

23-24 June 2025, London

ASRANet

London Croydon Aerodrome Hotel, London, Croydon, UK

6th International Conference on Health Monitoring of Civil & Maritime Structures **HeaMES 2025** **Call for Papers**

Abstracts should be sent to

info@asranet.co.uk

By the deadline of 23 February 2025



ASRANet

About the Conference

There is an urgent need for further progress in structural health monitoring (SHM) for both civil and maritime structures. Maximising the availability and productivity of onshore and offshore infrastructure and marine vessels, whilst operating them safely and with minimal impact on the environment, is of major concern to operators. Many such structures are unique, e.g. ships such as FPSOs have specific constraints, loading characteristics and damage consequences that make them different to other offshore installations and conventional ships, and often more challenging to maintain and operate. Market research shows that there is a need for efficient SHM which could facilitate structural, fatigue and corrosion analyses and underpin risk based inspections to address the structural integrity of onshore and offshore structures. Radical developments in the telecommunication, sensor and data processing technologies are transforming the way that asset management is conceived and carried out. Sensors and structural health monitoring systems are increasingly becoming an integral part of new and existing buildings, bridges, offshore structures and installations, and vessels. Sensing arrays can be permanently connected to distributed management networks so that owners, users, and in general, all those involved in the management process and connected via the Internet can query in real time condition and performance during construction and operation.

Whereas today the structural engineer conceives the single building or bridge as a stand-alone project, in future it is likely that structures will be regarded as nodes of a complex infrastructure network. Design specifications, real-time operation, and any decision on maintenance, upgrading and reconstruction of the single node will reflect the management policy of the whole system, properly accounting for concepts such as cost, risk and sustainability and structural health monitoring will play a critical role in these transformed approaches. HeaMES 2024 provides an ideal platform for innovative industry and practitioners, leading researchers, technology developers, and supply chain partners to meet. Bringing the pioneering experts together, the conference aims to promote exchange of ideas.

CONFERENCE THEMES

- Performance and condition monitoring
- Quantitative SHM-based reliability, safety and performance assessment
- Modelling and dealing with uncertainty in SHM data
- Economic analysis of SHM strategies and benefits
- Management of structures exceeding design life
- Damage control, repair and strengthening
- Damage detection
- Modelling of operational and environmental influences
- Digital twin/SHM integration
- SHM-based design
- Validation and certification
- Design guidelines and codes
- Signal processing
- Big data in SHM
- Real time monitoring
- Standardization of SHM systems
- Sensors and actuators for infrastructure instrumentation
- Sensor networks
- Remote monitoring systems
- Global system integration
- Smart structures and materials
- Field applications and case studies
- Critical issues in SHM
- Visionary, disruptive and transformational concepts

Organising Committee

Professor (redt.) Purnendu Das, ASRANet Ltd, UK

Dr Piotr Omenzetter, University of Aberdeen, UK

Prof Ying Wang, Harbin Institute of Technology, China

Key Dates

Abstract Deadline: 23rd February 2025

Final Payment : 26 April 2025

Registration Fees

Full registration fee : £395

Student Registration Fee: £295

Technical Advisory Panel

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Prof Eleni Chatzi ETH Zurich, Switzerland

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Dr Donya Hajializadeh, University of Surrey, UK

Prof. Tian-Li Huang, Central South University, China

Mr. John Huxtable, DEWESoft, UK

Dr Abhishek Kundu, Cardiff University, UK

Prof Jun Li, Curtin University, Australia

Prof Maria Giuseppina Limongelli, Politecnico di Milano, Italy

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Prof Daniel V. Oliveira, University of Minho, Portugal

