



Dr. Paul J. Componation

Professor

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The University of Texas at Arlington

Date: Friday, October 12, 2018

Time: 1 - 1:50 pm

Location: D3 W122

Trade Study: The International Space Station Propulsion Module

Abstract: The International Space Station (ISS) represents one of the most challenging engineering projects in history. Even today, the size, complexity, and operating environment issues that were overcome to make ISS a reality set it as a benchmark for engineering excellence. This study looks at one specific challenge the engineering team faced, the design, delivery, and integration of a backup propulsion module to maintain the ISS in low earth orbit. This study is of interest because it included engineering as well as significant programmatic issues. As with many engineering studies there is no correct solution. Rather, there is a range of solutions each with favorable and less than favorable characteristics. This study illustrates the trade study process as well as how it was applied to better frame and to understand the feasible solution space for the design team.

Biography: Dr. Paul J. Componation is the Professor and Chair of the Industrial, Manufacturing, & Systems Engineering Department at the University of Texas Arlington. His research interests are in development and optimization of complex systems in aerospace, transportation, and energy. Prior to his current position Dr. Componation served as the Director of Graduate Education for Engineering Management at Iowa State University and the Systems Engineering Program Coordinator at The University of Alabama in Huntsville. He also held positions as the Systems Engineering Resident Researcher at Marshall Space Flight Center and as an engineering officer with the United States Air Force. Dr. Componation is a member of the Institute of Industrial Engineers (IIE), he is a fellow with the American Society of Engineering Management (ASEM), and a member of the Order of the Engineer.