

The Engineering Management, Information, and Systems Department

Would like to announce....

Ph.D. in Systems Engineering Defense

“A Methodology to Design a Program Organization”



Presented by

Adel K. Ablawi

Advisor: Dr. Jerrell Stracener

Monday, April 11, 2016

11:00 AM- 1:00 PM

Palmer Conference Center, Caruth 406

Abstract: The increasing complexity of Aerospace and Defense (A&D) systems, as well as some commercial systems, increases the challenges of designing and developing these systems within cost and schedule requirements while meeting performance requirements. As the design of system increases in size and complexity, the organization that is responsible to design, develop, and produce system increases in size and complexity. The organization that is responsible for managing a complex program is called a “program organization.” Therefore, the complexities associated with the design of an organization create a need for a systematic approach to effectively design, develop, and deliver a complex program.

The objective of this research was to develop a methodology including a Design Support Model (DSM) to design a program organization. This methodology for designing a program organization utilizing the Program Organization Architecture Framework (POAF). The DSM is formulated based on the Program Organization Architecture Description (POAD) - an application for executing the POAF) as a constraint programming model to support the decision makers in solving a resource-constrained scheduling problem. The methodology is developed in accordance with systems engineering process, methods, and followed the principles of system architecting.

The significant results of this research is: (1) the development of a methodology for designing a program organization extending POAF in defining a feasible and optimized organization design, (2) the utilization of a Design Support Model (DSM) for determining the “right mix” of personnel within the specified program cost and schedule constraints, and (3) the identification of the program organization structure.

Bio: Adel Alblawi received his B.S degree in Mechanical Engineering from the University of Toledo, M.S degree in Operations Research, and M.S degree in Systems Engineering from Southern Methodist University. He is currently a Ph.D. candidate with a major in Systems Engineering at the Bobby B. Lyle School of Engineering, SMU. He is a faculty member in the college of engineering, Shaqra University, Saudi Arabia. His current research interests include organization design, complex systems, system architecting, and program management. He is currently a student member of IEEE, Program Management Institute (PMI), and American Society of Engineering Management (ASEM). His research findings have been published in conference proceedings of *the 10th Annual IEEE International Systems Conference (In-Press)*, *2nd International Conference on Information Management and Industrial Engineering*, and *the 2015 International Annual of the American Society of Engineering Management Conference*

Everyone invited and welcome!