Summary of Water Expertise at New Mexico Tech

NMT Unit	Researcher	Water Zone: Atmosphere/Climate Change	Water Zone: Oceans	Water Zone: Surface Water	Water Zone: Vados Zone	Water Zone: Groundwater	Expertise: Modeling	Expertise: Water Chemistry	Expertise: Water Treatment	Expertise: Karst Systems	Expertise: Geomicrobiology / Microbiology	Expertise: Geophysics	Expertise: Geothermal
Earth & Environmental Science	Dr. Sue Bilek		●	●								●	
	Dr. Dan Cadol	●		●	●								
	Dr. Alexander Gysi					●	●	●					
	Dr. Jan Hendrickx				●								
	Dr. Nicole Hurtig					●		●					●
	Dr. Daniel Jones					●				●	●		
	Dr. Kate Leary			●									
	Dr. Mark Person					●	●						●
	Dr. Fred Phillips					●		●					
	Dr. Alex Rinehart					●	●					●	
	Dr. Michael Schaeffer			●	●	●		●					
	Dr. Glenn Spinelli		●									●	
	Dr. John Wilson					●	●						
New Mexico Bureau of Geology & Mineral Resources	Amanda Doherty					●	●	●					
	Marissa Fichera			●		●	●						
	Bonnie Frey			●		●		●	●				
	Dr. Shari Kelley					●						●	●
	Daniel Koning					●	●						
	Ethan Mamer			●		●	●						
	Christopher Morton			●		●	●						
	Dr. Talon Newton			●	●	●		●		●			
	Kristin Peartree	●				●							
	Dr. Geoffrey Rawling					●	●						
	Laila Sturgis					●	●						
	Stacy Timmons					●							
National Cave & Karst Research Institute	Dr. Lewis Land				●					●			
Petroleum Recovery Research Center	Dr. Jianjia Yu					●			●				
Biology	Dr. Benjamin Duval			●	●						●		
	Dr. Tom Kieft					●					●		
Business & Technology Management	Dr. Haoying Wang			●			●						
Environmental Engineering	Dr. Frank Huang			●					●				
Mechanical Engineering	Dr. Ashok Ghosh			●					●				
Physics	Dr. Zeljka Fuchs	●											
	Dr. David Raymond	●											

Researchers

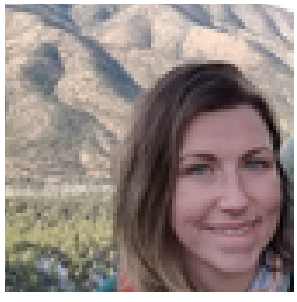
NMBGMR *= NM Bureau of Geology and Mineral Resources* ***E&ES*** *= Earth & Environmental Science*

Dr. Sue Bilek
Professor, Geophysics, E&ES
Ph.D. Earth Sciences / Geophysics, University of California Santa Cruz

Research Interests: Environmental Seismology

Dr. Dan Cadol
Associate Professor, Geology, E&ES
Ph.D. Earth Science, Colorado State University

Research Interests: Ecohydrology; Ecohydraulics; Sediment Transport; Wild-fire Hydrology

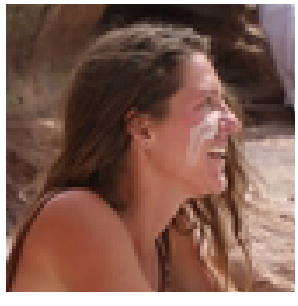


Amanda Doherty
Hydrogeologist/GIS Specialist, NMBGMR
M.S. Geology, Colorado State University

Research Interests: Aqueous geochemistry; geochemical modeling; 3D hydrogeologic subsurface maps

Dr. Benjamin Duval
Associate Professor, Biology
Ph.D. Biology, Northern Arizona University

Research Interests: Riparian hydro-biogeochemistry; bacteriophage impact on nitrogen cycling; Animas River contaminant cycling



Marissa Fichera
Hydrogeologist, NMBGMR
M.S. Hydrogeology, Colorado State University

