



Cassandra J. Rutherford, E.I.T.

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EDUCATION

Doctor of Philosophy Civil Engineering (Expected Graduation - December 2008)

Focus: Geotechnical Engineering

Advisor: Giovanna Biscontin, Ph.D.

Texas A&M University – College Station, TX

Overall GPA: 4.0/4.0

Master of Science Civil Engineering (December 2004)

Focus: Geotechnical Engineering

Advisor: Jean – Louis Briaud, Ph.D., P.E.

Texas A&M University – College Station, TX

Overall GPA: 3.79/4.0

Bachelor of Science Civil Engineering (2002)

Focus: Geotechnical and Structural Engineering

Texas A&M University – College Station, TX

Overall GPA: 3.26/4.0

CERTIFICATIONS

Engineering In Training License (E.I.T), State of Texas No. 32841

Professional Association of Diving Instructors, Rescue Diver

PROFESSIONAL EXPERIENCE

TDI Brooks International – College Station, TX

Geotechnical Lab Manager (10/06 – present)

Responsibilities:

- Supervise and train geotechnical laboratory technicians
- Organized and prepared data for geotechnical reports and field reports
- Manage offshore geotechnical inventory and supply

HBC Engineering – Austin, TX

Geotechnical Intern (5/01 – 8/01)

Responsibilities:

- Conducted soil experimentation such as Atterburg limits, compressive strength and boring descriptions
- Organized and prepared data for geotechnical reports

RESEARCH EXPERIENCE

Department of Civil Engineering – Dr. Giovanna Biscontin

Texas A&M University – College Station, TX

Research Assistant (1/05 – present)

Project: “NSF CAREER: Characterization and modeling of marine clays for slope stability”

Responsibilities:

- Equipment development: design and construction of multi-directional simple shear testing device
- Conduct experimental plan: characterize the response of marine clays to monotonic, dynamic and random loads

Department of Civil Engineering – Dr. Jean-Louis Briaud

Texas A&M University – College Station, TX

Research Assistant (5/03 – 12/04)

Project: “Design Manual for Excavation Support Using Deep Soil Mixing”

Responsibilities:

- Authored design guidelines for Federal Highway Administration
- Represent design team to industry and university consultants

Department of Civil Engineering – Dr. Charles Aubeny, Dr. Lytton, and Dr. Donald Saylak,

Texas A&M University – College Station, TX

Undergraduate Research Assistant (6/01 – 12/03)

Projects: “Long Term Strength Properties of High PI Clays Used in Embankment Construction”

“Dust Control and Base Stabilization with Calcium Chloride”

Responsibilities:

- Programmed numerical simulations using Visual Basic in Microsoft Excel
- Performed experimental laboratory testing of soil properties
- Performed experimental laboratory compaction testing
- Worked directly with graduate student to create optimum mix design

Department of Civil Engineering – Dr. Paul Roschke

Texas A&M University – College Station, TX

Undergraduate Research Assistant (2/01 – 6/01)

Project: “Damage Control of Transportation Structures Using Intelligent Magnetorheological Dampers”

Responsibilities:

- Created dSpace control modules in order to obtain data to model MR damper responses
- Modified existing Matlab data generation codes to obtain input for the MR damper tests

United States Department of Agriculture (USDA) – Dr. Ross Beier – College Station, TX

Biological Science Aid (4/00 – 3/01)

Responsibilities:

- Worked directly with the development of immunologically-based assays
- Operated High Performance Liquid Chromatography (HPLC) equipment

TEACHING EXPERIENCE

Guest Lecturer

CVEN 435 – Geotechnical Engineering Design

- Lectured on retaining wall design, anchored wall systems, and construction of p-y curves
- Lectured on finite difference program BMCOL76 and finite element method program PLAXIS

Department of Civil Engineering – Dr. Joseph Bracci; Dr. Mary Beth Hueste; Dr. Stewart Anderson and Dr. Calvin Woods, Texas A&M University – College Station, TX

Teaching Assistant (01/03 – 05/03)

Responsibilities:

- Assisted professors in preparing course work, teaching classes and grading
- Prepared presentations on numerical simulation programs ETABS and AutoCAD

PUBLICATIONS AND PRESENTATIONS

Peer-reviewed conferences

Rutherford, C. J., Biscontin, G., Koutsoftas, D., and Briaud, J.-L., (2005). “Numerical Modeling of Deep Soil Mixing Excavation Support,” *Geocongress 2006*.

