Session 15
Panel: University-Industry Ties: How Can They Be Improved?

Chair: Randal E. Bryant- Carnegie Mellon Univ., Pittsburgh, PA
Organizer: M. Pedram - Univ. of Southern California, Los Angeles, CA

Universities have had a major impact on the EDA industry. University research projects have formed the basis for many important advances in CAD, and university graduates have provided the intellectual talent that has generated further ideas and turned ideas into commercial products. Research funding has been critical to universities both to enable the research to take place, and to support graduate students. Historically, much of this funding has come from the U.S. government, particularly the Department of Defense. Other important sources have included companies, such as IBM, and industry consortia, such as Sematech and the Semiconductor Research Corporation. Most of the industrial funding has come (either directly or indirectly) from manufacturers having significant in-house CAD groups, rather than from EDA vendors.

In the past few years, funding for university research has proved increasingly elusive. Costs continue to escalate, particularly to cover graduate student tuition. Meanwhile, government funding agencies are under increasing pressure to direct their resources away from basic research and toward programs with greater short term impact. Manufacturers have scaled back their in-house CAD groups, breaking historic ties with universities, and they have been forced to justify any funding of university research to managers trying to survive as profit centers. EDA companies have made their products available to universities for educational purposes, and computer manufacturers have provided discounts on hardware purchases, but a funding gap remains in covering personnel costs. Meanwhile, many companies have scaled back their research groups, relying on universities to serve as their R&D arms.

University researchers have responded to funding pressures by undertaking projects with shorter term objectives and with greater proprietary restrictions in order to obtain industry funding. They have also sought to gain from their intellectual property by such mechanisms as patents, software licensing, and affiliates programs that limit access to participating companies. These shifts have reduced the ability to pursue long term research topics and to freely disseminate research results.

This panel will address the relationship between industry and academia, and the implications the changing relationship will have on the future of EDA. Participants in the panel represent a cross section of university, industry, and funding agencies.

Panel Members:

Richard Bushroe - Sematech, Austin, TX
John Darringer - IBM Corp., Hopewell Junction, NY
Daniel D. Gajski - Univ. of California, Irvine, CA
Robert Hum - Cadence Design Systems, Inc., San Jose, CA
Tokinori Kozawa - Hitachi, Ltd., Kodaira, Japan
Alberto L. Sangiovanni-Vincentelli - Univ. of California, Berkeley, CA
John Toole - ARPA, Arlington, VA