

Pedro Romero, Ph.D., P.E.



Department of Civil and Environmental Engineering • The University of Utah
110 Central Campus Drive • Suite 2000 • Salt Lake City, UT 84112
Ph: 801.587.7725 • email: pedro.romero@utah.edu
Website: <https://www.civil.utah.edu/romero>
<https://orcid.org/0000-0002-9446-4556>



Spring 2020

Vita

Objectives:

To participate in activities related to novel civil engineering material characterization and the evaluation of the sustainability and health of infrastructure systems with emphasis in highways and transportation structures; to help evaluate new applications designed to extend the life of existing infrastructure systems; and to disseminate information that would increase the knowledge of civil engineering materials.

Relevant Job History:

- 2007-Present **THE UNIVERSITY OF UTAH**, Salt Lake City, UT
Associate (Tenured) Professor of Civil Engineering. Performed innovative research in the area of infrastructure materials. Developed course on material characterization, material sustainability, and evaluation of infrastructure systems with emphasis on the transportation network. Evaluated civil engineering curriculum. Supervised graduate students and advised undergraduate students.
- 2014-Present Associate Chair, Department of Civil and Environmental Engineering
- 2000-2007 **THE UNIVERSITY OF UTAH**, Salt Lake City, UT
Assistant Professor of Civil Engineering. Updated the civil engineering materials curriculum for undergraduate and graduate students and created an up-to-date laboratory facility. Developed funded research opportunities in the area of civil engineering materials.
- 1999-2000 **SOIL AND LAND USE TECHNOLOGY, INC.**, Beltsville, MD
(Concurrent) On-site Manager, responsible for the day-to-day operation of a multi million-dollar Laboratory Support Services contract with the Federal Highway Administration's Turner-Fairbank Highway Research Center.
- 1995-2000 **TURNER-FAIRBANK HIGHWAY RESEARCH CENTER**, McLean, VA
(Concurrent) Laboratory Technical Manager for Federal Highway Administration under contract. Responsible for the technical work of the Bituminous Mixtures Laboratory personnel and equipment. Support research and implementation related to bituminous materials including Superpave methods, accelerated pavement damage, and mechanistic-empirical pavement design methods.
- 1995-1997 **EBA Engineering, Inc**, Baltimore, MD
Laboratory Technical Manager, under contract for Federal Highway Administration. Responsible for the technical work of the Bituminous Mixtures Laboratory personnel and equipment. Work included support of early

implementation of Superpave system for both asphalt binder and mixtures, analysis of pavement damage using accelerated loading facility (ALF), and research on advanced materials characterization.

1990-1995 **THE PENNSYLVANIA TRANSPORTATION INSTITUTE**, University Park, PA
Research Assistant. Graduate student and full-time research staff. Performed innovative research in the area of pavements and materials including developing of new test procedures for SUPERPAVE performance-based specifications.

Formal Education:

THE PENNSYLVANIA STATE UNIVERSITY, University Park, PA
Doctor of Philosophy (Ph.D.) in Civil Engineering with courses in Statistics and engineering mechanics (elasticity, viscoelasticity, fracture mechanics) (1996)
Fellowship College of Engineering (1993-1995)
Title of Dissertation: *The Effect of Laboratory Age-Hardening of Asphalt Mixtures on Thermal Cracking Performance Predictions Using the Indirect Tensile Test*
Area of emphasis: material performance, testing, evaluation, and modeling of construction materials.
Advisers, Drs. Reynaldo Roque and David Anderson

THE PENNSYLVANIA STATE UNIVERSITY, University Park, PA
Master of Science in Civil Engineering (Spring 1991)
Title of Thesis: *Analytical Development of a Dual-Rigid-Load Falling Weight Deflectometer to Obtain Pavement Layer Moduli from Surface Deflections*
Area of emphasis: Non-destructive characterization of Highway Materials and Falling Weight Deflectometer (FWD)

UNITED STATES COAST GUARD ACADEMY, New London, CT
Bachelor of Science in Civil Engineering with High Honors (Spring 1989)
Completed additional courses at Coast Guard and Navy Technical Schools

Research Projects while at the University of Utah:

Served as Principal and co-principal Investigator in multiple projects since August 2000. Worked with Federal and State agencies to develop new specifications for pavement materials. Cooperated with private industry both domestic and abroad to evaluate new products. Managed over \$1.5 M dollars in research, a third of them from federal funds and half from state funds.

