

1st International Conference on Structural
Integrity for Offshore Energy Industry

STRUCTURAL INTEGRITY 2018

Aberdeen, UK

6th-7th September 2018

Organised by

ASRANet

Call for Papers

*Abstracts should be sent to integrity@asranet.co.uk by the deadline of 31st March 2018
Abstract format is available [HERE](#)*

Special issues of Elsevier's [International Journal of Fatigue](#) and Taylor & Francis' [Journal of Structural Integrity and Maintenance](#) will be published comprising extended versions of selected papers presented at the conference.

www.asranet.co.uk

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About the Conference

The marine, offshore and subsea energy industry continues to evolve creating new challenges and risks for the safety, integrity and reliability of its structures and systems. For example, wells are being drilled at greater depths, pressures and temperatures, requiring enhanced assessment of the integrity of structures and systems in such extreme conditions. There is a push to expand operations into new locations such as the Arctic, where environmental and operational conditions are considerably harsher. Many assets in the North Sea are rapidly reaching or have already exceeded their original design life and safe but affordable life extension and decommissioning are becoming major objectives. The recent rapid developments in renewable energy technologies have introduced new challenges of maintaining at minimum cost the reliability and integrity of structures and equipment in remote locations and subjected to extreme loads and environmental conditions. There are also exciting new opportunities, but also significant challenges and uncertainties, in applying structural health and condition monitoring, robotics and the novel concepts of additive manufacturing and big data to safety and structural integrity. These and many additional traditional and emerging themes will be covered during the conference through survey, focused and/or case study presentations from the practitioners and researchers in the art and science of structural integrity.

The conference will bring together researchers and practitioners to discuss and address the current and emerging issues and challenges, as well as share successes and state-of-the-art and practice, in structural integrity, safety and reliability of energy industry's marine, offshore and subsea structures and systems. It will feature keynote and invited papers providing broader overviews of the main contemporary themes as well as more focused presentations addressing specific issues of practical relevance. Ample opportunities for informal discussions, sharing of insights and networking will be available.

Special Issues of International Journal of Fatigue, Elsevier & Journal of Structural Integrity and Maintenance, Taylor & Francis

A special issue of Elsevier's [International Journal of Fatigue](#) will be published comprising extended versions of selected papers focusing on fatigue and presented at the Conference. Click [HERE](#) to access the call for papers.

A special issue of Taylor & Francis' [Journal of Structural Integrity and Maintenance](#) will also be published comprising extended version of selected papers on other Conference themes. Call for papers to be issued soon.

Conference Themes

Fatigue, fracture, corrosion, erosion and abrasion	Structural integrity of fixed, floating and submerged structures	Structural integrity in decommissioning	Intelligent use of monitored data
Deterministic deterioration models and analysis	Structural integrity of wells, pipes and risers	Design for integrity, inspectability and extended safe lifespan	'Digital twins' for structural integrity
Probabilistic deterioration models and analysis	Structural integrity of wind and tidal turbines and wave energy extractors	Component and system reliability	Structural integrity of additively manufactured materials
Dealing with uncertainty in structural integrity assessment	Life-cycle assessment, asset integrity management decisions and optimization	Multi-scale material, defect and damage modelling	Integrity protection technologies
Structural integrity under extreme loads and in extreme environments	Safe and efficient asset life extension	Structural health and condition monitoring	Case studies in structural integrity, safety and reliability
Probabilistic computational mechanics and numerical methods	Reusable structures and repowering	Non-destructive testing and evaluation	

Registration Fees

Full Registration:	£400
Student Registration:	£200

International Advisory Committee

Dr RV Ahilan <i>London Offshore Consultants, UK</i>	Dr Bostjan Bezensek <i>Shell, UK</i>	Prof Sang-Rai Cho <i>University of Ulsan, Korea</i>
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Prof Soren Ehlers <i>NTNU, Norway</i>	Prof Tat-Hean Gan <i>TWI, NSIRC & Brunel University, UK</i>	Prof AM Korsunsky <i>University of Oxford, UK</i>
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Prof Bernt Leira <i>NTNU, Norway</i>	Satheesh Manayankath <i>Health and Safety Executive, UK, Energy Division — Off-shore, Structural Integrity</i>	Prof Liviu Marsavina <i>University of Timisoara, Romania</i>
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Organising Committee

