

A large graphic of water splashing from the top left corner, with a red and blue curved band arching across the page.

# FRESNO STATE

California Water Institute

**Faculty Fellows  
2021-2022**





**Dr. Mike Mustafa  
Berber, P. Eng.**

Dr. Berber is a faculty member of Department of Civil and Geomatics Engineering at California State University, Fresno. His expertise is in Geodesy, Global Navigation and Satellite System, Geodetic Measurement Techniques and Hydrographic Surveying.

Currently, he published three books/monographs, around fifty journal papers and many conference proceedings. He has worked as a referee for a number of journals and he serves in the Editorial Board of Survey Review journal. In terms of research, he worked on a range of projects from “Greenhouse Gas Emissions from Peat Soils” to “Monitoring the Impacts of Climate Change on Coral Reefs” to “Determining Absolute Sea Level Change for Florida”. He also delivered several bathymetric projects.



**Dr. Luca Brillante,  
Ph.D**

Luca Brillante is Bronco Wine Co. Chair in Viticulture and Asst. Professor at Fresno State, where he researches in the field of precision and digital viticulture. His work aims to develop new tools to monitor and increase vineyards’ efficiency and sustainability. He is also interested in understanding the effects of environmental constraints on grapevine physiology in space and time to implement variable rate and site-specific management approaches. He published 24 peer-reviewed research papers in leading scientific journals, one international patent, and over 50 papers and abstracts in national and international conferences. He serves as Editor for Oeno One, Frontiers in Plant Science, Sustainability, Agronomy, and Plants. He also writes regularly in trade journals in the USA and Italy



**Dr. Qin Fan, Ph.D**

Dr. Qin Fan is an Associate Professor of Economics in the Craig School of Business at Fresno State. She received her Ph.D. from the Pennsylvania State University in 2013. Dr. Fan's primary research and teaching interest are Environmental Economics, focusing on climate change and natural disasters. Water resources and water pollution are important aspects of her research areas. Dr. Fan's research focuses on the linkage between human behavior and the environmental system.



**Dr. Bradley W.  
Hart, Ph.D.**

Bradley Hart is an Associate Professor in the Department of Media, Communications, and Journalism at Fresno State. His most recent book is *Hitler's American Friends: The Third Reich's Supporters in the United States* (Thomas Dunne Books/St Martin's Press: 2018). Dr. Hart previously completed a Ph.D. in history at Cambridge University and an M.Phil in Modern History at the University of St Andrews. Hart also has an interest in water journalism and water communications.



**Dr. Thomas Holyoke, Ph.D.**

Dr. Thomas Holyoke is a Professor of Political Science at Fresno State, specializing in collective action and political advocacy and western water policy and education policy. He earned his Ph.D. at The George Washington University in 2004 and is the author of three books and over forty peer-reviewed research journal articles and book chapters. He is also the recipient of the Provost's University Service Award and Promising New Faculty Award.

Dr. Holyoke first became interested in water policy while living in his home state of Nebraska, where concerns were arising over the depletion of, and quality of, water in the Ogallala Aquifer and how its loss was impacting agriculture policy on the Great Plains. Since coming to Fresno State, he has become increasingly interested in the history and current implementation of California's federal and state water policies and the inter-mountain West. He teaches undergraduate and graduate courses on water policy and politics and is currently working on a new book about water politics



**Dr. Andres Jauregui, Ph.D.**

Dr. Andres Jauregui is an Associate Professor of Real Estate in the Department of Finance and Business Law in the Craig School of Business at Fresno State. Besides his teaching and research responsibilities, he is also Director of the Gazarian Real Estate Center, which promotes the advancement of real estate education and research in the Central Valley. Dr. Jauregui has also been on the Board of Directors of the Community Housing Council and the Kings River Conservancy and currently serves on the Board of Directors of the U.S. Green Building Council Central California Chapter.

With respect to his current research interests, Dr. Jauregui conducts high-quality research in the areas of real estate economics and finance. He has published papers in the Journal of Real Estate Finance and Economics, Housing Policy Debate, Journal of Regional Science, Journal of Housing Research, and Journal of Real Estate Research. Dr. Jauregui has a profound interest in conducting research on the linkages between real estate and environmental issues, particularly related to water.



