American Welding Society Fellows

Class of 1991

Omer W. Blodgett – Is recognized for championing the use of welding in the fabrication industry and promoted more efficient designs for welded structures.

Howard B. Cary – For his extensive contributions in the area of research and development for more than fifty years serving the manufacturing community throughout his career as a welding engineer by playing a key role in introducing and implementing advanced technology into the welding Manufacturing workplace.

William T. DeLong – Is recognized for conducting and directing research and development in the area of filler metal development and established patents which are used today in commercial weld consumables, and is recognized for the development of a constitution diagram for deposited austenitic stainless steel weld metal which bears his name; and established the Ferrite Number System which is used worldwide.

Dr. Alexander Lesnewich – For his many contributions in the development of the gas metal arc welding process to its present dominate status, including studies of metallurgy of low-alloy steels that led to the development of HSLA, GMAW, and SMAW filler metals; for his research of metal transfer in carbon dioxide and helium resulting in processes commercially known as Dip Transfer, Short Arc and Micro-Wired.

George E. Linnert – For his research in the welding industry working with carbon – and low-alloy steels, and continued with metallurgical research on stainless and heat-resisting steels, particularly the welding of these materials.

Dr. Carl E. Lundin – For his recognition of his research on welding processes and welding metallurgy and defect formation, as his commitment to the education of persons associated with welding, in all fields of joining.

Roy B. McCauley – In the 1930s, he helped develop phosphide alloys, both ferrous and nonferrous and pioneered the use of radioactive materials in nondestructive testing with the use of radium in the 1940s, developed an innovative lead apron and tongs for handling radium and was a healthier officer proficient in the proper handling of radium isotopes.

Dr. Koichi Masubuchi – Since 1946, he has been actively involved in welding research making sustained contributions in the fields of welding stress and distortion analysis, weld failure assessment and underwater welding and pioneering work on welding in space.

Dr. Ernest F. Nippes – A prime mover in welding research for more than 46 years and is noted for the development of the methodology involving the creation of test specimens simulating the HAZ of a weld and the culmination of these efforts was the development and use of the "Gleeble" device to enable quantitative assessments of all metallurgically distinct HAZ regions.

Robert Leon Peaslee – Is the developer of nickel-base brazing filler metals and processes for gas turbine aircraft engines, developed welding procedures, fixturing, processing of heat and corrosion-resistant materials for aircraft gas turbines, and redesigned welded joints to eliminate weld failures in service.

Gerald M. Slaughter – Is recognized for his expertise primarily with research and development activities in materials joining and engineering materials largely in support of energy-producing and energy-conserving concepts under study in the U.S. including nuclear, fossil fuel, fusion, solar and advanced heat engine technologies.

Dr. Robert D. Stout – For his activities in the welding sciences making numerous contributions to its education and engineering through his presentation and publications, and receiving several prestigious awards for his research during his professional career.

R. David Thomas, Jr. – For his involvement in the research and development of low-alloy and stainless steels, nonferrous alloy welding filler metals, and for introducing and promoting electroslag and electrogas welding in the U.S., and his studies of the elevated-temperature behavior of welds in fossil steam power-generating plants.

Class of 1992

Howard S. Avery – Is recognized for contributions during his professional career where he contributed significantly and originally to the research and development of Hardfacing Materials and is an expert on wear processes making major discoveries in understanding the metallurgical value of these processes.

Dr. Karl Edward Dorschu – Has contributed significantly in defining the effects of welding variables on weld metal cooling and their interaction with weld composition for controlling weld properties, thereby increasing the confidence level for acceptable welds in modern submarines and other critical structures.

Dr. William D'Orville Doty – Is recognized for performing, directing, and disseminating the results of research and related activities in the metallurgy and welding fields through innovative applications with the spot welding of steels pioneered the cause for research and development of a wide variety of steel products and their weldability.

Dr. Glen R. Edwards – Is a prolific research in the areas of physical metallurgy to include areas such as deformation processes and reactive metals, electroslag welding, HSLA steel welding, titanium weldability, and aluminides weldability, as portrayed in his numerous publications and in awards received.

Dr. Alan W. Pense – Throughout his professional career has made significant advancements in welding metallurgy, fracture mechanics and the failure analysis of welds, through his teaching and research activities, and promotion of welded construction.

Perry J. Rieppel – Is recognized for his contributions for the advancement of welding technology in many areas including early basic studies of the effects of hydrogen on cracking in weldments and led the research program that resulted in the development of gas metal arc welding processes.

Dr. Warren F. "Doc" Savage – Is recognized as a dedicated educator and through his innovative research and detection established the basis of welding metallurgy setting standards through his creativity resulting in the "Gleeble", "Varestraint" and "Tigamajig", which became internationally popular for the study of material response to welding.

Class of 1993

Bernhard J. Bastian – For his numerous contributions to the art and science of welding, manufacturing and education, his primary field of endeavor being manufacturing, where his expertise has been utilized to improve consumer products through the introductions and application of new joining processes and techniques.

James M. Cameron – Is recognized for his devotion primarily to design and innovations in direct, shop floor applications of welding technology, developing programs that resulted in qualifying and implementing new mechanized welding processes to submarine hulls and piping systems, developed and introduced high speed, automatic carbon dioxide gas metal arc welding to the railroad car building industry.

