Appendix A-9

University of Massachusetts Lowell
Personnel Form #6

COMPREHENSIVE PROFESSIONAL VITAE

DATE: September 01, 2024

NAME: DESTEFANO (last) PAUL (first) D. (first)

Department: Civil and Environmental Engineering

College: Francis College of Engineering

Rank: Teaching Professor **Field:** Civil Engineering

A. EDUCATION AND ACADEMIC QUALIFICATIONS

1. Education:

Ph. D., 1998 — Rensselaer Polytechnic Institute
Civil Engineering — Troy, NY
Infrastructure Engineering & Management Systems

MBA, 1987 — Florida Institute of Technology
General Business Management — Melbourne, Fl.

MSCE, 1981 — University of Illinois
Geotechnical Engineering — Champaign-Urbana, Ill.

BSCE, 1978 — U.S. Coast Guard Academy
Civil/Structural Engineering — New London, CT.

2. Academic Experience (Institution, rank, length of time)

a. **UMass Lowell** (Lowell, MA), Associate Teaching Professor, 6 years
b. **UMass Lowell** (Lowell, MA), Lecturer, 6 years
c. **Merrimack College** (North Andover, MA), Adjunct &Visiting Professor, 2 years
d. **University of New Hampshire** (Durham, NH), Adjunct & Visiting Professor, 2 years
e. **Tufts University** (Medford, MA)- 1 year Adjunct & Visiting Professor
f. **Northeastern University** (Boston, MA), Visiting Professor, 1 year

g. **University of Southern New Hampshire** (Portsmouth, NH), Adjunct Faculty, 1 year
h. **New Hampshire Community Technical College** (Manchester, NH), Instructor, 1 year
i. **York County Technical College** (York, ME), Adjunct Faculty, 1 year
j. **Rensselaer Polytechnic Institute** (Troy, NY)- Teaching Assistant, 0.5 year

B. PROFESSIONAL ACTIVITIES

ENGINEERING AND MANAGEMENT EXPERIENCE PROFILE

Engineering Consultant **07/12-present**

I provide structural, geotechnical, and civil infrastructure system engineering consulting services to public and private industry**.**

Principal Structural Engineer **05/10-7/12**
The Louis Berger Group, Inc.
Portland, ME

Lead structural and geotechnical engineer for bridge and highway transportation projects. I provided engineering analysis and design of various bridge foundations, pile-supported abutments, concrete mass piers, retaining walls, drilled-shaft foundations, composite bridge decks, pre-stressed concrete box girders, reinforced-earth slope stabilization, and steel girders, as well as several bridge load rating for Maine and Massachusetts DOTs.

Senior Structural Engineer **10/07-05/10**
Stantec Consulting Services, Inc.
Scarborough, Maine

Lead structural designer for various electrical power plant and pulp and paper mill projects. I was responsible in charge of foundation design for a multi-million-dollar energy plant upgrade in Holyoke, MA. The design included anchored pipe-piles, silo foundations, dynamic analysis of heavy machine foundations, pile-supported mat foundations, retaining walls, temporary braced excavations, and shallow foundations. I was also responsible in charge of structural steel and foundation design for over 40,000 sf of building addition and rehabilitation of a pulp and paper mill in Ft. Edward, NY..

Director, Geotechnical and Structural Engineering Services 8/04 – 10/07
Ransom Environmental Consultants, Inc./Oak Engineers, LLC
Newburyport, Massachusetts

I was responsible for all geotechnical and structural investigations, analysis, and design services provided to clients. Geotechnical investigations included subsurface drilling and testing, laboratory analysis, and providing both shallow and deep foundation, slope stabilization, as well as various earth structure design recommendations. I was also responsible for the analysis and design of various structural systems including utility supports, bridges, pavements, and buildings.

Engineering Consultant/Adjunct Instructor 6/98 –7/04
Self-employed

I was a self-employed engineering consultant providing structural, geotechnical, project management, and civil infrastructure engineering and management services to the public and private industry. I also served as an adjunct faculty member at various universities and provide on-site professional training to private industry.

Manager, Geotechnical Engineering 10/91 - 6/94
Empire Soils Investigations, Inc., Ballston Spa, NY

I provided subsurface investigation, soil testing, analysis and consulting services for design and construction of various structures including bridges, buildings, tanks, retaining walls, towers, earth dams, landfills, pavements and other earth structures. I conducted several foundation and slope failure investigations. I was responsible for a department of six engineers and technicians.

Manager, Structural Engineering 2/88 - 9/91
C.T. Male Associates, P.C.,Latham, NY

I provided structural engineering investigation, analysis, design and construction services for architectural and civil engineering projects. I also supervised the structural design of various industrial and commercial buildings and served as project manager for several large multi-disciplinary engineering projects. I conducted several structural failure investigations. I was responsible for a department of six engineers and technicians.

