2027 IWSHM Special Session Request Form

Dear Organizers, please follow the following template to create a Special Session outline:

Special Session Title**: "SHM for Water Resources Infrastructure"**

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Key words: dams, locks, levees, digital twin, remote sensing, failure modelling, life cycle

Scope of Session

Water resources infrastructure is comprised of the system of locks, dams, and levees, which are crucial to our economy, public safety, and the preservation of the environment. SHM of this infrastructure presents many unique challenges such as their highly complex operational environment (which can be submerged underwater), access difficulties for sensing and data acquisition, and nonstationary loading conditions. This session seeks papers applied to water resources infrastructure that address such areas as novel sensing and remote/robotic monitoring technologies especially for submerged and/or power-denied environments, SHM uncertainty quantification in the presence of extreme environmental variability, SHM-informed life cycle management digital twins, failure modeling/prediction, and value-of-information analysis for SHM, among other relevant topics.