



Bob Swarz

Biography

I am currently a Professor of Practice and Co-Director of the Systems Engineering program at Worcester Polytechnic Institute in Worcester, Massachusetts, USA. I have also taught for Rensselaer Polytechnic Institute and Johns Hopkins University and I have gained significant practical systems engineering experience while working for The MITRE Corporation and United Technologies Corporation. I have been involved with INCOSE for more than 20 years, including roles as Assistant Technical Director, Corporate Advisory Board (CAB) chair, and Policy Management Committee chair.

Vision Statement

The Academic Council, led by the Director for Academic Matters, is “The Voice of the Academic Community” of INCOSE. The exact initiatives to be pursued are, therefore, to be determined by a discussion and vote of the membership of the Academic Council (AC). In my opinion, the key strategic goals should be:

- *Growing and shaping the practice of systems engineering.* This goal would be pursued by continuing the efforts to gain ABET accreditation for systems engineering programs and I will work hard to assure success.
- *Developing and influencing the direction of education in systems engineering.* For graduate students, I would support this goal by facilitating an update of the Graduate Reference Curriculum for Systems Engineering (GRCSE). On the undergraduate side, I foresee the need to create a significant new initiative.
- *Defining and supporting the most significant new research areas in systems engineering.* The AC should work in parallel with the Future of Systems Engineering (FUSE) team to focus on technologies such as artificial intelligence, autonomous systems, complex systems, data science, systems thinking, and on the development of resilient, safe, and secure systems.
- *Increasing the visibility and efficacy of INCOSE activities on college campuses.* The future of SE (and the future of INCOSE!) depends on the strength and depth of the students who come through the system. The practice and theory of systems engineering is rapidly evolving, as are the means by which we learn and communicate with one another. The AC should address this need by strengthening the student divisions; the current movement to have students gain ASEP accreditation through academic equivalency is a good step in this direction.