Manager, Design and Construction Division 7/84 – 1/88
U.S. Coast Guard Training Center
Yorktown, Virginia

I served as a commissioned officer in the U.S. Coast Guard and performed planning, design, construction and inspection of buildings, utilities, and waterfront

structures on a large military training facility. I was responsible for a department of six engineers and technicians.

Engineer **6/78 - 6/84**
U. S. Coast Guard

I served as a commissioned officer in the U.S. Coast Guard and performed various engineering related functions including planning, design, construction inspection, and project management. Projects were related to maintenance, repair, improvement, and design of waterfront structures, buildings, utilities, waste disposal facilities, roads and waterways.

PROFESSIONAL ACHIEVEMENTS, AWARDS, SERVICE

1. Professional Licenses and Affiliations

- Professional Engineer (PE) license in MA, NH, VT, ME
- Certified Structural Engineer, Structural Engineering Certification Board (SECB, 2008-2022)
- Member, American Institute of Steel Construction (AISC)
- Fellow, American Society of Civil Engineers (F. ASCE)
- Member, Chi Epsilon, National Civil Engineering Honor Society
- Member, Tau Beta Pi, National Engineering Honor Society

2. Awards

- *Teaching Excellence,* Francis College of Engineering, UMass Lowell 2023.
- *Life,* American Society of Civil Engineers (ASCE) 2022.
- *Fellow,* American Society of Civil Engineers (ASCE) 2014.
- *Achievement Medal,* 1988, U.S. Coast Guard
- *Commendation Medal*, 1984, U.S. Coast Guard
- *Civil Engineering Scholastic Proficiency Award*, 1978, US Coast Guard Academy
- *Scholar-Athlete* Award, 1978, US Coast Guard Academy

3. Professional Service Activities

- Member of American Society of Civil Engineer *Technical Council on Life-Cycle Performance, Safety, Reliability, and Risk of Structural Systems*. (2009-2012)
- Member of the Boston Society of Civil Engineer *Infrastructure Committee* (2007 – 2012)
- Member of the Maine Section of *ASCE Infrastructure Condition Assessment Committee* (2008 – 2012)
- Member of the New Hampshire Section of *ASCE Infrastructure Condition Assessment Committee* (2002-2005)

- ASCE student model bridge competition volunteer. Boston. MA. (2009, 2010, 2011).
- Chairman BSCE *Herzog Paper* competition committee (2011, 2012).
- Judge for Mass Academy STEM Fair, WPI Worcester, MA (2013-2015)
- Judge for New Hampshire Science and Engineering Expo (NHSEE), Concord, NH (2014-2015)
- Technical Paper Referee/Reviewer for ASCE *Journal of Infrastructure Systems.* 2012-2014.

C. RESEARCH

RESEARCH INTERESTS

I am interested in advancing technologies that support the efficient preservation of civil engineering systems, otherwise known as Civil Infrastructure Systems (CIS). A Civil Infrastructure System may be defined as any network of components vital to the transfer of people and goods, water, waste, communication, and energy. CIS research is dedicated to the development of efficient information and decision support systems that assist in the management of scarce resources and multi-dimensional demands of large infrastructure systems.

CIS research is an emerging field that currently receives much support from the National Science Foundation (NSF) and other agencies responsible for large infrastructure facilities. Over the past two decades, NSF and federal and state transportation agencies have been sponsoring research to develop decision support systems enhancing the management of pavement and highway facilities. I see this trend continuing in the transportation arena and also expanding into more comprehensive and integrated management systems.

I enjoy working with undergraduate and graduate students and will work towards developing research programs that aim to enhance Civil Infrastructure Systems technologies. I look forward to developing and teaching new courses that support this type of research in any way possible.

The following are key research topics related to CIS that I am interested in developing further:

- Decision Analysis
- Condition Assessment
- Performance Modeling
- Deterioration
- Reliability and Risk Analysis

RESEARCH EXPERIENCE

1. ***"Reliability-Based Condition Assessment of Structural Concrete Using Synthetic Aperture Radar Imaging Techniques."*** **9/2018-05/2020**

Development of a condition assessment methodology for application of evaluating the moisture content of in-place structural concrete. The developed model combines data obtained through experimental research of Synthetic Aperture Imaging of prepared concrete specimens and reliability-based methods to incorporate inherent variability of condition assessment results obtained from the field.

2. **"*Risk Communication for Civil Infrastructure*"** **5/09-9/15**
American Society of Civil Engineers Technical Council on Life-Cycle Performance, Safety, Reliability, and Risk of Structural Systems

Collaborative research to address the scope, metrics, application domains, issues and challenges, and current research needs of risk communication in civil infrastructure system management.

3. ***"A Probabilistic Method for Increasing Bridge Design Life"***
Maine Department of Transportation **5/10-12/10**

A study was initiated to develop a simplified method for extending the design life of a three-span steel girder bridge in the state of Maine using LRFD probabilistic models for live load and extreme event effects.