**Dr. Zhi Liang, Ph.D.**

Dr. Zhi Liang is an associate professor in the Department of Mechanical Engineering. He joined Fresno State in 2016. Dr. Liang's research focuses on micro/nanoscale heat and mass transfer. One of Dr. Liang's current research interests is in phase change and dynamics of nanodroplets and nanobubbles, which have important applications in water storage, frost protection, wastewater treatment, and bioremediation of groundwater pollution.

As a faculty fellow in CWI, Dr. Liang has three research interests related to better future uses and conservation of the State's waters. (1) Evaporation control of water storage. (2) Water purifying by fast evaporation. (3) Wastewater treatment by nanobubbles. Dr. Liang will collaborate with experimentalists in CWI and local companies on the water storage and water treatment projects. Dr. Liang's modeling results can provide a fundamental understanding of many key processes in water treatment. The experimentalists and local companies can also carry out experiments to verify the designing rules and strategies developed from Dr. Liang's modeling results and use them for better future uses and conservation of waters in California.



**Dr. Lubo Liu, Ph.D.**

Dr. Lubo Liu is a registered professional engineer in Environmental Engineering and a full professor at the Department of Civil and Geomatics Engineering in the Lyles College of Engineering at Fresno State. He got his B.S. and M.S. degrees from the Tsinghua University of China and a Ph.D. from the University of South Carolina in Civil Engineering. His research focuses on water resources and environmental engineering. His specific research experience has been in the areas of reactive transport and the fate of contaminants in surface water and groundwater, environmental process modeling, groundwater bioremediation, subsurface characterization, and soil remediation. He is particularly interested in integrating laboratory and field-scale observations with modeling to explore the relevant processes and parameters.

Dr. Liu has widely published his research findings in journals and conferences in Environmental Engineering and Water Resources Engineering. He is currently devoting most of his research effort to two aspects: 1. An NSF-funded research project on how to improve the capability of water retention and nutrient in agricultural soil, and 2. A project on understanding near-shore processes in the Great Lakes and the transport of pathogens in the environment.



**Kalyani Maitra**

Kalyani Maitra is an Assistant Professor in the Department of Chemistry and Biochemistry at Fresno State. Maitra is currently working on multiple research projects. One of the areas Maitra is studying is related to the use of algae in improving wastewater quality and as a resource for biofuel and feedstock. The other project is based on designing and studying the structural aspects of polypeptide/peptidomimetics that can function as potential therapeutics in cancer and Alzheimer's disease.



**Dr. Aric Mine, Ph.D**

Aric graduated from Rensselaer Polytechnic Institute with a B.S. in geology. He received his Ph.D. in aquatic biogeochemistry at the University of Chicago. He joined the Earth and Environmental Science Department at Fresno State in 2017 as an assistant professor this fall, where he looks forward to further developing the environmental science program. As a biogeochemist, Aric's work is interdisciplinary and welcomes collaborations across the College of Science and Math and the Fresno State campus. His current focus on nutrient cycle perturbations in local aquatic systems will look more closely at the link between agricultural activity and algal bloom development. Aric also uses a historical understanding to contextualize our current understanding of global environmental change. He is currently seeking collaborators and input on a project centering around resolving drivers behind the most recent global warming analog in the sedimentary and fossil record.



**Balaji  
Sethuramasamyraja**

Balaji Sethuramasamyraja is a Professor and Program Director of Agricultural Systems Management and Precision Agriculture Technology in the Department of Industrial Technology, Jordan College of Agricultural Sciences and Technology at Fresno State. He works in precision agriculture and site-specific crop management. More specifically, applied sensors & controls, irrigation technology, Internet of Things IoT, industrial automation, and application of spatial technologies in agriculture. He has attracted research funding worth \$3 million in applied engineering/technology research in precision agriculture, irrigation technology, and sustainable management practices.

