

Seminar Announcement

Friday
Sept. 18, 2009
2:00 P.M.

Engineering
Bldg
Room 300



**SAN DIEGO STATE
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An Infinite Number of Composite Plate Theories Based on an Invariant Model: the Generalized Unified Formulation

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The Generalized Unified Formulation (GUF) is an approach for the Finite Element analysis of sandwich plates and in general multilayered structures. GUF is a comprehensive formulation which includes practically all possible axiomatic theories. Any type of theory with any combination of orders of expansion for the different displacement variables can be obtained from the expansion of six 1X1 arrays.

Each of the displacement variables is independently treated and different orders of expansions for the different unknowns can be chosen. GUF allows the user to write, with a single invariant formulation implemented in a single FEM code, infinite Higher-order Shear Deformation Theories (HSDT), Infinite Zig-Zag Theories (ZZT) and infinite Layer-Wise Theories (LWT). The six independent fundamental kernels are formally invariant with respect to the order used for the expansion or with respect to the type of theory.

Bio-sketch

Luciano Demasi received his M. S. and Ph. D. in Aerospace Engineering from Politecnico di Torino University, Turin, Italy. He has been a postdoctoral fellow at the University of Washington's Department of Aeronautics and Astronautics in Seattle. Currently, he is an assistant professor at the San Diego State University's Aerospace Engineering department. His main research interests are in the fields of Multilayered Composite Structures, Computational Solid Mechanics, Static and Dynamic Aeroelasticity, including Steady and Unsteady Aerodynamics.

Host: Dr. Satchi Venkataraman