JHENYFFER L ASP

PROFESSIONAL REGISTRATIONS / CERTIFICATIONS

Registered Professional Engineer, State of Minnesota
Certified ACI Concrete Field Testing Technician Level I, American Concrete Institute
Certified ACI Concrete Strength Testing Technician, American Concrete Institute
Certified ACI Self-Consolidating Concrete Testing Technician, American Concrete Institute
Certified ACI Aggregate Testing Technician - Level 1, American Concrete Institute
Certified ACI Aggregate Testing Technician - Level 2, American Concrete Institute
Certified ACI Aggregate Base Testing Technician, American Concrete Institute
Certified MnDOT Concrete Field Tester, Minnesota Department of Transportation
Certified MnDOT Concrete Field Inspector, Minnesota Department of Transportation
Certified MnDOT Aggregate Production Tester, Minnesota Department of Transportation

EDUCATION

PhD **Civil Engineering**, University of Minnesota 2021
Dissertation: "A Heterogeneous Markov Chain Model to Predict Pavement Deterioration and Optimize Repair Activities"
Committee: Mihai Marasteanu (chair), Alireza Khani, Gary Davis

MS **Civil Engineering**, University of Minnesota 2019
Advisor: Mihai Marasteanu

BS **Civil Engineering**, Pontifical Catholic University of Goiás, Brazil 2016

PROFESSIONAL EXPERIENCE

Aggregate & Ready Mix Association of Minnesota
Director of Engineering and Technical Services 2025 – present
Engineering and Technology Coordinator 2023 – 2025

- Support ARM's involvement in research projects and serve on Technical Advisory Panels/Committees (TAPs or TACs) to provide engineering expertise for industry initiatives.
- Provide technical support to local government agencies and to the engineering and architectural communities in promotion of concrete and assist with concrete pavement promotion.
- Represent the association on ASTM International and ACI technical committees and participate in conferences and events.
- Manage and instruct certification programs for the Minnesota Department of Transportation (MnDOT), the American Concrete Institute (ACI) and the National Ready Mix Concrete Association (NRMCA).

Pavement Management Analyst, Office of Materials and Road Research
Minnesota Department of Transportation, Twin Cities 2021 - 2023

- Advised in the completion of the new pavement management software to ensure the software was properly set up for use by MnDOT and meet legislation requirements.
- Coordinated the input from Districts, Industry, and local agencies regarding the implementation of the Pavement Investment Guide, to ensure their needs and concerns were addressed.

- Updated the pavement performance forecasting models and decision trees needed for the pavement analyses.
- Analyzed the effects of using new pavement performance prediction curves.
- Updated the costs of pavement projects for the different fixes to be used in the planning and optimization processes, so they reflected the current budget requirements.

TEACHING EXPERIENCE

Lecturer, Construction Management Program
University of Wisconsin–Stout Polytechnic 2026 - Present

- Teach AEC 273 Concrete and Masonry Technology, delivering coursework on material properties, structural applications, and industry standards.
- Integrate real world technical standards and active industry practices into course instruction, connecting classroom theory with practical field execution.
- Guide students through laboratory testing, material evaluation, and field applications related to concrete mix design, masonry units, and quality control.
- Organize student educational opportunities and field experiences to bridge academic principles with active construction project operations.

Teaching Assistant, Department of Civil, Environmental, and Geo- Engineering
University of Minnesota, Twin Cities 2017 - 2020

- Taught the laboratory sessions for the Civil Engineering Materials course and assisted with the Pavement Engineering course.
- Trained students to follow Standard Operating Procedures for the equipment used in the laboratory and standard laboratory protocols for safety.
- Guided students determining physical and mechanical properties of coarse and fine aggregates used in Portland Cement Concrete, Asphalt Concrete, and construction foundations, according to ASTM standards.
- Mentored students to design concrete mix, create a concrete batch and measure key properties of plastic concrete, such as workability (Slump test), unit weight and air content (Press-UR-Meter).
- Instructed and oversaw students creating concrete testing specimen and performing destructive and non-destructive strength tests on concrete samples to determine modulus of elasticity (compressometer), compressive strength (Schmidt Rebound Hammer), flexural strength and splitting tensile strength of concrete, following ASTM standards.

RESEARCH EXPERIENCE

Graduate Research Assistant, University of Minnesota 2017 - 2021
Advisor: Mihai Marasteanu

- Developed a statistical model for the Minnesota Department of Transportation (MnDOT) to forecast the deterioration of their pavement roads and optimize their funding allocation.
- Documented work, compiled reports and wrote journal papers that got published in prestigious journals.
- Created visual reports and presentations to communicate the progress of the work and addressed feedback on the needs and expectations of the projects.
- Used Markov Decision Processes, dynamic programming and reinforcement learning to optimize funding allocation for pavement repair.