

# Control of water systems with humans and robots in the loop

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International entities such as the United Nations Food and Agriculture Organization have been warning about the urgent need for balancing water demand for years now. To deal with this issue, automation of water systems is often proposed as a solution, but the costs for the equipment (sensors, PLC's, SCADA, communication systems, electro-motors) and its maintenance in such open and large-scale systems are considerable, even unaffordable. In this talk, we explain how the flexibility of the model predictive control framework can be exploited to enjoy the superior performance of advanced control systems without resorting to classical instrumentation. In particular, we deal with the integration of human operators and robots as essential sensing and actuating elements for the control of water systems.