Teaching Experience:

Has taught the following courses since joining the faculty at The University of Utah

- Strength of Materials (CVEEN 2140): Fall 2000, Sp 2013
- Civil Engineering Materials (CVEEN 3510): Every Sp 2001 – 2011, Fall 2013, Sp 2016, Fall 17 - 19
- Pavement Design (CVEEN 5570/6570): Every Fall 2001 - 2019
- Advanced Materials (CVEEN 7560): Sp even years 2002 – 2012, Fall 2014, Sp 2017.
- Pavement Maintenance (CVEEN 7570): Sp odd years 2003 - 2013
- Sustainable Infrastructure (CVEEN 5920): Summer 2012
- Sustainable Materials Special Topics (CVEEN 5920): Sp 2014, 2015
- Sustainable Materials (CVEEN 5500): Sp 2016 - 2020

Formal Teaching Training

United States Military Academy, West Point, NY
ASCE's Excellence in Civil Engineering Education Teaching Program (ExCEED)
(Week-long program during summer 2001)

National Center for Asphalt Technology, Auburn University, Auburn, AL
Professor Training Course. (Week-long program during summer 2001)

Western Alliance to Expand Student Opportunities, Salt Lake City, UT
Faculty Doctoral Mentoring Seminar, (Fall 2002)

Portland Cement Association, Skokie, IL
Professor Training Course, (Summer 2003)

American Society of Civil Engineers, Reston, VA
Faculty Advisor Training Workshop (Fall 2003)

Center for Teaching and Learning, University of Utah, Salt Lake City, UT
Annual teaching seminars

Teaching Awards

- Named the 2004-2005 **Utah Engineer Educator of the Year** by the Utah Section of the American Society of Civil Engineers (ASCE)
- Selected among the College of Engineering Top Instructors for Fall 01, 11 Semesters
- Selected among the College of Engineering Top Instructors for Spring 04, 08 Semesters
- Voted most supportive professor by Student Advisory Committee for 2009 and 2010
- Named Outstanding Mentor, 2013
- Awarded the Ben Jacobsen Kingfisher Ranch Award for Exceptionally Effective Teaching, 2013
- Candidate for **University of Utah Distinguish Teaching Fellowship** (Fall 2014)

International Experience:

Universidad de Costa Rica, Laboratorio Nacional de Materiales y Modelos Estructurales. San Jose Costa Rica (<http://www.lanamme.ucr.ac.cr/>)

Instructor for Pavement Maintenance (in Spanish) (Spring 2012)

Harbin Institute of Technology, School of Transportation Science and Engineering. Harbin, PRC. (<http://tse.hit.edu.cn/>)

Instructor for Pavement Design and Materials Characterization (Summer 2015)

Korea Institute of Civil Engineering and Building Technology, Seoul, Korea (<https://www.kict.re.kr/eng/>)

Invited Speaker, Conference on Disposal of Radioactive Waste from Nuclear Power plants (Summer 2016)

University of Utah, Utah Asia Campus, Incheon, Korea (<https://asiacampus.utah.edu/>)
Visitor (Summer 2016)

Publications

Over 30 peer-reviewed, journal publications.

Over 25 abstract-reviewed and conference proceedings

See separate document with updated list of publications.

Students Supervised

Graduated Ph.D. students

- Junxia Wu, Dissertation topic: Segregation Models for Hot-Mix Asphalt. Current Engineer for California Department of Transportation, Sacramento, CA
- Stephan Charmot, Dissertation topic: Fracture Testing of Cold-In Place Recycled Materials. Current Global Technical Advisor and Asphalt Group Leader for Ingevity, Shanghai, PRC
- Chun-Hsing Ho, Dissertation topic: Low Temperature Specifications of Asphalt Mixtures Using the Bending Beam Rheometer. Current professor of Civil and Construction Engineering at Northern Arizona University, Flagstaff, AZ
- James Cox, Dissertation topic: Moisture Sensitivity of Asphalt Mixtures. Current professor of Construction Management at Utah Valley University, Orem, UT
- Xiangbin Gong (shared with Harbin Institute of Technology), Dissertation topic: Multi-Scale Characterization of Asphalt Mixtures. Current professor of Engineering at Changsha University of Science and Technology, Hunan Province, PRC
- Dahee Han, Dissertation topic: Development of Transportable Containers for Low-level Radioactive Waste. Current Post Doctoral Associate at University of Utah
- Faramarz Safazadeh, Dissertation topic: Development of visco-elastic models for asphalt mixtures using the semi-circular bend test. Current project engineer at PEPG Consultants.

