

# Development of Low-cost, Real-time Water Level Monitoring System – A Case Study for Falling Water River Watershed

Dr. Alfred Kalyanapu, Ph.D.

Professor, Tennessee Technological University

Thursday, April 11, 2024 9:30 – 10:30 am (IST)

*Join from the meeting link*

*<https://tinyurl.com/TransTech-Talk-15>*



### ABOUT THE TALK :

Streamflow monitoring in waterways is a cost-intensive venture usually performed by government agencies. With reduced resources across the federal agencies towards environmental monitoring, agencies and stakeholders are challenged to respond with cross-cutting, collaborative and low-cost alternatives for streamflow monitoring. One such alternative is using low-cost environmental sensors and developing a real-time sensor network using IoT (Internet of Things) devices. With this technology, smaller watersheds can be equipped with low-cost sensors at many locations and a clear picture of hydrological response can be achieved. This talk will discuss how a low-cost, real-time streamflow network was developed for the Falling Water River (FWR) Watershed. This includes (i) Assembling a low-cost, real-time enabled water level sensor, (ii) Field testing of the sensor prototypes, and (iii) Installation of the sensors and expansion of the sensor network.

### ABOUT THE SPEAKER :

Alfred J. Kalyanapu is a Professor in the Department of Civil and Environmental Engineering at the Tennessee Technological University, Cookeville, Tennessee, USA. He received his B.Tech Degree from the National Institute of Technology, Warangal, India, MS and PhD from the University of Utah in Salt Lake City. His research group ([www.techwarms.org](http://www.techwarms.org)) focus on understanding the complex interplay water resources has with climate, urbanization, energy development and how in turn affects the sustainability and resilience of communities.

Dr. Kalyanapu's research focuses on floods, hydrology, water resources engineering, and environmental modeling. He has published over 30+ peer-reviewed journal and conference papers and 90+ conference proceedings, presentations and technical reports. He has received numerous research grants from federal and state agencies, including the United States Department of Agriculture, United States Geological Survey, Tennessee Department of Environment and Conservation and National Science Foundation.