



- 1. Name and Academic rank:** Wael Slika, Assistant Professor, (full time), Faculty of Engineering
  
- 2. Education: Degrees, discipline, institution and date:**
  - Ph.D. Civil Engineering – Structural - American University of Beirut, Beirut, Lebanon 2017
  - B.E in Civil and Environmental Engineering – General Civil - American University of Beirut, Beirut, Lebanon 2012
  
- 3. Work Experience**
  - Academic experience**
    - Beirut Arab University, Assistant Professor, September 2017 – present, Full Time
    - American University of Beirut, Beirut, Lebanon, Teaching Assistant, 2012-2017
    - American University of Beirut, Beirut, Lebanon, Research Assistant, 2012-2017
  
  - Non academic experience**
    - 2011-2012: Part-time Transportation Engineer, SETS, Beirut, Lebanon  
Designed roads and intersections and performed feasibility studies.
  
    - 10+ years of experience in concrete, simulations, and modeling consultancy with focus on:
      - Service-Life Prediction and Durability Study
      - Structural Design and Analysis
      - Life-Cycle Cost Analysis and Optimization
      - Building Materials & Concrete Technology
      - Probabilistic Modeling & Simulations
      - Non-Destructive Testing and Model Calibration
      - Condition Assessment of Old and Damaged Structures
  
- 4. Certification or professional registration**
  - Civil Engineer - Member of the Order of Engineers & Architects of Beirut
  
- 5. Honors and Awards:**
  - Abdul Hadi Debs Award granted for research and academic achievements - American University of Beirut - 2017
  - Conseil National De Recherches Scientifiques (CNRS) Award (2015-2017)
  - Dean's fellowship, American University of Beirut (2012-2017)
  - BE with distinction from the American University of Beirut – 2012



## 6. National Research funds:

- Project Investigators: Prof. Adel El Kurdi and Dr. Wael Slika
- Title: A sustainable structural health-monitoring framework for service-life prediction of corroded RC structures by induced vibration-response analysis.
- Fund: 26,000,000 LBP (~17,500\$), Joint fund by *Conseil National De Recherches Scientifiques* and *BAU*
- Duration: 2018-2020 (2 years)

## 7. Service activities

### Beirut Arab University (2017 - Present):

- Teaching:
  - Undergraduate courses: Reinforced Concrete II, Reinforced Concrete I, Structural Analysis II, Structural Analysis I, Mechanics of Materials.
  - Graduate Courses: Mathematical Programming, Finite Element Method
- Quality Assurance Committee Member
- Institutional Representative for ABET 2018 July Commission Meeting
- ASCE Student Chapter Faculty Advisor

## 8. Principal publications and presentations

### 8.1 Journal Publications

- Hakim, A., **Slika, W.**, Machmouchi, R. and Elkordi, A., (2022) "Numerical Approach to Simulate The Effect of Corrosion Damage on The Natural Frequency of Reinforced Concrete Structures" *Structural Durability and Health Monitoring Journal*, vol. p:175-194.
- Machmouchi, R., **Slika, W.**, Elkordi, A, (2021) "A Novel Probabilistic Framework of RC Corroded Structures Under Dynamic Loading" *BAU Journal-Science and Technology*, vol. 2.
- Bichara, L., **Slika, W.**, and Saad, G., (2019) " Probabilistic Identification of the Effects of Corrosion Propagation on Reinforced Concrete Structures via Deflection and Crack Width Measurements" *Materials and Structures*, vol. 52, p: 82.
- **Slika, W.**, Masri, A., and Baalbaki, O., (2019) "Flexural Testing of Various Composite-Beams under Quasi-Static Loads" *BAU Journal-Science and Technology*, vol. 1.
- Nasr, D., **Slika, W.**, and Saad, G., (2018) " Uncertainty Quantification for Structural Health Monitoring Applications" *Smart Structures and Systems*, vol. 22, p 399-411.
- **Slika, W.**, and Saad, G., (2018) " Polynomial Chaos Kalman Filter Framework for Probabilistic identification of Chloride ingress in RC Structures with Experimental Data" *Journal of Engineering Mechanics*, vol 144, p 04018037.
- Saad, W., **Slika, W.**, Mawla, Z., and Saad, G., (2017) "Diclofenac Immobilization in Recycled Polyethylene/Polypropylene Reclaimed from Municipal Solid Waste: Experimental and Numerical Assessment" *Journal of Environmental Management*, p 1-10.



