

Prof. Christian Grosse, TU Munich, Germany

Prof. Christian U. Grosse studied Geophysics at the University of Karlsruhe and earned his Ph.D. in 1996 in Civil Engineering at the University of Stuttgart followed by his Habilitation in 2005 at the same place. In 2005/2006 he spent a year as a visiting researcher at the University of California in Berkeley. He was University lecturer at the University of Stuttgart, head of the Department “Non-destructive testing and monitoring techniques” and finally Director at the Material Testing Institute MPA. In 2010 he changed to the Technical University of Munich and became Professor (W2) Non-destructive Testing Lab followed in 2011 by a joint appointment in civil and mechanical engineering as Chair (W3) of the Non-destructive Testing Department, Center of Building Materials. His research interest include the application and development of non-destructive testing methods (ultrasound, acoustic emission, impact-echo, vibration analysis, Radar, IR Thermography) as well as structural health monitoring using wireless sensor networks.



Keynote abstract:

Wireless monitoring of historic structures using sensor networks – an overview about several recent implementations

Structural health monitoring of historic structures using autonomous wireless sensor nodes becomes more and more important for conservators and restorers. In regard to the monitoring devices and data processing techniques several boundary conditions are special for the field of cultural heritage compared to other (wired or wireless) applications. These boundary conditions are summarized and several case studies are presented including indoor and outdoor measurements. Since a single monitoring technique among the actually existing might not cover all requirements this overview paper illuminates a selection of four different European monitoring systems along with demonstrations of their performance at field applications.