

SAYED M. SOLEIMANI, *Ph.D., P.E., P.Eng., FIEAust, CPEng*

Teaching Professor
Department of Civil and Environmental Engineering
The Pennsylvania State University
University Park, PA 16802

Tel: +1-582-203-8848

E-mails: smssoleimani@yahoo.com and smssoleimani@psu.edu



EDUCATION

The University of British Columbia, Vancouver, BC, Canada 2007

Ph.D. in Civil Engineering

Dissertation: Sprayed Glass Fiber Reinforced Polymers in Shear Strengthening and Enhancement of Impact Resistance of Reinforced Concrete Beams

The University of British Columbia, Vancouver, BC, Canada2002

M.A.Sc. in Civil Engineering

Dissertation: Flexural Response of Hybrid Fiber Reinforced Cementitious Composites

Sharif University of Technology, Tehran, Iran1991

B.Sc. in Civil Engineering

PROFESSIONAL MEMBERSHIP

- Registered Professional Engineer (P.E.) in the State of California, USA (License No. 74394)
- Registered Professional Engineer (P.Eng.) in the Province of British Columbia, Canada (License No. 31837) and the Province of Ontario, Canada (License No. 100199558)
- Registered Chartered Professional Engineer (CPEng) in Australia (License No. 5884554)
- Fellow of the Institution of Engineers Australia (FIEAust)
- Member of the American Society of Civil Engineers (ASCE)
- Member of the American Concrete Institute (ACI)
- Member of the American Institute of Steel Construction (AISC)
- Member of the American Society for Engineering Education (ASEE)

DETAILED WORK EXPERIENCE

ACADEMIC EXPERIENCE

Teaching Professor August 2022 – Present
Department of Civil and Environmental Engineering, The Pennsylvania State University
University Park, PA 16802, USA

- **Undergraduate and graduate courses taught:**

- Design of Concrete Structures (Graduate)
- Metal Structures Behavior and Design (Graduate)
- Prestressed Concrete Behavior and Design (Graduate)
- Capstone Project (Undergraduate)
- Design of Steel Structures (Undergraduate)
- Structural Analysis (Undergraduate)

- **Efforts in curriculum design and refinement:**

- Leading a team to launch an online master’s program in structural engineering at Penn State University
- Developed a rubric to evaluate student efforts in capstone projects more effectively

- **Participate in committees as a member:**

- Department of Civil and Environmental Engineering Strategic Committee
- Department of Civil and Environmental Engineering Undergraduate Committee
- College of Engineering Sustainability Committee

- **Conducting research in the following areas** (the first two are funded by Kuwait Foundation for the Advancement of Sciences [KFAS]):

- Using structural health monitoring using Lamb waves technique to improve damage detection and localization in oil and gas infrastructure
- Development of a novel low-energy building: Utilization of phase change materials, cool roofs and solar air conditioning
- Engineering education

Associate Professor October 2019 – July 2022

Head of the Department of Civil Engineering (May 2015 – July 2022)

Australian University (AU) [formerly Australian College of Kuwait (ACK)], College of Engineering, Department of Civil Engineering, Kuwait

Assistant Professor August 2013 – September 2019

Head of the Department of Civil Engineering (May 2015 – July 2022)

Australian University (AU) [formerly Australian College of Kuwait (ACK)], College of Engineering, Department of Civil Engineering, Kuwait

- **Curriculum development and accreditation:**

Acted as the chairperson of the curriculum committee to develop the civil engineering curriculum and participated extensively in the accreditation process. AU is the only institution outside Australia to have full accreditation for all of its engineering programs from Engineers Australia, the accrediting body for undergraduate engineering programs of all Australian Universities.

- **Undergraduate courses taught:**
 - Engineering Skills (a PBL, Project Based Learning, course for 3rd year civil and mechanical engineering students)
 - Engineering Design and Management Planning (a PBL, Project Based Learning, course for 3rd year civil and mechanical engineering students)
 - Fluid Mechanics (for 3rd year petroleum engineering students)
 - Solid Mechanics (for 3rd year mechanical engineering students)
 - Prepare Detailed Design of Concrete and Steel Structures (for 2nd year civil engineering students)
 - Structural Analysis (for 3rd year civil engineering students)
 - Design of Concrete Structures (for 4th year civil engineering students)
 - Design of Steel Structures (for 4th year civil engineering students)

