

2023

IIW AWARDS

Honouring significant contributions to welding and joining technology
and the International Institute of Welding

76TH

ANNUAL
ASSEMBLY
AND INTERNATIONAL
CONFERENCE IN
WELDING AND JOINING

SINGAPORE

—16-21 JULY 2023—



INTERNATIONAL INSTITUTE OF WELDING

A world of joining experience



At this Opening Ceremony of the 76th IIW Annual Assembly of the International Institute of Welding (IIW) is honoring the winners of this year's prestigious IIW Awards and acknowledging their significant contributions to welding and joining around the world.

IIW Awards recognise a wide range of achievements such as outstanding technical accomplishments and contributions to IIW Working Units, illustrious careers in the industry or academia, contributions to global advancement and meritorious service to IIW.

At this 76th IIW Annual Assembly, IIW Annual Awards acknowledge not only people with outstanding accomplishments or technical achievements, illustrious careers or long and meritorious service to the IIW around the world, but also encourage promising young professionals who are our future industry and Institute leaders.

IIW is proud to promote and recognise distinction through its numerous prizes and awards, often sponsored by Member Societies. Many are named to pay tribute to eminent individuals who were founding fathers of IIW or champions of its global role, or made significant contributions to the development and implementation of scientific and technical advances in welding and allied processes.

It was the dedication and vision of these famous IIW personalities which set the stage for the organisation to be recognised today as the largest and most prestigious worldwide network for the exchange of knowledge and cooperation in a wide range of joining and related technologies.

Our heartiest congratulations go to the 76th IIW Annual Assembly winners whose achievements and professionalism, whether at the peak of the mountains or in the foothills, are outstanding examples of determination on the pathway to excellence.

2023
IIW AWARDS



Jorge Dos Santos



Norbert Enzinger



Thomas Kannengiesser



Murali Tumuluru



Herber Stauer



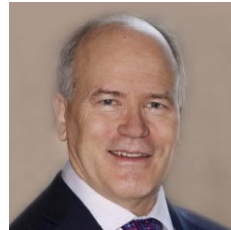
Sergio Amancio



Takeshi Araya



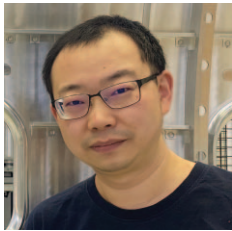
Solomon Edebiri



Gary Marquis



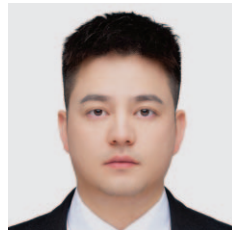
Dongsheng Wu



Banglong Fu



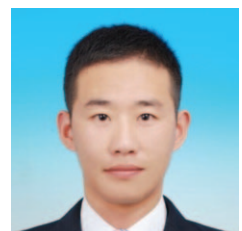
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More information about IIW's recognition of people is found at www.iiwelding.org



FELLOW OF THE IIW AWARD



Recognises individuals with a minimum of 10 years' active participation in IIW who have made distinguished contributions to welding science and technology and promoted and sustained the professional stature of the field

Sponsored by IIW

Jorge Dos Santos



PhD in Welding Technology (1983, Cranfield University, UK).
MSc in Physical Metallurgy (1978, Federal University Rio de Janeiro, Brazil).
Chief Materials Scientist at the Pacific Northwest National Laboratory, Energy Processes and Materials Division, Applied Materials and Manufacturing Group, Richland (WA), USA.
Senior Scientist (Joint Appointment), Department Solid State Materials Processing, Institute of Materials Mechanics, Helmholtz-Zentrum Hereon, Germany.
Hon. Professor for Solid State Joining Processes, Technical University Ilmenau, Mechanical Engineering Faculty, Germany.

Sponsored by IIW

Norbert Enzinger



In 1996 he finished his study "mechanical engineering and economics" at Graz University of Technology. Subsequently he was project leader at the Materials Center Leoben MCL from 1999 until 2003. In cooperation with Siemens the development and distribution of welding residual stresses was investigated numerically as well as experimentally and summarised in his PhD thesis which he defended with distinction in Jan. 2003. In 2004 he became assistant at the Institute for Materials Science and Welding at Graz University of Technology. Based on these activities Norbert Enzinger habilitated in March 2010 for "welding technology and failure case analysis". From 2020 to 2021 he was appointed guest Professor for Welding Metallurgy at University West in Sweden.