4. ***"Infrastructure Condition Assessment of the State of Maine's Ports and Harbors"***
American Society of Civil Engineers **11/07 to 12/08**
Maine Section

Investigated the inventory and present condition of the State of Maine's system of navigable waters, ports, and harbors. Also, served on peer review committee for 12 separate infrastructure systems. The research resulted in a report that informed the state legislative branch of the present condition and capital needs of vital infrastructure systems.

5. ***"Infrastructure Condition Assessment of the State of New Hampshire's Navigable Waters and Dams"***
American Society of Civil Engineers **12/01 to 5/02**
New Hampshire Section

Investigated the inventory and present condition of the State of New Hampshire's system of navigable waters, ports & harbors, and dams. The research resulted in a report that informed the state legislative branch of the present condition and capital needs of vital infrastructure systems.

6. ***"A Performance and Life-Cycle Cost Study of Reinforced-Concrete Bridge Decks"***
   University of New Hampshire **7/00 to 7/02**
   Durham New Hampshire

   Developed a Markovian-based model for assessing the performance and life-cycle costs of steel-reinforced concrete bridge decks in the state of New Hampshire. Currently developing a performance and life-cycle cost model for carbon-fiber reinforced concrete decks. The research resulted in a Master's Thesis and several other publications are anticipated from this project.

7. ***"Bridge Management System Development Study"*** **7/94 to 8/98**
   Center for Infrastructure and Transportation Studies
   Rensselaer Polytechnic Institute, Troy, NY

   Developed innovative *Condition Assessment, Deterioration, and Performance Forecasting Methodologies* for automated bridge management systems. Developed a *Reliability-based Decision Analysis* methodology for evaluating large bridge rehabilitation alternatives. The research resulted in ten publications, two of which are in professional refereed journals.

PUBLICATIONS

1. DeStefano P. and Grivas. D.A. 1996. **"**Project-level Decision Analysis Methodology for Large Bridge Rehabilitation". *Transportation Research Board 75th Annual Meeting*. Washington, D.C. January. Paper No. 960552.

2. DeStefano P. and Grivas D. 1996. "Bridge Deck Performance and Rehabilitation: A Reliability-Based Analysis". *Proceedings Of The Fourth Materials Engineering Conference.* ASCE. Washington, D.C. pp. 1072-1081.

3. DeStefano P. and Grivas D. 1997. "A Reliability-Based Performance Model for Large Bridge Component Systems". *Transportation Research Board 76th Annual Meeting,* Washington, D. C., Paper No. 971141.

4. DeStefano P. and Grivas D. 1997. "A Reliability-Based Performance Model for Large Bridge Component Systems". *Transportation Research Record No. 1582,* National Academy Press, Washington, D. C., pp. 42-48.

5. DeStefano P. and Grivas D. 1997. "A Reliability-Based Deterioration Model for Bridge Maintenance Planning". *Proceedings Of The Infrastructure Condition Assessment Conference.* ASCE. Boston, MA. pp. 31-40.

6. Arminio S., DeStefano P. and Grivas D. 1997. "A Knowledge Model for Bridge Condition Assessment and Treatment Identification". *Proceedings Of The Infrastructure Condition Assessment Conference.* ASCE. Boston, MA. pp. 494-503.

7. DeStefano P., Arminio S., and Grivas. 1998. "A Method for Improving Probabilistic Condition Prediction Models in Bridge Management Systems". *Transportation Research Board 77th Annual Meeting,* Washington, D. C. Paper No. 981106.

8. Arminio S., DeStefano P., and Grivas. 1998. "Asset Management: A Case Study of Long-range Bridge Investment Planning." *Transportation Research Board 77th Annual Meeting,* Washington, D. C. Paper No. 981159.

9. DeStefano P. and Grivas D. 1998. "A Method for Estimating Transition Probability in Bridge Deterioration Models." *ASCE Journal of Infrastructure Systems.* Vol. 4 No. 2 pp56-62.

10. DeStefano P. 1998. "Performance Prediction and Decision Analysis in Bridge Management." *Ph.D. Thesis*. Rensselaer Polytechnic Institute, Civil Engineering Department. Troy, NY.

11. Twumasi J., DeStefano P., Christian J., T. Yu. 2020. "The Application of Synthetic Aperture Radar Imaging Technique to Measure Moisture Content of Concrete Structures." *Measurement 152 (2020)* Article No. 107335. Elsevier.

12. Twumasi J., DeStefano P., Christian J., T. Yu. 2020. "A Reliability-Based Condition Assessment of Structural Concrete Using Synthetic Aperture Radar Imaging Techniques." *Research in Nondestructive Evaluation,* DOI: 10.1080/09349847.2020.1745341. Taylor & Francis (online April 6, 2020).

