1st International Conference on Structural Integrity for Offshore Energy Industry

STRUCTURAL INTEGRITY 2018

Aberdeen, UK

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

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.

www.asranet.co.uk
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
Deterministic deterioration models and analysis
Probabilistic deterioration models and analysis
Dealing with uncertainty in structural integrity assessment
Structural integrity under extreme loads and in extreme environments
Probabilistic computational mechanics and numerical methods
Structural integrity of fixed, floating and submerged structures
Structural integrity of wells, pipes and risers
Structural integrity of wind and tidal turbines and wave energy extractors
Life-cycle assessment, asset integrity management decisions and optimization
Safe and efficient asset life extension
Reusable structures and repowering
Intelligent use of monitored data
‘Digital twins’ for structural integrity
Structural integrity of additively manufactured materials
Integrity protection technologies

Registration Fees
Full Registration: £400
Student Registration: £200

Organising Committee
Prof Purnendu Das
ASRANet Ltd, UK
Dr Piotr Omenzetter
The University of Aberdeen, UK

Important Dates
Abstract Deadline: 31 Mar 2018
Full Paper Submission: 15 Aug 2018
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.
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.
STRUCTURAL INTEGRITY 2018: 6th-7th September 2018, Aberdeen, UK

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

Visit www.asranet.co.uk for more details