contributions in Biomechanics and Safety Engineering lead Ruan to being elected a Fellow of the American Institute of Medical and Biological Engineering. He is the founder and editor-in-chief of the *International Journal of Vehicular Safety*. Ph.D. (1994), Wayne State University.

David L. Rudland



In 20 years of engineering practice, research, and government service, David L. Rudland has made outstanding accomplishments in ensuring the safe operation of nuclear power plants and oil and gas pipelines. Using fundamental principles of materials science, theoretical and experimental mechanics, and mechanical engineering, he has developed complex flaw evaluation procedures, nu-

merical weld simulation techniques and advanced probabilistic fracture mechanics computer codes for assessing integrity issues in sophisticated piping systems. Through seminars, papers, symposia, codes and standards committee work, and government licensing reviews, Rudland has disseminated this new body of engineering knowledge, which is critical to the well-being of the nation's energy-based infrastructure. Ph.D. (2005), Yokohama University.

Muhammed Taher Saif



Muhammed Taher Saif made seminal contributions to the field of nano and cell-mechanics, and developed instruments at the microscale to study various phenomena at nanoscale. In nano mechanics, he revealed the intricate interplay between heterogeneity in microstructure and its average size, and their combined role in determining the mechanical behavior of nanoscale materials. He showed, for the first time, a link between mechanical tension in neurons, and memory and learning in animals. Though it has long been believed that biochemical signaling is the basis for memory formation and learning, Saif's group recently discovered that cancer cells can exhibit metastasis in vitro induced solely by an appropriate mechanical softness of the microenvironment. Ph.D. (1993), Cornell University.

Muhammed A. Satter



Muhammed A. Satter is a professor and ProVice Chancellor (academic affairs) at PNG University of Technology. He has made significant contributions in mechanical engineering as an educator, researcher and administrator. His contributions have positively influenced young, aspiring engineers in countries such as Iran, Nigeria, Bangladesh, and Papua New Guinea. He has taught and supervised education in design, vibrations, mechanics, statistical methods, management, etc. Industry consultancies have added to his experience in these fields, so he has a broad range of expertise in mechanical engineering. He has authored over 75 papers and holds two patents. Ph.D. (1970), Loughborough University.

FELLOWS OF ASME

Laura A. Schaefer



Laura A. Schaefer has made numerous contributions to the analysis, design and optimization of energy systems. She has used her knowledge of the simulation of thermal-fluid properties on multiple scales to focus on microscale flows and energy sustainability. This research has received funding from organizations such as NSF, AFOSR, ASHRAE, and DOE. Schaefer has also received prestigious honors such as the NSF CAREER Award and the ASHRAE New Investigator Award. She has been a leader and contributor to ASME, both through the Advanced Energy Systems Division and the Heat Transfer Division. Ph.D. (2000), Georgia Institute of Technology.

Steven M. Schulteis



Steve M. Schulteis is a recognized expert in rotating equipment with extensive experience in the oil and gas industry. He leads engineering teams supporting large refineries, chemical plants, and oil production facilities worldwide, solving complex industry problems. He has contributed to the engineering profession through his involvement with local professional organizations, leadership in industry conferences and task forces, developing industry standards, and numerous peer-reviewed technical papers. M.Div. (2008), Houston Graduate School of Theology.

Mark A. Shannon



Mark A. Shannon is passionate about education at all levels. As Director of the NSF-sponsored Science and Technology Center of Advanced Materials for the Purification of Water with Systems, he has played a critical role in developing exceptional educational, mentoring, and outreach programs. He has also become a champion for global awareness of our highly fragile fresh water resources, testifying twice before the U.S. Congress on this important issue. Shannon has made seminal research contributions, including the invention of molecular gates for tunable transport phenomena. Ph.D. (1993), University of California, Berkeley.

Mahesh C. Sharma



Mahesh C. Sharma has industrial and academic experience in the field of engineering and management practices. He has taught courses in Mechanical Engineering, Aerodynamics, Design of Steel and Reinforced Concrete Structures, and Operations Research. Sharma's awards include the NRC award to conduct research on compressible supersonic aerodynamics at McGill University, the Quebec Government Superior Administrative Fellowship for Business Studies at McGill University, and the John O'Brien Distinguished Teaching Award based on his 10 years at Concordia. M.S. (1976), McGill University.

Allen Candler Smith, Jr.



Allen Candler Smith, Jr. has over 40 years experience in R&D in the nuclear business. He has contributed in several areas, including steam generators, reactor thermal hydraulics, and radioactive material packaging. He has authored over 50 papers and has six patents. Within the Operations, Applications and Components Technical Committee of the Pressure Vessel and Piping Division he has been a paper author, reviewer, topic organizer, technical program representative, and editor of the OAC Newsletter. Smith is currently an Associate Editor of the ASME *Journal of Pressure Vessel Technology*. Ph.D. (1972), Virginia Polytechnic Institute.