D. TEACHING

OBJECTIVES AND PHILOSPOHY

My primary teaching objective is to educate students in the fundamental principles and practices of the civil engineering profession according to guidelines established by the American Society of Civil Engineers (ASCE) and the Accreditation Board for Engineering and Technology (ABET). Both ASCE and ABET have

acknowledged that there is a critical need for revitalizing civil engineering education to better serve the profession in the future. In pursuit of these objectives, I will seek opportunities to engage students in practical classroom and field exercises that require the application of engineering theories learned in the classroom. I will also encourage team project activities that will allow students to learn and develop effective leadership, management, and interpersonal skills.

TEACHING EXPERIENCE

1. University of Massachusetts **Lowell, MA**

A. Undergraduate Courses:

- *Steel Design:* Analysis and design of Beams, Columns, Connections, Beam-Columns, and Base Plates according to current AISC Steel Design Specifications.
- *Statics:* Force vectors, equilibrium, moment, centroid, moment of inertia, basic structural analysis.
- *Dynamics:* Particles and rigid bodies in motion, impulse, momentum, work, energy, force, acceleration, and vibration.
- *Foundations and Soils Engineering:* Site investigation and soil exploration, Settlement Analysis (elastic and consolidation), Shallow Foundations Bearing Capacity, Earth-Retaining Structures, and Mechanically Stabilized Earth.
- *Engineering Economic Analysis:* Life-cycle cost modeling and analysis, Net Present Worth/ Cost-Benefit Analysis, economies of scale, cost estimating, inflation, taxes, depreciation, etc.
- *Geotechnical Engineering Laboratory:* Grain-size analysis, soil compaction, permeability, flow net, direct shear strength, and unconfined compression test.
- *Civil Engineering Systems:* Probability and Statistics, Performance, Linear Programming, Distribution and Network Models, Shortest Path, Maximum Flow, and Decision and Risk Analysis. (Online and in-person)
- *Construction Management:* Project cost estimating and bidding, Work Breakdown structures, CPM/PERT project scheduling, project delivery methods, construction contract agreements, and economic analysis of discounted cash flow including depreciation, taxation, breakeven, and optimal equipment replacement.
- *Senior Capstone Design:* Comprehensive design project that may include the use of open-ended design problems, feasibility and impact analysis, complete design process, consideration of alternative solutions, and cost estimation and scheduling. Students practice team effort, development of a system perspective, communication skills, reporting, and presentations.

B. Graduate Courses:

- *Reliability Analysis:* Reliability Theory, Life-data Analysis, Simulation, Maintainability, and Structural Reliability.
- *Soil Dynamics and Earthquake Engineering:* Seismology, dynamic analysis, strong ground motion, seismic hazard analysis, site characterization, liquefaction, slope stability, retaining walls.
- *Advanced Steel Design:* Beam-columns, composite beams and columns, stability analysis, Built-up beams and plate girders, and building systems according to current AISC Steel Design Specifications.
- *Design of Masonry Structures:* Beams, Columns, Load-bearing walls, Shear Walls, Curtain walls, Joints, and Anchorages according to current Masonry Building Code Requirements and Specifications.
- *Design of Wood Structures*. Analysis and design of beams, columns, shear walls, diaphragms, and connections of wood structures according to current AWS National Design Specifications.
- *Engineering Systems*: Advanced methods of operations research, management science and economic analysis that are used in the design, planning and management of engineering systems. (online)

2. Merrimack College **North Andover, MA**

- *Geotechnical Design:* Shallow Foundations, Deep piles, and Earth Retaining Structures
- *Bridge Design & Management:* Inspection, Design, and Management Systems
- *Structural Analysis*: Statically Determinate and Indeterminate Structures
- *Reinforced Concrete Design*: Beams, Columns, Shear, Torsion, and Reinforcing Details
- *Soil Mechanics*: Soil Classification, Classical Theories of stress, strain, and soil behavior
- *Soil Mechanics Laboratory*: ASTM testing of soils for strength, compressibility and permeability.
- *Strength of Materials*: Mechanical properties of materials, stress, strain, bending, axial loading, shear, torsion, and column stability
- *Strength of Materials Laboratory*: Testing of metals, wood, concrete, plastics, and composites to determine mechanical properties.
- *Engineering Economic Analysis*: Life-cycle cost modeling and analysis, Net Present Worth/ Cost-Benefit Analysis, economies of scale, cost estimating, inflation, taxes, depreciation, etc.

3. University of New Hampshire **Durham, NH**

- *Mechanics I.* Statics and Dynamics
- *Mechanics II.* Strength of Materials
- *Project Management.* Project Management for Engineering and Construction
- *Systems Analysis.* Engineering Economics, Modeling, and Optimization (Linear Programming)

4. Tufts University **Medford, MA**

- *Applied Mechanics*: Strength of Materials
- *Civil Engineering Materials and Measurements*: Mechanical properties of steel, concrete, wood, asphalt, aluminum, and composites. Testing mechanical properties. Statistical data analysis.

5. Northeastern University **Boston, MA**

- *Structural Analysis.* Classical theories of structural analysis including determinate and indeterminate structures, virtual work, moment-area, stiffness and flexibility methods.
- *Advanced Concrete Design.* Flexure, Shear, Beam-Columns, Torsion, two-way Slabs, and Footings.

