

Safety and management of existing bridges: from inspection procedures to intervention strategies

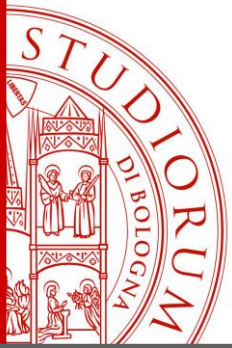
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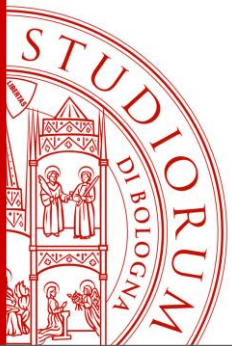




Objectives of research

- Development of an integrated approach for safety assessment and management of existing bridge, made by 3 different topics:
 - The materials strength and their time deterioration (capacity)
 - The traffic actions and their time evolution (demand)
 - The safety assessment (capacity/demand check)
- Innovative strategies for seismic improvement/retrofitting of existing bridges
 - Minimum analytical models will be prepared which can catch essential aspects of the bridge dynamic and seismic response behavior
 - Useful tools for preliminary design of the intervention, economic quantification and for validation of FEM models
 - Analysis of case studies





Potential multidisciplinary collaborations

- Use/development of static and dynamic monitoring systems or devices for:
 - the identification of the dynamic properties of bridges
 - the material conditions (deterioration, corrosion, ...)
 - the stresses in the structural elements
 - the geometry of the structural elements
 - the inner/hidden characteristics of the structural elements
 - the soil properties
- Signal analysis

