

PAMELA K. JUDGE, PhD, PE, PG

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Curriculum Vitae

ACADEMIC EXPERIENCE

Roger Williams University, August 2018 – Present

Bristol, RI

Assistant Professor, School of Engineering, Computing, and Construction Management

Courses Instructed:

- Surveying Lab (CNST 302L)
- Applied Structures (CNST 304)
- Introduction to Computer Applications (ENGR 115)
- Mechanics of Materials Lecture and Laboratory (ENGR 300 & 300L)
- Soil Mechanics Lecture and Laboratory (ENGR 314 & 314L)
- Senior Seminar (ENGR 401)
- Geotechnical Engineering Lecture and Laboratory (ENGR 414 & 414L)
- Foundation Design (ENGR 417)
- Transportation Engineering (ENGR 420)
- Senior Design (ENGR 490 instruction & ENGR 490 and ENGR 492 mentorship)

ACADEMIC QUALIFICATIONS

- **University of Massachusetts Amherst** Amherst, MA
PhD, Civil and Environmental Engineering, GPA 3.680, Completed September 2018
Dissertation: Evaluation of The Erodibility of Soft Clays and the Influence of Biopolymers
Advisors: Don J. DeGroot and Guoping Zhang
- **University of California Berkeley** Berkeley, CA
MS, Civil and Environmental Engineering, GPA 3.675, Completed May 2006
- **Colorado School of Mines** Golden, CO
BS, Geological Engineering, GPA 3.364, Completed May 2005

RESEARCH INTERESTS

- Social justice and equity in civil engineering.
- STEM education and communication.
- Environmentally benign methods to prevent soil erosion.
- Improving coastal community resiliency and sustainable development.
- Impacts of sea level rise and natural disasters on infrastructure, the environment, and society.

ADVANCEMENTS IN TEACHING

- **Senior Design Mentor, AY 2022-2023**
Mentored interdisciplinary senior design team of civil and mechanical specializations students. Oversaw development of recommendations to improve slope conditions at the Newport Cliff Walk collapse site. Coordinated site field trip to Newport Cliff Walk to observe detour, bedrock conditions, slope failure, tide conditions, existing construction, etc. Implemented drone video recording to observe slope from safe location.
- **Senior Design Client, AY 2022-2023**
Client to mechanical engineering senior design team. Students developed a wave machine to support soil erosion research in the Civil and Environmental Engineering laboratory. Reviewed design approach and preliminary plans. Attended team's mid-year presentation and provided feedback to improve design.
- **Foundation Design, Spring 2022**
Developed Foundation Design as a new course for engineering students specializing in civil engineering. Topics included shallow foundations, deep foundations, retaining wall design, and subsurface investigation. Course was initially offered as a Special Topics course (ENGR 430). Submitted new course application to Curriculog, which was approved as course number ENGR 417.
- **Senior Design Presentation, Spring 2020**
Senior Design team attended *New England Water Environment Association (NEWEA)* conference in (Boston, MA) to present their poster "Sowams Road Soil Bank Stabilization."
- **Undergraduate Research Opportunity, Summer 2019**
Engineering student performed laboratory experiments to measure the influence of biopolymers as a soil additive to improve soil strength and resistance to erosion. Manuscript "Effects of Biopolymers on the Liquid Limit and Undrained Shear Strength of Soft Clay" in progress.
- **Senior Design Presentation, Spring 2019:**
Senior Design team attended University of Massachusetts Amherst Geotechnical Engineering Seminar to present their poster "Foundation Retrofit Design for Future RWU SECCM Lab Building Addition." Students also networked with graduate students and received tour of laboratory facility.
- **Undergraduate Research Opportunity, Winter 2019-2020**
Engineering student performed literature review in preparation of the manuscript "Teaching across Disciplines: A Case Study of a Project-Based Short Course to Teach Holistic Coastal Adaptation Design". Paper was subsequently published in the *Journal of Environmental Studies and Sciences*.
- **Senior Design Field Trip, Fall 2018.**
Coordinated Senior Design team fieldtrip to SECCM Labs construction site to observe installation of footings. Included safety training, soil sampling, and subsequent laboratory testing.

PUBLICATIONS

- **Judge**, P.K., Sundberg, E., DeGroot, D.J., Zhang, G. (2022) "Effects of Biopolymers on the Liquid Limit and Undrained Shear Strength of Soft Clays." *Bulletin of Engineering Geology and the Environment*, Vol 81, Issue 342.
- **Judge**, P.K., Buxton, J.A., Sheahan, T.C., Phetteplace, E.R., Kriebel, D.L., and Hamin Infield, E.M. (2020) "Teaching across Disciplines: A Case Study of a Project-Based Short Course to Teach Holistic Coastal Adaptation Design." *Journal of Environmental Studies and Sciences*, 10(3), 341-351.
- Hamin, E.M.; Abunnasr, Y.; Roman Dilthey, M.; **Judge**, P.K.; Kenney, M.A.; Kirshen, P.; Sheahan, T.C.; DeGroot, D.J.; Ryan, R.L.; McAdoo, B.G.; Nurse, L.; Buxton, J.A.; Sutton-Grier, A.E.; Albright, E.A.; Marin, M.A.; Fricke, R. (2018). "Pathways to Coastal Resiliency: The Adaptive Gradients Framework." *Sustainability*, 10, 2629.
- **Patrick**, P.K., Olsen, H.W., Higgins, J.D. (2007). "Comparison of Chilled-Mirror Measurements and Filter Paper Estimates of Total Suction." *ASTM Geotechnical Testing Journal*, Vol. 30, No. 5.