Sponsored by IIW



Thomas Kannengiesser

Univ.-Prof. Dr.-Ing. habil. Thomas Kannengiesser, born in 1971, studied mechanical engineering with a specialization in materials engineering and testing at the University of Magdeburg and was a doctoral student at the BAM Federal Institute for Materials Research and Testing in Berlin (Germany). He completed his doctorate at the Institute for Materials and Joining Technology at the University of Magdeburg. Since 2000, he has led numerous research and development projects in the safety of welded components and supervised numerous PhD students at BAM. In addition to his duties as head of division at BAM, he has been a university professor at the University of Magdeburg since 2014.

Prof. Kannengiesser has been active in IIW for over twenty years. Since 2005, he has been the German delegate to C-II and served as the Chairman of Sub-commission IIA, Metallurgy of Weld Metals. His areas of expertise include weldability and welding metallurgy of structural steels as well as load and crack analyses for welded joints.

Prof. Kannengiesser is recognized as a leading international expert in the welding metallurgy and mechanical performance of structural steels. He has published over 200 papers on these and other topics, including over 40 papers in *Welding in the World*. He has also been active in the development of standards and guidelines, including ISO standards for weldability testing and the measurement of hydrogen in weld metals. Prof. Kannengiesser was nominated to serve as an Editor of *Welding in the World* starting in September 2022.



EVGENY PATON AWARD

Sponsored by the Ukrainian E.O. Paton Electric Welding Institute



Recognizes individual who has made a significant contribution to science and technology through his lifetime dedication to «applied research and development in the field of advanced technologies, materials and equipment for welding and allied processes

Murali Tumuluru



Murali Tumuluru is a Senior Welding Consultant with Tumuluru Welding Consulting, LLC and has more than thirty years of experience in welding research. He spent over twenty years in the steel industry working on weldability of advanced high strength steels. He has done pioneering research to understand the weldability, fracture behavior, how to successfully weld the Advanced High Strength Steels (AHSS) and has helped with the implementation of Generations 1 and 3 AHSS steel grades in the automotive industry. He has published widely about the weldability of these steels and has given numerous invited presentations and educational seminars. He holds degrees from Rensselaer Polytechnic Institute and The Ohio State University in Materials and Welding engineering. Since leaving the steel industry, he has been consulting in the field.

Tumuluru has been an active member of Commission III, and now serves as the Co-Chair of Commission IIIA. He is a Principal Reviewer for Welding in the World. He has received numerous awards for his research from the American Welding Society (AWS), some of which include the James F. Lincoln Gold Medal Award (2008 and 2011) and the AF Davis Silver Medal Award (2013). He also received the Elihu Thomson Resistance Welding Award (2012) for Outstanding Contributions to the Advancement of Resistance Welding, the William Irrgang Medal Award (2019) for doing the most to Advance the Science and Technology of Welding, and the RD Thomas Memorial Award (2019) for a Substantial Contribution to the Activities of IIW. Tumuluru is a Fellow of both the AWS (2013) and the IIW (2021).



ARTHUR SMITH AWARD

Sponsored by the UK Delegation

Conferred upon an individual who, over numerous years, has given dedicated service to the objectives of IIW, particularly in the work of the Commissions



Herber Staufer

Dipl.-Ing. Dr. Herbert Staufer studied mechanical engineering at the University of Technology Vienna, Austria and was a young professional at the Institute of Material Science and Testing. During this period, he graduated to the European Laser Engineer (Cambridge, Vienna) and has completed his Ph.D. in material science and fracture mechanics.

Herbert Staufer has a strong industrial experience, interest, and involvement in laser-arc hybrid techniques longer than 25 years. Within Fronius International, he is responsible for research and development of laser-arc hybrid welding for industrial applications. In this time, more than 30 scientific papers are published on international conferences and journals and *Welding in the World* as well.

2016 he has been elected to the IIW Chairman of Commission IV (Power Beam Processes). During this period, he was also a member of the IIW Editorial Board and until 2021 a member of the IIW Technical Management Board. Since 2022 he is the Vice-Chairman of the Working Group Technical Working Unit.



YOSHIAKI ARATA AWARD

Sponsored by the Japanese Delegation



Recognizes individual who has realized extraordinary achievements in fundamental research in welding science and technology and its allied areas, which have been recognized as significant contributions to the progress of welding engineering and related fields

Sergio Amancio



Univ.-Prof. Dr.-Ing. Sergio Amancio is a full professor for aviation materials and manufacturing techniques at Graz University of Technology - TU Graz (Austria). He is a deputy head of the Institute of Materials Science, Joining and Forming and chair of the 'Austrian Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK) Endowed Professorship for Aviation'. Furthermore, Sergio Amancio is an adjunct professor in the Welding Engineering Program at Ohio State University (USA) since 2020.