Dr. Domenic A. Canonico – For having made major technical contributions to the welding metallurgy of pressure vessel steels, for outstanding leadership in the fabrication of energy producing systems and for significant contributions to physical metallurgy of welding processes.

Robert J. Christoffel – Is recognized for the developments and evaluations of welding procedures and welding filler materials for application in heavy electric apparatus, primarily large steam turbine-generators and for his expertise of welding development with respects to the behavior of welded joints in low alloy steels and stainless steels and the diffusion of carbon in dissimilar metal weld joints.

John F. Hinrichs – For his many innovative, conceived and cost–effect applications for welding processes in the mass production of automobile frames and other components, has led interdisciplinary teams in the research needed to implement these concepts, researching the hazards of the welding environment and effectively disseminating this information to industry.

Clarence Evert Jackson – For his dedication as an educator, outstanding and original researches on the fundamentals of welding metallurgy, and for the development of new tests evaluating the weldability which have contributed to the development of new weldable high tensile and alloy steels.

Dr. Damian J. Kotecki – Is recognized for having invented and holding the first patent for all-position flux-cored stainless steel electrodes, conducting research in the areas of low alloy steel and stainless steel electrode product lines, for contract research in welding for government and industry, including study of submerged arc weld hardness and wet sulfide cracking which became WRC Bulletin 184.

August F. Manz – Is a crusader for safety and health issues and the developer of various safety program and is the inventor of the "Hot Wire" welding processes and holds more than thirty U.S. patents on power supplies and other welding subjects.

Dr. David LeRoy Olson – A renowned scientist and educator who has made outstanding scientific and technical contributions to welding science and technology, developing basic understanding of weld consumables, underwater welding, and weld embrittlement, furthering the science and engineering of welding metallurgy, especially with respect to slag-weld metal interactions and highalloys phase stability.

Paul W. Ramsey – Has promoted welding technology with advancements in automated welding equipment and welding processes in both the private and public sector.

Milton D. Randall – Has made significant contributions to the welding of low-alloy high-strength steels and piping systems, particularly the API 5LX pipe steels including studies of the metallurgy of welding in many alloy systems, the development of filler metals and procedures for the fabrication of steels by highly automated as well as conventional arc welding processes, the design of specialized equipment for pipelines and structural welding, and their commercial application to cross-country and marine pipelines.

Richard K. Sager, Jr. – Is recognized for defining and conducting a weld evaluation study of a wide variety of processes (TIG, MIG, EB, Laser, Plasma) for small diameter aluminum pipe for a uranium centrifuge, designing welding fixture to fabricate aluminum spheres for marine shipments, provided technical interface for welding applications for a number of NASA contracts to support various space programs, designed and built automatic aluminum pipe welders for the welding of pipe lines.

Dr. James M. Sawhill, Jr. – Is recognized for his active participation and leadership in the areas of research and development, innovative manufacturing, education, and service to the national and international welding communities and having extensive years in metallurgy and welding engineering.

Helmut Thielsch, Sr. – As a leader in the industry, devoting nearly his entire professional career to the advancement of pressure vessels, piping and boiler technology in power plants, pulp and paper mills, and the chemical industry.

Class of 1994

Dr. Hallock C. Campbell – For his research and developments in underwater cutting electrodes, low-hydrogen coatings, metallurgical welding ability of austenitic stainless welding deposits, submerged arc fluxes, and properties of low alloy filler metals and continuous contributions in providing materials and fabrication education to all levels of the welding industry.

Dr. Stan A. David – For having made significant contributions and advances to the fundamental understanding of welding metallurgy, especially the solidication behavior of welding metal and for his reputation in the welding research community established him in a continuing leadership role for significant developments in the advancement of welding science and technology through original and definitive research.

Paul B. Dickerson – For his dedication to the promotion of welding activities throughout the aluminum industry, making significant contributions through research and development that have had an impact on aluminum-based metals and consumables, promoting continuing educational activities on aluminum welding procedures, filler alloy selections and aluminum welded performances.

Dr. Thomas W. Eagar – For having an influential role as spokesperson in joining technology activities, for his extensive contributions in the fundamental understanding of the physics and chemistry of joining processes , and as an educator advancing the state of joining technology education.

Dr. Gene M. Goodwin – For his many contributions to the art and science of welding, his metallurgical expertise in alloy steel welding, for demonstrated creativity in developing unique metals test equipment, and as an inspiring mentor to students involved in welding research.

Dr. Erich Lugscheider – For being highly respected and recognized, worldwide, as a leader in the sciences and fields of thermal spraying, brazing and soldering and has played a significant role in the education of numerous individuals, establishing an education outlet devoted to joining technology.

James W. Mitchell – For being active in the welding industry for more than fifty years and contributing unselfishly in the areas of research and development, education, welding engineering, international relates and a creative force in the development of resistance welding processes in mass production functions.

Dr. Barry Martin Patchett – Is recognized for his industrial career involving fabrication of diverse materials and structures, from experimental nuclear engineering equipment of heat exchangers and pressure vessels for petrochemical and food productions.

