



THE UNIVERSITY OF ARIZONA
RESEARCH, DISCOVERY & INNOVATION

Water & Energy Sustainable
Technology Center

WEST Center 2019 Industry Meeting and Research Symposium

November 18, 2019

Pima County / WEST Center Water Campus

2955 W Calle Agua Nueva, Radon Room

University of Arizona
Water & Energy Sustainable Technology (WEST) Center
2959 W Calle Agua Nueva
Tucson, AZ 85719

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Agenda

- 8:00 - 9:00am: IAB meeting (light breakfast provided)
WEST member session—private meeting
- 9:00 - 9:30am: Opening speaker,
• Dr. Elizabeth Cantwell, UA Senior VPR
- 9:30 - 10:30am: Research updates and potential projects
- 10:30 - 10:50am: Break
- 10:50 - 12:00pm: Research updates and potential projects
- 12:00 - 1:10pm: Lunch with special speakers
• David Dunaway, AZ Dept of Environmental Quality
• Rick Warner, Nevada Water Innovation Institute
- 1:10 - 2:30pm: Research updates and potential projects
- 2:30 - 3:00pm: Utility & Industry roundtable
- 3:00 - 3:30pm: IAB feedback
WEST member session— private meeting
- 3:30 - 4:00pm: Student & researcher fast pitch & posters
- 4:00 - 5:00pm: Social hour -- Posters & WEST tours

Thank you for attending!

6:00 - 8:00pm: IAB dinner - *by invitation / RSVP required*
Dinner Location: Blanco Tacos, 2905 E Skyline Dr, Tucson, AZ 85718

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Presenter Line-up

9:30 - 9:50am: Kerri Hickenbottom, PhD
Assistant Prof, Chemical & Environmental Engineering

9:50 - 10:10am: Eduardo Saez, PhD
Professor, Chemical & Environmental Engineering

10:10 - 10:30am: Andrea Achilli, PhD
Assistant Prof, Chemical & Environmental Engineering

10:50 - 11:10pm: Charles Gerba, PhD
Professor, Environmental Science

11:10 - 11:30pm: Walter Betancourt, PhD
Assistant Research Prof, Environmental Science

11:30 - 12:00pm: Jeff Prevatt, PhD
Deputy Director of Treatment, Pima County RWRD

1:10 - 1:30pm: James Farrell, PhD
Professor, Chemical & Environmental Engineering

1:30 - 1:50pm: Bo Guo, PhD
Assistant Prof, Hydrology/Atmospheric Sciences

1:50 - 2:10pm: Reyes Sierra, PhD
Professor, Chemical & Environmental Engineering

2:10 - 2:30pm: Kelly Reynolds, PhD
Professor, Public Health

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Research Updates and Potential Project Presenters



Dr. Kerri Hickenbottom

Kerri Hickenbottom's research is centered on the development of novel engineered systems for resource recovery and reclamation of concentrate streams. She has investigated the impacts of a hybrid, membrane-based process for energy generation from low-grade heat, forward osmosis for advanced treatment and recovery of drilling wastewater from hydraulic fracturing, and membrane distillation for management of concentrate streams.



Dr. Eduardo Saez

Avelino "Eduardo" Saez is a Distinguished Professor in the Chemical and Environmental Engineering Department. Dr. Sáez graduated from the University of California, Davis in 1984 and joined the department in 1998. He completed his undergraduate work in his native Venezuela. Dr. Sáez has done extensive traveling within his discipline, which has awarded him various teaching and mentoring awards.



Dr. Andrea Achilli

Andrea Achilli's main fields of research are membrane processes for desalination and water reuse and energy recovery from water and wastewater. An additional field of research focuses on process integration, modelling, and optimization and biological processes for water and wastewater treatments. Dr. Achilli is the principal investigator on several research processes on membrane contactor processes and hybrid systems for desalination and water reuse.



Dr. Charles Gerba

Charles P. Gerba is a professor of epidemiology and biostatistics in the UA Dept of Environmental Science. He has authored over 500 journal articles, books and has been featured on numerous television programs and magazines. Dr. Gerba has an international reputation for his methodologies for pathogen detection in water and food, pathogen occurrence in households, and risk assessment.