He has a mechanical, industrial, and agricultural engineering background with industry experience at Caterpillar as a Reliability Engineer in Caterpillar Engineering Research and Development Center. He is active with the ATMAE Association of Technology Management and Applied Engineering professional society and the past chair of the ASABE American Society of Ag and Biological Engineers California Nevada section. His honors include the Salgo Noren teaching excellence award by NACTA North American College Teachers of Agriculture, Jordan College Outstanding research and scholarly activities award, and ASABE Agricultural Engineer of the year award, to name a few.



**Dr. Qun Sun, Ph.D**

Dr. Sun received her Ph.D. in wine chemistry from Cornell University. The focus of her dissertation was on chemosensory and viticultural studies of hybrid grape and resulting wines. Before joining the Department of Viticulture and Enology at Fresno State in August 2017, she was appointed as a Food Scientist at the International Food Network (now Eurofins Food Chemistry Testing), where she conducted food/beverage development and reformulation. She also previously taught Food Analysis for the Department of Food Science and Nutrition at Fresno State.

Dr. Sun's research interests are grape/wine aroma and flavor compound identification, the impact of viticultural practices on grape and wine quality, developing new analytical techniques for the measurement of grape and wine components, determining the relationship between sensory attributes and wine composition, and reusing winery wastewater for vineyards. She is teaching both undergraduate and graduate students Wine Evaluation Techniques, Grape and Wine Chemistry, Winery Management, and Analytical Methods for Wine.



**Dr. Zhi Wang, Ph.D.**

Dr. Zhi Wang is a professor of Hydrology and Soil Physics in the Department of Earth and Environmental Sciences at Fresno State. His research and scholarly activities are focused on hydrology, hydrogeology (groundwater hydrology), soil physics, GIS, and water resources. He has over 60 peer-reviewed publications in *Water Resources Research*, *Journal of Hydrology*, and other water-related journals (see peer-reviewed English publications on Google Scholar Page). His research has been funded by the U.S. Natural Science Foundation, U.S. Department of Defense, California EPA, and California Department of Water Resources. Dr. Wang served as Editor-in-Chief of the international journal *Geological Sciences* and Guest Editor of the international journal *WATER* for a Special Issue on Climate Change Effects on Hydrological Processes, Water Resources, Ecosystems, and Agriculture.



**Dr. Yuanyuan Xie,  
Ph.D.**

Dr. Yuanyuan Xie is an Assistant Professor working in the Department of Mechanical Engineering of California State University, Fresno. He earned his doctorate degree from the University of South Carolina, Columbia, in 2013. Prior to joining Fresno State, he served as a postdoctoral researcher at the Chemical Science and Engineering Division of Argonne National Laboratory. His research spans from the electrochemical system, water treatment, micro/nanomaterials, energy storage, and conversion to multi-physicochemical modeling. Dr. Xie has produced more than 30 journal papers and given over ten presentations in national/international conferences and technical meetings.

At Fresno State, Dr. Xie served as a faculty fellow for the California Water Institute (CWI) in the academic year 2020-2021. He is also an active member of the Electrochemical Society, the Material Research Society, and the American Society of Mechanical Engineering.



**Dr. Xiaoming Yang,  
Ph.D.**

Dr. Yang is a senior analyst specializing in geographic information systems (GIS) and remote sensing. He received his Ph.D. from the State University of New York, College of Environmental Science and Forestry, in 1994. Working in different GIS centers of private and public universities, he has more than 30 years of technical and managerial experience in GIS, remote sensing and photogrammetry, and global positioning system.

For the last ten years, Dr. Yang has worked as a Senior GIS Analyst at Geospatial Information Center (<https://library.fresnostate.edu/service/geospatial-information>) in the Henry Madden Library at Fresno State. He provides primary support in geospatial technologies across the campus. He offers crucial GIS, geospatial database, and spatial analysis support to several types of research and application projects across different disciplines on the campus.



**FRESNO STATE**

California Water Institute

2703 E Barstow Ave, MS JC133 • Fresno, Ca 93740  
559.278.7001 • [www.californiawater.org](http://www.californiawater.org)