Gerardo Olivares Ph.D. | Director Crash Dynamics and Computational Mechanics Laboratories NIAR

Professional Profile:

Dr. Gerardo Olivares joined the National Institute for Aviation Research (NIAR) as a Research Scientist in July 2005. Currently he is Director and Senior Research Scientist for the Virtual Engineering and Crash Dynamics laboratories. Dr. Olivares has developed a recognized world-class research program, personnel, and laboratory facilities in the areas of virtual product development, computational\experimental crashworthiness, impact dynamics, and certification by analysis methods. Since 2005 Dr. Olivares has been the principal investigator in over 140 research projects with funding in excess of $30 Million funded by various US Federal Agencies (22%) and private companies (78%) from 19 different countries. Under Dr. Olivares leadership, the virtual engineering and crash dynamics programs have grown from 4 employees in 2005 to 52 in 2022. Since 2005 Dr. Olivares has sponsored in his labs 147 students [99 Graduate (MS and PhD), 30 Undergraduate Students, and 18 Research Scholars from universities in Germany, Italy, France, Japan, and Spain]. For the last seventeen years Dr. Olivares has been able to successfully negotiate and execute complex international engineering programs in the aerospace and automotive industry. Dr. Olivares has demonstrated a capacity to envision future industry needs and develop the tools and infrastructure necessary to solve these issues using his analytical, experimental, and leadership skills.

Professional Experience:

- *6/2005-Present* |***Director*** | National Institute for Aviation Research | USA
- *2/2005-5/2005* | ***Engineering Manager*** | TNO Advanced Engineering B.V. | The Netherlands
- *6/2001-12/2004* | ***Engineering Manager*** | KSS Deutschland GmbH | Germany
- *5/1995-5/2001* | ***Design-Stress Engineer*** | McKechnie Aerospace | USA

Research Areas and Experience:

- *Seventeen years of international experience* directing and managing engineering organizations, complex engineering projects, and laboratory facilities for the aerospace and automotive industries.

- *Twenty-two years of experience* in metallic and composites structural crashworthiness, impact dynamics and injury biomechanics:

    - Development and certification by analysis methods for aircraft interiors
    - Development and certification by analysis methods to evaluate the crashworthiness performance of composite and metallic aerospace structures
    - Bird strike experimental and computational methods
    - Blast and Ballistic Impact Applications
    - Crashworthy metallic and composite structural design: aerospace, automotive, buses and LRv's.
    - Safety systems design for aerospace, automotive, buses and Light Rail Vehicles occupants.
- *Six years of experience* in electromechanical systems design and stress analysis for aerospace and military applications.

-Twenty-two years of experience in virtual product and system development for the aerospace and automotive industries:

Education:

- *Doctor of Philosophy* in Mechanical Engineering – 2001 - Wichita State University, Wichita, KS, USA
- *Master of Science* in Aerospace Engineering – 1997 - Wichita State University, Wichita, KS, USA
- *Bachelor of Science* in Aerospace Engineering – 1995 - Wichita State University, Wichita, KS, USA