

JOHN C. STORMONT, Ph.D., P.E.

Department of Civil Engineering
University of New Mexico
Albuquerque, NM 871111

(505) 277-6063
(505) 277-1988 (fax)
jcstorm@unm.edu

AREAS OF SPECIALIZATION

Vadose zone hydrology and drainage
 Vadose zone properties
 Vadose zone modeling
 Evaporation and evapotranspiration
 Pavement drainage
Geo-environmental engineering
 Landfill containment and stabilization systems
 Mine waste assessment, treatment and stabilization
 Slope and erosional stability
 Applications of geosynthetics
Geomechanics
 Unsaturated soil mechanics
 Nuclear waste repository sealing
 Coupled mechanical-hydrologic behavior
 Permeability measurements

EMPLOYMENT

2009 – present	Chair and Professor of Civil Engineering, University of New Mexico
2003 – 2009	Professor of Civil Engineering, University of New Mexico
1995 - 2003	Associate Professor of Civil Engineering, University of New Mexico
1990 - 1995	Geotechnical and Environmental Engineer, Sandia National Laboratories
1983 - 1990	Geomechanics Research Scientist, Sandia National Laboratories

EDUCATION

Ph.D., University of Arizona, 1990; Geological Engineering (major), Civil Engineering and Engineering Mechanics (minor)
M.S., University of Arizona, 1983; Mining Engineering
B.S., University of Wisconsin, 1980; Mining Engineering

REGISTRATION

Professional Engineer (Civil), State of New Mexico

AWARDS

Special Service Award from New Mexico Society of Professional Engineers, 2007.

Stamm Endowed Lectureship for the outstanding faculty member of the Department of Civil Engineering, 2006.

Junior Faculty Teaching Excellence Award, School of Engineering, University of New Mexico, May, 1997.

Young Researcher Outstanding Contribution to Constitutive Model Applications, International Association for Computer Methods and Advances in Geomechanics, 1994.

Outstanding Dissertation Award in Rock Mechanics, National Academy of Sciences, 1991.

Kerwin-Peterson Award for graduating at top of undergraduate class, University of Wisc., 1980.

PROFESSIONAL AFFILIATIONS

Appointed member:

National Research Council, Transportation Research Board, University Representative
National Research Council, Transportation Research Board, Committee on Sub-surface
Drainage.

International Organizing Committee, International Symposium on Environmental Geotechnology
and Global Sustainable Development.

Member

American Society of Civil Engineers
North American Geosynthetics Society
International Association for Computer Methods and Advances in Geomechanics
International Society for Rock Mechanics
Chi Epsilon
Tau Beta Pi

SELECT EXPERIENCE AT UNIVERSITY OF NEW MEXICO

Teach undergraduate and graduate courses in geotechnical, hydrologic, structural and environmental engineering topics including soil and rock mechanics. Developed new courses pertaining to waste containment technologies and vadose zone hydrology for civil engineers.

Responsible for more than \$3,000,0000 of externally funded research. Graduated 19 Masters and 4 Ph.D. students as principal advisor.

Partial list of relevant sponsored research at UNM as PI:

- Sealing of CO₂ sequestration wells – Department of Energy
- Geomorphic restoration – Office of Surface Mining

- Coal Combustion Byproduct Disposal – NM Mines and Minerals Division
- River bank erosion and stability – Corps of Engineers
- Groundwater – surface water interaction – Corps of Engineers
- Mine waste dump stability evaluation - US Forest Service
- Pavement drainage - National Academy of Sciences.
- Measuring resilient modulus by indirect means – NM Dept of Transportation
- Groundwater Contamination from Septic Systems - City of Albuquerque, through WERC.
- Lee Acres Superfund Site Capillary Barrier Evaluation - Bureau of Land Management
- Pecos mine tailings cover design - Cyprus Amax Minerals Company.
- Alternative Landfill Cover Demo project modeling and testing - Sandia National Laboratories.
- Mixed Waste Landfill Containment System Design - Sandia National Laboratories.
- Capillary barrier landfill cover development – Sandia National Laboratories
- Yucca Mountain Infiltration modeling – Sandia National Laboratories.
- Soil Evaporation Monitoring and Modeling - Bureau of Reclamation/Department of the Interior
- Pilot Scale Demonstration of Permeable Barrier Techniques - WERC.
- Unsaturated soil drain system - State of New Mexico Highway and Transportation Department.
- Soil testing – numerous sponsors.

SELECT EXPERIENCE AT SANDIA NATIONAL LABORATORIES

Program lead for Landfill Containment Technologies Program, including

- Developed concept and proposal, and obtained funding and initiated Alternative Landfill Cover Demonstration Project.
- Developed Anisotropic Capillary Barrier technology (patented)
- Sandia lead for Dry Barrier technology for landfill cover and liner systems.

Program lead for Landfill Characterization and Assessment Program. Coordinated the development and implementation of a comprehensive characterization system at hazardous waste landfill that included technologies from directional drilling to downhole contaminant detection.

Program lead for developing and testing sealing and containment technologies for Waste Isolation Pilot Plant.

CONSULTING PROJECTS

- Repository sealing
- Hydro-collapse analysis for foundation design
- Remediation of oil field waste spills
- Infiltration in mountainous regions
- Slope stability and failure
- Design of capillary barrier landfill cover system
- Design of landfill cover system for Superfund site
- Soil testing and evaluation for heap leach remediation project for gold mine in Nevada.

- Permeability changes surrounding salt storage caverns.
- Tire-soil interactions related to vehicle roll-over tendencies.
- Design of testing and monitoring program for long-term soil cover for military waste sites
- Design of landfill surface cover for a CAMU (corrective action management unit) at Sandia National Laboratories.
- Design and evaluation including numerical simulations of water balance for alternative cover systems for mine tailings in Northern New Mexico.
- Soil properties testing and evaluation to support leaking underground storage tank remedial actions.
- Relative permeability measurements on fractured rock.
- Soil properties testing, evaluation and numerical modeling for buried waste surface covers on Navajo Nation.
- Develop and teach review course for PE exam: Soil Mechanics and Foundations.
- Design of unsaturated lab facilities for commercial soil laboratory

SHORT COURSES

Unsaturated hydrology, 2011

Geosynthetics in pavement drainage, 2010

Vadose zone hydrology processes, 2009.

Mine waste hydrology, 2003, 2005.

Alternative landfill cover design, 2003.

Evapotranspirative covers for dry climates, 2001.

Geotechnical engineering review course for the Professional Engineering Exam, 1996 -2009.

Soil mechanics and foundations review course for Fundamentals of Engineering Exam, 1997 – 2009.

PUBLICATIONS

Dr. Stormont has published over 50 peer reviewed papers on geo-environmental engineering topics as well as authoring numerous conference papers and reports.