

## **AC 2010-885: STRATEGIES FOR GRADUATE SOFTWARE/SYSTEMS ENGINEERING EDUCATION (PANEL)**

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# Strategies for Graduate Software/Systems Engineering Education (Panel)

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## ABSTRACT

Software engineering is more important today than it has ever been. More consumer products include larger quantities of software than ever before. The demand for well educated software engineers continues to increase. To meet that demand colleges and universities need to offer more graduate programs in software engineering. In addition, the increasing complexity of typical applications that require the development of both software and hardware demands that systems engineers, who are responsible for overall system architecture, the allocation of functionality between hardware and software and the system's critical safety and timing requirements, be knowledgeable about both hardware and software development processes and capabilities.

During the past two years panel members have participated in development of a recommended curriculum for masters degree programs in software engineering. The recommended curriculum provides for an emphasis on the relationship between software engineering and systems engineering. Future work of the group will be directed towards development of a recommended systems engineering curriculum with an emphasis on the relationship between systems engineering and software engineering.

Members of the panel will describe the work they have done to date, including the recommended curriculum and how it compares with existing curricula in software engineering, and potential content of the systems engineering curriculum. The panel members have been implementing software engineering curricula for well over a decade. From this perspective they will discuss various issues of implementation such as how an institution can find the resources needed to develop and implement software engineering programs like those described in the recommendation; where to find faculty with the right knowledge and experience; and how to ensure that admitted students have the right background.

The panelists have extensive and varied experience in software and systems engineering practice, education and research. Each will share their experiences and thoughts on one aspect of the recommended software engineering curriculum and look ahead to the systems engineering curriculum

recommendation. Then they will solicit questions and input from the audience and have an open discussion on attendees' opinions regarding future directions for the work.