The focus of his work has been on the correlation between processing parameters, microstructure and material properties aiming at developing, understanding and optimizing joining and additive manufacturing techniques for lightweight engineering structures. Before joining TU Graz, he was a Helmholtz-Young Investigator group leader at Helmholtz-Zentrum Geesthacht (Germany) and an Assistant Professor for Joining Technology at the Institute of Polymer Composites of Hamburg University of Technology - TU Hamburg (Germany). Prof. Amancio has developed and patented new manufacturing techniques for polymer-metal hybrid structures. He has been awarded 22 patents, co-published over 275 technical publications and co-edited 3 technical books, including the first technical book on joining technology of metal-polymer structures in 2018. Prof. Amancio-Filho is a recipient of national and international awards, including the 'Granjon Prize 2009' of the International Institute of Welding, the 'German High Tech Champions 2013' of the German Federal Ministry of Education and Research (BMBF), the 'Georg-Sachs Prize 2014' and the 'DGM Prize 2022' of the German Society for Materials Science (DGM). Since 2009, Prof. Amancio is an expert and delegate member at different IIW commissions, and has served as a technical expert in a large number of scientific and technical committees in Europe and Americas.



THOMAS MEDAL

Sponsored by AWS

Rewards an individual who has been involved in IIW/ISO international standards activities and can deliver a lecture on the incorporation of global studies into the standardisation for welding technologies



Takeshi Araya

Dr. Araya (Japan) worked for Hitachi Ltd. at the Mechanical Engineering Research Laboratory and later at the Hitachi Works, where he focused on developing intelligent welding production systems. He received his Doctor of Engineering degree from Nagoya University. After retiring in 1999, he joined Laserx Co., Ltd. where continues to work as an adviser. From 2013 to 2021, Araya also participated in IIW C-VI, as a delegate of Japan focusing on terminology. He was also an expert at IIW-C-XII, publishing papers and giving lectures from 1969 to 1999. He actively participated in ISO/TC 44/SC 7 from 2007 to 2021 as a delegate of Japan, contributing to various documents. He was involved in ISO/TC 44/SC 10 from 2002, creating drafts for laser/machine acceptance test standards. Araya served as a secretary for the Standards Committee of Japan Welding Engineering Society (JWES) since 2008, drafting welding terminology standards for Japan Industrial Standard. He is also involved with technical organizations such as Japan Welding Society and Japan Laser Processing Society.



CHRIS SMALLBONE AWARD

Sponsored by the Member Societies of Bulgaria, Romania, Greece and Serbia

Conferred on an outstanding individual who has made a significant contribution to improve the global quality of life through optimum use and innovation of welding and joining technologies in their region and internationally



Solomon Edebiri

Solomon Edebiri has spent his last thirty four years in the oil and gas industry offering services in the areas of drilling and related oil and gas operations helping operators solve critical problems. He however spent the last 20 of it supporting government of Nigeria to build welding capacity.

Born April 22nd 1962, Dr Edebiri, a national honours holder, holds a certificate in General Welding, National diploma in Welding and Fabrication, post graduate certificate in Business administration; MSc and Ph.D in Business Management; and a Doctor of Science (DSC) Honoris Cosa. He attended short courses in the United Kingdom in the areas of non-intrusive inspection, welding inspection, corrosion control, Engineering Repairs and protection, Drilling, Completions, work-over and remedial services; and Professional studies in Leadership.

Dr. Edebiri is Deputy Board Chairman, Mudame University Irrua, Nigeria, Member, IIW Technical Management Board (IIW) (2013 – 2015), Member, IIW Regional Working Group, President Nigerian Institute of Welding (2006 -2022). Established the national welding capability development plan in Nigeria, Chaired the committee that drafted the national policy on welding and welding related fields in Nigeria. He is working with some African Countries to build capacity in welding and related Skills; they include Ghana, Sao Tome, and Principe, Equatorial Guinea, Cameroon, Uganda and Sierra Leone. He is a fellow of petroleum Training institute, Nigeria metallurgical Society. Dr Edebiri has co-authored two books in a learned journal, presented over 100 papers in different fields in the last twenty years.





WALTER EDSTRÖM MEDAL

Sponsored by the Swedish Delegation

Recognizes individual who, at their level of knowledge and responsibility, have provided a remarkable and distinguished contribution to IIW comparable with that made by Walter Edström himself



Gary Marquis

Gary Marquis has an MSc degree from the University of Illinois, and a PhD from Helsinki University of Technology. He is currently Professor of Mechanics of Materials and Dean of the Aalto University School of Engineering. Professor Marquis attended more than 20 IIW Annual Assemblies and has accepted increasingly demanding positions of responsibility including eight years as Chair of Commission XIII and three years as Chair of the TMB. He was a member of the IIW Board of Directors for nine years including three years as President, one year as treasurer and three years as Chair of WG Governance.



