IALCCE 2020

The Seventh International Symposium on Life-Cycle Civil Engineering

27-30 October 2020, Shanghai, China

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Nowadays, people have realized the importance of creating a sustainable society to avoid or alleviate problems like climate change, environmental pollution or economic crisis. Therefore, the life-cycle thinking of civil engineering is discussed more and more frequently.

Civil engineering is mainly focused on design and construction during the past days, but contemporary society needs civil engineering to pay attention to more aspects, such as inspection, monitoring, repair, maintenance and optimal management of structures and infrastructures, in order to effectively manage the function of these structures throughout their lifetime. Considering these needs, the objective of the International Association for Life-Cycle Civil Engineering (IALCCE) is to promote international cooperation in this field of expertise to enhance the welfare of society. Its mission is to become the premier international organization for the advancement of the life-cycle civil engineering.

Previous editions of the bi-annual IALCCE symposium took place in Varenna, Lake Como (2008), Taipei (2010), Vienna (2012), Tokyo (2014), Delft (2016) and Ghent (2018). The Seventh International Symposium on Life Cycle Civil Engineering (IALCCE 2020) will be organized on behalf of IALCCE under the auspices of Tongji University in Shanghai (China) on October 27-30, 2020.

All major aspects of life-cycle engineering are addressed, with special focus on structural damage processes, life-cycle design, inspection, monitoring, assessment, maintenance and rehabilitation, life-cycle cost of structures and infrastructures, life-cycle performance of special structures, and life-cycle oriented computational tools.

We are looking forward to welcome all of you in Shanghai in 2020!

Mini-Symposium MS-7:
Life-Cycle Engineering for Water Infrastructures

Objective of the Mini-Symposium MS-7

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A large amount of civil infrastructure in the public domain has flood risk reduction, water management, navigation or mobility related functions, or a combination of these. Existing infrastructure generally has long life spans and is not always designed to adapt for changes in use, climate or regulations. A considerable part of the infrastructure is reaching the end of its service life. Considerable investments are required for building, renovating and maintaining these infrastructures.

This Mini-Symposium will focus on the life cycle assessment and management of infrastructure like dikes, bridge piers/piles, sluices, locks retaining walls, sewage and drinking water, harbor infrastructures, reservoirs and dams, etc; The focus of their management is shifting from condition and risk management, to predictive and adaptive management and from asset level to system or regional level. These trends require to search for smart solutions from technical, financial and governance point of view, to meet present day adaptive, societal and environmental requirements. The objective of this Mini-Symposium is to collect and exchange best approaches and innovative practices in Life-Cycle Engineering in water infrastructure.

The papers in this Mini-Symposium will show:
• new Life-Cycle management approaches to the problem, like adaptation pathways for changing demands and requirements, scenario analysis, societal cost benefit approaches, system optimization and planning;
• new Life-Cycle engineering approaches for life time prediction: intervention levels, deterioration models, inspection and monitoring;
• new life time extension approaches: condition assessment, repair and renovation techniques, design, probabilistic modeling and maintenance optimization.