THE UNIVERSITY OF ALABAMA® | Alabama Water Institute

QUARTERLY NEWSLETTER • Volume 5 No. 2

UA AWARDED $360 MILLION TO LEAD NATIONAL WATER EFFORT

The award from the National Oceanic and Atmospheric Administration, the largest external award in the University's history, will be administered by the Alabama Water Institute and acknowledges UA's commitment to make water a signature research and academic focus.

By Brock Parker

With transformative support of up to $360 million over the next five years from the federal government, The University of Alabama is poised to become a standard bearer in translating water research into operations that improve the nation's ability to predict water-related hazards and effectively manage water resources.

The effort establishes the Cooperative Institute for Research to Operations in Hydrology, or CIROH. Headquartered at AWI, CIROH consists of a consortium of 28 academic institutions, non-profit organizations and government and industry partners bringing together a powerful team of hydrologic researchers across the United States and Canada. They will develop and deliver national hydrological analyses, forecast information, data, guidance and equitable decision-support services to inform essential emergency management and water resources decisions.

"I am thrilled that The University of Alabama has received this competitive award to facilitate a cutting-edge Cooperative Institute focused on hydrology," said U.S. Sen. Richard Shelby (R-Ala.). "UA has the unique environment and expertise to lead the nation in high-level water research between 28 partners. Thanks to the Alabama Water Institute's leadership in assembling a world-class team, the growing scientific expertise and collaborations in Alabama will continue to benefit the nation. Additionally, NOAA's efforts to create this innovative institute will, in turn, protect communities and promote wise investments across the nation through better water models, forecasts and predictions. This award is excellent news for Alabama and its findings will influence decisions made across the continent for years to come."

"The addition of the Cooperative Institute to The University of Alabama's campus bolsters UA's position at the epicenter of water research and operations," said UA System Chancellor Finis St. John. "The opportunity to earn this competitive grant and lead the nation in this transformative work providing exceptional educational opportunities for our students would not be possible without Sen. Richard Shelby's support to bring the National Water Center and U.S. Geological Survey partners to our campus."

CIROH will work closely with two federal organizations located on campus — NOAA's National Water Center and the recently announced U.S. Geological Survey Hydrologic Instrumentation Facility — allowing for highly productive collaboration between AWI and other federal agency scientists.

"The research institutes were established on campus to support and expand upon the great work done by our faculty, staff and students in addressing real challenges facing our society," said UA President Stuart R. Bell. "This award will elevate those contributions, bringing innovation to such a critical issue as water quality and availability while enriching the educational experience of our students. The expertise of the Alabama Water Institute is positioned well to answer our nation's call to improve the lives and livelihood of Americans and our partner nations."

"The University of Alabama is at the forefront of hydrological research," said Dr. Russell J. Mumper, vice president for research and economic development. "Tuscaloosa is now a hub of innovation for putting intelligence related to water resources into action. We are grateful for the trust placed upon the University to lead this national center of excellence."

The consortium led by UA assists

(continued on next page)

UA GRANTED $360 MILLION AWARD

(continued from previous page)

NOAA's vision of a water- and weather-ready nation. CIROH will advance water research in support of NOAA's Office of Water Prediction and reinforce the work of the National Weather Service and National Water Center through collaboration across the scientific community in four broad research themes:

- Water resources prediction capabilities
- Community water resources modeling
- Hydroinformatics
- Application of social, economic and behavioral science to water resources prediction

for students for years to come," said Burian. "The research innovations delivered by the Cooperative Institute will improve forecasts of floods and droughts, increase efficiency of water resources management, protect water quality and empower stakeholders to make confident and timely decisions."

CIROH's 14 consortium members include: The University of Alabama; Brigham Young University; Colorado School of Mines; Tuskegee University; The University of Alabama in Huntsville; University of Arizona; University of California San Diego, Scripps Institution of Oceanography; University of Hawai'i at Mānoa; University of Iowa; University of Minnesota, Twin Cities; University of Saskatchewan; University of Utah; University of Vermont; and Utah State University.