Alexander A. Spector



Alexander A. Spector is a scholar in the fields of mechanotransduction and biomechanics of cells, focusing on constitutive models, computational analysis, and interpretation of experiments. He has proposed novel approaches to the electromechanics of specialized cells and motor proteins responsible for acute hearing in humans. He is also known for a seminal work on cell shape, cell proliferation, and stresses at the interface with the substrate. He has contributed to undergraduate and graduate education by developing courses and participating in major

biomedical engineering handbooks on the mechanics of cells and membranes. Ph.D. (1981), Russian Academy of Sciences.

Michael Sullivan

Michael Sullivan has advanced the discipline of quality assurance in nuclear power plant construction. He has promulgated use of ASME nuclear conformity assessment for over three decades, spanning a career of service in the nuclear utility industry, the National Board (an organization consisting of U.S. state and Canadian provincial jurisdictional authorities), and, more recently, for ASME as a senior consultant and lead auditor. Sullivan has spread the principles of quality assurance, conformity assessment, and ASME throughout the world. He has served on the front line of ASME conformity assessment global growth in 75 nations. B.A. (1972), University of Oregon.

Stacey E. Swisher Harnetty



Stacey E. Swisher Harnetty is a leader in coal gasification product strategy and optimization. She directed maintenance on chemical coal gasification plants leading to five patents and major advances in operating and maintenance practices. Within the ASME she advanced the use of innovative practices, and strategic thinking methods, in the operation of the new strategic management sector. M.S. in Mechanical Engineering (1991), Virginia Polytechnic and State University.

Choon S. Tan



Choon S. Tan is recognized by the international gas turbine community as an expert in turbomachinery behavior and performance. He has made technical contributions in a range of topics that include compressor response to inlet distortion, compressor and compression system instability, unsteady flow in centrifugal and axial compressors, tip clearance flows, and vortex flows in fluid machinery. Tan's ideas have been shared widely through interactions with industry, active participation in the IGTI, technical papers, short courses, and through his major text on internal flow. Ph.D. (1978), Massachusetts Institute of Technology.

Beth A. Todd

Beth A. Todd has outstanding professional leadership accomplishments, serving in regional and national positions in the ASME, SWE, and ASEE. Many of her accomplishments are related to student sections. Under her mentorship, The University of Alabama section has generated many future leaders, including two C.T. Main Silver Medalists. Todd has been named both regional and national Faculty Advisor of the Year by both the ASME and SWE. She has produced innovation in engineering education in the areas of extracurricular learning and design education and has supported and mentored 35 potential future engineering educators through funded engineering education programs. Ph.D. (1992), University of Virginia.

Anil K. Tolpadi



Anil K. Tolpadi is currently the technical leader of aero, heat transfer and acoustics in generator engineering at GE-Energy. He has been with GE for 21 years in various roles involved in the development of 3-D physics based tools and design of generators, turbines, combustors and aircraft engines. Tolpadi's areas of expertise include turbine and generator durability and design, computational heat transfer, thermal design, CFD algorithm development, aerothermal modeling of combustors and steam turbine heat transfer. He has over 20 refereed journal publications, has presented nearly 40 papers at conferences and holds three patents. He is an active member of ASME. Ph.D. (1987), University of Minnesota.

Tsu-Chin Tsao



Tsu-Chin Tsao has made seminal contributions in repetitive, feedforward, and adaptive control. He has published over two hundred technical papers in control theory and applications and made an important and significant impact on academic research as well as industrial practice. His research has created innovations and addressed problems in non-circular machining, machine tool feed drives, electrohydraulics, computer disk drives, camless engines, compressed air hybrid engines, nano-

manufacturing, and laser beam control. Ph.D. (1988), University of California, Berkeley.

Mark G. Turner



Mark G. Turner is one of the first researchers to use the power of parallel computing to advance the practice of aircraft engine gas turbine design. He performed the first simulation of the entire flowpath of a gas turbine engine, demonstrating a 1000-fold decrease in computation time and opening the door to systems-level optimization of gas turbine engines. After moving from industry to academia, he co-developed the T-AXI software system, a freely-available, interactive turbomachinery design software suite that provides undergraduate students exposure to real-world gas turbine design exercises not previously available in undergraduate engineering curricula. Sc.D. (1990), Massachusetts Institute of Technology.

Daniel F. Walczyk



Daniel F. Walczyk has made significant contributions to the fields of rapid tooling, manufacturing processes and biomedical device design. In rapid tooling and manufacturing processes, he invented profiled edge lamination tooling, improved reconfigurable tooling for use in sheet metal and composites forming, made key improvements to double diaphragm forming of thermoset composites, invented an out-of-autoclave composites curing method, and made key contributions that reduce manufacturing cycle-time for membrane electrode assemblies used in high-temperature PEM fuel cells. Walczyk also invented a simple and inexpensive biomedical device called a weight bearing indicator that provides biofeedback to patients who are prescribed partial weight bearing. Ph.D. (1996), Massachusetts Institute of Technology.

