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"Rethinking America's Urban Water Infrastructure: Resource Efficiency, Access, and Public Health"

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South Platte Room City Union, Lincoln

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Water infrastructure renewal is receiving significant attention today as many of our systems are meeting (or exceeding) design life. Cities in countries with well developed economies like the U.S. enjoy economic prosperity in part due to the development of heavily centralized water systems that create high levels of water quality and public health, on average. While centralized water infrastructure has served us well, I argue that we should not be constrained to applying 20th century thinking as we plan for the future. The current revolution in information technologies (IT: software, hardware and devices) has the potential to transform urban water infrastructure by creating more resilient and flexible hybrid systems comprised of an interacting collection of centralized and decentralized physical & IT systems.

I contend that the development of IT-enabled "smart" hybrid water system solutions has the potential to: improve the efficiency with which we use resources (e.g., water, power, nutrients); enhance equitable access to water services; change consumer and provider behavior around water; and ensure that we sustain a high level of public health, even as more people live in close proximity to each other. In this talk and through the use of case studies from across different regions around the globe, I will explore these scenarios and the changing ways in which people live.

As an example, one case study will include the development of "smart" distributed nutrient recovery systems that have been deployed and are being tested at the University of Michigan.

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