SS-09

Innovative trends in the energy-water nexus

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Abstract

Researchers both from academia and industry are invited to submit papers for this special session to be held during the ICEUBI 2019 conference.

The water-energy nexus deals with the relationship between the water and energy systems. Energy is required by the water processing cycle, at its different stages, that includes extraction, purification, transportation/distribution and treatment before disposal. Energy can be produced by a hydroelectrical power plant, that converts the gravitational potential energy of water stored in a dam, or from a steam turbine, that converts the thermal energy of steam. The impact of this relationships is currently addressed not only by the scientific community but also by governmental agencies, demonstrating the impact of this nexus on society and environment.

Justification

This session will be dedicated to the presentation of innovative work related with the energy-water nexus. A specific focus will be set on system integration related areas of interest to research, industrial, domestic and rural activities. Energy and water resources are vital to insure the living standards of today's societies. However, they are increasingly scarce. Collecting information, sharing it and taking decisions based on it enables the efficient management of water and energy infrastructures. The purpose of this special session is to promote a discussion forum to present recent scientific and technological advances, case studies, and real-world applications related to the acquisition and management of information in the management of the water-energy nexus. Conscious of the energy water nexus, there is an increasing focus on optimizing the processes associated with these resources, not only because of the economic impact that they represent, but also for their ecological and social dimensions.

Submissions are welcome (but not limited):

- Water energy systems integration and management
- Framework water in energy systems
- Framework energy in water systems
- Sensing, Data Collection and Information management
- Data, Modelling and Analysis
- Standards and normalization