Research Interests: Regional-scale groundwater flow processes; ground-water / surface water interactions

Bonnie Frey
Geochemist/Chemistry Lab Manager, NMBGMR
M.S. Geochemistry, New Mexico Institute of Mining and Technology

Research Interests: Water chemistry; Geochemistry; Water sampling; Water quality; Water treatment

Researchers

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Dr. Zeljka Fuchs
Research Associate Professor, Physics
Ph.D. Atmospheric Physics, New Mexico Institute of Mining and Technology

Research Interests: Atmospheric physics; tropical storms and hurricanes

Dr. Ashok Ghosh
Associate Professor, Mechanical Engineering
Ph.D. Engineering, Indian Institute of Technology, Kharagpur

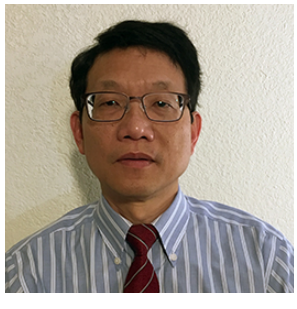
Research Interests: Water treatment; forward osmosis desalination

Dr. Alexander Gysi
Assistant Professor, Economic Geology, E&ES
Ph.D. Aqueous Geochemistry, University of Iceland

Research Interests: Thermodynamic modeling of fluid-rock equilibria

Dr. Jan Hendrickx
Professor Emeritus, Hydrology, E&ES
Ph.D. Soil Physics, University of New Mexico

Research Interests: Hydrology of the vadose zone; Quantification of fluid and contaminant movement through preferential flow paths



Dr. Frank Huang
Professor, Civil & Environmental Engineering
Ph.D. Environmental Engineering, Vanderbilt University

Research Interests: Membrane processes for water desalination and waste water reuse; Biological wastewater treatment

Dr. Nicole Hurtig
Assistant Professor, Geochemistry, E&ES
Ph.D. Geochemistry/Experimental High Temperature Geochemistry, McGill University

Research Interests: Experimental geochemistry and thermodynamics

Researchers

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Dr. Dan Jones
Assistant Professor, Geomicrobiology, E&ES
Academic Director, National Cave and Karst Research Institute
Ph.D. Geosciences and Biogeochemistry, Penn State University

Research Interests: Geomicrobiology, including microbial processes in mine waste, marine sediments, and wetland ecosystems

Dr. Shari Kelley
Senior Geophysicist, Field Geologist, NMBGMR
Ph.D. Geophysics, Southern Methodist University

Research Interests: Building and maintaining New Mexico's part of the National Geothermal Database; Geothermal exploration in New Mexico

Dr. Thomas Kieft
Professor, Biology
Ph.D. Biology, University of New Mexico

Research Interests: Groundwater; microbiology; subsurface sampling

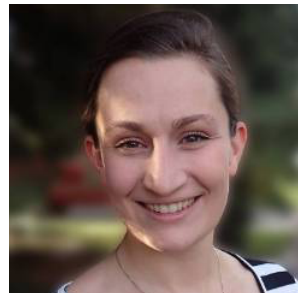
Daniel Koning
Senior Field Geologist, NMBGMR
M.S. Earth & Planetary Sciences, University of New Mexico

Research Interests: Geologic mapping; geologic and stratigraphic framework for hydrogeologic studies

Dr. Lewis Land
Hydrogeologist, National Cave and Karst Research Institute
Liaison and Adjunct, NMBGMR

Ph.D. Geology, University of North Carolina

Research Interests: Regional investigations of karstic limestone aquifers in the lower Pecos region



Dr. Kate Leary
Assistant Professor, Geomorphology, E&ES
Ph.D. Geology, Arizona State University

Research Interests: Surface processes; fluvial geomorphology; sediment transport; process sedimentology

Researchers

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Ethan Mamer
Hydrogeologist, Aquifer Mapping Program, NMBGMR
M.S. Hydrogeology, State University of New York, Buffalo

Research Interests: GIS based aquifer and water-level surface interpolation; Geochemical analysis of groundwater and surface water; Groundwater modeling