6. Rensselaer Polytechnic Institute **Troy, NY**

- *Civil Engineering Capstone Design*: Geotechnical advisor for multiple foundations and earth retaining structures.
- *Civil Engineering Instrumentation and Sensors*. Developed practical laboratory exercises utilizing geotechnical and transportation engineering instruments and sensors.

7. University of Southern New Hampshire **Portsmouth, NH**

- *Quantitative Analysis for Business Decisions.* Linear Programming, Decision Theory, Forecasting, Simulation, Statistics, and Probabilistic Methods (MBA Graduate Level)

8. New Hampshire Community Technical College **Manchester, NH**

- *Fundamentals of Surveying and Blueprint Reading*

9. York County Technical College **Wells, ME**

- *Introduction to Computer Aided Drafting.* AUTOCAD 14
- *Advanced Computer Aided Drafting.* AUTOCAD 14
- *Introduction to Architecture.* Fundamentals of building layout, design, and construction, terminology, blueprint reading and basic drafting techniques.

GRADUATE OR UNDERGRADUATE STUDY AND/OR RESEARCH ADVISING

a) Dissertation Advisor: List names of students directly supervised as major advisor, research topic/title, expected graduation date. For students that graduated during the review period, note placement (company/institution, position, and location).

   a. Major PhD advisor for Jones OwusuTwumasi. Thesis Title: "Reliability-Based Condition Assessment Of Reinforced Concrete Structures Using Synthetic Aperture Radar Imaging Technique." Expected graduation May 2020. Published two papers in respected engineering journals. Sept. 2018-May 2020.
   b. **CIVE 5CO-OP-901:** *Curricular Practical Training*, Gabriel Rojas. Winter and Spring 2017. Graduated Spring 2018.

b) Thesis Advisor: List names of students directly supervised as major advisor, research topic/title, expected graduation date. For students that graduated during the review period, note placement (company/institution, position, and location).

c) Dissertation or Thesis Committee: Include names of students for which you serve on their committee but are not the major advisor. Include name of major advisor.
   a. Rohit Singh: Geotechnical Master's Thesis Committee. Prof. Kurup is major advisor. 2015

d) Undergraduate Independent Study: Include name of student(s), with course number and title, credit hours, outcome of course (paper, project, etc.). This section should courses such as senior design, honors thesis, guided independent study, etc.
   a. Honors Project Mentor for Amy Kearns. "Integrating Autodesk Revit with Autodesk Robot." Graduation December 2018.
   b. Honors Project Advisor for Kasey Mearls. "Design for Sustainability of MBTA Rail Platform." Graduation May 2020.

E. SERVICE ACTIVITIES

1. **University Committees**: Include term (dates), approximate frequency of meetings, *accomplishments/outcomes.* Also note if you were committee chair or member.
   a. Faculty Senate- April 2014-2016.

2. **College Committees**: Include term (dates), approximate frequency of meetings, *accomplishments/outcomes.* Also note if you were committee chair or member.

    a. UMASS Lowell Maker Space renovation committee. I participated in several meetings throughout the year with other faculty and architectural consultants to develop a multipurpose student meeting and laboratory space. Construction plans are currently under development. (Fall 2013-Spring-2014)
    b. UMASS Lowell Master of Science in Engineering Management (MSEM) committee. I participated in several meetings with other faculty throughout the year and assisted in developing curriculum and a proposal for a new MSEM program. In particular, I developed MSEM program concentration in Infrastructure Management and Engineering Services primarily for students pursuing management careers in civil engineering. The program has been approved by both GPAC and Faculty Senate. (Fall 2013-Spring-2014) and is accredited. Several students graduated from this program since its inception.
    c. College of Engineering Promotion Committee member. (Fall 2019-Spring 2020) Reviewed NTT applicants for promotion. Recommended three (3) applicants for promotion.

3. **Department Committees and appointments**: Include term (dates), approximate frequency of meetings, *accomplishments/outcomes.* Also note if you were committee chair or member.

    a. Undergraduate curriculum IAB sub-committee member. April 2016-present. Developed revised ABET Syllabi for "Design of Wood Structures" course.
    b. Employment IAB sub-committee member. April 2016-present. Provided personal recommendations and advice to students seeking employment in the civil engineering profession.
    c. Chairperson of the Visiting Lecture Engineering Non-Tenure-Track Faculty Search Committee from Jan. 2019-April 2019. Screened over 25 applicants, monthly meetings, and phone interviews. Final selection was made and the position was filled for academic year 2019-2020.
    d. Chairperson of the Assistant Teaching Professor Non-Tenure-Track Faculty Search Committee from Sept 2019-May 2020. Screened over 35 applicants, monthly meetings, campus visits, and phone interviews. Recommendations for two top candidates were forwarded to chair and dean in March 2020. The hire was not executed, and the position was closed.
    e. Attended UMASS Lowell Civil and Environmental Engineering Industrial Advisory Board meetings October and April (2012-Present).
    f. Established and maintained a Linkedin website for UMASS Lowell Civil and Environmental Engineering Alumni. (November 2013 – present). The Linkedin site is used for ABET audits regarding our graduates and serves as a networking

tool for all students graduating from the civil and environmental engineering program at UML. The group currently has over 440 active members.