Dr Joshua Omer, Kingston University, UK

Dr Pooria Pahlavan , Delft University of Technology, Netherlands

Prof Jeom-Kee Paik, University College London, UK

Dr Carlo Rainieri, National Research Council of Italy, Italy

Prof Sudath C. Siriwardane, University of Stavanger, Norway

Prof Gangbing Song, University of Houston, USA

Prof Ying Wang, Harbin Institute of Technology, China

Prof Xiaojun Wei, Central South University, China

Dr Rongxin Zhou, Hefei University of Technology, China

Prof Daniele Zonta, University of Trento, Italy

KEYNOTE SPEAKERS

Dr. Nenad Gucunski, Rutgers University, USA



Dr. Nenad Gucunski is a professor and chair of Civil and Environmental Engineering at Rutgers University. He is also the Director of the Infrastructure Condition Monitoring Program at Rutgers' Center for Advanced Infrastructure and Transportation (CAIT). His primary expertise is in nondestructive testing/evaluation (NDT/NDE) of transportation infrastructure, problems of dynamic soil-structure interaction, numerical modeling, and geophysical methods. He published more than 250 publications, primarily on various aspects of the development of NDE/NDT technologies, and their application and automation. He is/was leading more than forty infrastructure-related research projects sponsored by several federal and state agencies, including the National Institute of Standards and Technology-Technology Innovation Program (NIST-TIP), SHRP 2 (Strategic Highway Research Program 2), FHWA's Long Term Bridge Performance (LTBP) Program, and National Science Foundation. He is currently leading the Advanced Bridge Technology Clearinghouse, a multi-university project sponsored by the USDOT. Dr. Gucunski and his team are the recipient of the 2014 ASCE Charles Pankow Award for Innovation for the development of RABIT (Robotics Assisted Bridge Inspection Tool) for bridge decks.

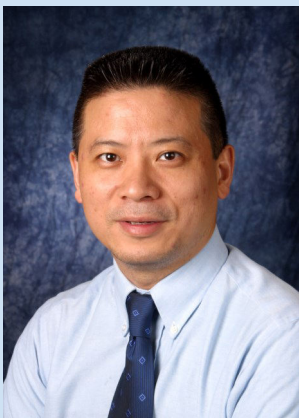
Dr. Gucunski received his B.S. degree in civil engineering from the University of Zagreb, Croatia, and M.S. and Ph.D. degrees in civil engineering from The University of Michigan.

Prof Michael Havbro Faber, Aalborg University, Denmark



Michael Havbro Faber is a Professor at the Department of Built Environment at Aalborg University, Denmark, he is discipline Director for Risk, Resilience and Sustainability at NIRAS A/S in Denmark, and he has a position as Chair Professor at Harbin Institute of Technology in China. From 2000-2011, he was a tenured professor at ETH, Zurich, Switzerland, and from 2011-2016 he was head of the Department of Civil Engineering at the Technical University of Denmark. His research interests are directed on probabilistic modeling and analysis of systems with applications to governance and management of risks, resilience and sustainability in the built environment. Present engagements include the Joint Committee on the GLOBE Consensus (President), the Joint Committee on Structural Safety (Past President), the WEF (member of the Global Expert Network on Risk and Resilience), the Global Risk Forum in Davos (Research Fellow), the Danish Research Council and the Danish Academy of Technical Sciences.

Dr. Gangbing Song, University of Houston, USA



Dr. G. Song is the founding Director of the Smart Materials and Structures Laboratory and a Professor of Mechanical Engineering, Civil and Environmental Engineering (joint), and Electrical & Computer Engineering (joint) at the University of Houston. Dr. Song is a recipient of the NSF CAREER award in 2001. Dr. Song received his Ph.D. and MS degrees from the Department of Mechanical Engineering at Columbia University in the City of New York in 1995 and 1991, respectively. Dr. Song received his B.S. degree in 1989 from Zhejiang University, China. He has expertise in smart materials and structures, structural vibration control, piezoceramics, ultrasonic transducers, structural health monitoring and damage detection. He has developed two new courses in smart materials and published more than 400 peer reviewed journal articles. **His google H-index is 82.** Dr. Song is also an inventor or co-inventor of 28 US patents and. He has received research funding in smart materials and related research from NSF, DoE, NASA, Department of Education, Texas Higher Education Board, TSGC (Texas Space Grant Consortium), UTMB (University of Texas Medical Branch), OSGC (Ohio Space Grant Consortium), OAI (Ohio Aerospace Institute), ODoT (Ohio Department of Transportation), HP, OptiSolar, GE, and Cameron. In addition to his research effort, Dr. Song has passion in improving teaching using technology. He is a leader in internet enabled remote