- **Graduation projects of undergraduate Civil Engineering students supervised:** Examples of completed graduation projects include:
 - Prevention of sand accumulation on highways using a hybrid-shelter-system (selected as the best graduation project in the College of Engineering for the Fall 2016 semester).
 - Simulation of energy absorbing sandwich structures for blast mitigation (selected as the best graduation project in the College of Engineering for the Spring 2016 semester).
 - Design of a bridge overpassing the 3rd Ring Road at Kaifan street in Kaifan, Kuwait (selected as the best graduation project in the College of Engineering for the Fall 2015 semester).
 - Study of using asphalt rubber for road pavements in Kuwait (selected as the best graduation project in the College of Engineering for the Fall 2014 semester).
 - Utilizing local ceramic tiles and ground-granulated-blast-furnace slag wastes in concrete production.
 - Recycling glass in a concrete mixture.
 - Carbon fiber reinforced polymer (CFRP) in concrete constructions.
 - Using rubber tires in concrete.
 - Preliminary design of a multi-story parking for AU.

Visiting Scholar September 2015 – December 2015
 McGill University, Department of Civil Engineering and Applied Mechanics, Montreal, Canada

- **Joint research projects with Professor Andrew Boyd at McGill University:**
 - Effects of cyclic loads on tensile capacity of concrete using pressure-tension machine
 - Ultrasonic Pulse Velocity (UPV) tests to determine the creation of micro-cracks in concrete under very low tensile stresses

Adjunct Professor August 2011 – July 2012
 Azad University, Master's Program in Structural Engineering, Iran

- **Taught Graduate Courses in Structural Engineering:**
 - Design of Structures for Earthquake Loading
 - Prestressed Concrete Design
 - Research Methods

- **Supervised Master's Theses in Structural Engineering:** supervised four theses as follows:
 - The study on behavior of large-size reinforced concrete columns strengthened for axial load with Fiber Reinforced Polymer (FRP) using Finite Element Method.
 - The effect of plan irregularity on the seismic behavior of concrete buildings with moderate moment frames.
 - Performance evaluation of structural frames by the vertical component of near-fault ground motions.
 - A study on the effective length factor of web-tapered columns in two-span sloped-roof frames.

Research AssistantMay 2001- May 2006
The University of British Columbia, Civil Engineering Department, Vancouver, BC, Canada

Worked on different research projects such as:

- Shear strengthening of reinforced concrete (RC) beams using sprayed glass fiber reinforced polymer (GFRP)
- Behavior of reinforced concrete beams strengthened in shear by sprayed glass fiber reinforced polymer (GFRP) under impact loading
- Shear strength of reinforced concrete beams with a fibrous concrete matrix
- Flexural response of Hybrid Fiber Reinforced Concrete (HyFRC)
- Proposed and supervised a large number of undergraduate projects in Civil Engineering Materials and Structural Laboratories, such as:
 - Very high strength Fiber Reinforced Concrete (FRC)
 - Comparison of single, double and triple Fiber Reinforced Concrete
 - Indirect tension testing of concrete
 - Comparison of different glass fiber reinforced polymer (GFRP) spray configurations
 - Strengthening of reinforced concrete beams with Self-Compacting Hybrid Fiber Reinforced Concrete
 - Shear behavior of Steel Fiber Reinforced Concrete (SFRC)
 - Sprayed GFRP for concrete column strengthening
 - Flexural strengthening of reinforced concrete beams using fabric glass GFRP
 - Effect of concrete surface preparation on sprayed GFRP performance
 - GFRP-Concrete bond enhancement using mechanical fasteners
- Used a variety of testing machines in Structural and Materials Laboratories at UBC.
- Analyzed and evaluated test results and prepared official reports.

Teaching Assistant 2002 - 2006
The University of British Columbia, Vancouver, BC, Canada

- Mechanics in Civil Engineering Design; Statics and Dynamics (CIVL228)
- Plane Surveying (CIVL235)
- Projects in Civil Engineering Materials (CIVL321)
- Project-Based Learning in Civil Engineering Materials (CIVL322)
- Behavior of Steel Structures (CIVL510)
- Reliability and Structural Safety (CIVL518)
- Elements of Physics (PHYS153)

Part-time Teaching2004 - 2008
The University of British Columbia, Civil Engineering Department, Vancouver, BC, Canada

- High Performance Materials in Repair and Rehabilitation of Civil Infrastructure (CIVL529): developed and delivered some modules of the course such as “Basics of Repair”, “Introduction to FRP” and “FRP Design Guidelines”, 2004, 2006, 2007 and 2008.
- Specialized Concretes (CIVL527): developed and delivered some modules of the course such as “Hydration Reactions and Micro-Structural Developments in Concrete”, “Lightweight Concrete”, “Polymer Impregnated Concrete”, “Polymer Modified Concrete” and “Self-Compacting Concrete”, 2004 and 2005.