Samuel D. Reynolds, Jr. – Is being recognized for having made significant contributions in developing materials and processes that are utilized to enhance heat exchanger designs, improve manufacturability, and extend list cycles making his personal commitment to welding technology has resulted in the improvement of numerous national codes and standards.

Dr. Thomas Allen Siewert – For having been in the welding and joining industries for many years in both government and private sectors, in the art and science of welding consumables manufacturing to the development of new welding processes and standards and for his literary contributions related to the welding of stainless steels, structural steels and the computerization of welding processes and a strong commitment to education.

Class of 1995

Dr. William A. "Bud" Baeslack III – Is recognized for having promoted and sustained the professional stature of the welding field, particularly in the area of the welding of advanced aerospace materials through research and technical literature, demonstrating his commitment to excellence in research and the highest ethical standards, personally and professionally, to both his students and the welding community.

Roy C. Becker – For having been instrumental in developing a multitude of manufacturing and engineering standards pertaining to weldability, welding procedures and optimum welding process parameters.

Harry W. Ebert – For professional leadership in standards development and dedication to the teaching of welding engineering principles that have advanced the state of welding technology in the petrochemical and piping industries and for his long-term commitment to the welding community related to volunteer activities through his participation in numerous technical associations, societies and private enterprise.

Dr. John M. Gerken – For more than fifty years of continuous achievements in resistance welding research and in the welding of special alloys and superalloys and his volunteer leadership in various professional technical associations.

Dr. Hugh W. Kerr – For his numerous and significant contributions to improve the understanding of solidification processes and those of welding metallurgy and its processes.

Paul E. Masters - For his untiring efforts to develop universally acceptable structural welding codes, associated filler metal specification and welding inspection procedures.

Dr. David Kidder Matlock – For his achievements in advancing the understanding of the mechanical behavior of welds, and for improved techniques to evaluate weld metal properties.

Dr. William A. Owczarski – For his outstanding contributions in welding metallurgy, advance in welding processes, and in establishing national and international governmental administrative policies successfully leading a coalition to coordinate industry's participation the national and international arenas.

Anton L. Schaeffler – For having made a significant contribution to the welding community with the development of the "Schaeffler Diagram," the first to predict the austenite-ferrite balance in stainless steel weld metals.

Class of 1996

Dr. John H. Gross – For significant contributions in the area of the performance of weld metals related to practical aspects of welding and correlated o the way welded project perform in services.

Dr. Santiago Ibarra, Jr. – For having developed underwater welding techniques that led to approval for the first structural repair in the North Sea using underwater wet welding.

James F. King – For his technical authority on joining, and has made numerous outstand contributions to the brazing of metal and ceramics.

Gerald G. Lessmann – For his developments of welding technology for power generation equipment from heavy-section narrow-gap welding and overlay cladding, to thin-section high-speed laser beam welding and fabrication.

Dr. John C. Lippold – For fundamentally advancing our knowledge of the welding metallurgy of stainless steels and aluminum alloys and insight into the meaning of weldability testing.

Dr. Stephen Liu – For his ability to bring clarity to complicated concepts, and as a leading expert, recognized both nationally and internationally in the field of welding and weld metallurgy.

Steven J. Matthews – For having made significant contributions in the development of high-alloy and superalloy welds, in techniques for welding of dissimilar metals.

Robert W. Messler, Jr. – For his many contributions to the development and implementation of materials joining technology promoting fundamental and philosophical changes in the consideration of welding as a joining method for complex critical aerospace applications.

Dr. Edward Metzbower – For his achievements in advancing our understanding of welding process behavior, and particularly for his efforts in advancing laser beam welding.

J. Ray Stitt – for perfecting methods and techniques for torch heat straightening of weldments or members that had been distorted by shrinkage stresses, overloads, or fire.

Donald J. Beneteau – For designing, developing and producing complex resistance welding products by custom designing resistance welding equipment o meet changing automotive design and production needs.

Dr. John A. Brooks – Well known in welding solidification and cracking research, for his work on microsegregation modeling and welding microstructure evolution, which contributes great to the fundamental understanding of welding phenomena.

Dr. Michael J. Cieslak – For fundamentally advancing the scientific understanding of the connection between alloy composition, solidification behavior, and hot cracking propensity in nick-base alloys and stainless steels.

Dr. George E. Cook – For the development of advanced welding systems, educating others in welding research, mathematical modeling and the use of artificial intelligence in welding systems.

Raymond D. Dixon – For his ability and technical expertise in the area of laser and electron beams, his understanding of these beams for welding processes and the ability to develop practical engineering methods to apply that information.

Thomas J. Kelly – For his research involving the understanding of the welding metallurgy of titanium aluminide intermetallic alloys, applying his knowledge through a number of welding, both “new” and “traditional”.

Howard Mizuhara – For successfully solve problems related to a wide array of manufacturing and materials applications in the field of joining in the brazing of ceramics and ceramics to metals is universally recognized.

John W. Moeller – For his notable achievement in the fields of R&D, development of improved equipment, significant technical contributions to major industrial and government projects.

Dr. Herschel B. Smartt – For being recognized as a research and leader in the area of control methodologies for arc welding.

