Panel 3

Education: The Key to Industrial Emergence

The sophisticated technologies underlying automated software engineering are not widely taught, already resulting in shortages in selected applications and related disciplines. For example, robust solutions to the Year 2000 problem are limited by current technologies for program understanding and the number of practitioners trained in that area. As another example, industrial demand for formal methods practitioners has recently exploded, due primarily to the increasing demands for formal verification in digital hardware design. Currently, the number of formal methods practitioners is inadequate to meet this demand and educational institutions are being asked to fill the void.

This panel will start by briefly overviewing ongoing efforts sponsored by DARPA, Rome Labs, the Semiconductor Industry Council and others to address the educational gaps in formal methods as applied to digital hardware. The panelists will then explore the following questions for automated software engineering education, including but not limited to formal methods technology:

(i) the needs of industrial practitioners
(ii) the current state of ASE education
(iii) future ASE educational goals

Panelists will include representatives from industry, research organizations, and educational institutions. Although few ASE educational opportunities are currently available, several promising activities have emerged that can be built upon. With the goal of balancing the supply and demand of trained practitioners, and providing students the background to continue to grow professionally as the technology matures, ASE techniques techniques could be incorporated into traditional undergraduate and graduate curricula.