



COLLEGE OF ENGINEERING

Chemical & Environmental Engineering

GRADUATE STUDIES

Striving for a sustainable world



The UA is a top R&D institution in areas such as reusable water, renewable energy and waste cleanup.

### 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

**Adam Printz, Associate Professor**  
Chemical Engineering Graduate Committee Chair  
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**Reyes Sierra, Professor**  
Environmental Engineering Graduate Committee Chair  
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COLLEGE OF ENGINEERING

Chemical & Environmental  
Engineering



“ 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