Rutherford, C. J., Biscontin, G. and Briaud, J.-L., (2005). “Deformation Predictions Based on Estimates of Soil Cement Modulus and Flexural Stiffness,” *Proceedings, The 11th International Conference of IACMAG*, June 19-24, 2005, Turin, Italy, Vol, 3, 433-440.

Rutherford, C. J., Biscontin, G. and Briaud, J.-L., (2004). “Deep Mixing for Excavation Support: Design Issues,” *Proceedings of GeoTrans 2004*, Yegian, Kavazanjian, eds., July 27-31, 2004, Los Angeles, CA, 1356-1365.

Other publications

Rutherford, C. J., (2004). “Design Manual for Excavation Support Using Deep Soil Mixing,” M.S. Thesis, Texas A&M University, College Station, TX.

Technical Reports

Peschel, J. M., and **Rutherford, C. J.**, (2001). “Procedure for Creation of a dSPACE Control Module Using Simulink and Real-Time Workshop,” Internal Technical Report, Texas A&M University, College Station, TX.

PROFESSIONAL DEVELOPMENT

LabVIEW Graphical Development Hands-On Seminar

National Instruments, College Station, Texas, February 23, 2006

Shrink-Swell Soil Short Course

Department of Civil Engineering, Texas A&M University, June 23-24, 2005

Craft of Grant Writing Seminar

Office of Proposal Development, Texas A&M University, August 18, 2005

American Society of Civil Engineering Geo-Institute Annual Conference

GeoCongress 2006, "Geotechnical Engineering in the Information Technology Age" February 26 - March 1, 2006, Atlanta, Georgia

American Geophysical Union (AGU) 2005 Fall Meeting

December 5-9, 2005, San Francisco, California

2005 American Society for Engineering Education (ASEE) Annual Conference & Exposition

"The Changing Landscape of Engineering and Technology Education in a Global World" June 12-15, 2005, Portland, Oregon

American Society of Civil Engineering Geo-Institute Annual Conference

GeoFrontiers 2005, "Soil Characterization and Modeling" January 24-26, 2005, Austin, Texas

Geo-Institute Conference on Geotechnical Engineering for Transportation Projects

GeoTrans 2004, July 27-31, 2004, Los Angeles, California

2004 American Society for Engineering Education (ASEE) Annual Conference & Exposition

"Engineering Education Reaches New Heights" June 20-23, 2004; Salt Lake City, Utah

2003 American Society of Agricultural Engineering (ASAE) Annual International Meeting

July 27-30, 2003 Las Vegas, Nevada

LEADERSHIP AND SERVICE

Texas A&M University Graduate Student Council

President (2004-05)

- Serve as president of the graduate student body
- Responsible for an operating budget of \$49,926
- Plan and coordinate all activities and personnel related to mission of organization
- Serve on multiple University committees

Secretary (2003-04)

- Recorded all minutes and information related to organization
- Maintained organization website (<http://gsc.tamu.edu>) and listserv

Civil Engineering Representative (2002-03)

- Represented the interests of Civil Engineering graduate students to the University community

Orange and Maroon Legislative Day 2005

Graduate Student Representative (2005)

- Selected as part of the University delegation whose mission was to increase public and legislative support for Texas A&M University

- Met personally with several state legislators to discuss issues such as increasing the amounts of general revenue funding and non-formula appropriations for higher education

Texas A&M University Student Government Association – Student Senate

Graduate/Professional School Senator (2003-04)

- Elected by graduate student body
- Represented the interests of graduate students to the University
- Served on University committees

American Water Resources Association

Secretary (2003-04)

- Recorded all minutes and information related to organization
- Created and distributed chapter t-shirts
- Maintained organization website (<http://awra.tamu.edu>)

Chi Epsilon – Civil Engineering Honor Society

President (2002-03)

- Planned and coordinated all organizational activities
- Organized semester banquet

Treasurer (2001-02)

- Maintained organizations finances
- Created and distributed chapter t-shirts
- Attended national Chi Epsilon Conclave in College Park, Maryland

