

Sary Malak

Assistant Professor

O: E20.65

T: 09.218950, Ext. 2939

E: smalak@ndu.edu.lb

Biography

Currently an assistant professor at NDU (Notre Dame University) for one year and previously an adjunct professor at Northeastern University, Boston, Massachusetts for almost 10 years. A Senior Associate with Weidlinger Associates, Boston Massachusetts which is a leading structural engineering firm that focuses on the design and rehabilitation of infrastructures, bridges and buildings including blast resistant design. Particular experience in Blast Engineering, Risk, Security and Vulnerability Assessment. Joint ventured with Parsons PTG. Bechtel, Parsons Brinckerhoff and Arup in the rehabilitation of the transit systems, bridges, subway stations, and the Reconstruction of the World Trade Center in the NY and New Jersey region. Clients included MTA (Metropolitan Transportation Authority), NYCT (New York City Transit) LIRR (Long Island Railroad, PANYNJ & PATH (Port Authority of NY and NJ). Construction Design Manager for the Central Artery Project in Boston for the Massachusetts Highway Department. Expertise in High Performance Fiber Reinforced Cement Composites to resist high impulsive loadings. Member of the ASCE (American Society of Civil Engineers) and NSPE (National Society of Professional Engineers) and the HPFRCC (High Performance Fiber Reinforced Cement Composites), Massachusetts Professional Engineers License (SE), Massachusetts builders construction license (CL), Massachusetts AASHTO certification.

Peer-reviewed Journals

- Malak, S. "Experimental Investigation of SIMCON Fiber Pullouts in High Performance Fiber Reinforced Cement Composites"- Future proposal
- Malak, S. "Parametric Studies on the Compressive Strength of Fiber Reinforced Composite Wrapped Cylinders"- Future Proposal
- Malak, S. "Use of NOVOLPACK plywood in the reinforcement and waterproofing of retaining walls"-Future Proposal
- Malak, S. "Modeling of Rebar Pullouts in High Performance Fiber Reinforced Cement Composites"- Primal and Dual Problems –Under investigation
- Malak, S. "Experimental Investigation of Rebar Pullouts in High Performance Fiber Reinforced Cement Composites"- Under Experimentation
- Malak, S. "Experimental and Modeling Investigation of Rebar Pullouts in Low Performance Fiber Reinforced Cement Composites"- Under publication
- Krstulovic, N., Malak, S. "Effect of Fiber Orientation on the Micromechanical Tensile Behavior of SIMCON", Under Review by ACI Materials Journal
- Oluokun, F., Malak, S. "Toughness, Ductility, Flexural, and Compressive Behavior of Metallic Aggregate Concrete" ACI Material Journal, Vol. 96, No.3, May-June 1999. pp. 320-330
- Oluokun, F., Malak, S."Some Parametric Investigations of the Tensile Behavior of Slurry Infiltrated Mat Concrete (SIMCON)" Proceedings No.6 of the Third International RILEM Workshop for High Performance Fiber Reinforced Cement Composites. May 1999, pp. 271-297
- Krstulovic, N., Malak, S. "Tensile Behavior of Slurry infiltrated Mat Concrete" ACI Material Journal, Vol. 94, No.1, Jan-Feb. 1997 pp. 39-46
- Krstulovic, N., Malak, S."Micromechanical Tensile Behavior of Slurry Infiltrated Continuous-Fiber-Mat reinforced Concrete (SIMCON)" ACI Material Journal, Vol. 94, No.5, Sept.- Oct. 1997 pp. 373-384

Peer-reviewed Conference Proceedings

- July 2013 Presentation to the US blast committee in New Mexico on the use of Fiber Reinforced Polymers for retrofitting structures to resist blast effects. Introducing empirical equations for flexural and shear capacities to resist dynamic impulsive loadings.
- June 2013 Presentation for the Nuclear Regulatory Committee on the use of Beyond Design Basis Structures against tornado missile and wind loads and high hurricane winds at their nuclear facilities. Presentation included the use of High End Technical Analyses in establishing design criteria for Beyond Design Basis Structures
- Sept. 2003 Transportation Agencies of New York and the Massachusetts Transportation Authority on the use of high end technical 3D finite element computer software programs for blast mitigations of their infrastructures.
- Sept. 2002- Presentations for the Port Authority of New York and New Jersey, Metropolitan
- May 1999 Mainz, Germany, Proceedings PRO 6, Proceedings of the Third International RILEM workshop, High Performance Fiber Reinforced Cement Composites (HPFRCC 3). Some Parametric Investigations of the Tensile Behavior of Slurry Infiltrated Mat Concrete (SIMCON).
- June 1997 Presentation for the Department of Civil and Environmental Engineering on the Tensile, Compressive and Micromechanical Tensile Behavior of Slurry Infiltrated Mat Concrete (SIMCON). Doctorate Dissertation.

Exhibitions, Competitions and Creative Work

Local

- ACI Competition for designing the highest-impact-load resistant plain or reinforced concrete Egg Protection Device (EPD). Report on concrete's impact and other real-life aspects which an EPD simulates. September-2017.