Christopher Morton
Hydrogeologist, Aquifer Mapping Program, NMBGMR
M.S. Cultural and Environmental Resource Management, Central Washington University

Research Interests: Creating 3D models of aquifers in the state; Collecting water related data in the field

Dr. Talon Newton
Hydrogeologist, Aquifer Mapping Program, NMBGMR
Ph.D. Environmental Engineering, Queen's University Belfast

Research Interests: Soil water dynamics; Aqueous geochemistry and environmental tracers; Groundwater/surface water interactions

Kristin Peartree
Research Scientist, NMBGMR
M.S. Earth & Planetary Sciences, University of New Mexico

Research Interests: Healy Collaborative Groundwater Monitoring Network; Climate and Water Science Advisory Panel

Dr. Mark Person
Professor, Hydrology, E&ES
Ph.D. Geology, The Johns Hopkins University

Research Interests: Ground water; water resources

Dr. Fred Phillips
Professor Emeritus, Hydrology, E&ES
Ph.D. Hydrology, University of Arizona

Research Interests: Developing a numerical model to quantify groundwater recharge over the entire state of New Mexico; Investigating changes in hydrological systems induced by tectonics

Researchers

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Dr. Geoffrey Rawling
Senior Field Geologist, Aquifer Mapping Program, NMBGMR
Ph.D. Geology, New Mexico Institute of Mining and Technology

Research Interests: Collection of physical and chemical hydrologic data; Geologic mapping

Dr. David Raymond
Professor Emeritus, Physics
Ph.D. Physics, Stanford University

Research Interests: Convection and planetary atmospheres; Geophysical fluid dynamics

Dr. Alex Rinehart
Assistant Professor, Hydrology, E&ES
Ph.D. Geophysics, New Mexico Institute of Mining and Technology

Research Interests: Water-mediated time-dependent rock deformation using environmental tracers

Dr. Michael Schaefer
Assistant Professor, Aqueous Geochemistry, E&ES
Ph.D. Environmental Earth System Science, Stanford University

Research Interests: Mineral redox chemistry; Surface-groundwater interactions; Chemical safety of point-of-use ceramic water filters

Dr. Glenn Spinelli
Professor, Geophysics, E&ES
Ph.D, University of California Santa Cruz

Research Interests: Marine hydrogeology; Fault zone permeability; sedimentology/sediment physical properties

Laila Sturgis
Senior Hydrogeologist/Technical Manager, NMBGMR
M.S. Hydrology, New Mexico Institute of Mining and Technology

Research Interests: 3D aquifer maps; Monitor groundwater across the state

Researchers

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Stacy Timmons
Associate Director for Hydrogeology Programs, NMBGMR
M.S. Geology, Oregon State University

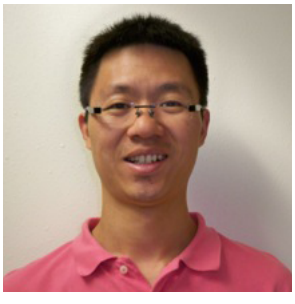
Research Interests: Developing regional scale hydrogeology projects; Leading implementation of the NM Water Data Act (from 2019 House Bill 651)

Dr. Haoying Wang
Assistant Professor, Department of Business and Technology Management
Ph.D. Applied Economics and Operations Research, Penn State

Research Interests: Environmental and natural resource economics; surface water; modeling

Dr. John Wilson
Professor Emeritus, Hydrology, E&ES
Ph.D., Massachusetts Institute of Technology

Research Interests: Groundwater hydrology: contaminant source identification; stream-aquifer interaction



Dr. Jianjia Yu
Group Head of Produced Water and Petroleum Engineering, Petroleum Recovery Research Center (PRRC)
Ph.D. Petroleum Engineering, New Mexico Institute of Mining and Technology

