Chemistry and Applied Biological Sciences
Lisa Kunza*
Linda DeVeaux
Todd Menkhaus
David Dixon
Scott Kenner
Jim Stone
Venkata Gadhamshetty
Mengistu Geza Nisrani
Bill Capehart*
Larry Stetler
Timothy Masterlark
Liangping Li
Foster Sawyer
Maribeth Price
Andrea Brickey
Chris Wyatt
Adam French*

Chemical and Biological Engineering

Civil and Environmental Engineering

Geology & Geological Engineering

Mining

Physics

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Water Resources Brochure 10/16
We integrate our water resources expertise with our comprehensive range of engineering and science experience to provide innovative research solutions for a wide variety of industries.

**Geospatial analyses:**
- 2D and 3D geostatistical and geologic modeling
- Geographic information systems database development
- Spatial analysis and spatial statistics
- Remote sensing for land surface processes
- Unmanned Aerial Vehicle (UAV/drone) data collection and processing

**Modeling:**
- 3D close-range photogrammetry and modeling
- Regional/watershed scale hydrologic
- Numerical models of poroelastic deformation, stress, and fluid pressure
- Life cycle analysis
- Watershed
- Ecosystem metabolism
- Weather and climate
- Groundwater flow and solute transport

**Water treatment:**
- Filtration
- Targeted adsorption
- Activated carbon

**Systems optimization**
- Flow and Transport Direction

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**Climate**
- Regional and local scale precipitation
- Extreme weather events
- Mesoscale convection systems
- Real-time weather forecasting
- Regional climate modeling
- Climate science
- Integrated weather, land-surface and hydrological modeling
- Climate-infrastructure resiliency
- Influence on water resources

**Groundwater**
- Contaminant fate and transport
- Aquifer restoration
- Reservoir impoundment and induced earthquakes
- Deformation and induced earthquakes from water injection and withdrawal
- Numerical simulation of groundwater flow and solute transport
- Uncertainty assessment of hydrologic parameters and conceptual models
- Geostatistical methods for site characterization and contaminant remediation
- Optimal design for groundwater monitoring network
- Hydrogeology
- Hydrology

**Aquatic Ecology**
- Surface water and groundwater interactions
- Endangered species
- Invasive species
- Foodweb dynamics
- Nutrient cycling & biogeochemistry
- Ecosystem structure and function
- Molecular biology
- Microbiology

**Surface water**
- Hydrology and water quality
- Contaminant fate and transport
- Watershed analysis
- Landform evolution
- Fluvial architecture
- Magnitude-frequency analysis
- Fluvial sedimentology
- Carbon, Nitrogen, and Phosphorus loading
- Pipeline corrosion and drinking water infrastructure
- Analysis and treatment of produced water from hydraulic fracturing
- Biological and electrochemical processes for wastewater treatment and spill remediation
- Water quality parameters
- LIDAR mapping
- Slope stability
- Reclamation
- Dredging technology
- TMDL development