Has graduated over 30 M.Sc. and M.Eng Students

Currently supervised Ph.D. student

- Abu Sufian Mohammad Asib, Dissertation Topic: Aging of Asphalt Mixtures and Its Effect on Blending of Recycled Asphalt Pavements (Actual title TBD)
- Ernesto Mora Castro (Shared with Universidad de Costa Rica), Dissertation topic: Development of modified water phobic Portland cement.

Service Activities

Currently serving in many committees at the Department, University, and National level (Active associations identified by check mark)

University/College/Department Level

- ✓ Associate Chair, Department of Civil and Environmental Engineering (2014 – Present)
- ✓ Director of Undergraduate Advising (2012 – Present)
- ✓ Member, Department Executive Committee (2014 – Present)
- ✓ Member, University Parking Appeals Committee (2012 – Present)
- ✓ Member, Department Undergraduate Curriculum Committee (2005 – 2007, 2010 - present)
- ✓ Member, College of Science Academic Appeals and Misconduct Committee (2018-2021)
- Member, University Academic Appeals and Misconduct Committee (2008 – 2012)
- Member, University Diversity Committee (2005 – 2007, 2010 – 2012, 2014 - 2016)
- Member, Department Graduate Committee (2012 – 2016)
- Member, College of Engineering Council (2010 – 2013)
- Member, Department Chair search Committee (2013)
- Member, Department Scholarship Committee (2004 – 2006 and 2010-2012)
- Faculty Advisor, American Society of Civil Engineers Student Chapter (2001 – 2012)
- Faculty Advisor, Association of General Contractors Student Chapter (2004 – 2012)
- Conference Chair, AISC-ASCE 2006 National Steel Bridge Competition

- Conference Chair, Rocky Mountain 2005 ASCE Regional Conference

International/National/State Level

- ✓ Member, Education Committee, Utah Asphalt Pavement Association (2010 – present)
- Member, Transportation Research Board Committee on Asphalt Materials (AFK20) (2008 – 2017)
- Member, Transportation Research Board Committee on Characteristics of Bituminous Materials to Meet Structural Requirements (AFK50) (1997 – 2006)
- Member, Transportation Research Board Subcommittee on Latin American Activities (under Committee on International Activities, A0010) (2000 – 2012)
- ✓ Paper Reviewer, Transportation Research Board committees A0010, AFK20, AFK50, AFK50(1), AFK50(2), and AFH60
- ✓ Paper Reviewer, ASCE Journal of Materials in Civil Engineering
- ✓ Paper Reviewer, ASCE Journal of Transportation
- ✓ Paper Reviewer, Journal of the Association of Asphalt Paving Technologist
- ✓ Paper Reviewer, International Journal of Pavement Engineering
- ✓ Paper Reviewer, Journal of Road Materials and Pavement Design
- ✓ Paper Reviewer, International Journal of Airport Management
- ✓ Paper Reviewer, Journal of Construction and Building Materials

Books

Reviewer of *Materials for Construction and Civil Engineers* by Mamlouk and Zaniewski, second and third editions.

Awards and Recognition

Utah Department of Transportation Trailblazer Award (2017)

Professional Registration

Registered Professional Engineer (PE) in the state of Maryland (200343)

Additional Information

Professional societies

Member, American Society of Civil Engineers (ASCE)
American Society of Engineering Education (2001-2004)
American Concrete Institute (ACI) (2003 – 2004)
Order of the Engineer
Chi Epsilon
Tau Beta Pi

U.S. Soccer Federation Licensed Referee (1997 – 2011)