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April 27, 2016 — Civil and environmental engineering and Water Lab PhD student Ayman Alafifi won first place in the American Water Resources Association Utah Chapter student paper competition on April 13.

He received the award for his research work, "Systems Modeling to Improve River and Riparian Habitat Quality." The presentation was given at the Utah Division of Water Resources offices in Salt Lake City.

His research investigates the use of systems models to better manage river and riparian areas.

Alafifi developed an optimization model that shows the implications of management decisions on the quality of a river's ecological habitat. The model attempts to improve habitat quality for priority species by allocating water to the sites and at the seasons that will best serve the needs of the desired species while also meeting human demands.

He also developed an interactive GIS web platform that allows managers to interact with the model results and visualize the spatial and temporal scales of ecological restoration needs. The model is uses the Lower Bear River as a case study to help ongoing conservation efforts to define and prioritize sites for restoration efforts in the Bear River watershed.

He will receive a cash scholarship and will present his research at the Annual Conference of the Utah Section of AWRA on May 10, 2016 at the Rice-Eccles Stadium Tower on the University of Utah campus. Congratulations, Ayman!