Research Interests: Water purification; Water quality

E&ES Adjunct Faculty

Researcher	Research Interests
Dr. Denis Cohen	Hydrogeology; Glaciology; Climatology
Dr. Sam Fernald	Water quality yydrology
Dr. Marty Frisbee	Groundwater-surface water interactions
Dr. Jesus Gomez-Velez	Hydrogeology
Dr. John Hawley	Geomorphology; Hydrogeology
Dr. Andrew Luhmann	Karst hydrology
Dr. Adrian Oglesby	Water law
Dr. David Reusch	Meteorology; Climatology
Dr. Vincent C. Tidwell	Fluid flow; Water resources management

Current Research

Navajo Technical University & New Mexico Tech
Navajo Nation Water Purification Project (N^4WPP)

A joint endeavor to install water filtration equipment testing facilities on the Navajo Nation. These sites will be used to train students to test water quality and maintain filtration units to provide sustainable long-term water resources suitable for agriculture and livestock use, cleaning, and eventually clean drinking water.

https://www.nmt.edu/restore/

New Mexico Tech
Climate & Water Consortium (*CWC*)

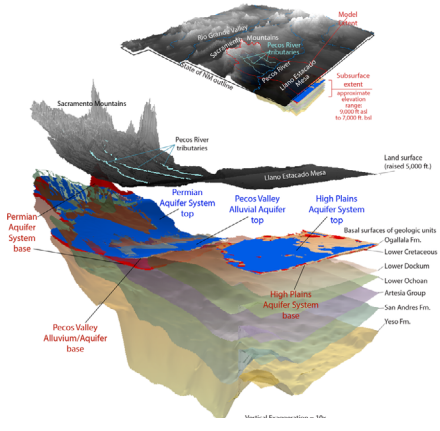
An innovative problem-solving center for interdisciplinary research and outreach. Bridging biology, physics, atmospheric physics, engineering, hydrology, geophysics, chemistry, applied math, economics, computer science, and education. A way to use science to solve overarching problems, in particular applied to weather prediction, climate change, water management, and high technology.

https://cwc.nmt.edu/

New Mexico Bureau of Geology & Mineral Resources
Development of 3D Aquifer Maps

The New Mexico Bureau of Geology and Mineral Resources has begun the important task of mapping the major groundwater aquifers of our state in three dimensions. These 3D aquifer maps will focus on the accessible (<1000 ft), actively used groundwater resources, and will utilize existing data to develop the regional maps.

https://geoinfo.nmt.edu/resources/water/amp/home.html

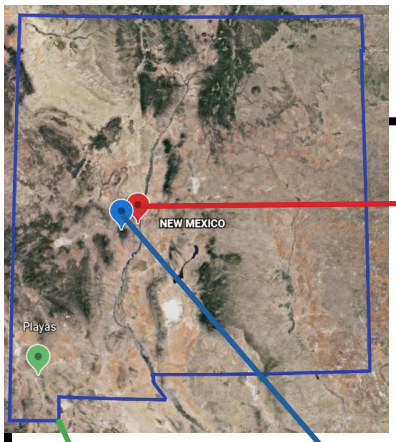


Petroleum Recovery Research Center (PRRC)
Produced Water and Petroleum Engineering

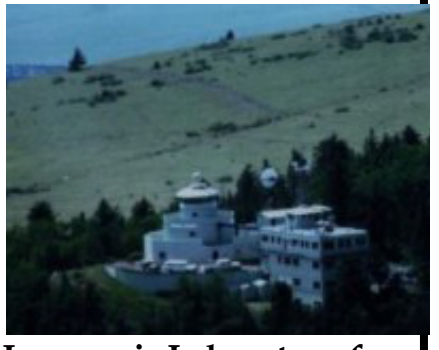
Pursues advanced methods of treating oilfield produced water through innovative membrane technology. Purification and filtration techniques aim to cleanse produced water into a viable resource for community and agricultural applications.

http://www.prrc.nmt.edu/groups/produced-water/

Special Resources



New Mexico Tech
Extensive Areas for Field Research



Langmuir Laboratory for Atmospheric Research
http://langmuir.nmt.edu/

Playas Training and Research Center
http://ptrc.emrtc.nmt.edu/