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Rapid system integration of biosensors into bio-systems

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Abstract

The theme of the conference is "*Biosensing Technology – A Boon to Modern Science.*" When viewing the proposed tacks of the conference it focuses on the sensors, sensors for biomedical and physiological, human health, agriculture, enzymes, etc.. Once the data is sensed it needs to be acquired and processed so that it is available to the Bio-system and will be of value. Currently available electronics have reduced the effort of the integration of the sensors into systems. There is still a long way to go. A new class of FPGAs and microcontrollers incorporating a programmable integration fabric could even further reduce the effort and reduce the time that is needed to field a new or custom system. This integration fabric builds upon a concept of programmable analog circuits from the 1960s. In the 1960s a "programmable computer" was marketed by Heathkit and Tandy Corporation. It provided the components needed to implement the types of interfaces for sensors that are required today to condition and scale sensor output for input into analog-to-digital converters. The goal is to enable the rapid fielding of new systems.

Biography

Joanne E DeGroat earner her BS in Engineering Science, Honors, from Penn State University, her MSEE from Syracuse University and her Ph.D in Electrical and Computer Engineering from the University of Illinois, Champaign-Urbana. She has taught at the Air Force Institute of Technology and is now at The Ohio State University. Her work is in computer architecture, digital systems, embedded systems, Hardware Description Languages (HDLs), and HDL Verification.