Consortium partners include: Baron Weather Inc.; Coastal Carolina University; Consortium of Universities for the Advancement of Hydrological Science Inc.; Dauphin Island Sea Lab; Gulf of Mexico Coastal Ocean Observing System; Jupiter Intelligence; New Mexico State University; Oak Ridge National Laboratory; The Pennsylvania State University; RTI International; Stevens Institute of Technology; University of California, Davis; University of Illinois at Urbana-Champaign; and University of South Carolina.

"I am proud to be spearheading this unprecedented Cooperative Institute, which will not only create a consortium of institutions that will leverage their individual prowess to address today's most pressing water issues but also usher UA forward in its status as an emerging and leading water research institution," said Scott Rayder, AWI executive director.

"Thanks to the Alabama Water Institute's leadership in assembling a world-class team, the growing scientific expertise and collaborations in Alabama will continue to benefit the nation. Additionally, NOAA's efforts to create this innovative institute will, in turn, protect communities and promote wise investments across the nation through better water models, forecasts and predictions."
-U.S. Sen. Richard Shelby (R-Ala.)

CIROH will create curriculum programs across its consortium members and partners to prepare the next generation of water professionals. Local-to-national scale workforce training programs will translate CIROH advances into practice. Extensive outreach and engagement will connect CIROH to stakeholders helping communities build resilience to water-related risks.

Dr. Steven J. Burian, AWI director of science and professor of civil, construction and environmental engineering, will serve as the executive director of CIROH.

"We now begin the real work of coproducing research with NOAA and other partners that will benefit society and provide learning opportunities

The Alabama Water Institute is currently seeking guests for its podcast. Take advantage of this opportunity to promote your research to a wider audience.

Contact Brock Parker at: brockparker@ua.edu or 205-348-5328
for more details and to schedule a recording.

UA HOSTS AWRA NATIONAL SPRING WATER CONFERENCE

By Brock Parker

Bringing together a diverse multi-disciplinary group of water researchers and professionals, The American Water Resources Association recently held its 2022 spring conference at The University of Alabama. It was co-hosted by the Alabama Water Institute and the AWRA Future Risk Committee.

Dr. Richard Spinrad, National Oceanic and Atmospheric Administration administrator and Under Secretary of Commerce for Oceans, was the keynote speaker. The conference theme, "Water Risk Under a Rapidly Changing World," highlighted the importance of evaluating future water hazards and how society can adapt to and overcome them. Spinrad said promoting collaborations across the scientific community is key to driving research to operations.

"At NOAA, we're trying to lead the way, but we can't do it alone," he said. "It's going to be done in partnership with all of you in the room here, in the academic community, our weather service meteorologists and hydrologists, the USGS hydrologists and of course all the academic and research institutions that are going to help drive the next generation of capabilities."

Tuscaloosa Mayor Walt Maddox also addressed the uniqueness of water to the area.

"Water is essential to the DNA of this city," said Maddox. "Tuscaloosa was founded more than 200 years ago on the shores of the Black Warrior River, which runs through the heart of our community. The city is one of the rare entities that owns its own lake system. We have about 40 billion gallons of water that the city owns and maintains."

Approximately 180 water professionals from 34 states, including 77 from Alabama, 26 representatives from federal agencies and one student from Mongolia, gathered for three days of informative sessions centered around water research, security and management. Students from participating academic institutions also competed in poster and paper presentations.

"UA's partnership with NOAA and the USGS is something that a lot of communities, whether big or small, in our nation would love to emulate."
-Walt Maddox, Tuscaloosa Mayor

Two UA students won awards for their work: Hemal Day, a geography student advised by Dr. Wanyun Shao, won second place in the technical paper competition. Chloe Ponprasit, a student studying geological sciences under Dr. Yong Zhang, placed second in the poster competition.

The AWRA conference took place days after NOAA awarded UA and the AWI the Cooperative Institute for Research to Operations in Hydrology, or CIROH.

"Cooperative institutes are a very special entity within NOAA," said Spinrad. "We have an extraordinary opportunity here to focus on hydroinformatics and community water resources modeling, geographic information systems and remote sensing, data assimilation, high-performance computing, artificial intelligence and machine learning."
The $360 million award is the largest external award in UA's history, acknowledging the University's commitment to water research and creating impactful career paths for students.