Class of 1998

Richard E. Ballentine – For devoting over 5 years to the brazing industry where his commitment and contributions have resulted in a better understanding of brazing filler metal characteristics.

Dr. David W. Dickinson – For his achievements in welding and materials research, engineering training, education and personal service to students, industry and professional societies providing his expertise in the development of welding technology.

David Scott Duvall – For outstanding contributions in research of superalloy materials for aircraft gas turbines, development and application of novel processes, including diffusion bonding, transient liquid phase bonding, friction welding and fusion welding to superalloys with exceptional technical and business success.

Dr. Akira Matsunawa – For developing a local cavity underwater welding process and applied it to repair welding of bridge pillars.

Dr. Richard W. Richardson – For his development of coaxial viewing for vision-based control of arc welding processes has served as the basis of optical weld sensing technology development.

John J. Meyer – Recognized for the application of different welding processes for the construction of pressure vessels requiring the use of special corrosion resistant high-alloy steels and non-ferrous alloys.

Dr. John M. Vitek – Developed analytical and computational models to describe weld solidification and phase stability in materials subject to weld thermal cycles.

Class of 1999

Nancy C. Cole - For her contributions to the welding community through her development of a computer program to calculate the oxide breakdown of each raw material ingredient contained in a welding consumable formulation, her numerous publications, and her leadership of welding projects.

Dr. Tarasankar DebRoy - For his achievements on transport theory and chemical processes associated with arc and laser welding, and his contributions to the understanding of weld metal geometry, chemical composition and structure.

Dr. Hugo S. Ferguson - For his contributions which led to the development of the first functional Gleeble System, and aided in the understanding of welding metallurgy and the development of the first commercial high-current meter for measuring secondary currents in resistance-welding applications.

Jule A. Miller - For his contributions and achievements in the development, implementation and management of innovative manufacturing processes based on electron beam and laser technology for critical aerospace turbine engine components. His experience led to the improvement of helicopter components, manufacture and repair.

Artie J. Moorhead - For his contributions and achievements in the understanding of brazing, and numerous inventions, including developed methods for brazing carbon composites, new filler metals and new fabrication procedures for complex ceramic-metal sensors.

Harry F. Reid, Jr. – For his contributions and achievements in research which led to an extruded covered electrode for shield metal arc welding of aluminum. This development is still in use in the industry.

Myron D. Stepath - For his contributions and achievements in the development of the Arcair cutting process which removes metal faster and is regarded as the welder's tool for weld root gouging. Mr. Stepath also pioneered the design and manufacture of one of the earliest commercially produced automated computer-controlled multi-arc welding systems.

Class of 2000

Donald Clement Bertossa – For more than 50 years going from laboratory research to production floor operations, from the most basic decisions involving welding to the intricacies of welding nuclear components.

Dr. John Elmer – For exceptional contributions to welding research and developments in the areas of precision electron-beam welding, weld metal solidification, laser-beam welding and cutting, vacuum brazing and diffusion bonding.

Dr. James L. Jellison – For his research on thermocompression bonding for welding electron interconnects, which is the seminal work in the field and has led to the board-based use of that process in electronics manufacturing.

Thomas Michael Mustaleski – For his research and development contributions in advancing electron and laser beam welding technology, the application of this technology to manufacturing extensive work applying the process to the fabrication of nickel-aluminum bronze components, iridium alloy capsules, uranium alloys and various specialty alloys.

Thomas W. Shearer, Jr. – Contributing to the successful applications of welding and joining in the automotive industry, and he was the first individual to introduce GMAW to a production facility in the General Motors organization.

Dr. Chon-Liang Tsai – One of the most prominent scholars in the field of welding design for applying advanced computer technologies to develop engineering design solutions for various structural applications.

Class of 2001

Howard N. Farmer – For his pioneering achievements in the area of Hardsurfacing resulting in many of today's applications because of his methodical approach to this "black art" segment of welding metallurgy.

Stanley E. Ferree – In recognition of his significant and industry leading contributions in the development of gas-shielded flux cored and metal cored arc welding wires and his dedication to the advancement of welding technology.

Paul A. Kammer – In recognition of his significant contributions to the development and commercialization of welding filler metals and thermal spray powders as a research, R&D manager and management executive in North American and Europe.

Dr. Arthur C. Nunes, Jr. – In recognition of his significant contributions in the theoretical modeling analysis, which lead to a more complete physical understanding of welding phenomena encountered in the manufacture of the National Aeronautics and Space Administration Space Transportation System propulsion elements.

Dr. Edmund F. Rybicki – For significant contributions in the development and application of computational and experimental methods to evaluate and control weld residual stresses, weld deflections, and thermal spray coating residual stresses, and for promoting education on residual stresses in welds and thermal spray coatings.

Class of 2002

Dr. John Barsom – For his key contributions of introducing fracture mechanics to determine the suitability of welded structures for service creating a new and more rational approach to the design, materials selection, fabrication, inspection and maintenance of welded structures as reflected in codes and standards worldwide.

Dr. Sindo Kou - In recognition of his extraordinary contribution to the basic understanding of the mass and heat transport phenomena in welding and crystal growth in casting and for his quantification approaches that quantifies his results into a workable theory that goes beyond the traditional background in materials processing.

