A mini-symposium on the value of information in civil and infrastructure engineering is proposed for the ICASP 12 conference in Vancouver, Canada. The topic addresses decision analyses in civil and infrastructure engineering throughout the life cycle.

For almost any decision situation in the individual phases of the life cycle of systems involving structures additional information can be made available. The value of information theory in conjunction with the pre-posterior decision theory constitutes a theoretical framework for assessing the value of such additional information on the basis of its expected benefits and risks. In this way the basis for rational and optimal decisions in the design, construction, operation and decommissioning phase is provided. Starting out from the early developments in the 1950 these theories have recently attracted significant attention and further developments and applications have evolved. The research encompasses inter alia the structural integrity management phase addressing the value of structural health monitoring and inspections to facilitate an optimum planning of monitoring and inspection strategies. A variety of structural system systems such as offshore structures, bridges and levees are addressed. Furthermore, the value of information theory is of crucial importance for the assessment of the impacts of the climate change where e.g. recent research efforts focus on the assessment of the value of more precise climate models for the design and retrofitting of offshore structures.

With this mini-symposium the research efforts for decision support in conjunction with the value of information theory in civil engineering including climate change will be gathered and discussed. Contributors in the fields of information theory, uncertainty modelling, risk and reliability research, climate change research, probabilistic modeling and analysis of structures and infrastructures and monitoring and inspection systems research and development are welcome.