

SPECIAL PRESENTATION

Candidate for Director Tahoe Environmental Research Center



Dr. Alexander Forrest

“Research Highlights and Vision for the Tahoe Environmental Research Center”

(Followed by a question & answer period)

Friday, June 21, 2024

8:30am – 9:30am

3102 Gallagher Hall (540 Alumni Ln, Davis, CA 95616)

[Zoom](#) Meeting ID: 994 2847 8111 | Passcode: 231392

Dr. Alexander Forrest, an Associate Professor in Civil & Environmental Engineering at the University of California – Davis specializes in Water Resources and Environmental Fluid Mechanics. His research merging science and engineering began at McMaster University, Canada, with a dual major in Chemical Engineering (BEng) and Environmental Sciences (BSc; 2002). Expanding into Pollution Control research at the University of British Columbia, Canada, he was awarded an MSc in Civil Engineering (2004) followed by his PhD in Civil Engineering in Fluid Mechanics (2011). His early adoption of autonomous underwater vehicles has brought novel engineering solutions to environmental problems. Presently, his research combines autonomous underwater robotics, acoustic mapping techniques, and environmental fluid mechanics theory to analyze lake and ocean dynamics, more specifically the impact of lakebed and seafloor features on localized hydrodynamic flow. Continuing his interdisciplinary work in his local community and globally, Dr. Forrest is heavily invested in characterizing the physical processes affecting water quality and ecosystem health in Lake Tahoe (e.g. internal wave transport, penetrative convection, upwelling, etc.).

Prior to starting at UC Davis in 2016, Dr. Forrest was a Senior Lecturer at the University of Tasmania, Australia in Ocean Engineering where he founded the Autonomous Maritime Systems Laboratory at the Australian Maritime College (2014) and was a group leader in the Australian Research Council Antarctic Gateway Partnership focused on the Southern Ocean. Dr. Forrest was a Hellman Fellow (2017), focusing on understanding mechanisms of ice-shelf collapse and epishelf lake drainage in the Canadian High Arctic. He established a Center for Information Technology Research in the Interest of Society (CITRIS) Environmental Robotics Lab at Tahoe (2020) and has been the Interim Director of the UC-Davis Tahoe Environmental Research Center since January 2024. Beyond university teaching, he has taught classes in non-traditional settings such as for the Nevada STEM Underwater and Aerial Vehicle Computer Science Institute (2016) and for the Royal Australian Navy (2018).