

ALABAMA WATER INSTITUTE WELCOMES NATIONAL PARTNERS TO CAMPUS

The University of Alabama recently hosted several federal and state agencies and national organizations as part of the newly created Alabama Water Institute's effort to increase awareness and the advancement of water research.



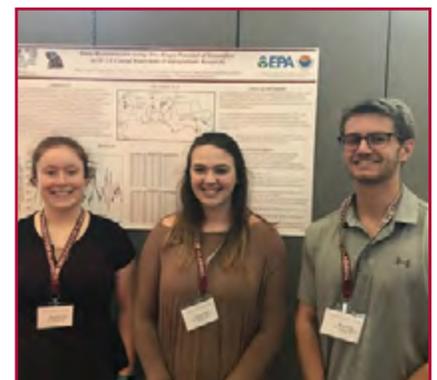
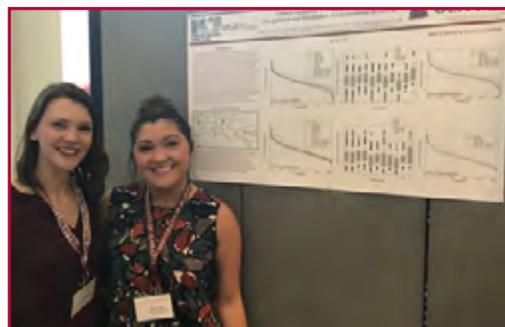
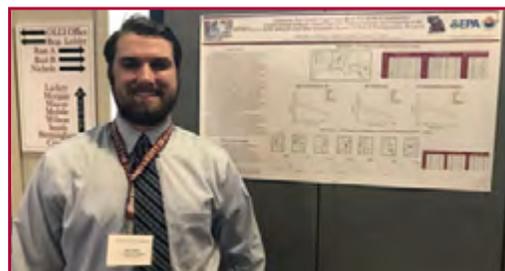
UCAR President Antonio J. Busalacchi and UA President Stuart R. Bell shake hands after signing the UCAR national membership agreement.

On March 26, UA President Stuart R. Bell and the University Corporation for Atmospheric Research, or UCAR, President Antonio J. Busalacchi signed an agreement officially making UA a member of the national organization. UCAR is a nonprofit consortium of 117 member colleges and universities across North America with a focus on research and training in the atmospheric and related Earth systems sciences. Along with six other institutions, UA was voted into UCAR in October 2017. The Alabama Water Institute is home to four centers that will both benefit from and be able to help the partnership with UCAR through research such as remote sensing, hydrology, water quality, biodiversity, aquatic microbiology and geochemistry, engineering drinking water systems and stormwater infiltration.

The day following the signing, the National Water Center held its science and technology showcase. Many government, private and academic organizations demonstrated how collaborative

efforts are shaping national water forecasting and prediction services. The AWI exhibit highlighted the research capabilities not only of UA, but also from its own faculty, students and affiliated centers. Several AWI researchers were on hand to learn more about how the partnerships with other agencies can help address water needs and issues on local, state and national levels.

The activities wrapped up with the third annual Water Policy Summit at the Bryant Conference Center. This year's two-day summit featured the theme Community Resiliency: Summit to Sea. The event brought national experts together and included focused sessions on various topics such as water policies, law, science, engineering, business and management.



UA undergraduate researchers recognized for their posters at the 2018 Water Policy Summit.

ALABAMA WATER INSTITUTE INTRODUCES NEW CENTER DIRECTORS OF HYDROSYSTEM RESEARCH AND WATER QUALITY RESEARCH



Hamid Moradkhani, Ph.D., PE, F.ASCE, Director of a new center for complex hydrological research.

Mission:

Building regional, national and global capacity for the grand challenges in the 21st century faced by water resources and emergency managers: how to be sure that there is enough water to meet demands and protect the livelihood against extremes as populations swell and weather patterns shift in varying climate.

This center will make significant contributions to hydrologic science/ water resources system analysis and computational modeling. Moradkhani's research emphasizes predictive science, uncertainty analysis and risk characterization, while continuing to educate future professionals who will further this cause.

The center focuses on collaborative research to advance the understanding of hydrologic science through modeling climate-water-human interactions as a complex system, which will result in sustainable management. Through Moradkhani's leadership, the center contributes new insights into the coupled interactions between climate, water, energy and food using data sets and methods; including climate model downscaling, remote sensing, state-of-the art data

assimilation, distributed hydrologic modeling, ensemble inference, data analytics and multi-modeling.

The center contributes to enhancing community resiliency to hydrologic extremes by developing and implementing an advanced drought early warning system and also flood forecasting with hazard assessment to account for compound flooding from river flow and coastal water level. The affiliated researchers characterize, quantify, reduce and communicate uncertainties and risks in simulation and forecasting, while providing reliable hydroclimate extremes analyses under non-stationarity across spatial and temporal scales. Knowledge from these efforts will further understanding of the impact of climate variability and change on water resources and environment.



Prabhakar Clement, Ph.D., new Center Director of water quality research.

proposed center focusing on water quality and research affiliated with the campus Alabama Water Institute (AWI). He holds a Ph.D. in civil engineering and is a registered professional engineer. He has more than 25 years of teaching and

research experience, published more than 100 peer-reviewed articles and graduated more than 10 Ph.D. students. His area of research is developing engineering solutions for water quality management problems. His interest in this field stems from water being a necessity for all human life.

Clement's current project involves the continuing study of the impacts of the 2010 BP oil spill. His goal is to develop a long-term coastal water quality and beach safety monitoring program in Alabama.

Clement is also collaborating with UA faculty colleagues to develop cost-effective methods to improve the performance of water and wastewater treatment plants, design low-cost engineering measures to treat wastewater discharged from rural housing and develop advanced membrane-based desalination technologies to treat saltwater. He is currently developing an advanced water quality testing laboratory, which will benefit and expand the research capabilities of AWI and its centers.

Alabama Water Institute Newsletter Vol. 1 No. 1

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