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Special Session CC16 CIVIL-COMP 2019

*Structural Health Monitoring and Model Updating for Heritage Structures*

Organized by

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*Abstract*

Monitoring the vibrations of historical buildings can provide important information about their dynamic characteristics, such as natural frequencies, mode shapes and damping ratios. If the measurement is protracted over the time carrying out a long-term monitoring, the use of finite element analysis together with dynamic identification and model updating techniques can improve the knowledge of the structures in terms of mechanical characteristics of the constituent materials and structural “health”; indeed, since dynamic characteristics are affected by structural damage, the comparison between two different states, once the influence of environmental parameters has been taken into account, permit to identify the extent and location of the damage. Topics of interest in the special session include, but are not limited to,: long-term vibration monitoring campaigns on heritage structures, vibration-based damage assessment procedures, real-time monitoring systems, low-cost sensor networks, and optimization procedures for model updating.