- Mechanics in Civil Engineering Design; Statics and Dynamics (CIVL228): taught some modules of the course such as “Structures in Equilibrium”, “Centroids and Centers of Mass” and “Virtual Works and Potential Energy”, 2004 and 2005.
- Advanced Structural Steel Design (CIVL432): taught some modules of the course such as “Composite Floor Design” and “Plate Girders”, 2004.
- Plane Surveying (CIVL235): Instructor, summer 2004.

Volunteer Activities 2001- Present

- Reviewing articles for different journals in the field of structural engineering and civil engineering materials such as *ASCE Journal of Structural Engineering*; *Computers and Concrete*, *An International Journal*; *International Journal of Concrete Structures and Materials*; *Journal of Building Engineering*; *International Journal of Pavement Research and Technology*; *ACI (American Concrete Institute) Journal*; *American Journal of Engineering and Applied Sciences*; *International Journal of Structural Glass and Advanced Materials Research*; and *Journal of Testing and Evaluation*, 2006 – Present.
- Technical committee member in the 77th RILEM Annual Week and the 1st Interdisciplinary Symposium on Smart & Sustainable Infrastructures (ISSSI 2023), September 2023, Vancouver, Canada.
- Chair of two technical sessions in the 7th International Conference on Civil, Structural and Transportation Engineering (ICCSTE’22), June 2022.
- Member of the steering committee for CDIO (Conceiving - Designing - Implementing - Operating) Asian Regional Meeting, Kuwait, October 2021.
- Chair of a technical session in the 17th CDIO International Conference (online), Thailand, June 2021.
- Acted as technical committee member for PROTECT2015 - Fifth International Workshop on Performance, Protection & Strengthening of Structures under Extreme Loading, held in East Lansing, Michigan, June 2015.
- Acted as local advisory committee member to organize the “Third International Conference on Construction Materials” (ConMat’05), held in Vancouver, BC, August 2005.
- Took part in organizing the “13th World Conference on Earthquake Engineering” held in Vancouver, BC, July 2004.
- Assisted in the planning of the “Sixth International Conference on Short and Medium Span Bridges” held in Vancouver, BC, July 2002.
- Contributed in organizing the “Third International Conference on Concrete under Severe Conditions” (CONSEC’01) held in Vancouver, BC, June 2001.
- Acted as a UBC Civil Engineering Materials Laboratory Administrator: May 2001 to May 2006.

INDUSTRIAL EXPERIENCE

Senior Project Engineer August 2012 – August 2013
McCormick Rankin Corporation (MRC) a member of MMM Group, Mississauga, Ontario, Canada

- **Nipigon River Cable-Stayed Bridge, Ministry of Transportation of Ontario (MTO), Trans-Canada Highway 11/17, Ontario:** A member of the design team for the detailed design of this 2-span, 4-lane highway bridge. This bridge, Ontario's first cable-stayed bridge, is part of the 100-kilometre-long twinning of the vital North Shore highway of the province. Unique design challenges include the world's first staged construction while the bridge is open to traffic, and the structural complexity of a 3-plane stay system. This new cable-stayed bridge, with precast segmental concrete pylons and a glass FRP reinforced concrete deck, is a replacement for an older structure. My responsibilities were to develop a complete 3-D finite-element model of the bridge, provide detailed analyses for wind loadings based on the wind tunnel test results, and perform independent design checks of the post-tensioned pylons, the transverse concrete beams connecting 3 pylons, and the FRP reinforced concrete deck.



- **Garden City Skyway, Ministry of Transportation of Ontario (MTO), St. Catharines, Ontario:** Evaluated the main spans of this 2.1 km, 50-year old bridge for deck replacement. The main spans, a total of 260 m in length, consist of 3 continuous spans stretching across the Welland canal. The evaluation included load carrying capacity checks for box girders, floor beams, and stringers for the newly proposed dead and live loads based on the latest version of the Canadian Highway Bridge Design Code.



- **Walpole Island Swing Bridge, Walpole Island, Ontario:** Evaluated the main swing span (66.5 m) of this 156 m bridge. The main swing span is comprised of an asphalt wearing surface on a steel orthotropic deck that is supported by transverse floor beams and two (2) longitudinal steel girders. The main swing span is capable of rotating clockwise 90° from a “closed” position to an “open” position about a center pier. The evaluation included main longitudinal girders, transverse floor beams and closed-ribs (orthotropic deck).