Buchanan Conference

Co-chair (2003 & 2004)

- Organized first and second annual conference for prospective graduate students to provide the opportunity to learn more about geotechnical engineering and graduate studies at Texas A&M University
- Created conference website (<http://buchanan.civil.tamu.edu>) and administered all conference communications
- Hosted prospective students for three days while on campus

Student Research Week (SRW)

Executive Planning Committee (2002-2004)

- Organized University-wide research competition for Texas A&M University undergraduate and graduate students
- Maintained SRW website (<http://srw.tamu.edu>), designed and ordered competition t-shirts
- Judged out-of-field liberal arts and in-field engineering undergraduate research presentations

CEGRADS – Civil Engineering Graduate Student Organization

Chair (2004)

- Organized departmental graduate students meetings
- Worked to create departmental graduate student listserv and update graduate student informational resources
- Represented the interests of geotechnical graduate students to the department

Texas A&M University Organizations and Committees

Academic Programs Committee (Advisor to Executive Vice President & Provost, Voting member)
Aggie Honor System Advisory Council (Advisor to Director of Aggie Honor System Office)
American Society of Civil Engineers (ASCE) (Member)
American Water Resources Association (AWRA) (Member)
American Society of Agriculture Engineers (ASAE) (Member)
American Society of Engineering Education (ASEE) (Member)
Bike Taskforce (Voting member)
Children's Center Advisory Board (Voting member)
Civil Engineering – Student Advisory Committee (CE-SAC) (Voting member)
Commencement Committee (Voting member)
Council on the Educational Environment (Advisor to Dean of Education, Voting member)
Council of Principal Investigators (Guest Member)
Eighth Annual Women in Engineering Conference at Texas A&M University (Invited Panelist)
Faculty Senate (Ex-officio member)
Graduate Council/Graduate Operations Committee (Advisor to Dean of Graduate Studies)
Illegal Discrimination Appeals Committee (Appointed by President Gates to hear student appeals)
Memorial Student Center (MSC) Council (Voting member)
Research Environment Council (Voting member)
Rules and Regulations Committee (Voting member)
Society of Women Engineers (SWE) (Member)
Sterling C. Evans Library Advisory Committee (Advisor to Dean of Libraries)
Student Advisory Board (Advisor to Vice President of Administration, infrastructure & transportation issues)
Student Services Fee Advisory Board (Appointed member)
Texas A&M Scuba Club (Member)
Texas A&M University Geo-Institute (Member)
Tuition Policy Advisory Committee (Appointed by President Gates to evaluate possible tuition policies)
University Disciplinary Appeals Committee (Appointed by President Gates to hear student appeals)
Vision 2020 Council (Advisor to President regarding University long-term vision)
Women in Engineering Conference (Committee Chair, Conference Organizer)

ACHIEVEMENTS AND AWARDS

Montgomery Endowed Fellowship Prize

2004-2005 Recipient - In recognition of outstanding leadership qualities within the university community. Awarded by the Texas A&M University Office of Graduate Studies.

Buck Weirus Spirit Award

2004-2005 Recipient – One of two graduate student recipients awarded annually which honors students who demonstrate high involvement, create positive experiences throughout the Aggie community, impact student life at Texas A&M and enhance the Aggie spirit.

Texas A&M University Graduate Teaching Academy – GTA Fellow

The Graduate Teaching Academy is a teaching oriented program that offers graduate students preparation for a career involving teaching in higher education. Completion of program requires:

- attendance of teaching seminars
- completion of reflection essays
- participation in Teaching Mentor program with Faculty member (Dr. Anne Kenimer, Dept of Biological and Agricultural Engineering)
- completion of teaching portfolio workshops
- participation in professional service activity (Junior Achievement – taught business concepts to third graders at local elementary)

Guseman Award

2003-2004 Recipient - In recognition of outstanding contributions to the success and prosperity of the Graduate Student Council, and the graduate student body of Texas A&M University.

University Delegate to Doha, Qatar

- Selected as the university graduate student delegate to travel to Texas A&M University – Qatar campus in Doha, Qatar for annual academic convocation

Academic Excellence Scholarship

Civil Engineering Graduate Fellowship

Dwight Look College of Engineering Distinguished Student Award

J. Malon Southerland '65 Aggie Leader Scholarship