experiment/laboratory and a pioneer in systematically implementing remote experiments in engineering education. He received the prestigious Outstanding Technical Contribution Award from the Aerospace Division of ASCE, the Excellence in Research & Scholarship Award at Full Professor Level from UH, the Celebrating Excellence Award for Excellence in Education from ISA (International Society of Automation), the IEEE Educational Activities Board Meritorious Achievement Award in Informal Education, among others. Dr. Song is a member of ASCE, ASME, and IEEE. Dr. Song served as the General Chair of the Earth and Space Conference 2010, Aerospace Division, ASCE.

KEYNOTE SPEAKERS

Dr. Joshua Omer, Kingston University, UK



Dr Joshua Omer is a Senior Lecturer in Geotechnical Engineering and Director of Learning and Teaching for the School of Built Environment and Geography, Faculty of Engineering, Computing and Environment, Kingston University, London. He holds a BEng (1st Class honours) in Civil Engineering, a MSc in Structures and PhD in Geotechnical Engineering and has over 30 years of experience in industry and academia in the UK and overseas.

Dr Omer has delivered several CPD lectures, most recently to the Institution of Structural Engineers, Surrey branch (UK), undertaken a range of consultancy projects and written over 60 research papers. He is currently involved in the development of IABSE (International Association of Bridge and Structural Engineers) Guidance document for the design and reuse of offshore and onshore caisson foundations.

Dr Omer is a past recipient of the biannual David Douglas Prize and lecture, awarded by the South Wales Institute of Engineers, UK, for engineering excellence. He is a former Royal Society Industrial Fellow and winner of a Research & Development award of the Institution of Civil Engineers.

Dr Omer is a member of the editorial board of the Geo-engineering Case studies Journal of the International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE) and represents the British Geotechnical Association in the ISSMGE Technical Committees TC107-Lateritic Soils and TC212-Deep Foundations. He is also a member of the Drilled Shafts Technical Committee of the Deep Foundations Institute (DFI), USA.

Dr Donya Hajializadeh, University of Surrey, UK



Donya is a Chartered civil engineer (CEng MICE) and Director of Employability at the School of Sustainability, Civil and Environmental Engineering, University of Surrey. With over a decade's experience in structural and bridge engineering, she specialises in building direct and indirect data-driven structural health monitoring systems, critical infrastructure 3R (reliability, risk and resilience) assessment, and building performance-based digital twins. Donya has worked on a diverse array of commercial and research projects, ranging from implementing virtual real-time load and load effect monitoring concepts to developing service life assessment tools for road and rail bridges across Europe. Her recent work on a scaled and practice-based feasibility study for an indirect damage detection system received DfT's Chief Scientific Advisor's 'Innovative Solution' award.

Prof. Hua-Peng CHEN, University of Greenwich, UK,



Prof. Hua-Peng Chen was a Professor of Civil Engineering at the University of Greenwich, UK, after having studied at Imperial College and received PhD from the University of Glasgow, UK. He is a Distinguished Professor and Director of Smart Transportation Infrastructure at East China Jiaotong University. He is the author of over 250 peer-reviewed publications and a book recently published by Wiley, focusing on smart structures, structural health monitoring and structural performance assessment. He serves as an Associate Editor for ASCE Journal of Aerospace Engineering and a member of editorial board for three international journals. He is a Chartered Civil Engineer (UK) and a Fellow of the Institution of Civil Engineers (UK).