- **Plymbridge Road Bridge, City of North York, Ontario:** Evaluated this 60-years old 3-span concrete bridge for truck loading based on the new Canadian Highway Bridge Design Code. It was found that the posting would be required due to low live-load-capacity-factors for the main girders.
- **Highway 401/427 Interchange Bridge Rehabilitation, Ministry of Transportation of Ontario (MTO), Toronto, Ontario:** Evaluated three bridges at this important interchange including Bridge No. 17, Bridge No. 25, and Bridge No. 26 using CSiBridge software. Bridge No. 17 is a four-span, curved in plan, continuous post-tensioned concrete-box bridge with a total length of 153 m. Bridge No. 25 is a four-span continuous post-tensioned concrete-box with a total length of 175 m. Bridge No. 26 is a five-span continuous post-tensioned concrete-box with a total length of 234 m. All bridges had adequate capacity for extra loadings from the proposed rehabilitation.
- **International Bridge, Sault Ste. Marie, Michigan Department of Transportation (MDOT), Michigan, USA:** Main longitudinal girders, longitudinal stringers, transverse floor beams and bearing stiffeners of Span 46 of the International Bridge located in Sault Ste. Marie, Michigan have been evaluated for “Federal Operating” and “Federal Inventory” using HS-20-44 truck axle and lane loadings, and for “Michigan Operating” using Michigan Legal Vehicles with AASHTO standard. It was found that the shear capacity of the main girders was inadequate. New vertical stiffeners were installed to increase the shear capacity of the girders.



- **Rehabilitation of Bridges in Highway #4 and #6, Ministry of Transportation of Ontario (MTO), Ontario:** Evaluated four bridges for this project, including Rocky Saugeen River Bridge, Pottawatomi River Bridge, Kippen River Bridge, and Ausable River Bridge for proposed rehabilitation schemes. Rocky Saugeen River Bridge is a 3-span reinforced concrete T-beam bridge with total length of 73.152 m and a skew of 52°, constructed in 1958. Pottawatomi River Bridge is a single span concrete rigid frame bridge with a skew of 10°, constructed in 1978. Kippen River Bridge is a single span concrete rigid frame bridge with a skew of 19°, constructed in 1947, and Ausable River Bridge is a single span concrete rigid frame bridge with a skew of 20°, constructed in 1962.

Technical Manager June 2010 – July 2012
S.D.M. Construction Company, Iran

Successfully entrusted four projects to the owners (each with an average progress rate of 70-80% before my appointment), as follows:

- **Qazvin-Rasht Freeway:** Transferred to the Owner (Ministry of Road and Urban Development) on May 15, 2012; Project’s value: \$35 Million (USD); Total length of freeway for this contract: 7.244 km; Fill: 1.12 million m³; Cut: 2.5 million m³; Concrete: 37,000 m³; Asphalt: 70,000 tons; Total number of bridges: 22 (Spans: 2 m, 3 m, 4 m, 6 m, 24 m, and 35 m, Total length = 146 m); Total number of tunnels: 4 (total length = 1065 m)



- Isfahan-Shiraz Railroad:** Transferred to the Owner (Ministry of Road and Urban Development) on February 19, 2012. Project's value: \$94 Million (USD); Total length of the railway for this contract: 130 km; Fill: 4.8 million m³; Cut: 1.41 million m³; Concrete: 112,000 m³; Total number of bridges: 445 (Spans = 2 m, 3.5 m, 5 m, 7 m, 8 m, and one 485 m; the latter was a steel box girder bridge, constructed by pushing method; Total length of all bridges = 1837 m); Total number of tunnels: 4 (total length = 2079 m)



- Baghcheh-Neishabor Freeway (including Interchanges):** Transferred to the Owner (Ministry of Road and Urban Development) on February 08, 2012; Project's value: \$21 Million (USD); Total length of freeway for this contract: 19.232 km; Fill: 1.0 million m³; Cut: 1.1 million m³; Concrete: 22,000 m³; Asphalt: 75,000 tons; Total number of bridges: 57 (Spans = 2 m, 3 m, 5 m, 7 m, 20 m, 26 m, and 29 m; Total length = 316 m)