Warren E. Mayott - For his pronounced influence on the shipbuilding industry contributing to many significant advances in the field of welding engineering providing innovations in the construction of submarines for the U.S. nuclear navy which have proven to be valuable to the fleet and to the country.

John O. Milewski – For his contributions in advancing the science and technology of high energy beam welding, including researching the modeling of optical energy propagation into narrow gap weld joints and experimental validation of high energy beam heat and fluid flow models and for this development of the design methodologies for energy concentrating laser weld joint and rapid fabrication using metal powder fused by high powered lasers.

Dr. Mike L. Santella -For significant contributions in the development and application of joining advanced ceramics and intermetallic alloys and for his work on brazing ceramics encompassing analysis of interface microstructures, thermodynamics of active filler metal alloys, joint properties, residual stress analysis and joint design.

Mr. J. (John) Paul Shaughnessy – Considered one of the "Pioneers" in the automotive welding industry, he was instrumental in advancing the use of resistance welding and its applications in the production of automobiles in addition to having extensive knowledge about both arc welding and resistance welding processes advised design groups as to the feasibility of their designs allowing for components and assemblies manufactured and joined economically and with structural integrity.

Class of 2003

Dr. Jack H. Devletian — Who has the ability to synthesize and clearly explain complex scientific concepts. For his distinguished career in fundamental and applied research for the solidification mechanisms, microstructure, and mechanical properties of weldments, cladding, and solder joints and consumable development for marine applications.

Class of 2004

F. Michael Hosking — For sustained research leading to improvements in the understanding of soldering science, including the development of solderability testing techniques, and for fundamental investigations of mechanisms responsible for bonding in active metal brazing.

Samuel D. Kiser — For his devotion and distinguished career in the field of welding. For his instruction and speaking abilities, coupled with practical wisdom, and for his accomplishments in applying the practice of nickel alloy welding worldwide.

Dr. Radovan Kovacevic — Is a highly accomplished scholar who has made major contributions to welding literature, instruction, and research by synthesizing fresh ideas and new techniques to the application of high-speed machine vision technology to sensing of arc welding.

Dr. Peter W. Marshall — In recognition of his devotion to his profession and academic community, for his outstanding knowledge of the design requirements for welded connections, particularly in the area of complex large tubular structures, as well as practical experience on the capability and limitations of the welding processes and procedures for meeting design requirements.

Dr. Charles V. Robino — For his significant contributions to the field of welding metallurgy of a wide range of engineering alloys, creative technical support of materials-joining programs related to national security, and dedicated mentoring of young engineering students through university collaborations.

Class of 2005

Harvey Castner — For his extensive experience in welding research and development, manufacturing, and engineering management. And for his research that resulted in the development and commercialization of fluxes for the gas tungsten arc welding process and for providing an analytical approach to determining crack-resistant weld compositions.

William King — For developing the first phenomenological model for diffusion welding that became the foundation for work in the welding and brazing field to present day. And for leading the development of many critical materials-joining technologies for the aerospace industry, such as the diffusion bonding of highly alloyed nickel-based superalloys, transient liquid phase bonding of superalloy turbine blades, welding of hardenable nickel-based alloys without hot cracking and strain age cracking, and the linear friction welding of hollow fan blades.

Dr. Ravi Menon — For his significant contributions to the development and application of flux cored wires for hardfacing and high-alloy joining. Specifically, alloys and hardfacing application for steel mills and power plants and the first truly all-position nickel based flux cored wires in the industry.

Dr. Suck-Joo Na — For his significant and sustained contributions in fusion welding; for clarifying the complex phenomena occurring in gas metal arc processes and for the development of an original monitoring and control system.

Dr. Raymond George Thompson — For his research in the theory of weld heat-affected zone microstructure evolution, microfissuring and grain boundary migration and the development of computational modeling techniques to predict the theoretical and experimental behavior.

Dr. Thomas Zacharia — For significant and sustained contribution to welding science, specifically in developing a fundamental understanding of the heat and fluid flow phenomena in the weld pool through computational modeling; having played a key role in developing and implementing neutral-net based models to enhance the quality of resistance spot welds in the automotive manufacturing industry.

Class of 2006

Dr. Sudarsanam S. Babu — Is cited for his research and significant contributions to the understanding of physical metallurgy of welding through the use of characterization and modeling.

Phillip W. Fuerschbach (Fersh-bach) — Is recognized for his research and publications exploring the arc and laser beam welding processes, and for developing various techniques to measure the focused spot size of laser beams.

Dr. J. Ernest Indacochea — Is cited for his significant contributions in the weld repair of steam turbine components, and for his work in brazing materials science for the joining of dissimilar materials.

Dr. James F. Key — Is recognized as a pioneer in the physics of the arc plasma and its effects on welds, and for his achievements in building advocacy coalitions that have increased government-sponsored research.

Henry P. Offer — Is cited for his significant contributions to the development of welding processes, and for techniques to mitigate stress corrosion cracking in nuclear power plants and critical cooling systems.

Dr. Masao Toyoda – Is recognized for his significant contributions in the fields of weld strength mismatch, structural failures resulting from earthquakes, local mechanical heterogeneity of welded structures, and safer structural designs.

