



*A Workshop on*  
**Manufacturing/Processing Issues for  
Multifunctional Composite Structures**

**September 18-19, 2007**

22<sup>nd</sup> Annual Technical Conference of  
the American Society for Composites  
September 17-20, 2007  
University of Washington Campus, Seattle, WA



The main goal of the Workshop is to identify the main manufacturing and processing issues for and develop a plan to enable wider application of multifunctional composite structures. Composites are now used in a wide variety of structural and functional applications. However, structural composites are usually separated from functional composites. By integrating these seemingly different functionalities into one multifunctional structure, we believe we can reduce both weight and cost while opening the door to new applications. The functional areas of interest include:

Energy/power management  
Communications management  
Health management  
Configuration management  
Environment management  
Signature management  
Others

With the advent of nanotechnology, a plethora of nanoparticles and microdevices have become available that can provide the required functionalities. Unfortunately, the integration of these nanoparticles and microdevices into structures is not straightforward especially when the same or higher level of structural integrity is to be maintained. The functionalization of structural composites and the structuralization of functional composites require the development of innovative manufacturing processes.

The present workshop is a first step toward achieving multifunctional composite structures with emphasis on manufacturing and processing. The final outcome of the session will be a strategic research plan to address key manufacturing/processing issues.

### **Workshop Organization**

The Workshop will be held as part of the American Society for Composites 22<sup>nd</sup> Technical Conference in Seattle, WA, Sept. 17-20, 2007. The Workshop Organizing Committee consists of:

H. Thomas Hahn, UCLA (Co-Chair)  
B.L. ("Les") Lee, AFOSR (Co-Chair)  
William Baron, AFRL/VA (TBC)  
Paolo Feraboli, Univ. of Washington (TBC)  
Ajit Roy, AFRL/ML (TBC)  
James Thomas, NRL  
Jeff Welsh, AFRL/VS  
Eric Wetzel, ARL

The Workshop will comprise 10 or so mini sessions. Each mini session will last 1 hour and consist of an invited paper (30 min) followed by discussion led by a moderator(30 min). Then the Workshop will end with a wrap-up session.

### **Workshop Participation**

The Workshop is open to the public and all attendees of the ASC Conference are welcome to participate in the discussions.