- Myaneh-Tabriz Railroad:** Transferred to the Owner (Ministry of Road and Urban Development) on June 01, 2012; (Status: 85% progress – the contract has exhausted its maximum legal value and requires new bids, placed by contractors, to reach completion); Project's value: \$23 Million (USD); Total length of the railway for this contract: 20 km; Fill: 1.6 million m³; Cut: 6.8 million m³; Concrete: 65,000 m³; Total number of bridges: 53 (Spans = 2 m, 4 m, 5 m, and 7 m; Total length = 212 m); Total number of tunnels: 1 (total length = 912 m)

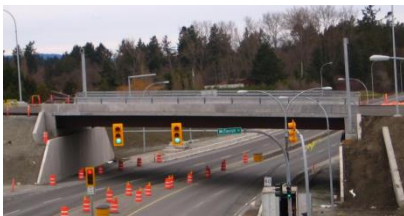


Bridge Engineer June 2006 – June 2010
 Associated Engineering Ltd., Burnaby, BC, Canada

- Pitt River Cable-Stayed Bridge, Ministry of Transportation, Port Coquitlam to District of Pitt Meadows, BC:** Design Engineer for the detailed design of the main superstructure of this 380 m long, eight-lane, three-span Highway Bridge including floor beams, girders, splices and deck. Responsibilities included developing a complete 3-D finite-element model of the bridge and participating in a comprehensive ship-collision study. Performed independent design checks of four pre-stressed I-girders approach spans to the main bridge. Reviewed shop drawings of the main bridge as well as approach spans.



- McTavish Road and Pedestrian Bridge, Ministry of Transportation, Victoria, BC:** Design Engineer for the detailed design of the underpass structure with a 25 degree skew over Highway 17. The superstructure spans in the long skew direction with a clear span of approximately 34 m, and comprises trapezoidal steel box girders, acting compositely with a concrete deck slab. The deck slab interior bays are formed using precast stay-in-place deck panels to minimize the staging requirement above the highway. The bridge is 17.3 m wide accommodating three lanes with a possibility of an extra lane in the future. The substructure design consists of pile-supported abutment bents. Longitudinal and transverse seismic forces are transferred between the superstructure and substructure via two cast-in-place shear keys at each abutment. The pedestrian overpass consists of three spans of 15 m, 27 m and 24m, respectively. The girders are initially simply-supported for dead loads, after which link-slabs over the interior supports provide continuity for live loads and seismic loads. The superstructure comprises a trapezoidal steel box girder, acting compositely with a cast-in-place concrete deck slab. The deck slab interior bay is formed using precast stay-in-place deck panels. The substructure design consists of single-column piers and voided abutments, both on spread footings. The remainder of the ramp is a length of Alan Block walls, followed by fill slopes for lower ramp heights.



- **Mission Bridge Rehabilitation, Ministry of Transportation, Mission, BC:** Design Engineer for the rehabilitation of Mission Bridge. This 4-lane bridge is part of Highway 11 over the Fraser River connecting Mission and Abbotsford. The single box-girder river span between Piers N1 and S1 is 134 m and includes a 71 m suspension span. The work included removal of the existing deck joints between traffic barriers and design of new deck steel splice plate at both ends of the steel suspended span between Piers N1 and S1. Additionally, bottom flange plates were designed to make the bottom flange continuous at both suspended span joints.



- **McMillan Creek Bridge, City of Prince George, BC:** Design Engineer for the detailed design of the bridge structure. The bridge consists of a pile-supported 21.2 m span. The superstructure is comprised of single cell prestressed boxes supporting a 200 mm thick cast-in-place High Performance Concrete (HPC) deck. Access from the planned fishing park trail north of PG Pulpmill Road to the Nechaco River is provided with a 2.5 m wide reinforced concrete path under the bridge.



- **Kakisa River Bridge, Northwest Territories Transportation, Fort Providence, NT:** Responsible for preparing the conceptual design report, including strengthening schemes, of the existing bridge (left picture below) and different options for a new bridge. Performed an independent design check of superstructure of the new bridge (a two-lane, 179m long, three-span bridge – right picture below). Reviewed shop drawings of substructure and superstructure of the new bridge. Performed extensive quality control on concrete used in the substructure.



- **Lake City Overhead Seismic Retrofit, City of Burnaby, BC:** Participated in seismic assessment of Lake City Overhead Bridge. Designed seismic retrofit schemes for beam-column (ductility enhancement) and column-footing (lap splice clamping) joints using carbon and glass fiber reinforced polymer wraps.