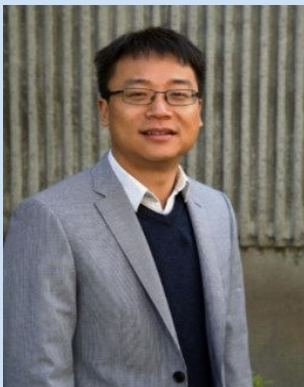
KEYNOTE SPEAKERS

Prof Ying Wang, Harbin Institute of Technology, Shenzhen, China



Prof. Ying Wang obtained his PhD degree from University of Western Australia in 2010, and his Bachelor and Master's degrees from Harbin Institute of Technology, in 2002 and 2005, respectively. After working as a Lecturer/Senior Lecturer at Deakin University Australia and University of Surrey in the UK, he joined Harbin Institute of Technology Shenzhen as a Professor in 2019. To tackle the challenges facing lifecycle performance of civil infrastructure, Prof Wang is dedicated to research on Structural Health Monitoring and Digital Twin. He proposed a number of innovative approaches, specifically: 1) combining local guided wave methods and global vibration-based methods for sensing; 2) integrating physics-based and data-driven methods for interpreting monitoring data; 3) establishing performance-oriented digital twin models for civil infrastructure. Prof Wang is a national overseas youth talent; he used to be a founding member and executive committee member at Australian Network of Structural Health Monitoring, now is an executive committee member at Shenzhen Association of Artificial Intelligence. He is an editorial board member at *Buildings*, *Frontier in Built Environments*, *Journal of Intelligent Construction*.

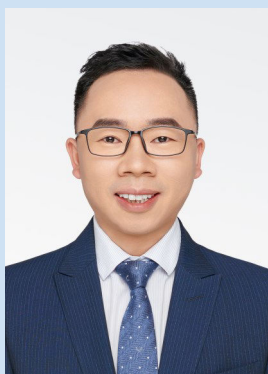
Prof. Jun Li, School of Civil and Mechanical Engineering, Curtin University, Perth, Australia



Dr Jun Li is a Professor and Australian Research Council (ARC) Future Fellow in the School of Civil and Mechanical Engineering at Curtin University, Australia. His research interests mainly include the development and application of novel computer vision, artificial intelligence and data analytics techniques for structural health monitoring of civil engineering structures. His research outcomes have been applied to the condition monitoring of an engineering pavilion building on Curtin campus, Rockingham highway bridge and Matagarup bridge in Western Australia. Jun has published more than 210 technical publications, including over 155 journal papers, attracting over 4950 citations in Google Scholar with an H-index of 41. He was also a recipient of ARC Discovery Early Career Researcher Award (2013), and received several research awards, such as Nishino Prize (2019), Best Review Paper and Best Paper Award of Engineering Structures (2023). Jun is listed in Stanford Top 2% scientists (single year) since 2020. He is currently Academic Editor of "Structural Control and Health Monitoring", Associate Editors of "Structural Health Monitoring" and "Journal of Civil Structural Health Monitoring", and a Co-Chair of Early Career Researchers Committee of International Society for Structural Health Monitoring of Intelligent Infrastructure (ISHMII).

Prof. Xiaojun Wei

Professor, School of Civil Engineering, Central South University, China



Xiaojun Wei is a Professor of Bridge Engineering at the School of Civil Engineering, Central South University, China, after holding a position of Associate Professor of Bridge Engineering from 2019 to 2020 at the same university. Before moving to Central South University, he was a Research Fellow with the Humans and Structures Laboratory at the University of Warwick. He obtained his PhD from the Dynamics and Control Group at the University of Liverpool in 2015, his MEng and BEng in Civil Engineering from Central South University, China, in 2011 and 2008. His current research interests are in the area of smart maintenance and vibration control. Some specific research topics include suppression of wind/human-induced vibrations using linear/nonlinear control schemes and contactless structural health monitoring of real-life structures using laser scanners and/or cameras.

He is an author of more than 40 peer-reviewed papers, and a PI for two grants from National Natural Science Foundation of China and a grant from Ministry of Science and Technology of the People's Republic of China. He serves on the editorial board for three professional journals.