Class of 2007

Dr. Valdemar Malin — Is cited for his research and significant contributions in a wide variety of processes, materials, and applications. His research provided a process that is a staple for today's aerospace industries.

Israel Stol — Is recognized for his research and publications providing important factors in the development and implementation of unique joining processes and solutions in the advancement of fusion and solid based joining technologies.

Dr. Paul T. Vianco — Is cited for his significant contributions to the advancement of the science and technology of lead-free soldering and science-based modeling of solder joint reliability.

Dr. Peng-Sheng Wei — Is recognized for advancing the industry's application of electron, laser beam, and resistance welding through novel and original coupled mathematical analyses coupled with basic and verification experiments.

Class of 2008

Dr. Harshad Bhadeshia — Is recognized for being a pioneer in modeling microstructure and properties of steel weldments, and being the first to apply the fundamental phase transformation theories to practical welding metallurgy innovations.

Dr. John N. DuPont – Is cited for his continued fundamental research and contributions to the field of welding metallurgy, especially with respect to austenitic materials; and for his continued dedication to the training of graduate and undergraduate students for careers in welding, materials science, and engineering.

Dr. Jerry E. Gould – Is cited for being a leader in defining mechanistic interpretations of resistance and solid-state processes; a coauthor of the first model for prediction of thermal distribution and profiles in friction stir welding, and a leader in the development of a new welding process, resistance welding bonding.

Dr. Gerald A. Knorovsky – Is recognized for seminal and sustained contributions to the welding engineering of nuclear weapon devices that are critical to our nation's security; development of unique characterization and diagnostic methods for small-scale joining processes to achieve a better understanding of the process physics; and advancing the understanding of micro- and nano-joining processes.

Class of 2009

Dr. Yu Ming Zhang — Is recognized for being a pioneer and a leader in the development of innovative welding processes, welding process sensing and control which directly supports the shipbuilding industry.

Class of 2010

Paul J. Konkol - Is recognized for his research, developments, welding procedures, and applications in submarine hull, structural, and line-pipe applications.

Dr. Richard E. Smith – Is cited for his understanding and promotions of the integrated applications of materials and welding technologies, applied fracture mechanics and stress analysis needed for innovative welded repairs of electric power generating equipment.

Class of 2011

Dr. Paul Burgardt – Is recognized for his 30 years of service in the areas of welding physics and all phases of weapons components. His contributions are responsible for the advanced weapons systems critical to our national defense.

Dr. Bryan Chin – Is cited for his achievements in research and development of weld monitoring and control using infrared sensing, and techniques for making crack-free repairs of irradiated materials.

Dr. Dave Farson – Is recognized as a leading researcher and scholar in the fields of arc and laser beam welding process control, quality monitoring, and in the joining of conventional and advanced materials.

Dr. Toshihiko Koseki – Is cited for his research on the microstructures of metals and heat-affected zones and the resultant performance of welds, and for his work advancing education as a corporate researcher and as a university professor mentoring materials researchers and welding engineering students.

Class of 2012

Dr. Zhili Feng – Is recognized for his significant contributions, publications, and research to the advancement and development of computational welding mechanics, friction stir welding, and friction stir processing.

Dr. Thomas J. Lienert – Is cited for his research work including but not limited to producing the first defect-free friction stir welds on Ti-6A1-4V and 1018 steel alloys resulting in their applications for U.S. Air Force and U.S. Navy applications.

Class of 2013

Dr. Dennis Harwig – For his distinguished and significant research in the ARCWISE parameter development method for arc welding processes, his application of the Brittle Temperature Range (BTR) technique to the study of weld solidification cracking, and his important contributions to improve the control of titanium weld quality.

Muralidhar Tumuluru – For his significant contributions toward explaining the weldability and fracture behavior of the advanced high-strength steel (AHSS) used in automotive applications, and the procedures he developed for joining of AHSS coils on continuous pickling and galvanizing lines that helped to commercialize these steels, his contributions to technical standards, and for his teaching and mentoring of young engineers.

Class of 2014

Dr. Carl E. Cross – Is recognized for significant contributions in the areas of nonferrous welding (namely, weld solidification of aluminum, magnesium, and titanium alloys), of weldability testing and the associated weld solidification cracking mechanisms, and of education related to the topic of welding metallurgy.

Dr. Patricio F. Mendez – Is cited for his sustained seminal contributions to welding research promoting improved understanding of defect formation in welding, mathematical modeling of welding processes, the physics of metal transfer, wear-resistant surfacing, phase transformations, and for his continued advocacy for welding education and training.

Class of 2015

Dr. Yoni B. Adonyi – Is recognized for his distinguished career in both industry and academia, contributing to plate, tubular, and sheet welding projects. He co-authored a patent on joining of mandrel bar for seamless pipe production, and he disseminates his extensive knowledge of weldability and materials-joining to his students and industry, worldwide.

Dr. Boain T. Alexandrov – Is recognized for developing innovative methods for evaluating weldability, phase transformation analysis, and metallurgical characterization that enable quantification of nonequilibrium phenomena and response to processing in conventional and advanced alloys. He is also recognized for his significant contributions toward the resolution of major weldability problems in the power-generation and oil and gas sectors.