g. Presented "Order of Engineer" certificates to civil engineering students at ceremonies in February 2015-present.
h. Faculty Advisor for Chi Epsilon student chapter. (2015 - present.) Attended the National Chi Epsilon Conclave in Boston, MA on March 11, 2016. Attended meetings and advised students with a goal towards increasing student membership. Established FE review sessions for UML students. Participated in local charity activities. Membership has grown by more than 100% since 2015. Participated in the committee discussions to reorganize the national society post pandemic. The national society was on the verge of financial collapse during the pandemic.
i. Faculty Advisor for the student steel bridge competition team. (2015 - present.) Advised students on technical and management issues. The UML team designs, details, fabricates, and constructs a 20 ft. steel bridge to carry 2,500 pounds of static load. Attended the ASCE/AISC steel bridge competitions from Spring 2014 – 2019. Competition was cancelled in 2020 due to coronavirus pandemic. Participated in the regional competitions post pandemic from Spring 2022-present.
j. I developed a revised undergraduate CEE program to include CIVE 4750 Construction Management course, revised CIVE 3720 CE Systems, and remove CIVE 4700 Engineering Economics from the BSCE requirements. I developed revised ABET syllabi for both CIVE.4750 and CIVE.3720 to include engineering economics fundamentals.
k. I revised previous CIVE.4850 senior capstone design course content to include practical service-learning projects (Fall 2018, Spring 2019)
l. Volunteered for UMASS Open houses in the Fall and Spring (2012-2019). Assisted at booths and lab demonstrations and addressed students/parents.
m. Attended Faculty Retreats in December and May (2012-present).
n. Volunteered for advisor to "Green-Roof" Difference Maker project team. Evaluated the feasibility of installing "Green-Roof" technology to various roof structures throughout the UMASS Lowell campus. Jan. 2018-2019
o. Served as mentor for new Visiting Lecturer from Sept 2019-May 2020. Assisted in course preparation of CIVE.4750 Construction Management and CIVE.4850 Senior Capstone Design Courses.
p. Member of adjunct selection committee for Construction Management CIVE.4750. Jan 2022-December 2022. Developed advertisement, reviewed applicants resumes, interviewed candidates, selected candidate for hire.
q. Member of the Department Personnel Committee for promotion of NTT assistant teaching faculty member. Fall 2022.

4. **Community and Outreach activities**: List organization, your role, description of activities, indicate how related to your professional role or community role.

a. Instructor of a senior capstone class design project to upgrade an elementary school in Lowell, MA. The project included adding classroom, gymnasium, and library spaces to an existing school.
b. Instructor of a senior capstone class design project to develop improvements to traffic and pedestrian traffic on North Campus of UMass Lowell.
c. Represented UMASS Lowell as a judge for the New Hampshire Science and Engineering Expo at NHTI, Concord, NH. March 2014 and 2015.
d. Represented UMASS Lowell as a judge for the Massachusetts Academy of Math & Science STEM fair in Worchester, MA February 2014 and 2015
e. Participated in the Community Connections Breakfast sponsored by UMASS Lowell Service-Learning Center. March 26, 2015. Obtained three new contacts for potential service-learning projects.
f. Supervised UML Chi Epsilon chapter in volunteer activities at the Lowell Transitions Center (2016).
g. Member of Building Committee for St. Raphael's Roman Catholic Church in Kittery, Maine
h. Lecturer for St. Raphael's Roman Catholic Church in Kittery, Maine
i. Choir member for St. Raphael's Roman Catholic Church in Kittery, Maine
j. Member of the Knights of Columbus. Served various charity activities to help the disabled and veterans.
k. Volunteer driver for Meals-on-Wheels in Kittery, Maine
l. Volunteer at Soup Kitchen for the homeless in Portsmouth, NH
m. Volunteer coach for youth soccer, basketball, and lacrosse recreation leagues in Greenfield and Saratoga Springs, NY
n. Volunteer coach for youth soccer and basketball recreation leagues in Eliot and South Berwick, Maine.
o. Coach for Girls Lacrosse Team at Marshwood High School in South Berwick, Maine.
p. Volunteer religious education instructor
q. Volunteer career day guest lecturer of civil engineering for primary school
r. Volunteer judge at science, technology, engineering, and math (STEM) fairs.
s. Volunteer Red Cross Blood donor.
t. Volunteer Faith Formation Instructor, Parish of the Assumption, Dover, NH.

CONTINUING EDUCATION

SHORT COURSES

"Design of Coastal Structures." ASCE, Portland, ME. 2007. 16 hrs.