HENRY GRANJON CAT. A AWARD

Sponsored by the French Delegation
CATEGORY A: Joining and Fabrication Technology



In recognition of his outstanding research paper
'In-situ X-ray imaging and multi-physical modeling of keyhole
dynamics in laser processing of a medium-entropy alloy'

Dongsheng Wu

Academic background and professional career: After graduating from Joining and Welding Research Institute (JWRI, Osaka University, Japan), Dr. Wu works as a postdoctoral researcher of the Japan Society for the Promotion of Science in JWRI. He focuses his studies on the plasma and molten pool behaviors, element mixing, defects formation, thermal stress evolution and microstructure in advanced arc and laser welding and additive manufacturing based on numerical simulation and experimental visualization, such as computational fluid dynamics, finite element method, spectroscopic measurement system, X-ray transmission system and in-situ ultrahigh-speed synchrotron X-ray imaging method. He also develops some novel mathematic models for the plasma arc and laser.



HENRY GRANJON CAT. B AWARD

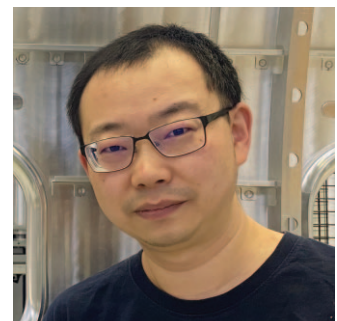
CATEGORY B: Materials Behaviour and Weldability



In recognition of his outstanding research paper
'Refill friction stir spot welding of AM50 cast magnesium alloy'

Banglong Fu

Dr. Ing. Banglong Fu earned B.Eng. and M.Sc. from Shandong University, China, as a student of Prof. Guoliang Qin, and subsequently, received Ph.D. in Mechanical Engineering from Technical University Berlin, Germany, under the co-supervision of Prof. Dr.-Ing. Michael Rethmeier and Prof. Dr.-Ing. Jorge F. dos Santos. His Ph.D. research is a process-oriented project in partnership with Helmholtz-Zentrum Hereon (HEREON) and involved automotive manufacturers, focusing on developing a novel solid-state welding technology, refill friction stir spot welding (refill FSSW), for industrial application. Since 2020, he has been engaged at HEREON as a scientist, and was later promoted to the leader of Spot Welding & Processing Group of Solid State Materials Processing Department. He specializes in friction-based joining technologies, where the primary interest spans both fundamentals of joints' formation/performance and applied aspects with close industrial relevance. His managed team consistently conducts R&D innovations under funding from governments, as well as companies concerning automotive, railway, aerospace markets.





HENRY GRANJON CAT. B AWARD

In recognition of his outstanding research paper
'Grain growth and precipitation behaviour of AISI 430 ferritic stainless steel subjected to pulsed laser beam welding using free-form pulse shaping'



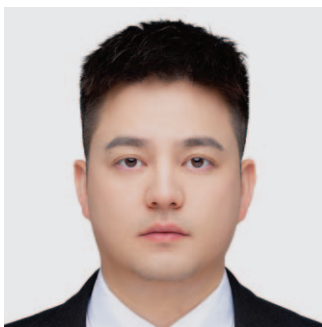
Niklas Sommer

Niklas Sommer obtained his MSc in Mechanical Engineering from the University of Kassel in 2019. Throughout his MSc, Niklas engaged in materials processing using pulsed laser sources. He is currently acting as group leader of the welding division at the Department for Cutting and Joining Manufacturing Processes of the University of Kassel under the direction of Prof. Dr.-Ing. Prof. h.c. Stefan Böhm. His research is focused on laser beam welding as well as DED-based additive manufacturing. Consequently, Niklas has authored multiple publications on the intergranular corrosion behaviour of welded ferritic stainless steels as well as compositionally-graded material combinations obtained by laser-based DED. Furthermore, Niklas is engaged in both, welding and additive manufacturing of shape-memory alloys. In February 2023, Niklas completed his doctorate (Dr.-Ing.) in the field of laser-based DED processes.