Dr. Pingsha Dong – Is recognized for his distinguished career in both industrial and academic sectors for his research in weld fracture mechanics, modeling of welded structures, studies in residual stresses and distortion mitigations, and designs for fitness for service. He's developed numerous unique and effective methods for predicting fatigue design and life prediction of welded structures, many of which have been adopted by International and National Codes and Standards.

Dr. Duane K. Miller – Is cited for the development of numerous major flagship code books within the structural industry and for continuously devoting his time to enhance and standardize national seismic welding standards. He's renowned as an outstanding lecturer and a published writer, and is a co-inventor of one patent, with another patent pending.

Dr. Norman Y. Zhou – Is cited for his extensive research in advanced materials joining, and most notably, laser and resistance welding, diffusion brazing, microwelding, nanowelding, and laser processing of NiTi alloys. His research has provided him the opportunity to author the first of its kind publication in microjoining and nanojoining, as well as co-author over 230 journal papers, books, and technical conference presentations and reports.

Class of 2016

Dr. John A. Goldak - Is recognized for revolutionary contributions to computational weld mechanics, including the seminal development of the "double ellipsoid heat source." He is also recognized for his long and sustained research and teaching career in the computational modeling of welding based on its most fundamental aspects, and for developing and applying state-of-the-art computational models in practice and in high responsibility situations, such as the weld repair of the AECL's NRU Reactor and the weld repair of Victoria Class Submarines.

Dr. Leijun Li - Is recognized for his sustained efforts over the past 25 years to secure research and instrument grants. He has established an outstanding welding research group that has attracted talented postdocs, PhD and MS students, and undergraduate assistants. He has made significant contributions to the science and technology of welding and joining in welding metallurgy of austenitic stainless steels, laser deposition and laser processing of materials, bond formation for ultrasonic welding, and phase transformations in advanced alloys.

Dr. Anatol Rabinkin - Is recognized worldwide for his accomplishments in the area of filler metal development, including fundamental mechanical and physical properties as well as braze joint performance, specifically his developments in brazing technology. His inventions of the amorphous alloy have been used for pollution control in diesel trucks and equipment, saving immeasurable pounds of pollution.

Ms. Estela Silvia Surian - Is internationally recognized for her work in industry and academia. In industry, she has tirelessly contributed to the design and development of many consumables required for specific applications, specifically in the area of covered electrodes, cored wires for semiautomatic and automatic welding, and fluxes for submerged arc welding. In academia she has developed numerous courses related to welding in several countries including Argentina, Brazil, the United States, and Switzerland.

Dr. Hongyan Zhang - Is recognized for his sustained, seminal contributions to joining of aluminum and other lightweight materials, especially for automotive applications, including expulsion, defect formation, and shunting effects in resistance welding of aluminum; electrode life prediction and extension in resistance welding of aluminum; resistance welding process control; mechanical fastening of light metals; and development of an impact tester for material joints. He is also recognized for his important role in educating future welding engineers.

Class of 2017

Dr. Chuansong Wu - Is recognized for establishing a set of models to analyze and gain deep insight into complex multi-physics phenomena in various welding processes including GMAW, GTAW, PAW, hybrid laser-GMAW, and FSW. With these models, he has also optimized, controlled, and improved processes resulting in innovative novel process variants including high-speed GMAW with external magnetic field, waveform-controlled keyhole PAW, ultrasonic vibration enhanced FSW that assure weld quality be better produced at higher efficiency.

Dr. Raymond Xu - Is recognized for his inventions of brazing filler metals to improve single crystal alloy joining and repair capabilities for gas turbine applications, his pioneering in braze modeling and ceramic active brazing, and his contributions in digital image testing and braze-joint performance prediction methods for critical brazed structures. He advanced friction stir welding for processing and grain refinements of titanium and nickel alloys to improve microstructure, wear resistance and strengths for aerospace applications.

Class of 2018

Dr. John Norrish - Is recognized for a long career in both academic welding research and in industry and has made significant contributions to advanced welding technology particularly in regard to arc process and equipment development, and process control. He has promoted and facilitated the use of robotic automation, waveform control arc processes and real-time process monitoring. His work has been applied in industries as diverse as pipelines, mining, and defense.

Dr. Todd A. Palmer - Is recognized as one of the most talented investigators in the welding and joining community today, and his research is among the highest quality. He has demonstrated ability to apply fundamental concepts involving a wide range of topics to solve difficult problems in materials science in general and welding and joining in particular. Of equal importance, his research topics are almost always motivated by practical problems with industrial relevance.

Dr. Wei Zhang - Is recognized for sustained, seminal contributions to research and publications that promote improved, fundamental understanding of welding and additive manufacturing processes and materials behavior through advanced modeling and experimental efforts; For continued advocacy for welding education and training, and lasting excellence in mentoring and developing students and young professionals.

Class of 2019

Ms. Marie Quintana - Is recognized for her work on hydrogen cracking and her measurement of diffusible hydrogen which led directly to changes in industry hydrogen measurement methodology. She is also recognized for her outstanding record of advancing welding technology and consumable design.

Dr. Antonio Ramirez - Is recognized for 25 years as an engineer and researcher who has made substantial contributions to structural materials joining, welding metallurgy,

materials characterization, and unveiling fundamental aspects of bulk and nanostructured materials phase transformations.