Notes: **Bold:** Authorship
Underline: Undergraduate student working under my mentorship

CONFERENCE PARTICIPATION

- **Judge**, P.K., "Diversity and Inclusion Lessons that Support the Traditional Civil Engineering Curriculum." *American Society for Engineering Education (ASEE) Annual Conference & Exposition*, July 2021.
- Attended the 9th annual meeting of *Center for Bio-mediated and Bio-inspired Geotechnics* New Mexico State University (NMSU), Las Cruces NM. Workshopped potential research initiatives and presented interdisciplinary research opportunities between RWU and R1 institutions with CBBG.
- National Council for Science and the Environment (2018). "*Pathways to coastal resiliency: the Adaptation Gradients Framework.*" Poster Presentation. Arlington, VA.
- Northeast Geotechnical Graduate Research Symposium (2016). Co-Editor and Speaker. Earned top prize for Best Presentation out of 35 presentations, based on technical excellence, contribution to the engineering community, and clarity. Title of talk: "*Evaluation of Coastal Mudflat Sediment Erodibility.*"
- **Judge**, P.K., DeGroot, D., Zhang, G., Lin, S. (2015) "*Development of a Flume for the Evaluation of Coastal Mudflat Sediment Erodibility.*" 2016 State of the Coast, Poster Presentation, New Orleans, LA.
- **Patrick**, P.K., Banks, B.K., (2009) "*Landslide Investigation, Blue Ridge Parkway MP 400.8 Buncombe County, North Carolina.*" AEG Annual Meeting, Lake Tahoe, NV.
- **Patrick**, P.K., Banks, B.K., Rehwoldt, E.B., (2010). "*Landslide Stabilization Design Study, Pervari Dam.*" AEG Annual Meeting, Charleston, SC.

FELLOWSHIPS AND GRANTS

- **Foundation to Promote Scholarship and Teaching, Roger Williams University**
Awarded \$6,160 and a course release to support “Evaluation of Soft Clays and the Influence of Biopolymers.”
- **Narragansett Bay Estuary Program (NBEP)**
Received \$5,000 to support an undergraduate student research intern. Research topic includes investigation of a 3D-printed mesh as an environmentally benign methods for minimizing soil erosion.
- **Provost Fund**
Awarded \$811 in support of student senior design project "Analysis and Design of Cliff Walk Collapse".
Provided support for students to attend the 2023 Eastern Colleges Science Conference, Spring 2023.
- **2021 Mara H. Wasburn Early Engineering Educator Grant awardees**
Awarded by the American Society for Engineering Education to individuals that demonstrate “impressive contributions to engineering education, a demonstrated commitment to increasing access, retention and/or advancement of women in engineering, and a strong overall record of achievement.”
- **Diversity & Inclusion Faculty Fellow**
Year-long program focuses on capacity building, developing inclusive curriculum and classrooms, and thinking critically about the impact of their efforts on student learning and success. Discussions center on questions about topics of diversity, equity and social justice in a specific course.
- **Foundation to Promote Scholarship and Teaching, Roger Williams University**
Awarded \$6,796 to support “Evaluation of Soft Clays and the Influence of Biopolymers.”
- **Center for Bio-mediated and Bio-inspired Geotechnics (CBBG)**
Awarded competitive \$2,500 travel grant to attend the April 7th to 9th meeting, New Mexico State University (NMSU), Las Cruces NM.
- **Edith Robinson Fellowship**
Competitive research fellowship for full-time graduate student pursuing degree in environmental sciences. Funded research stipend for 10 hrs / week for the 2015 - 2016 academic year.

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

- American Society for Engineering Education
- American Society of Civil Engineers
Service: Treasurer 2021 – 2022, Rhode Island Chapter
Service: Secretary 2022 – 2023, Rhode Island Chapter
- Deep Foundation Institute
- United States Universities Council on Geotechnical Education and Research

INDUSTRY WORK EXPERIENCE

Schnabel Engineering

2006 – 2012

Rockville, MD

Senior Staff and Project Engineer

- **Maryland State Highway Administration, Baltimore, Maryland:** Reviewed plans and specifications. Analyzed aerial and ground photographs. Performed site assessments of slope failures and sinkholes. Developed rock slope stability ranking data sheet and procedure
- **Center for Communications Information and Technology (CCIT) Building, Frostburg State University, Frostburg, Maryland:** Participated in challenging subsurface characterization due to multiple levels of abandoned coal mines below proposed building location. Identified historically applied grout and assessed need for additional grouting operations to fill existing coal mine voids. Provided recommendations for foundation design and mitigation of excessive coal mine collapse
- **District of Columbia Water and Sewer Authority, Washington, DC:** Geotechnical boring and testing program. Performed visual manual soil classification and reviewing the laboratory test results for soil samples aimed at controlling combined sewer overflows into the Anacostia and Potomac Rivers.

PROFESSIONAL REGISTRATION

- **Professional Engineer** 2010 – Present
License: 0402046397, Commonwealth of Virginia
- **Professional Geologist** 2012 – Present
License: 2801001907, Commonwealth of Virginia
- **Professional Engineer** 2022 – Present
License: 14573, State of Rhode Island