

Adaptable Technologists for High-tech Ecosystem

By Samanta, Sam

Our model of Engineering Technology education at Finger Lakes Community College (FLCC) adapted to high-tech ecosystems across the US will accelerate workforce training for 100,000 hard-to-fill technical jobs; and prepare 21st century workforce pre-adapted for disruptive innovations in the IoT era. We will share details of our innovative curriculum, AAS Instrumentation and Control Technologies (ICT) curriculum for teaching fundamental concepts in automated data acquisition, motion control and machine-vision, robotics, process control, and quality monitoring to prepare students for high-tech employment across the whole spectrum of industries. We will discuss the key factors contributing to 75% student retention (for the past three cohorts of about 9 students each) and our success in facilitating learning of mathematics, and physics through use of “Visual Apps” designed using Excel and LabVIEW. We will share how we collaborate with three dozen high-tech businesses in the region near Rochester, NY and work with National Instrument, the leading provider of engineering tools and learning resources, to create a framework for educating technologists critical for designing, testing, manufacturing and quality control across a broad spectrum of high-tech industries. Find out how the hands-on curriculum at Finger Lakes Community College blends a systems approach to adaptable technical education to prepare students for high-tech employment.

Biography

While growing up, Sam Samanta was influenced by Jesuits in India. Graduate of competitive college environment of Indian Institute of Technology, he did not find Carnegie-Mellon University particularly intense for his MS in Physics. During the decade of research in Surface Science for doctoral and post-doctoral work, Sam developed instruments which are now used in nanotechnology field. In 1998, Dr. Samanta earned SUNY Chancellor’s Award for Excellence in Teaching. In collaboration with high-tech industries Sam developed and now directs, Instrumentation and Control Technologies program at Finger Lakes Community College to address critical shortage of high-tech workers with adaptable skills.