- **Slika, W.**, and Saad, G., (2017) "A Practical Polynomial Chaos Kalman Filter Implementation Using Non-linear Error Projection on a Reduced Polynomial Chaos Expansion" *International Journal for Numerical Methods in Engineering*, p 1-17.
- **Slika, W.**, and Saad G., (2016) "An Ensemble Kalman Filter Approach for Service Life Prediction of Reinforced Concrete Structures Subject to Chloride-Induced Corrosion" *Construction and Building Materials*, vol. 115, p 132–142.

## 8.2 Conference Proceedings

- **Slika, W.**, and Jaafar, F., "An Ensemble Kalman Filter Approach for Estimating Site Specific Earthquake Response" 7<sup>th</sup> ECCOMAS Thematic Conference on Computational Methods in Structural Dynamics and Earthquake Engineering, June 24-26, Crete, Greece, 2019.
- **Slika, W.**, and Wehbi, N., "A Health Monitoring Framework for Optimal Service Life Predictions of Steel Structures under Fatigue Loading" 3<sup>rd</sup> ECCOMAS Thematic Conference on Uncertainty Quantification in Computational Sciences and Engineering, June 24-26, Crete, Greece, 2019.
- Mawla, Z., **Slika, W.**, Saad, W., and Saad, G., "Mechanical Properties of Recycled Polyethylene / Polypropylene Material with Embedded Pharmaceutical Waste" The 4th World Congress on New Technologies, August 19-21, Madrid, Spain, 2018
- **Slika, W.**, and Saad, G., "A Robust Polynomial Chaos Kalman Filter Framework for Corrosion Detection in Reinforced Concrete Structures" VII European Congress on Computational Methods in Applied Sciences and Engineering, June 5-10, Crete, Greece 2016
- **Slika, W.**, and Yehia, C., "A Sequential Data Assimilation Approach for In-Situ Characterization of Nonlinear Soil Behavior" 15th Faculty of Engineering and Architecture Student and Alumni Conference, April 27-28, Beirut, AUB, Beirut 2016.
- **Slika, W.**, and Saad, G., "A Polynomial Chaos Based Kalman Filter Approach for Service Life Prediction of Reinforced Concrete Structures Subject to Chloride Induced Corrosion" EMI 2015 Engineering Mechanics Institute Conference, June 16-19, Stanford University, 2015.
- Saad, G., and **Slika, W.**, "Stochastic Service Life Prediction of Reinforced Concrete Structures under Corrosion" EMI 2014 Engineering Mechanics Institute Conference, McMaster University, August 5-8, 2014.
- **Slika, W.**, and Saad, G., "An EnKF Approach for Structural Health Monitoring of Reinforced Concrete Structures Under Corrosion" 11th. World Congress on Computational Mechanics, July 20-25, Barcelona, Spain 2014

## 9. Professional development activities

- Faculty Seminar Series on Learning and Teaching Excellence, Center for Teaching and Learning, American University of Beirut, March 11 to April 29, 2014.
- ABET Accreditation Seminar, USEK, Lebanon, October 4-5, 2017.
- Workshop on Critical Thinking, Beirut Arab University, October 2017.
- ABET Symposium, ABET, San Diego, April 12-13, 2018.



- Self-Study Development Workshop, ABET, San Diego, April 11, 2018.
- Attended and presented in 5 International Conferences on Reinforced Concrete, Structural Dynamics, Computational Modeling and Concrete Technologies in 2014 (Barcelona), 2017 (Greece), 2019 (Greece) & 2022 (Portugal)