- **Mackenzie Gas Project – Oversized Module Transport, AB:** Evaluated more than 20 bridges in Alberta with different structural configurations for oversized vehicles (up to 400 tonnes).
- **Mackenzie Gas Project – Oversized Module Transport, NT:** Evaluated two bridges and three culverts in the Northwest Territories, including Kakisa River Bridge and Hay River West Channel Bridge for oversized vehicles (up to 400 tonnes).
- **Oliver Road Pedestrian Bridge, Ministry of Transportation and Infrastructure, Surrey, BC:** The Oliver Road Pedestrian Overpass over Highway 99 has been subject to several vehicular impacts due to its low vertical clearance. Prepared the conceptual feasibility design report including an assessment of different options to increase the vertical clearance for this overpass and compared them against full replacement. This comparison included ranking the defined options from different viewpoints such as cost, constructability and time.
- **Port Mann Highway #1 Design Build Project, Ministry of Transportation and Infrastructure, Surrey, BC:** Participated in developing the conceptual design options for several bridges for this project including Fraser Heights Wetland Viaduct, 104th Avenue overpass, 160th Street Underpass, 176th Street Overpass, and 192nd Street Underpass.
- **Cameron Street Bridge, City of Prince George, BC:** Executed an independent design check of superstructure of the 187 m long, two-lane, four-span Bridge over the Nechako River. Also carried out a shop drawing review.
- **Simon Fraser Bridge, City of Prince George, BC:** Performed load rating on the existing Cameron Street Bridge for heavy RT cranes used during the construction of the new bridge.
- **Highway #1 Bridge Replacements, Regina, SK:** Structural Engineer for the detailed design of two 15 m long, two-lane, concrete bridges over Saskatchewan Minerals Inc. channels.
- **McGregor River Bridge, Ministry of Forests and Range, Prince George, BC:** Close proximity inspection and load rating of an 84 m glulam girder suspension bridge. The work included the use of specialized cable inspection technology to identify internal corrosion within the bridge cables. A detailed analytical model was also developed accounting for the differing material properties of the cables and timber girders to verify the capacity of the bridge.
- **Maple Avenue Bridge, City of Medicine Hat, AB:** Associated Engineering inspects and develops bridge planning/rehab strategies for the city's bridge inventory that is accessed through the City's GIS data system. As part of this assignment, performed load rating and developed strengthening concepts for the Maple Avenue Bridge.
- **Canada Line Rapid Transit Temporary Bridge Structures, InTransitBC, Vancouver, BC:** Structural Engineer for project to design two temporary bridge structures over the cut-and-cover section of the Canada Line.
- **Banff Pedestrian Bridge, Town of Banff, AB:** Performed an independent design check of superstructure of a new pedestrian bridge over the Bow River in Banff.
- **Kearl Oil Sands Project – Bridge Load Rating, AB:** Evaluated three bridges in Alberta with different structural configurations for oversized vehicles (up to 500 tonnes).
- **Transport of Hydro Power Generators – Bridge Load Rating, BC:** Evaluated several bridges in BC for transporting heavy loads (i.e., hydro power generators) including Deneau Creek Bridge, Clanwilliam Overhead Crossing (61 m span, two-hinge steel arch superstructure), Beaver Creek Bridge and Trail Bridge (71 m spans consisting of three steel-tied arches).

- **Design Review and Site Visits of FRP Structural Strengthening, Fyfe Co. LLC, BC:** Responsible for conducting detailed design reviews of proposed FRP strengthening schemes to ensure compliance with design specifications for Vancouver Technical School and UBC Sauder School of Business. Performed regular site visits and prepared inspection reports to ensure proper installation of the FRP strengthening systems.



- **Stability Checks of McIntyre Dam, BC:** Responsible for detailed stability checks on this fifty-year old dam including flood, ice and earthquake loads.

Part-time Engineering Activities 2003 - 2004

Thomas Leung Structural Engineering Inc., Vancouver, BC, Canada

- Participated in the design process of low-story residential buildings with combined wood-concrete structures.

Site Manager and Project Manager April 1994 – September 1999

Flar Construction Co., Iran

- Project manager for the construction of a hydro-electric dam located in the west of Iran.
- Site manager for construction of two 30,000 m³ reinforced concrete drinking-water reservoirs, and a four-story office-building located in the south-east of Iran.
- Employed in a multi-disciplinary team and gained management skills.

Structural Engineer March 1993 – March 1994

Poolad Consulting Engineering Co., Iran

- Designed heavy steel structures for different projects including a white-cement plant and a cotton refinery.
- Proposed different practical solutions for the construction of steel-structures in ongoing projects.

Structural Engineer March 1991 – February 1993

Hospital Projects Executor (HPE) Co., Iran

- Designed two 64-bed hospitals with a concrete structure, and two 128-bed hospitals with a steel structure.
- Visited several ongoing hospital-project sites and prepared official reports.