Dr. Dusan Sekulic - Is recognized for his international scientific contributions supporting the art of brazing, and for promoting visualization of the processes of joint formation. He is also recognized for his scholarly work involving brazing of similar and dissimilar materials.

Dr. Yu-Ping Yang - Is recognized for his significant research contributions to the development and advancement of welded structure modeling, weld process modeling, controlling weld residual stress and distortion, and for developing and applying integrated computational materials engineering models to solve industrial problems.

Class of 2020

Ms. Susan Fiore - Is recognized as a spokesperson and industry-leading expert in the area of Safety and Health for more than 30 years understanding how to reduce welder exposure to fume, including more than 20 years in welding filler metal research, development and application engineering.

Dr. Michael Karagoulis - Is recognized for sustained and innovative contributions to automotive resistance welding including but not limited to the creation of a practical standard approach to weld process control, the development of hermetic seam welding for the first ethanol-tolerant steel fuel tank, and the redesign of electrode tip dressers, electrodes and cooling systems for broader process control.

Dr. Alexander Shapiro - Is recognized for his pioneering work in the titanium and advanced materials including refectory metals and ceramic and composites, brazing processes and alloy development that have made a significant impact on the technology advancement.

Class of 2021

Dr. Daryush Aidun is recognized for his achievements in applying transport phenomena theories to weld modeling, laying down foundations for a fundamental understanding of the welding process, in combining temperature and velocity fields, temperature gradients and solidification growth rate in the models, and in the use of advanced computational software in describing fundamental weld phenomena.

Class of 2022

Adrian Gerlich is recognized for the significant contributions to education and research in welding processes, characterizing the microstructures and properties, physical

metallurgy of welding, and for prolific publication of scientific papers on new research in joining of advanced alloys and materials.

Dr. Patrick W. Hochanadel is recognized for providing exemplary service to the welding community in the United States and internationally. He is a world recognized expert in the areas of electron beam and laser welding, along with the welding of refractory metals and actinides. He has an excellent body of published work both in the open and classified welding literature. He has a long history of supporting technical committees in the work of the American Welding Society and International Institute of Welding.

Dr. Peter Mayr is recognized for his excellent achievements in studying the process-microstructure- property relationships in advanced alloys and contributing to the improved service performance of welds in creep resistant steels, for advancing the science and technology of welding and additive manufacturing, for his distinguished academic carrier and strong commitment to the education of a new generation of welding and materials engineers and scientists, and for sustained service to both the American Welding Society and the international welding community.

Class of 2024

Dr. Richard D. Campbell is recognized for some of the initial research into surface-tension fluid flow - weld penetration phenomena in autogenous GTA welds in stainless steels and incorporation of them into industry-standards utilized world-wide, especially in the high-purity semiconductor, pharmaceutical, and food and dairy industries. Also, for his leadership and expertise in welding of stainless steels, including authoring AWS' "The Professional's Advisor on Welding of Stainless Steels", being current author of the Stainless Q&A column in the Welding Journal, and teaching stainless steel and CWI seminars in the industry for more than 30 years

Dr. Blair E. Carlson is recognized for his exemplary service to the welding community in the United States and internationally, in automotive welding and joining. He is recognized for demonstrated leadership and contributions to materials joining technology innovations in friction stir welding and laser welding to impact how automotive vehicles are welded; Pioneering work in aluminum and aluminum-to-steel resistance spot welding; Strong advocacy to US government for a strong welding science and technology basis within the USA; and sustained support to materials joining R&D and education in US universities and other countries.

Dr. Douglas P. Fairchild is recognized for his long career working in the oil and gas industry and is an internationally recognized expert in the areas of pipeline and structural welding, steel metallurgy and failure analysis. He has established an impressive record of innovative problem solving, novel inventions, and technical leadership. He has published extensively, mostly in conference proceedings associated with the oil and gas industry and holds multiple patents. Dr. Fairchild is now focusing on the areas of welding engineering, fracture mechanics and steel metallurgy for the emerging offshore wind industry in the United States.

Dr. Jorge A. Penso is an internationally recognized expert in Welding and Materials. He has used this expertise for the betterment of AWS/ASME/API in applied Welding technologies through various means such as, serving on API Subcommittee in Materials and Corrosion and Welding 582 Task Group Chair. Currently, Dr. Penso drives the Welding Focus Area for Pipeline Research Council International and Chairs the Industrial Advisory Board for the Manufacturing and Materials Joining Innovation Center and Influential Industry/University Collaborative Research Consortium focused on the advancement of welding/joining science and technology. He has also been a welding instructor in Technological University and industrial classes.

Dr. Jeffrey W. Sowards is recognized for innovating new techniques that advance the metrology of laser welding and weld mechanical properties and for implementation of Integrated Computational Materials Engineering to improve self-reacting friction-stir welding for human space flight. His welding research, under different roles at NIST and NASA, focused on understanding the influence of complex structure-property-processing relationships on weld performance. His work couples a diverse range of alloy systems, including mild & low alloy steels, austenitic stainless steels, and Ni & Cu alloys, with advanced welding processes such as friction stir, laser, and hybrid laser.