Dr. Walter Betancourt

Walter Q. Betancourt is a Microbiologist with expertise in Environmental Virology and Parasitology. His research has been focused on water pollution microbiology with an emphasis on enteric pathogens and looking at alternative indicators of these pathogens in tropical marine and freshwater environments of North and South America. He holds a solid record of interdisciplinary research with scientists from multiple institutions.



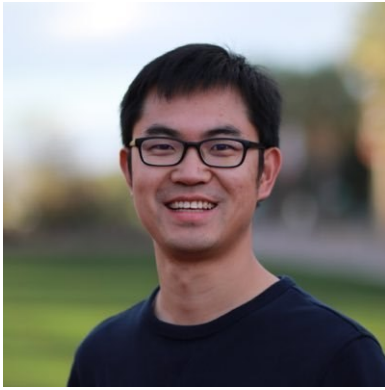
Dr. Jeff Prevatt

Jeff Prevatt is the Deputy Director of the Pima County Regional Wastewater Reclamation Department (RWRD). Prevatt has worked for RWRD for 25 years, beginning as the Inorganic Laboratory Supervisor in 1994. He has spearheaded several RWRD initiatives, including the development of the Pima County Water Campus, and has extensive experience in regulatory compliance, pretreatment, and analytical chemistry.



Dr. James Farrell

James Farrell graduated from Stanford University in 1993 and took a position at the University of Arizona the following year. He is a Professor in Chemical and Environmental Engineering and Civil Engineering - Engineering Mechanics. He recently received the Environmental Science and Technology Excellence in Review Award. His research interests include contaminant transport through soil and groundwater and abiotic transformations of chlorinated solvents.



Dr. Bo Guo

Bo Guo received a PhD in Civil and Environmental Engineering from Princeton University in 2016, and he is currently an assistant professor in Hydrology and Atmospheric Sciences. His expertise is modeling flow in permeable earth materials with focuses on: 1) understanding the fundamental physics of fluid flow at pore scale; and 2) developing predictive computational models at field scale to address practical engineering problems for energy and environmental systems in subsurface (e.g. contaminant transport in soil and groundwater).



Dr. Reyes Sierra-Alvarez

Prior to joining the UA in 2001, Dr. Sierra was an Associate Professor of Environmental Engineering at the Wageningen University in The Netherlands (1993 – 2000) and an assistant professor at the UNESCO Water Research Institute in Delft, The Netherlands (1991 – 1993). Prof. Sierra's current research work focuses on the microbial transformation of metals and hazardous organic pollutants, biological wastewater treatment, and environmental implications of nanotechnology. Her work has led to the publication of over 130 peer-reviewed scientific papers.



Dr. Kelly Reynolds

Since 1990, Kelly Reynolds has worked as a researcher and public health educator in environmental science, specializing in water quality, food safety and disease transmission. Her extensive experience in those research areas includes her role as a Principal Investigator of numerous projects and the publication of hundreds of journal articles, book chapters and professional reports.

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Lunch Speakers



Dave Dunaway

Dave Dunaway graduated from the University of Wisconsin with a degree in Geology and Geophysics in 2002, then moved to Arizona where the rocks were less likely to be covered by snow. In the private sector, Dave has worked for environmental consulting companies. In 2015, he joined the Arizona Department of Environmental Quality's Safe Drinking Water program as a unit manager and was promoted to his current role as Groundwater Protection and Water Reuse program manager in 2017.



Rick Warner, BS/MS Civil and Environmental Engineering

Rick Warner has over 30 years of engineering and strategic water resource planning experience. He presently serves as Program Manager for *OneWater Nevada* – a partnership of eight agencies jointly exploring potable reuse as a strategy to manage Nevada's limited water resources. Rick is also Outreach and Development Coordinator for the *Nevada Water Innovation Institute*. Mr. Warner has had leadership roles with the Water Environment Foundation and The Water Research Foundation.

Poster Session

Presenters

Dr. Bianca Miguel de Souza Chaves
Postdoctoral Research Associate,
Chemical & Environmental Engineering

Mallory McMurray
Master's student, Chemical & Environmental Eng.

Zachary Binger
PhD candidate, Chemical & Environmental Eng.

Caitlyn Leo
PhD candidate, Chemical & Environmental Eng.

Mukta Hardikar
PhD candidate, Chemical & Environmental Eng.

Aiden Foster
PhD candidate, Environmental Science

Tenzin Phakdon
PhD candidate, Chemical & Environmental Eng.

Christina Morrison
PhD candidate, Environmental Science