KEYNOTE SPEAKERS

Prof. Yuanfeng DUAN, Zhejiang University, China



Prof. Yuanfeng DUAN is a professor of Structural and Bridge Engineering, and Associate Dean (International Affairs), at College of Civil Engineering and Architecture, Zhejiang University, China. He obtained his Ph.D. degree from The Hong Kong Polytechnic University in 2004, and joined Zhejiang University in 2008 as an associate professor. He was promoted to a full professor in 2015. He visited University of Illinois at Urbana-Champaign from Dec. 2014 to Dec. 2015. His research interests include Structural Health Monitoring and Vibration Control, Vector Mechanics and Structural Dynamics. He is a member of Specialty Committee of Structural Vibration Control and Health Monitoring, Chinese Society of Vibration Engineering. He is also a Council Member of Bridge and Structural Engineering Branch of China Highway and Transportation Society. He is the obtainers of National Natural Science Grant for Excellent Young Scholar, Zhejiang Provincial Grant for Distinguished Young Scholar, and Fok Ying Tung Grant. He has been the principal investigators of 8 China National Natural Science Foundation Grants, and 1 National Key R&D Program of China. He has published over 120 papers, including over 60 SCI indexed paper, over 30 EI indexed papers, and over 20 keynote speeches or invited talks. He has been awarded 17 international invention patents (China, US, Korea, Japan). His research outputs have been applied to health monitoring or vibration control of more than 60 large-scale structures, such as Main Stadium of FIFA World Cup Qatar 2022, Hong Kong's Tseung Kwan O Cross Bay Bridge, China Quanzhou Bay Bridge, and so on.

Prof. Monssef Drissi-Habti, University Gustave Eiffel, France



Monssef DRISSI-HABTI ([linkedin.com/in/monssef-drissi-habti-85100a66](https://www.linkedin.com/in/monssef-drissi-habti-85100a66)) is Research Professor at The French Institute for Transports. He a PhD thesis (1994) and the title of Research Professor since 1999 both on thermo-mechanical behavior of ceramic composite materials for aerospace. He worked in Japan from 1995 to 1999 as visiting researcher in NIRI Nagoya and Visiting Professor at the University of Tokyo. He then worked until 2003 at Brown University of Engineering, RI, USA. His experience includes ceramic matrix composites for thermal protection of space crafts on both space programs HERMES (European Space Program) and NIPPON HOPE (Japan Space Program). His experience includes thermo-mechanical behavior of smart composite materials. In USA, he worked on super-alloys for nuclear applications, in collaboration with the Research Centre Norton - St Gobain. His current research is mainly focusing on the development of structures based on smart composite materials and smart hi-voltage power cables for offshore wind-energy generation (Projects with General Electric), transports (SNCF-TGV), smart cities and safety-security of critical infrastructures. He is PI of many national and international projects. He is also author of more than 100 articles in scientific journals.

Professor Yong Xia, Department of Civil and Environmental Engineering, The Hong Kong Polytechnic University



Prof. Yong Xia is a Professor at the Department of Civil and Environmental Engineering, The Hong Kong Polytechnic University. He is leading the Guangdong-HK Joint Laboratory for Marine Infrastructure. He obtained his Bachelor's degree and Master's degree both from Huazhong University of Science and Technology, China, and PhD degree from Nanyang Technological University, Singapore. He then worked at The University of Tokyo as a JSPS Fellow and The University of Western Australia as a Research Associate before joining The Hong Kong Polytechnic University in 2006. He has published over 170 refereed international journal papers, co-authored three research books, and secured more than 50 research projects totaling HK\$ 80 m. Dr, Xia is now the Co-Editor-in-Chief of *Advances in Structural Engineering*, an SCI journal. He was awarded The Nishino Prize in 2013 and State Technological Innovation Award in China in 2018, among many others. Dr. Xia's main research areas include structural health monitoring and non-linear vibration of cables.