FUNDS AND AWARDS

- Research fund as co-Investigator (co-I) for “Application of Lamb Waves for Structural Health Monitoring of Kuwait Infrastructures – Research Project Number: PR19-15EC-09.” Kuwait Foundation for the Advancement of Sciences (8,500 KWD ≈ \$36,000 CAD) 2021
- Research fund as co-Investigator (co-I) for “Development of a Novel Low-Energy Building: Utilization of Phase Change Materials, Cool Roofs and Solar Air Conditioning – Research Project Number: CN19-35EM-06.” Kuwait Foundation for the Advancement of Sciences (14,700 KWD ≈ \$62,000 CAD) - 2021
- Research fund as Principal Investigator (PI) for “Implementing Currently Applied eLearning Methods for Higher Education Institutions in the State of Kuwait: Opportunities and Challenges – Research Project Number: PR20-15EV-01.” Kuwait Foundation for the Advancement of Sciences (4,500 KWD ≈ \$19,000 CAD) 2020
- Research fund as Principal Investigator (PI) for “Green approach for concrete pavement – Research Project Number: PR19-15EV-02.” Kuwait Foundation for the Advancement of Sciences (9,950 KWD ≈ \$42,500 CAD) 2019
- Research fund as Principal Investigator (PI) for “Utilization of local waste materials in high performance and self-compacting concrete – Research Project Number: PN18-15EV-01.” Kuwait Foundation for the Advancement of Sciences (8,250 KWD ≈ \$36,000 CAD) 2018
- Research fund as co-PI for “Structural Retrofitting with Post-tensioned Cables Using Actively Controlled Mechanical Devices – Research Project Number: IRC-2017-18-SOE-CE-PR01.” ACK Research Center (1,125 KWD ≈ \$5,000 CAD) 2017
- Nominated for “Teaching Assistant Award for Teaching” by Civil Engineering Department, The University of British Columbia2006
- “Leslie Jaeger Scholarship for the Advancement of Engineering.” Intelligent Sensing for Innovative Structures (ISIS) Canada Research Network, (\$5,000 CAD)2005
- “The Cement Association of Canada Scholarship” (\$10,000 CAD)2004-2005
- “Natural Sciences and Engineering Research Council of Canada (NSERC) Post Graduate Scholarship” (\$42,000 CAD)2004-2005
- Nominated for a Governor General’s Gold Medal Award (best graduate student in master’s level) by Civil Engineering Department, The University of British Columbia2003
- “The University of British Columbia Graduate Fellowship” (\$8,000 CAD)2002

PUBLICATIONS AND PRESENTATIONS

Textbook:

William T. Segui, and Sayed M. Soleimani (2024). *Steel Design*, 7th Edition. Cengage.

Currently working on the 7th edition of this textbook based on the latest American Institute of Steel Construction (AISC) Specification for Structural Steel Buildings (ANSI/AISC 360-22); to be published in the summer of 2024.

Periodicals:

1. A. Sedaghat, A. Mahdizadeh, R. Narayanan, H. Salem, W.K. Hussam, M.I. Al-Khiami, M. Ashtian Malayer, S.M. Soleimani, M. Sabati, M. Rasul, and M.M.K. Khan, "Implementing Cool Roof and Bio-PCM in Portable Cabins to Create Low-Energy Buildings Suitable for Different Climates." *Sustainability*, 15, 14700, 24 pages, 2023 (<https://www.mdpi.com/2071-1050/15/20/14700>).
2. A. Sedaghat, H. Salem, W.K. Hussam, A. Mahdizadeh, M.I. Al-Khiami, M. Ashtian Malayer, S.M. Soleimani, M. Sabati, R. Narayanan, M. Rasul, and M.M.K. Khan, "Exploring energy-efficient building solutions in hot regions: A study on bio-phase change materials and cool roof coatings." *Journal of Building Engineering*, 76 (2023), 107258, 22 pages (<https://www.sciencedirect.com/science/article/abs/pii/S2352710223014389>).
3. M.I. Al-Khiami, M. Jaeger, S.M. Soleimani, and A. Kazem, "Enhancing concrete structures education: Impact of virtual reality on motivation, performance and usability for undergraduate engineering students." *Journal of Computer Assisted Learning*, 2023;1-20 (<https://doi.org/10.1111/jcal.12881>).
4. M.I. Al-Khiami, M. Jaeger, and S.M. Soleimani, "The Integration of Digital Techniques in Engineering Education: A Case Study to Evaluate Student's Motivation and Performance." *International Journal of Information and Education Technology*, 13(5), pp. 844-848 (2023) (<http://www.ijiet.org/vol13/IJIE-T-V13N5-1877.pdf>).
5. A. Sedaghat, S.M. Soleimani, M.I. Al-Khiami, M. Sabati, M. Rasul, R. Narayanan, M.M.K. Khan, "Development of a Novel Low-Energy Building: Effects of Room Orientation and Wall Materials." *Key Engineering Materials*, 945:101-108 (2023) (<https://www.scientific.net/KEM.945.101>). **Note:** This paper was presented in the 11th International Conference on Material Science and Engineering Technology (ICMSET 2022), Tokyo, Japan, November 2022.
6. M. Jaeger, D. Adair, and S.M. Soleimani, "Multi-Criteria Evaluation of eLearning Attributes using the Fuzzy TOPSIS Method." *International Journal of Engineering Education*, 39(1), pp. 241-251 (2023) (https://www.ijee.ie/latestissues/Vol39-1/21_ijee4306.pdf).
7. S.M. Soleimani, M. Jaeger, A.R. Alaqqad, and A. Faheiman, "Success Factors of Recently Implemented eLearning Methods at Higher Education Institutions in Kuwait." *Quality in Higher Education*. 2022, (<https://www.tandfonline.com/doi/full/10.1080/13538322.2022.2132702>).
8. R. Soleimanpour, S.M. Soleimani, and M.N.S. Salem, "A Baseline Free Method for Locating Imperfect Bolted Joints." *Structural Monitoring and Maintenance*, 9(3), pp. 237-258 (2022), (<https://doi.org/10.12989/smm.2022.9.3.237>).
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Conference Proceedings (presenter underlined):

1. M.I. Al-Khiami, M. Jaeger, and S.M. Soleimani, "A Gamified Approach to Concrete Structures Interpretation using Virtual Reality: A Study of Performance and Simulation Sickness." Proceedings of the 2023 IEEE Global Engineering Education Conference (EDUCON), Kuwait, May 1-4, 2023.
2. M.I. Al-Khiami, M. Jaeger, and S.M. Soleimani, "The Integration of Digital Techniques in Engineering Education: A Case Study to Evaluate Student's Motivation and Performance." Proceedings of the 4th International Conference on Engineering Education and Innovation (ICEEI 2022), Hanoi, Vietnam, December 16-18, 2022.
3. A. Sedaghat, S.M. Soleimani, M.I. Al-Khiami, M. Sabati, M. Rasul, R. Narayanan, and M. Khan, "Development of a Novel Low-Energy Building: Effects of Room Orientation and Wall Materials." Proceedings of the 11th International Conference on Material Science and Engineering Technology (ICMSET 2022), Tokyo, Japan. November 26-28, 2022. **Note:** This conference paper has been published

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4. R. Soleimanpour, and S.M. Soleimani, “Detecting Cracks in Isotropic Plates using Contact Acoustic Nonlinearity.” Proceedings of the 7th International Conference on Civil Structural and Transportation Engineering (ICCSTE'22), Niagara Falls, Canada, June 05-07, 2022.
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12. A. Mughrabi, S.M. Soleimani, and N. Mughrabi, “Using Fuzzy Analytic Hierarchy Process to Assign Weights to Project Based Learning Outcomes in the Perspective of the Industry Professionals.” Proceedings of the International Conference on PBL for the Next Generation – Blending Active Learning, Technology and Social Justice, Santa Carla, California, USA, February 2018.
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Extra Presentations:

The following presentations have been delivered (excluding the aforementioned conferences):

1. “A Study of Using Asphalt Rubber for Road Pavements in Kuwait.” Presented in the Gulf Conference on Sustainable Built Environment, Kuwait, March 2019
(<https://events.kfas.org.kw/Frontend/kfasWeb/EventFiles/TentativeProgram.pdf>).
2. “Design and Construction of Cable-Stayed Bridges”, Presented for graduate civil engineering students at Concordia University, Montreal, Canada, December 2015.
3. “Examples of Cable-Stayed Bridges: Pitt River and Nipigon River Bridges”, Presented for graduate civil engineering students at Ryerson University, Toronto, Canada, January 2013.
4. “Fiber Reinforced Polymers for Structural Strengthening”, Presented at the 13th Annual Conference of Intelligent Sensing for Innovative Structures (ISIS) Canada Research Network in Saskatoon, Canada, May 2008.