SERDAR ASTARLIOGLU, PHD

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Dr. Astarlioglu is a distinguished expert in the analysis and design of structures to resist blast and impact effects, with over 25 years of specialized experience. His background covers structural analysis and design, structural dynamics, earthquake engineering, and protective design. Dr. Astarlioglu received his B.S. in Civil Engineering from Istanbul Technical University, followed by his M.S. and Ph.D. in the same field from The Pennsylvania State University. Prior to his federal career, he worked as a Research Assistant Professor at the University of Florida's Center for Infrastructure Protection and Physical Security, playing a key role in developing the Dynamic Structural Analysis Suite (DSAS). He also served as a Senior Engineer at Hinman Consulting Engineers, where he was involved in the protective design of private, military, and infrastructure projects.

Dr. Astarlioglu began his Federal career in 2017 as a Research Civil Engineer at the ERDC's Structural Mechanics Branch. His research focused on developing state-of-the-art computational tools for the expedient analysis of structures subjected to weapon effects. He has led research in airblast-induced ground shock, soil-structure interaction, and advanced cementitious materials. Notably, he developed fast-running, high-fidelity models for hardened structures made of normal-strength, high-performance, or ultra-high-performance concretes (UHPC). He also created other fast-running tools, including the Anti-Terrorism Planner for Bridges (ATP/Bridges) and the Wall Analysis Code for UHPC (WAC-U). These advanced computational models were transferred to Department of War (DoW) agencies, replacing legacy software that relied on simplified methods.

In June 2024, Dr. Astarlioglu joined the Program Development division of ESO, where he serves as an RDT&E Program Manager, the ESO Lead for the Science and Testing Panel, and a technical coordinator on issues related to the blast design of protective constructions. He has demonstrated extensive research and development experience, authoring over 60 journal and conference papers, technical reports, and other publications on the protective design of above-ground and buried structures.