



## **EWSHM Conference 2018: Call for papers**

The European Workshop on Structural Health Monitoring Series (EWSHM) is taking place next year from 10-13 July and will be held at the Hilton Manchester Deansgate in Manchester, UK.

EWSHM started in 2002 and since then has grown significantly over the years, becoming the strong counterpart to the International Workshop on SHM (IWSHM) held in Stanford, California, USA. The previous conference, which was held in Nantes in 2014, joined more than 500 delegates and 20 industrial exhibitors together.

The British Institute of Non-Destructive Testing (BINDT) is the organiser of EWSHM 2018 and will present the conference in the same style as previous events, with multiple paper sessions in parallel as well as poster presentations.

### **Offers of papers covering a broad range of SHM technologies and applications are invited from both academia and industry, including:**

- Physical principles monitoring (mechanical, acoustic, optical, electrical, etc)
- Signal processing (FFT, wavelet, PCA, pattern recognition, feature extraction, etc)
- Multifunctional materials and structures (self-sensing materials, novel energy storage systems, energy harvesting, self-diagnostic structures, bio-mimetic, etc)
- Modelling and simulation (digital twins, integration of data-driven and physics-based methods, multi-physics multi-scale modelling approaches, etc)
- Sensors and sensor networks (NEMS/MEMS, bio-inspired sensor networks, remote & wireless communication, self-diagnostic networks, etc)
- SHM application (aerospace, marine, civil engineering, railway, automotive, energy, medicine, etc)

- Emphasis on full-scale structural demonstration and applications.

Abstracts (of no more than 200 words) are invited on all aspects of structural health monitoring and must be submitted online at:

<https://mc.manuscriptcentral.com/ewshm2018> or via the link on the BINDT website at: <http://www.bindt.org/events/ewshm-2018/call-for-papers/> by **29 December 2017**.

Conference Proceedings will be published in the form of extended abstracts (max 12 pages of A4 text) and one copy will be provided for each delegate. Full written papers that are submitted may be refereed with a view to publication in *Insight*. Full papers published in the proceedings will also be published in the NDT.net open access database.

For questions and queries concerning the abstract or paper submission process, you are kindly invited to contact us directly at: [ewshm2018@bindt.org](mailto:ewshm2018@bindt.org)

**[ENDS]**

## **Notes for editors**

### **About BINDT**

The British Institute of Non-Destructive Testing (BINDT) is a UK-based professional engineering institution working to promote the advancement of the science and practice of non-destructive testing (NDT), condition monitoring (CM), diagnostic engineering and all other materials and quality testing disciplines. Internationally recognised, it is concerned with the education, training and certification of its members and all those engaged in NDT and CM and through its publications and annual conferences and events it disseminates news of the latest advances in the science and practice of the subjects. For further information about the Institute and its activities, visit <http://www.bindt.org>

### **What are NDT and CM?**

Non-destructive testing is the branch of engineering concerned with all methods of detecting and evaluating flaws in materials. Flaws can affect the serviceability of a material or structure, so NDT is important in guaranteeing safe operation as well as in quality control and assessing plant life. The flaws may be cracks or inclusions in welds and castings or variations in structural properties, which can lead to a loss of strength or failure in service. The essential feature of NDT is that the test process itself produces no deleterious effects on the material or structure under test. The subject of NDT has no clearly defined boundaries; it ranges from simple techniques such as the visual examination of surfaces, through the well-established methods of radiography, ultrasonic testing and magnetic particle crack detection, to new and very specialised methods such as the measurement of Barkhausen noise and positron annihilation spectroscopy.

Condition monitoring (CM) aims to ensure plant efficiency, productivity and reliability by monitoring and analysing the wear of operating machinery and components to provide an early warning of impending failure, thereby reducing costly plant shutdown. Condition monitoring originally used mainly vibration and tribology analysis techniques but now encompasses new fields such as thermal imaging, acoustic emission and other non-destructive techniques. The diagnostic and prognostic elements, in addition to increasingly sophisticated signal processing, is using trends from repeated measurements in time intervals of days and weeks.

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