Prof Purnendu Das <i>ASRANet Ltd, UK</i>	Dr Piotr Omenzetter <i>The University of Aberdeen, UK</i>
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Dr Mike Mulheron <i>University of Surrey, UK</i>	Dr Mohammad Nabavian <i>Wood, UK</i>	Dr Helena Polezhaeva <i>Independent, France</i>
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Important Dates

Abstract Deadline:	31 Mar 2018	Prof Jeom Paik <i>University of Pusan, Korea & University College London, UK</i>	Dr Cesare Marie Rizzo <i>University of Genoa, Italy</i>	Dr Luce Susmel <i>University of Sheffield, UK</i>
Full Paper Submission:	15 Aug 2018	Dr Suhas Vhanmane <i>Indian Register of Shipping, India</i>	Mr Francisco Viejo de Francisco <i>Navantia, Spain</i>	
Abstract Acceptance:	30 Apr 2018			
Registration Close:	10 Sep 2018			

Abstracts of up to 300 words with presentation/paper title and names and affiliations of all authors and an e-mail address of the corresponding author should be sent to integrity@asranet.co.uk by 31st March 2018. Abstract format is available

[HERE](#)

KEYNOTE AND INVITED SPEAKERS



Prof. John Dalsgaard Sorensen, Aalborg University, Denmark

'Probabilistic design and risk-based inspections of offshore wind turbines and subsea wells'

John Sorensen is Professor of Structural Reliability at the Department of Civil Engineering, Aalborg University. His main research interests include stochastic modelling, reliability assessment, risk-based decision making for planning of inspections, operation and maintenance with applications to offshore structures and wind turbines, buildings and bridges. He has published more than 300 technical papers and co-authored several books and reports. He is currently involved in several national and international research projects related to risk and reliability of wind turbines and offshore structures. He is also active in a number of standardization committees. He is past-president of Joint Committee on Structural safety (JCSS).



Prof. Kamran Nikbin, Imperial College, London, UK

'Fracture mechanics-based structural integrity of offshore structures'

Prof. Kamran Nikbin has worked at Imperial College, London since 1979 and holds the Royal Academy/British Energy Research Chair in Structural Integrity at the Mechanical Engineering Department. He has over 200 peer reviewed publications. His aim has been to direct the Advanced Metals Group's research activities to achieve an overall goal of developing failure predictive techniques using fracture and continuum damage mechanics, micro to meso-scale multi-scale modelling techniques and validating the results with appropriate experiments. He has vast experience in advanced structural alloy structural failure response under creep, fatigue and environmental corrosion and degradation. He has been involved with industry and research establishments on numerous multi-disciplinary projects dealing with different aspects of fracture ranging from cryogenic to very high temperatures. His main impetus has been in high temperature creep/fatigue crack growth by considering the experimental, metallurgical, micro-modelling and numerical predictions. His interdisciplinary approach to structural integrity has advanced the high temperature design and life assessment modelling methodologies available to R&D.



Prof. Isabel Hadley, TWI

'Title TBC'

Isabel's higher education was at Cambridge and Sheffield universities. She joined TWI in 1992, after working in several fields including offshore technology and nuclear engineering, and was promoted to Technology Fellow in 2012. Isabel's technical work focuses on the development of analytical flaw assessment techniques, and their application to safety-critical structures and pressure equipment. Chairing the committee that develops and maintains BS7910 (UK flaw assessment procedure), Isabel is a member of the R6 (UK nuclear assessment procedure) panel. She is also co-author of the European FITNET fitness-for-service procedure. In 2016, Isabel took up the additional role of Royal Academy of Engineering Visiting Professor in Integrity Management at the University of Bristol.



Ulf T. Tygesen, MSc, Civ Eng, Ramboll

'Application of novel technologies for structural integrity assessment involving structural health monitoring, machine learning and the concept of a true digital twin'

Ulf T. Tygesen is Technical Development Manager at Ramboll Energy, Global Division, Jackets, Esbjerg, Denmark. He has 25 years of experience within oil and gas offshore structures worldwide. For the last 20 years, he has been responsible for Ramboll R&D projects involving participation in major oil and gas research programs with both the industry and Danish and UK universities. The novel technologies effectively combine the latest developments in structural health monitoring systems, machine learning (greybox), high performance computing, structural re-assessment, quantification of uncertainties and risk- and reliability-based inspection planning for structural integrity management. The advanced technologies introduce the concept of a true digital twin generated from measured data and cloud computing solutions (big data), all within a fully probabilistic/Bayesian framework for realistic assessment of structural safety. Through the development and application of the novel technologies, Ramboll is amongst the leading experts in condition-based structural integrity assessment. Their technologies have been applied by all offshore oil and gas operators in the Danish North Sea. Ramboll's technologies are also highly relevant for other types of structures such as wind, bridge, high rise building and tower structures and their transfer is ongoing within Ramboll.