"Design of Foundations for Dynamic Loads", ASCE. Portland, ME. 2008. 24 hrs

"OSHA Health and Safety Training for Hazardous Waste Operations." Huntingdon Consulting Engineers and Environmental Scientists. 1994. 40 hours.

"Safety and Operation of the Nulear Density Guage." Troxler Electronic Laboratories, Inc. 1993. 10 hours.

"Underground Storage Tank Installation and Closure." New York State Department of Environmental Conservation. 1993. 20 hours.

"Earth Slopes, Dams & Waste Disposal Facilities." University of Maine. 1991. 20 hours.

"Bridge Inspection, Evaluation & Rehabilitation." American Society of Civil Engineers. 1989. 16 hours.

"AUTOCAD Level I." Russel Sage College. 1988. 16 hours.

"Junior Officer Leadership and Management." United States Coast Guard. 1985. 80 hours.

"Construction Cost Estimating and Bidding." SUNY at Stony Brook. 1982. 16 hours.

"Concrete Principles, Floor Slabs & Waterproofing." American Concrete Institute. 1982. 16 hours.

"Design Construction, and Maintenance of Docks and Marinas" Univ. of Wisconsin. 1982. 24 hours.

"Construction Specification Writing." Shipley Associates. 1982. 32 hours.

"Administration of Government Construction Contracts." US Office of Personnel Management. 1981. 40 hours.

CONFERENCES

"Northeast Wood Design Symposium." WoodWorks-WPC. Portland, ME. 2019

"ASCE-SEI Structures Congress," Boston, MA 2014.

"ASCE-SEI Structures Congress," Los Vegas, NV 2011.

"ASCE-SEI Structures Congress," Orlando, FL, 2010.

"ASCE-SEI Structures Congress," Austin, TX, 2009.

"Maine Transportation Conference", MEDOT, Augusta, ME, 2009-2011.

"53rd Maine Transportation Conference", MEDOT, Augusta, ME, 2003.

"Deep Foundation Analysis, Design, and Construction", BSCES, Boston, MA 2003.

"Basic Design for Stability-Columns and Frames" AISC, Boston, MA 2003.

"Coastal Engineering Manual: A Highlight of Changes from the Shore Protection Manual", ASCE COPRI, Woods Hole, MA 2003.

"Practical Steel Design", American Institute of Steel Construction, Concord, NH 2003.

"Concrete Slabs on Ground" , American Concrete Institute, Boston, MA 2002.

"Soil-Structure Interaction and the Interaction between Geotechnical and Structural Engineers" BSCES, Boston, MA . 2002.

"Anchored Geo-Support Seminar" ADSC: The International Association of Foundation Drilling. 2000.

"Infrastructure Condition Assessment: Art, Science, and Practice." American Society of Civil Engineers. Boston, MA. 1997.

"21st Century Asset Management Workshop." AASHTO & FHWA. Rensselaer Polytechnic Institute, Troy, NY 1997.

"77th Transportation Research Board Conference." National Research Council. Washington, D. C. 1998.

"76th Transportation Research Board Conference." National Research Council. Washington, D. C. 1997.

"75th Transportation Research Board Conference". National Research Council. Washington, D.C. 1996.

"Probabilistic Mechanics and Structural Reliability". American Society of Civil Engineers. 1996.

"Repairing Concrete Bridges and Transportation Structures." American Concrete Institute. 1994.

ENGINEERING AND MANAGEMENT EXPERIENCE PROFILE

GEOTECHNICAL ENGINEERING

Provided site investigation, soil testing, analysis and geotechnical consulting services for the following projects (Clients):

- shallow spread foundations (McDonald's Corp., CVS Pharmacy, Wal-Mart, various sites.
- Concrete-filled steel pipe piles (Holyoke, MA)
- steel H-pile (Saratoga Public Library, Mercer Co. Airport, NJ)
- concrete micro-piles (Schenectady Chemical Inc. Schenectady, NY; Filene's Burlington, Mass; Norlite Cohoes, NY)
- concrete caissons (Atlantic City Electric Co. various sites; NYSEG Lansing, NY; Bristol-Meyers Syracuse, NY)
- excavation shoring, bracing, and dewatering (GE Power Systems Sch. NY; Saratoga Public Library Saratoga Springs, NY)
- underpinning (Fenimore House Cooperstown, NY)
- earth retaining structures
    - gabion earth retaining walls, (Towns of Amherst, Mass and Glens Falls, NY.)
    - soldier pile & lagging (Farm St. City of Troy)
    - steel sheet piles (GE Power Systems; Saratoga Public Library)
    - reinforced earth (City of Mechanicville)
- dynamic deep compaction (International Paper Cogeneration Facility Corinth, NY)
- vibro-compaction (Adirondack Tri-County Nursing Home)
- subsurface pavement drainage systems (Wal-Mart, Hudson, NY)
- earth slope and foundation failures (Hudson Falls High School, Cornell University)
- Highway and Bridge improvements in Massachusetts (MassDOT)
- Reinforced-earth highway embankment slope design (MassDOT)
- Lake Powell Pipeline and Hydroelectric Project. Arizona and Utah (FERC)

