COLLEGE OF ENGINEERING

Chemical & Environmental Engineering

GRADUATE STUDIES

Striving for a sustainable world

Research Focus Areas

- Atmospheric physics and chemistry
- Bioremediation
- Electrochemical processes
- Interface and colloid science
- Nanotechnology
- Renewable energy
- Semiconductor manufacturing
- Soft materials
- Water treatment and reuse

Affiliated Centers & Institutes

- Center for Environmentally Sustainable Mining
- Engineering Research Center for Environmentally Benign Semiconductor Manufacturing
- Institute for Energy Solutions
- Superfund Basic Research Center
- Sustainable Bioeconomy for Arid Regions Center
- Water & Energy Sustainable Technology Center

Emphasis on Research

$5.5M

Research expenditures

Degrees

- PhD Chemical Engineering
- PhD Environmental Engineering
- MS Chemical Engineering
- MS Environmental Engineering
- ME Environmental Engineering

"Courses were to the point and directly related to our field of work, and UA Engineering faculty are highly knowledgeable and always there to help."

- Mojtaba Azadi Aghdam, WEST Center research assistant

Funding options throughout degree lifecycle

Application Deadlines

- Fall: January 15
- Spring: June 30

Contacts

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> “We put a lot of time and energy into mentoring students and fostering leadership. That is a very important part of our job.”
>
> **- Kim Ogden, professor and director of the Institute for Energy Solutions**

Faculty Expertise

Andrea Achilli – achilli@arizona.edu
membrane processes for water separation • desalination and water reuse technologies • forward osmosis and membrane distillation systems

Bob Arnold – rga@arizona.edu
filtration and aquifer water reuse • trace organic chemicals in products derived from treated wastewater

Jim Baygents – baygents@arizona.edu
electrochemical water treatment

Paul Blowers – blowers@arizona.edu
life cycle assessment • applied quantum chemistry • student learning and retention

Jim Farrell – farrellj@arizona.edu
contaminant transport through soil and groundwater • abiotic transformations of chlorinated solvents

Jim Field – jimfield@arizona.edu
microbiology of inorganic contaminant biotransformation • anaerobic biodegradation of hazardous pollutants

Dominic Gervasio – gervasio@arizona.edu
concentrated solar power • electrolytes for DC power supplies • nonplatinum catalysts

Roberto Guzmán – guzmanr@arizona.edu
nanobiotechnology • affinity interaction technology • synthesis and modification of polymers

Kerri Hickenbottom – klh15@arizona.edu
concentrate management • membrane processes for resource recovery from waste streams • life cycle assessment

Vicky Karanikola – vkaranik@arizona.edu
optimization of materials, energy and cost for sustainable water and wastewater treatment • membrane processes at water-energy nexus • sensors for environmental applications

Anthony Muscat – muscat@arizona.edu
semiconductor surface cleaning • semiconductor quantum dots • nanoporous noble metals

Greg Ogden – gogden@arizona.edu
biofuels

Kimberly Ogden – ogden@arizona.edu
bioreactors for algae • removal of organics and metals from streams • water recycling and reuse

Minkyu Park – minkyupark@arizona.edu
advanced oxidation

Ara Philipossian – ara@arizona.edu
planarization processes and post-planarization cleaning processes in integrated circuit manufacturing

Adam Printz – aprintz@arizona.edu
solar energy • polymeric materials • mechanical and chemical stability of flexible electronics

Eduardo Sáez – esaez@arizona.edu
fate, transport and treatment of trace contaminants in water • transport of metals and metalloids by dust and aerosols

Suchol Savagatrup – suchol@arizona.edu
responsive soft materials • biochemical sensors • interfacial and colloidal behaviors of complex emulsions

Farhang Shadman – shadman@arizona.edu
nanoscale manufacturing • green semiconductor processing • water purification, reclamation and recycling

Reyes Sierra – rsierra@arizona.edu
anaerobic wastewater treatment and biological nutrient removal • microbial transformation of metals and metalloids

Shane Snyder – snyders2@arizona.edu
environmental analytical chemistry • water treatment technologies • emerging contaminant characterization • disinfection byproducts • bioassays

Armin Sorooshian – armin@arizona.edu
aerosol composition, size and water uptake • aerosol-cloud-precipitation interactions • cloud chemistry