

**Symposium on Undergraduate Nano-Education:
"Addressing the Challenges of Nanoscale Science & Engineering Education"**

Presentation:

The Global Playing Field: Preparing Students to Compete in a Knowledge-Driven Industry
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Presenter Biography:

Thomas Sonderman is Vice President of Manufacturing Systems and Technology at GLOBALFOUNDRIES. In this role, he has global responsibility for the implementation of manufacturing systems and technologies within the company's wafer fab operations.

Sonderman joined GLOBALFOUNDRIES after more than 15 years with AMD, where he held numerous management and engineering positions. Most recently he served as Director of Automated Precision Manufacturing (APM) Technology.

Prior to joining AMD, Sonderman worked as a process control engineer for Monsanto Chemical Inc. He has a broad range of experience in the area of manufacturing automation and its application to high-volume semiconductor fabrication. He is a highly sought-after speaker at industry conferences and is member of two advisory committees at the University of Texas: Chemical Engineering and Science, Technology and Society. Sonderman is the author of over 40 patents/patents pending and has published numerous articles in the area of automated control and manufacturing technology. Sonderman received a bachelor's in chemical engineering from the University of Missouri in 1986 and a master's in electrical engineering from National Technological University in 1991.

Abstract:

Just as iron and steel formed the backbone of the industrial revolution in the 19th century, semiconductor and nanoelectronics technology is driving the information revolution that continues to change our world at the outset of the 21st century. Nanoscale manufacturing has become a truly global enterprise, and companies that want to stay on the leading edge need to maintain a tight focus on manufacturing agility and collaborative innovation. To thrive in this knowledge-driven industry, today's engineers must be more than just technically proficient. They must possess business acumen. They must understand a variety of cultures and work well in globally aligned teams. They must be capable of working across disciplinary boundaries. And above all, they must be agile. Developments in nanoelectronics and nanotechnology move at lightning speed and turn on a dime. Students who want to compete on this playing field must be prepared to think creatively, adapt quickly, and take calculated risks to position themselves for future success.