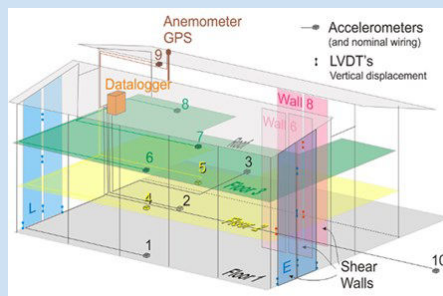
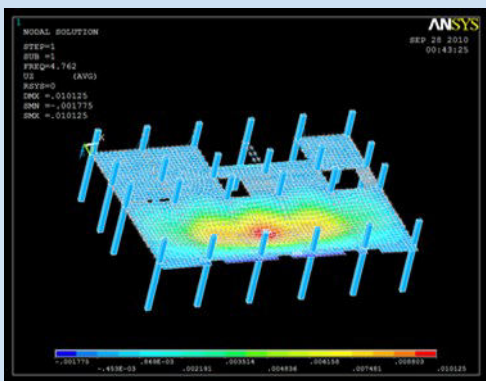
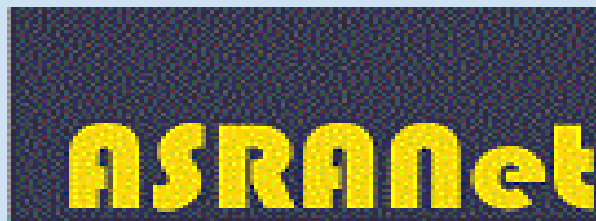


4th International Conference on Health Monitoring of Civil & Maritime Structures



HeaMES 2023

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About the Conference

There is an urgent need for further progress in structural health monitoring 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 - 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 2023 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

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Professor Purnendu Das, *ASRANet Ltd, UK*

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Key Dates

Abstract Deadline: 3rd February 2023

Final Payment : 12 April 2023

Full Paper Submission: 12 July 2023

Registration Fees

Full Registration: £250

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- Dr. Ales Znidaric, Slovenian National Building and Civil Engineering Institute**

KEYNOTE SPEAKERS

DR ELENI CHATZI :



Dr. Eleni Chatzi is an Associate Professor and Chair of Structural Mechanics and Monitoring at the Department of Civil, Environmental and Geomatic Engineering of ETH Zurich, Switzerland. Her research interests include the fields of Structural Health Monitoring (SHM) and structural dynamics, nonlinear system identification, and intelligent life-cycle assessment for engineered systems. She is an author of over 300 papers in peer-reviewed journals and conference proceedings, and further serves as an editor for international journals in the domains of Dynamics and SHM. She led the recently completed ERC Starting Grant WIND-MIL on the topic of "Smart Monitoring, Inspection and Life-Cycle Assessment of Wind Turbines". Her work in the domain of self-aware infrastructure was recognized with the 2020 Walter L. Huber Research prize, awarded by the American Society of Civil Engineers (ASCE). She is further recipient of the 2020 EASD Junior Research Prize in the area of Computational Structural Dynamics.

PROFESSOR JAMES BROWNJOHN :



Professor. James Brownjohn is a member of the Vibration Engineering Section at the University of Exeter. His academic career has focused on experimental assessment of the performance of civil structures using full-scale dynamic testing, long-term monitoring and physical motion simulation. He is a founding director of Full Scale Dynamics Ltd, a University spin-off company, specialising in managing performance of civil structures dynamically excited by actions of machinery, humans and wind, and of FSD Active which develops active control technology. He was PI for the new Exeter [VSimulators](#) and is Co-I for the 5-year ROSE-HIPS programme grant on population based SHM.

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