HENRY GRANJON CAT. D AWARD

In recognition of his outstanding research paper
'Augmented Virtuality Human-robot Interactive Welding: Principles and Applications'



Wenhua Jiao

After obtaining the bachelor's degree in electrical engineering at China University of Mining and Technology, Wenhua moved to the USA to attend Electrical Engineering at the University of Kentucky where he graduated in 2012 and got the Doctorate (PH.D) in Electrical Engineering in 2015. After being a trainee engineer at Tesla in the USA and teaching assistant at the University of Kentucky, Wenhua is currently a Lecturer at the Nanjing Tech University in China. He is a member of Robot and Automation Professional Committee (Welding Society) of Chinese Mechanical Engineering Society and his research interest are mainly applied machine vision, robotic welding and human-robot collaboration.



HALIL KAYA GEDIK AWARD

Sponsored by the Turkish Delegation



Recognises a scientist or engineer's significant contributions
to the advancement welding science and technology

W. Richard Polanin

Dr. W. Richard Polanin is a Professor of Manufacturing Engineering Technology and Welding Technology at Illinois Central College and although retired from full time teaching, he continues to teach. He is currently Co-Principal Investigator for Weld-Ed, the National Center for Welding Education and Training. He holds a Bachelor's and Master's degree from Illinois State University and a Doctorate from the University of Illinois. In addition to his responsibilities as a professor and with Weld-Ed, Dr. Polanin is a consultant in manufacturing engineering, and welding engineering, and inspection. He has published numerous papers and has made many technical presentations in the areas of Manufacturing, Robotics, Welding and Manufacturing Education. Dr. Polanin is a graduate of the Illinois Scholars program sponsored by the Illinois State Board of Education and Illinois Community College Board and is a Certified Manufacturing Engineer, Certified Welding Inspector, and a Certified Welding Educator. He was elected to the AWS 2014 Class of Counselors and Fellows, and was President of the American Welding Society in 2022. He is the Chair of the AWS Education and Training Committee and the Vice-Chair of the International Institute of Welding Education Commission XIV.





WELDING IN THE WORLD BEST PAPER AWARD

Sponsored by the IIW

Category A: Welding Processes and Additive Manufacturing

In recognition of his outstanding research paper 'Microstructure and properties of TLPB joints of IN718 with 3D waveform structure prepared by SLM'



Haichuan Shi

Haichuan Shi, a Ph.D. in engineering, graduated from South Korea Ocean University in mechanical engineering in 2018, and later worked in the School of Materials Engineering, Shanghai University of Engineering and Technology. It has been committed to the development and application of laser 3D printing technology, component optimization and topology, vacuum brazing technology and process research. Published over 30 SCI papers and 4 invention patents. It has successively presided over over more than 10 projects such as the school startup fund, the Shanghai university teacher production, teaching and research plan, and enterprise entrusted projects.

Category B: Materials and Metallurgy

In recognition of his outstanding research paper 'Relationship between ferrite-austenite phase transformation and precipitation behavior of sigma phase in super duplex stainless steel weldment'



Shotaro Yamashita

After graduating from Hiroshima University, I have been engaged in welding research and education as an assistant professor at Osaka University, where I am currently working. I specialize in the field of welding metallurgy. In particular, I am engaged in research on microstructural evolution and their characteristics associated with weld heat effects, in addition to hot cracking and reheat cracking, which are problems during welding. I am working on further understanding and solving problems in welding metallurgy by making full use of both experimental and analytical methods.

Category C: Structural Integrity, Design and Fitness for Service

In recognition of his outstanding research paper 'On the interaction of axial and bending loads in the weld root fatigue strength assessment of load-carrying cruciform joints'



Antti Ahola

Antti Ahola works as a post-doctoral researcher in the research group of Steel Structures at the Department of Mechanical Engineering of LUT University in Lappeenranta, Finland. The research group has focused on studying structural (incl. static and fatigue) performance of steel components, particularly in the context of welded high-strength and ultra-high-strength steels. After getting his PhD (2020, LUT University), Antti Ahola has continued research work in the field of the fatigue of welded joints. He has been contributing to the works in the IIW Commissions XIII (Fatigue) and XV (Design and Fabrication). He has authored approximately 50 scientific articles.

2023
IIW AWARDS

A WORLD OF JOINING EXPERIENCE

Presented to

Adolf Hobbacher

50 years

Glenn Ziegenfuss

40 years

Kin-ichi Matsuyama

30 years

Vencislav Grabulov

20 years

Wu Chuansong

10 years

Giovanni Battista Garbarino

10 years

Srinivasan Iyer

10 years

Fernando Mañas

10 years

Wataru Mizunima

10 years

Juan Vicente Rosell

10 years

IIW MISSION

To advance welding and joining through a worldwide network

IIW VISION

The leading global community linking industry, research and education to the advancement of welding and joining for a safer and sustainable world



INTERNATIONAL INSTITUTE OF WELDING

A world of joining experience

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