DEPARTMENT OF AEROSPACE ENGINEERING & MECHANICS
SAN DIEGO STATE UNIVERSITY

Seminar Announcement

Blended Wing Body Development

Alex Velicki
Structural Design Engineer, The Boeing Company

Friday
Nov 13, 2009
2:00 P.M.

Engineering Bldg.
Room E-300

This presentation describes how researchers at The Boeing Company in Huntington Beach and at NASA Langley Research Center are working together to develop the Blended Wing Body (BWB) advanced transport aircraft design. While long understood to offer superior payload and range performance, such benefits will be difficult to realize until the low speed flight characteristics are better understood and the pressurization and producibility aspects of the airframe are resolved. To address these challenges, researchers are developing a highly integrated stitched composite airframe solution that is tailored and optimized for the BWB loading environment. This new design and manufacturing approach is called the Putruded Rod Stitched Efficient Unitized Structure (PRSEUS) concept. It is a disruptive technology that is a conscious progression away from conventional laminated composite design practices that was developed to achieve breakthrough levels of structural performance while simultaneously reducing manufacturing costs for the complex curvatures found on the BWB airframe. The status of these new developments will be discussed in this talk.

Bio-sketch: Mr. Velicki is a structural design engineer in the Boeing Research and Technology Group located in Huntington Beach, California. In his current assignment, as Blended Wing Body (BWB) structures lead and principal investigator on a NASA structures development contract, he is responsible for research activities aimed at solving the unique performance and producibility challenges found on the non-circular pressurized BWB airframe. He has worked on numerous NASA and Air Force technology development programs (NASP, HSR, Advanced Composite Technology, and DC-10 Composite Vertical Stabilizer) over his 25-year career at Boeing, and was the chief engineer on the NASA sponsored Stitched Composite Wing Program from 1997 through 1999 when it was awarded the NASA “Turning Goals into Reality” Award presented by the Office of Aeronautics and Space Transportation Technology.

Host: Dr. Satchi Venkataraman

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