Robert C. Wetherhold



Robert C. Wetherhold is internationally recognized for his contributions to our understanding of the durability and fracture tough-

ness of composite materials for use in aerospace as well as commercial applications. He is also known for his work on smart and multifunctional materials, which exploit the unique symmetry properties of composites to create useful behavior in structures. Wetherhold has been a leader in the Materials Division of ASME. Ph.D. (1983), University of Delaware.

Song-Lin Yang



Song-Lin Yang has established himself as an outstanding educator and researcher throughout his academic career. He is currently Professor of Mechanical Engineering at Michigan Technological University where he received the MTU teaching excellence recognition letter. His research centers on Computational Fluid Dynamics for complex engine flow and engine after treatment devices modeling and simulation. In this endeavor Yang has authored and co-authored more than 90 technical publications, developed many computer codes for industry and national labs, and served as PI or Co-PI for research with grants totaling more than \$6.7 million. Ph.D. (1985), University of Florida.

Maher Y. A. Younan



Maher Y. A. Younan, Professor and associate dean at the American University in Cairo, Egypt, has made significant contributions to the development of mechanical engineering practice in pressure vessels and piping. His expertise has led to key advancements in many critical design and analysis areas in the determination for shake down and limit loads, fracture mechanics, fatigue and finite element modeling of welding. These contributions have been recognized through several "best paper" awards. He has also demonstrated leadership in ASME-PVPD activities as well as in curriculum development and academic administration. During his term as a chair of the Mechanical Engineering Department at AUC, the program was ABET accredited for a full term of six years with no deficiencies, concerns, or comments. He is the originator, and coordinator of ASME-AUC activities that have been offering ASME courses, and a

professional diploma in Egypt and the Middle East, for the last eight years. Younan received the prestigious ASME Dedicated Service Award in 2011. Ph.D. (1975), University of Tennessee.

Joseph Zelina



Joseph Zelina has made notable contributions to gas turbine propulsion systems especially in the area of combustion. He designed and built an experimental Well Stirred Reactor facility and was instrumental in the combustion system design of Honeywell's HTS family of propulsion engines. He successfully transitioned research concepts to industry partners and was instrumental in making inter-turbine burner concepts as part of the Air Force Versatile, Affordable, Advanced, Turbine Engine plan. Zelina is currently the Combustion Branch Chief of the Air Force Research Laboratory and manages 19 government and 65 contract personnel. Ph.D. (1995), University of Dayton.

Bi Zhang

Bi Zhang has made outstanding contributions to manufacturing research and education. His main research contributions are in the area of grinding, especially the grinding of difficult-to-machine materials. He developed an analytical model for predicting subsurface damage in the grinding of ceramic materials. With this model, grinding induced cracks and pulverization layers become predictable. His research results are widely published and cited, and are used in classroom teaching. Zhang has developed new courses and incorporated many research findings in them. He has advised and co-advised over 20 graduate students (both Ph.D. and M.S.) and over 300 undergraduate students. Ph.D. (1988), Tokyo Institute of Technology.

Pei Zhong



Pei Zhong has made outstanding contributions to the improvement and innovation of shock wave lithotripsy technology, and for the characterization of the mechanical properties of renal calculi. He is an internationally recognized

leader in SWL and the recipient of an NIH MERIT Award for his work in this field. Zhong has also developed original methodologies and experimental techniques for shock wave-bubble interaction and bubble-bubble interaction that have broad implications in therapeutic ultrasound, including, in particular, tandem microbubble for directional and localized single cell membrane poration in microfluidic systems. Ph.D. (1998), University of Texas Southwestern Medical Center.

Gongyao Zhou



Gongyao Zhou is a pioneer in fractal geometry modeling and simulation for engineering surfaces, and is the first to develop a Fractal Geometry Model for Wear Prediction. He has invented several new machines and technologies for microstructures, bone scaffolds and soft-tissue fabrications. Zhou has developed a new research field—BioNanoMicro Design and Manufacturing for Tissue and Surgical Engineering—published more than 100 journal and peer reviewed conference papers, applied for five patents, and organized various conferences and symposiums nationally and internationally. He has received more than 25 grants from government, industry and research institutions, and advised more than 30 Ph.D. and Master students. Ph.D. (1993), New Jersey Institute of Technology.

Michael A. Zimmerman



Michael A. Zimmerman is a recognized leader in the research and development of plastic product engineering, as well as in education. He spent nearly 15 years with AT&T Bell Labs where he led several development teams and received numerous awards, rising to the rank of Consulting Member of the Technical Staff. He founded Quantum Leap Packaging as its Chief Technical Officer. He has been Scientific Director of Saint-Gobain's North America Research Center and Professor of the Practice of Mechanical Engineering at Tufts University, where he has taught since 1990. He holds 15 patents and has authored over 50 technical papers. Ph.D. (1988), University of Pennsylvania.

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