- Drilled-shaft foundations for railroad bridges in Massachusetts (MBTA)
- Micro-pile underpinning and tie-back support of abutment for railroad bridge improvements in Massachusetts (MBTA)
- Building foundation settlement investigation. (Portsmouth Middle School)

STRUCTURAL ENGINEERING

Performed investigation, analysis, design and construction quality control services for the rehabilitation or construction of the following structures (Clients):

- concrete dams, (Lake Nancy, Providence, NY ;Wright Lake Dam, Troy, NY)
- industrial equipment platforms, (GE Silicones Div. Waterford, NY)
- pipeline utility supports, (GE Plastics Div., Selkirk, NY,)
- reinforced-concrete foundations and earth retaining structures, (Clemente-Latham Concrete Plant Latham, NY; Battenkill Plaza-Manchester, VT.)
- low-rise steel-framed buildings, (Silo retail store Latham NY; International Paper Co. Corinth, NY; Gas Turbine Lab GE R&D Schenectady, Hulbert Hall SUNY Oneonta, NY)
- low-rise masonry buildings, (US Navy Rome, NY, Hoosick Falls HS Gymnasium)
- steel and reinforced-concrete water tanks, (Towns of Niskayuna and Corinth)
- simple-span steel bridges, (Town of New Scotland, NY)
- steel sheet piling and bracing, (Sears Oil Co.; Lake Buel Dam, Mass.; Hudson Psyc. Center-FDC Hudson, NY; Gas Turbine Lab GE R&D Schenectady)
- low-rise wood-framed buildings, (Residence Inn Latham, NY)
- miscellaneous waste-water collection and treatment structures.
- Bridge load ratings (stone arch bridges- MA)
- Industrial building rehabilitation and new construction (Pulp and Paper industry, Ft. Edward, NY)
- Bridge Load Rating (Steel bridges-Maine DOT)
- Bridge Abutment and Pier design (Maine and NH)
- Drilled shaft foundation design review (MBTA Green line extension)

MARINE ENGINEERING

Responsible for the investigation, analysis, design, and development of final engineering plans and specifications and construction quality control for the following various projects along the Northeastern coastal waters of the United States:

- rehabilitation of historic masonry and steel light houses
- rehabilitation of steel, sheet-pile bulkheads
- timber-framed vessel rescue facility
- vessel oily-water collection and treatment systems
- ice-resistant navigational structures
- floating dock systems

- rip-rap shoreline protection system
- rehabilitation of an existing timber mooring and fendering system

PROJECT MANAGEMENT

Managed a team of engineering technicians and professionals to successfully complete design specifications and perform construction quality control services for the following major projects:

- paper manufacturing building addition (No. 2 Machine Room-Int. Paper Co. Corinth, NY)
- new 30,000 sf, steel and concrete framed, warehouse and office building complex (US Coast Guard, Governors Is. NY)
- new vehicle maintenance garage (US Coast Guard, Governors Is. NY)
- reconstruction of two large municipal swimming pool facilities (City of Utica)
- chemical processing building addition (Bldg. 30 addition-GE Silicone, Waterford, NY)
- shipping and receiving building addition (GE R&D, Schenectady NY)

INFRASTRUCTURE SYSTEMS

- Developed innovative methodologies to support the development of a computerized bridge management system for the New York State Thruway Authority. Methodologies included condition assessment, deterioration modeling, performance prediction, and decision analysis. The prototype model was used to develop an optimal 10-year maintenance, repair, and rehabilitation capital program (approx. $1B) for a network of over 800 bridges. (NYS Thruway Authority)

- Developed and implemented a comprehensive safety inspection system for the infrastructure (buildings, utilities, and waterfront structures) of a military training facility containing over 500,000 sf of building space and 20 acres of land. (US Coast Guard)

- Responsible for the design and construction of the following significant projects (US Coast Guard):
    - conversion of an antiquated central steam heating plant to an integrated heating system consisting of independent boilers,
    - rehabilitation of a 30,000 sf gym/pool complex,
    - demolition of several antiquated buildings and utilities,
    - various laboratory upgrades and renovations including installation of an overhead bridge crane,

- Completed a multi-million dollar, ten-year, master plan for a large training facility. (US Coast Guard)

- Successfully negotiated and administered several construction contracts and change orders. Supervised construction quality control and inspection. (US Coast Guard)

- Participated in the planning, design, and construction of a new medical outpatient clinic. (US Coast Guard)

PERSONAL INFORMATION

- Citizenship: Natural born U.S. citizen
- Family: Married with three children, six grandchildren
- Military service: 9yrs 9mos. Active-Duty Coast Guard Officer and 12 mos. Naval Reserve Officer (Seabees)
- Religion: Roman Catholic
- Hobbies: outdoor sports and recreation, exercise and reading