FOCUS FORENSICS

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Curriculum Vitae

Musawer Ahmad Saqif, Ph.D.

Forensic Consultant

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Professional Profile

Dr. Saqif is a Transportation Safety Consultant at Focus Forensics, with experience, education, and training in the fields of Civil Engineering, Transportation Safety, and Forensic Engineering. After completing a Bachelor of Science degree in Civil Engineering, Saqif earned a Master of Science in Civil Engineering and a Ph.D. in Civil Engineering and Scientific Computing from the University of Michigan's Department of Civil and Environmental Engineering. Saqif's extensive background as an engineering researcher focused on the inspection, analysis, modeling, and design of transportation infrastructures including bridges, concrete, masonry, and steel structures. He is skilled in engineering analyses of collision events; damage measurement and quantification; reliability- and performance-based design; application of engineering codes and standards; and statistical methods for design optimization and risk assessment. Saqif has contributed 15 papers, articles, and technical reports to the engineering literature, with a primary focus on the experimental and computational evaluation of fractures and fatigue in civil engineering materials and collapse simulation of structural systems. His Ph.D. Dissertation addressed experimental and computational methodologies for evaluating the inelastic behavior and failure of cementitious composites under diverse loading conditions. Saqif also has experience as a peer-reviewer for the ASCE Journal of Structural Engineering and the Journal of Bridge Engineering, a graduate instructor of engineering courses, and a leader of engineering student organizations at the University of Michigan. He remains active as a researcher in the Transportation Safety Engineering and vehicular accident reconstruction field.

Saqif is trained to utilize cutting edge technology to capture evidence and preserve forensic data using various scientific tools, such as FARO 3D laser scanning, Total Station laser mapping, LIDAR 3D scanning, unmanned aerial vehicle (UAV) mapping and imagery, forensic photography and photogrammetry, traffic signal data acquisition, and passenger and commercial vehicle black box data imaging.

His forensic practice combines rigorous engineering principles with state-of-the-art scientific tools to investigate, model, and reconstruct dynamics-based collision events and failure of transportation infrastructures. Saqif provides expert analysis to corporate, insurance, and legal clients by leveraging his deep knowledge in mechanics, dynamic response simulation, and high-fidelity 3D modeling techniques.

At Focus Forensics, Dr. Saqif brings his knowledge of human, vehicular, and roadway factors to the analysis of collision events and transportation engineering systems. His engineering consulting practice involves the investigation and analysis of incidents involving a wide scope of vehicle classifications– passenger vehicles, motorcycles pedestrians, commercial vehicles, buses, emergency vehicles, and other modes of travel.

His roadway evaluation encompasses the analysis of roadway geometry, operations, maintenance, construction, signalization, signs and marking, roadside safety hardware, clear zone issues, and temporary traffic controls. By applying a comprehensive engineering methodology, he enables clients to understand every contributing factor and to develop targeted countermeasures for individual incidents or recurring safety issues.

Education

University of Michigan
Ph.D. in Civil Engineering and Scientific Computing
Ann Arbor, MI

University of Michigan
Master of Science in Civil Engineering
Ann Arbor, MI

Bangladesh University of Engineering and Technology
Bachelor of Science in Civil Engineering
Dhaka, Bangladesh

Work Experience

Focus Forensics, LLC
Consultant: *2025-Present*

University of Michigan
Research Assistant: *2019-2024*

University of Asia Pacific
Lecturer: *2017-2019*

Society Memberships

American Concrete Institute (ACI), Member

American Institute of Steel Construction (AISC), Member

American Society of Civil Engineers (ASCE), Member

Professional Development

American Road & Transportation Builders Association (ARTBA)

- Preventing Runovers and Backovers, 2025

Publications

Saqif, M. A., & El-Tawil, S. Cyclic damage constitutive behavior of UHPC under uniaxial tension. Construction and Building Materials, Elsevier B.V., 2025

El-Tawil, S., Saqif, M. A., Hazelton, W., Winker, J., & Clark, M., Construction of a Short-Span UHPC Bridge: Cost Considerations and Lessons Learned. Concrete International, 47(2), 35-40., 2025

Saqif, M. A., & El-Tawil, S. Uniaxial behavior of UHPC under cyclic compression: Experimental investigation and constitutive model. Construction and Building Materials, Elsevier B.V., 2024

Saqif, M. A., & El-Tawil, S. Characterizing the tension softening behavior of UHPC. Construction and Building Materials, Elsevier B.V., 2024

Saqif, M. A., El-Tawil, S., Tai, Y.-S., & Rogers, D. Strength, ductility, and collapse response of UHPC waffle slabs. Journal of Structural Engineering, 149(7). American Society of Civil Engineers (ASCE), 2023

El-Tawil, S., Saqif, M. A., Rogers, D. & Tai, Y.-S., Lab-Mixed versus Truck-Mixed UHPC – What's the Difference? Concrete International, 45(1), 40-45, 2023

Saqif, M. A., Tai, Y.-S., & El-Tawil, S. Experimental and computational evaluation of the ductility of UHPC beams with low steel-reinforcement ratios. Journal of Structural Engineering, 148(7). American Society of Civil Engineers (ASCE), 2022

Saleh, S., Saqif, M. A., & Ramiz, F. Comparison of behavior between hollow and composite K-joints under sustained loading and corrosion. IOP Conference Series: Materials Science and Engineering, 513, 012039, 2019

Reza, A., & Saqif, M. A. Review and Design Consideration and Code Provisions on Corrosion Resistant Reinforcing Bars. Material Science Forum, ISSN: 1662-9752, Vol. 937, pp 115-120., 2018

Dissertation

[PHD] Inelastic Behavior of UHPC Material and Structures

Journal Reviewer

Journal of Bridge Engineering, American Society of Civil Engineers (ASCE)

Journal of Structural Engineering, American Society of Civil Engineers (ASCE)

Awards

Raymond P. Hurt Scholarship in Civil Engineering
University of Michigan, 2023-24