KEYNOTE SPEAKERS

Professor Suresh Bhalla, IIT Delhi, India



Prof. Suresh Bhalla is Professor (Higher Administrative Grade) at the Department of Civil Engineering, IIT Delhi and founding President, Indian Structural Health Monitoring Society (ISHMS). His main areas of interest are smart structures, structural health monitoring, electro-mechanical impedance (EMI) technique, bio-mechanics/ bio-medical applications of smart materials, piezoelectric energy harvesting and sustainable construction through engineered bamboo structures and other zero emission/ carbon negative materials. Prof. Bhalla has published over 85 papers in international SCI indexed journals, and over 90 in international/ national refereed conferences/ workshops. He has co-authored three books “Singly Curved Thin Piezo Transducers for Energy Harvesting and Structural Health Monitoring (BP International)”, “Piezoelectric Materials: Applications in SHM, Energy Harvesting and Bio-mechanics (Wiley-Athena)” and “Smart Materials in Structural Health Monitoring, Control and Bio-mechanics (Springer)”. He has also contributed chapters for three other books. His publications are highly cited in the Web of Science and SCOPUS by peers, represented by an h-index of 27 in the Web of Science, 31 in SCOPUS (ID: 56248375100) and 36 in ResearchGate. His pioneering paper on monitoring of RC structures published in 2000 has received over 300 citations so far in the Web of Science and 400 in SCOPUS. A finalist of the SCOPUS Young Scientist Award 2014, Prof. Bhalla has been the recipient of several other laurels, such as three best paper awards (2018, 2016, 2012), award for teaching excellence (2011), outstanding young faculty fellow (2008), NSTB gold medal for best Master’s thesis (2001) and the Institute silver medal (1995) by IIT Delhi. Prof. Bhalla has completed R&D projects amounting to more than Rs 10 crore and Type A consultancies worth Rs 1 crore. Dr. Bhalla has three technology patents to his credit. He is also co-inventor of three patent other pending technologies. Prof. Bhalla has been the founder of the “Smart Structures and Dynamics Lab” at IIT Delhi. He chaired the **International Conference on Futuristic Technologies (FT 21)**, held during 22-24 January 2021. Prof. Bhalla is member of the BIS workgroup working towards a BIS standard on structural health monitoring (CED37/WG5), BIS Panel for timber and bamboo (CED 46) and also the core group of NITI AYOOG working towards promotion of bamboo for construction. **Prof. Bhalla has been recognized among top 2% of world scientists since 2020 on the basis of standardized citation indications of SCOPUS Elsevier databases** (<https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/6> dated 04 Oct 2023). Prof. Bhalla is also the founding President of the Indian Structural Health Monitoring Society (ISHMS) and is mentoring two technology startups at IIT Delhi.

KEYNOTE SPEAKERS

Dr. Basuraj Bhowmik , Indian Institute of Technology (BHU), Varanasi, India



Dr. Basuraj Bhowmik, Assistant Professor of Civil Engineering at IIT-BHU, specializes in structural health monitoring, machine learning, and smart infrastructure systems. His research spans real-time damage detection, AI-driven structural engineering, and intelligent infrastructure monitoring. He has authored a globally recognized book on real-time SHM, published over 22 international journal papers, and led multiple funded projects. A recipient of the MILCA Award (CII) and the MaREI Research Excellence Award, he actively contributes to international conferences and editorial boards. He serves on the Editorial Board of Scientific Reports (Springer Nature), is an Engineering Category Judge for the Global Undergraduate Awards, and holds memberships in ASCE, the Indian Structural Health Monitoring Society, and the Indian Society of Earthquake Technology.

Conference Venue

LONDON CROYDON

AERODROME HOTEL

680 PURELY WAY , CROYDON , CR9 4LT

ABOUT THE VENUE (London Croydon Aerodrome Hotel)

Just a stones throw from the Croydon Aerodrome, which was the first international airport open in 1928 and used as a military hospital in WW2 , this hotel is ideally located with rail links to central London and 25 minutes drive to London Gatwick airport. Guests can enjoy the aerodrome restaurant, with stylish interiors, including 1920's windows, and for the electric highly rated menu of modern British comfort food with some international favourites. Guest rooms feature an LCD TV and tea/coffee facilities and a work desk, and all are decorated with colourful modern art.

NETWORKING SESSION – WINE AND SNACKS

23 JUNE 2025, 18:00-19:30

LONDON CROYDON

AERODROME HOTEL

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