



## **Call for Researchers to Contribute to Minisymposium 38:**

*"Structural Health Monitoring and Damage  
Detection in Existing Structures and  
Infrastructures: Advanced Technologies,  
Data Analysis, and Damage Thresholds"*

**Rocco DITOMMASO, Nicla LAMARUCCIOLA and Felice Carlo PONZO**  
Department of Engineering - University of Basilicata, Italy

**MiniSymposium 38 Code: MS-38-CAO**

### **Abstract:**

*Over the past decade, structures and transport infrastructures have faced a number of significant safety issues, which have occasionally resulted in collapses that have had major social and economic impacts. Structural Health Monitoring (SHM) techniques provide a logical solution for the detection of structural deterioration or damage through the assessment of changes in structural characteristics, including displacements, eigenfrequencies, damping factors and mode shapes, using on-site sensors. The recent advancements in interferometric synthetic aperture radar (SAR) processing have significantly enhanced SHM by providing extensive satellite data for monitoring displacement rates of structures over large areas. A significant challenge in SHM is the minimisation of false positives, particularly in instances where minor frequency variations do not indicate actual damage. A substantial proportion of SHM systems focus on the correlation between damage and fluctuations in modal parameters. However, non-stationary inputs (such as wind and traffic) and stochastic environmental alterations can also influence modal parameters. It is therefore appropriate to employ statistical thresholds in order to distinguish between linear non-stationary behaviour and nonlinear structural damage. The objective of this MS is to explore strategies for integrating on-site and remote sensing data, establishing unified damage detection strategies, and discussing advancements in SHM techniques and algorithms. The programme will address a number of key topics, including information integration strategies, signal processing advancements, and case studies on structures, infrastructures, tunnels, dams, and cultural heritage sites.*

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## Important Dates

- Deadline for submitting proposals for Minisymposia until **19 July 2024**
- Deadline for Abstract Submission until **15 November 2024**
- Acceptance of the Abstract until **16 December 2024**
- Deadline for early bird registration until **28 February 2025**
- Deadline for submitting the Full Paper (optional) until **14 March 2025**
- Acceptance of the full paper until **31 March 2025**
- Deadline for registration for inclusion in the Conference Programme and Proceedings until **25 April 2025**

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Invited authors should submit their Abstracts to the MiniSymposium 38 using the online system of the Conference website (<https://2025.compdyn.org>) and unique MS Code: MS-38-CAO