Yuri Tkach, Wood

'Fracture integrity assessment of offshore pipelines subject to complex in-service loading conditions'

Professional profile to be added soon.

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Conference Venue

The conference will take place at the DoubleTree by Hilton Aberdeen Treetops, a quiet venue in the West End of the city, with close links to Aberdeen Airport, the Exhibition/Conference Centre (AECC) and the City Centre. The full address and website are:

161 Springfield Rd,
Aberdeen , AB15 7AQ
Phone: 01224 313377

[Click here for website](#)

About Aberdeen

Aberdeen is a thriving city – with people working and studying here from across the world, attracted as to Europe's capital of energy (both O&G and renewables) and offshore and subsea industries with many of the main players and supply chain/ services providers having a strong presence. The city itself is home to several museums including the Tolbooth Museum, Aberdeen Maritime Museum, Gordon Highlanders Museum and the Zoology Museum. Scotland's first centre of science and discovery can also be found near Aberdeen Beach and there are a great selection of cultural attractions, with several theatres and art galleries across the city. Equally well-known for its shopping, the city's Union Square (adjacent to Aberdeen Railway Station) has over 50 top shopping brand stores (including MAC, BOSS, Apple and ZARA), and 30 restaurants, as well as a 10-screen cinema. Nearby, the connecting Trinity Shopping Centre is home to a large Primark and Debenhams, and many other shops.

Aberdeen's rivers and the North Sea are also home to a host of wildlife, and even dolphins have found a home here. These fascinating mammals are regularly seen playing at the mouth of Aberdeen's working harbour; Dolphin Watch, located at the vantage point of Torry Battery, is open seasonally to help visitors spot these urban dolphins. If you like you can also take on of Aberdeen Harbour Cruises, providing a great opportunity to experience a different viewpoint of the city as well as get up close to wildlife. Aberdeenshire is also home to a large number of traditional castles and outdoor activities. For those attendees that enjoy hiking and hillwalking, Aberdeen acts a great starting point for exploring the Cairngorms National Park.

Getting Here

Getting to Aberdeen is simple, with a whole variety of transport options available to those travelling, and the city can be reached by road, rail, or sky. Once in the city there are excellent transport links throughout the area meaning most destinations are easily accessible by public transport, taxi or car. For those driving, Aberdeen is approximately 2.5 hours' drive from Edinburgh or Glasgow. Well sign-posted, the surrounding area of Aberdeenshire is within close proximity of Aberdeen with the towns and villages easy to get to by major country and main roads.

For those flying, Aberdeen International Airport is located just six miles from Aberdeen city centre and is within easy reach of Aberdeenshire by bus or taxi. The region is well connected globally with daily flights to all major airports including all three London airports, Frankfurt, Paris and Amsterdam. The international airport also has many direct routes to most UK cities as well as many key European destinations. For more information you can visit Aberdeen Airports website [HERE](#).

Aberdeen's railway station right in the heart of the city (next to the main shopping centre, Union Square), has frequent, fast and reliable services to and from all Scotland's major cities. Travel on one of the hourly trains from Glasgow and Edinburgh or use the east coast line to travel from cities such as York or Newcastle. For timetables and to book your train tickets to Aberdeen visit the Scotrail website [HERE](#). For those preferring to travel overnight, Aberdeen can also be reached from London on the Caledonian Sleeper. Visit the Caledonian Sleeper website [HERE](#) for more information about this service.

Accommodation

[Jurys Inn Aberdeen](#)

[Hotel ibis Aberdeen Centre](#)

[Travelodge Aberdeen Central](#)

[Mercure Aberdeen Caledonian Hotel](#)

[Aberdeen Douglas Hotel](#)

[Hilton Garden Inn Aberdeen City Centre](#)

[DoubleTree by Hilton Hotel Aberdeen Treetops](#)

[Premier Inn Aberdeen City Centre](#)

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