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Career Objective Statement

Aspiring towards a career in the geotechnical engineering profession to add value to civil infrastructure projects and enhance current knowledge of geotechnical related issues, including biological considerations in geotechnical engineering.

Education

Degrees

M.S. Geotechnical Engineering	University of California, Davis Expected Graduation 2008
B.S. Civil Engineering	California Polytechnic State University, San Luis Obispo June 2003, Graduated Magna Cum Laude

Research

M.S. Thesis (2006 – present)

Biological and Chemical Considerations for Microbial Induced Calcite Precipitation in Sands

Graduate Advisor: Jason T. DeJong, Associate Professor, Civil & Environ. Engineering
University of California, Davis

Work History

Graduate Student Researcher

UC Davis, Civil and Environmental Engineering Department September 2006 - Present

Senior Staff Engineer

TRC Lowney June 2003 – August 2006

Research Experience

Summary

Graduate student researcher responsible for researching and reviewing related published articles; design and set-up of laboratory testing equipment; conducting triaxial laboratory testing and non-destructive shear wave velocity monitoring; and culturing and monitoring the growth of bacteria for Master's thesis research.

Responsibilities

- Designed triaxial laboratory equipment in conjunction with a differential pore pressure transducer for volume change measurements, and bender elements to monitor shear wave velocity of soil specimen.
- Designed and constructed rigid testing cells incorporating non-destructive geophysical monitoring with the use of bender elements and resistivity ports.
- Performed triaxial laboratory tests to monitor response to isotropic loading and unloading of soil specimen and corresponding cementation integrity.
- Culture and monitor growth of bacteria species for injection into soil specimens
- Monitor cementation process with geophysical methods (bender elements)

Professional Experience

Summary

Consulting geotechnical engineering experience with responsibility in conducting subsurface field investigations, laboratory testing, and geotechnical analyses for residential, commercial, educational and public works projects throughout the San Francisco Bay Area.

Responsibilities

- Performed field investigations including floor-level surveys, trenching, cone penetration testing, geotechnical drilling, and monitoring well installation.
- Conducted laboratory testing including Atterberg Limits, moisture content determination, sieve analysis, maximum density curves, visual-manual soil classification, pocket penetration and torvane tests, and final boring log preparation.
- Evaluated foundation bearing capacity and settlement, slabs-on-grade, pavements, pier and pile design, and liquefaction potential.
- Prepared geotechnical proposals, reports, and project plan and specification review.
- Observed construction practices including installation of isolated and continuous spread footings, retaining wall footings, rock and soil anchor installation and testing, tieback installation and testing, drilled piers, driven pile foundations, piezometer data collection, engineered fill compaction, and soil stabilization techniques using geotextiles and lime-treatment operations.

Registration and Certifications

Professional Civil Engineer - License No. 69226, California

Training Certifications

40-Hour Hazardous Waste Operations
CPN Radiation Safety and Use of Nuclear Gauge

Graduate Coursework

- Advanced Soil Mechanics (Part A & B)
- Physico-Electro-Chemical Effects on Soils
- Theoretical Geomechanics
- Advanced Foundation Design
- Geotechnical Earthquake Engineering
- Probabilistic Seismic Hazard Analysis
- Earth and Rockfill Dams
- Pavement Design and Rehabilitation
- Advanced Bacteriology

Mentoring and Advising

- Advising undergraduate students to help develop skills associated with graduate level research
- Participated in tutoring program as an undergraduate member of Tau Beta Pi, offering assistance in Statics, Dynamics, and Strength of Materials
- Conducted private tutoring in Strength of Materials as an undergraduate

Community Service

- Participated in Habitat for Humanity, sponsored by SWE
- Participated in Beach Clean-Ups at Pismo Beach, sponsored by Tau Beta Pi
- Volunteered at the San Luis Obispo Botanical Gardens, sponsored by Chi Epsilon