**WWCH 2021 Tentative Challenge List**

**World Water Challenge (WWCH) 2021**

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| **Main Topic** | **Challenge** |
| **Water and Health** | **(Challenge) Scale-up of WASH for Public Health** |
| (Keywords) Water, Sanitation, Hygiene (WASH), water-borne diseases, wastewater, water quality, handwashing, sanitation facilities, public health infrastructure, |
| **(Challenge) Efficient Method for Wastewater Surveillance to Detect Spread of Disease** |
| (Keywords) wastewater management, sewage, prevention, early warning system, monitoring wastewater for viral loads, emerging pollutants, contaminated waste, pharmaceuticals, industrial waste, microbial risk, hazardous material, water treatment |
| **Efficient Water Management** | **(Challenge) Integrated Management of Diversified Water Resources** |
| (Key words) water supply in an isolated tropical area, rehabilitation of deteriorated infra, policy for integrated water management, governance for transboundary and shared water resources |
| **(Challenge) Innovating Financing for Local Water Solutions** |
| (Key words) circular economy |
| **Resource Recovery from Water and Wastewater System** | **(Challenge) Energy Efficiency in Sewage, Waste water, and Sea Water Recycling and Reuse** |
| (Key words) energy consumption |
| **(Challenge) NEXUS for Efficient Utilization of Limited Water Resources and Energy Recovery** |
| (Key words) water recycle, water-food-energy nexus, RO(Reverse Osmosis), renewable energy |
| **Water and Natural Disasters** | **(Challenge)** **Flood Prevention and Management for Sustainable Water Cycle and Urban Regeneration** |
| (Key words) climate change, flood prevention, sustainable management |
| **(Challenge) The Depletion and Pollution of Water Caused by Climate Change** |
| (Key words) climate change, drought management, water shortage |
| **Smart Water**  **Technologies** | **(Challenge) ICBM, ICT based Water Management** |
| (Key words) water management, urban regeneration, intelligent public sewage treatment facilities, big data utilization, internet of things, IoT water management |
| **(Challenge) 'Smart' Solutions for Water Management : Definition and Case of 'Smart Solutions' by Region, Sector, and Target** |
| (Key words) simple technologies to save water in irrigation, innovative management to prevent flood or drought |
| **Ecosystem and Water** | **(Challenge): Nature-based Solutions for Ecological Recovery and Reinstate Natural Process of Rivers** |
| (Key words) green infra, environmental flow, river restoration, ecosystem service |
| **(Challenge) Ecological Urban Water Cycle in Adaptation of Climate Change** |
| (Key words) utilizing LID and GI, resilience cities, ecological flow |