"I can't tell you how excited I am about what the next five years will bring in terms of not just developing new capabilities, but also workforce development," Spinrad said. "Academia is involved, and I see the students coming out of cooperative institutes as being the next generation that continues to elevate this extraordinary trajectory that we've had in hydrology in NOAA over the past 20 years or so."

Maddox said bringing a leading national conference such as AWRA and federal, academic and industry partnerships to Tuscaloosa puts the city on the map for research in hydrology and water management. "I can't tell you what an exciting feeling it is to know that your community is going to be on the cutting edge of analysis, forecasting and research," Maddox said. "UA's partnership with NOAA and the USGS is something that a lot of communities, whether big or small, in our nation would love to emulate."

Please follow us on social media.

@AlabamaWaterInstitute
@AlabamaWater
@Alabama_Water
Alabama Water Institute

UA TO CELEBRATE EXCELLENCE AMONG FACULTY RESEARCH, CREATIVE ACTIVITY

Members of The University of Alabama faculty were recently honored for their research, scholarship and creative contributions at the University's Faculty Research Day.

By Adam Jones

As part of the celebration, faculty members were recognized with the President's Faculty Research Award from 2020, 2021 and this year.

Sponsored by the offices of the President and Vice President for Research and Economic Development, the awards go to outstanding faculty researchers from across UA's colleges and schools.

Included in this year's recipients is Dr. Hee Yun Lee, an affiliated faculty member of the Alabama Water Institute. Lee is a professor, associate dean for research, and endowed academic chair on social work and health at UA's School of Social Work. She is a behavioral health scientist, and her major research areas include mental health and health, including environmental factors involving water quality associated with cancer health disparities.

Faculty Research Day highlights and celebrates excellence in research, creativity and scholarship by honoring faculty from across campus. It is also intended to increase awareness and generate enthusiasm for scholarship among faculty as the University advances its research enterprise and its impact.

"The University of Alabama's success in increased productivity and innovation in research, scholarship and creative activities comes from faculty members who dedicate their time to better society through deeper understanding of our world and the human condition," said Dr. Russell J. Mumper, UA vice president for Research and Economic Development. "It's important to pause and honor their contributions."

The 2020 and 2021 ceremonies were canceled, requiring virtual poster presentations and online recognition of awarded faculty members.

The 2022 recipients come from each of three areas: arts and humanities; physical and biological sciences, mathematics and engineering; and social and behavioral sciences. In each group, nominations are solicited for a senior, mid-career and emerging scholar to be honored.

The 2022 President's Faculty Research Award Recipients:

Emerging Scholars

Arts and Humanities
•Luke William Hunt – philosophy

Physical and Biological Sciences, Mathematics and Engineering
•Tibor Szilvási – chemical and biological engineering

Social and Behavioral Sciences
•Jennifer Cox – psychology

Mid-Career Scholars

Arts and Humanities
•Kenon A. Brown – advertising and public relations

Physical and Biological Sciences, Mathematics and Engineering
•Jason Bara – chemical and biological engineering

Social and Behavioral Sciences
•Hyunjin Noh – social work

Senior Scholars

Arts and Humanities
•Eric Weisbard – American studies

Physical and Biological Sciences, Mathematics and Engineering
•Andreas Piepke – physics and astronomy

Social and Behavioral Sciences
•Hee Yun Lee – social work

HOW TO GET AFFILIATED WITH THE ALABAMA WATER INSTITUTE

If you have expertise that could contribute to addressing complex water issues, please register yourself on our website. All registered members are considered affiliated with AWI and have access to all AWI resources.

To register, visit the AWI website: *awi.ua.edu*

Eligibility Criteria:

- A faculty/staff/student appointment at UA.
- Research expertise in a water-related field.
- Completion of registration form.

For questions contact Stefanie O'Neill at: soneill2@ua.edu or 205-348-9128

Alabama Water Institute Newsletter
Vol. 5 No. 2

Executive Director: Scott Rayder
Comm. Director: Zach Krauss
Sr. Designer: David Galinat
Sr. Editor/Writer: Brock Parker