CEDA
IEEE Council on Electronic Design Automation

Precompetitive Research in EDA is Vital To The Continued Growth of Semiconductor Industry

Contributed by Al Dunlop, President, IEEE CEDA

As the electronic design automation (EDA) industry evolves and works to heighten its stature and importance within the Semiconductor industry, strategic investment in research — and not just development — has never been more of an imperative.

Let me draw a parallel to the Semiconductor industry to show why this investment strategy has moved from important to critical. As you know, Semiconductor research and processing started within systems companies, with some research coming from academia. As time went on, the industry lived through a host of mergers and we saw the research in silicon processing consolidate within the foundries, the largest systems houses and academia. This research transitioned along with the processing in a systematic fashion.

By contrast, over the past 25 years, the business of EDA has moved from systems houses to a new commercially viable industry, but the research did not make the complete transition. Instead, much of it was picked up in academia where the link to a commercial endeavor is not as tight or as seamless as it is with the Semiconductor industry.

Of course, many readers will note that EDA has used entrepreneurial startups as the point to connect research to development, a strategy that has worked for many years and follows a long-standing Silicon Valley tradition. Nevertheless, tough, real-world problems remain to be solved by EDA and the way to solve them is to apply theoretical research to practical applications through close partnership between research and development.

We are at a point where the current way of doing business needs to change for EDA to be able to support future design requirements.

Clearly, an optimization of the entire design flow, all the way from the design house specification to the processing lines, is needed and is best achieved by multi-disciplinary industrial laboratories. Such laboratories could also coordinate efforts between academia, entrepreneurial startups, and internal research to create ingenious, commercial solutions to critical problems. The creation of an applied research lab for advanced technology research under a corporate umbrella could be just the place for this to occur.

Within this structure, R&D can be a seamless collaboration of talent, ideas, information and resources that benefit a company and help establish it as an industry leader. Cadence Design Systems recently made a move in this direction with the dedication of Cadence Research Labs that is taking over Cadence Berkeley Labs.

The yearly Design Automation Conference has proven to be a catalyst for EDA breakthroughs. Much of the research and industry continuity is found at the conference, where a strong technical program highlights recent developments. With a re-energized focus on research, more breakthroughs would be presented, firmly positioning EDA at the forefront of advancing technologies. More important, it could help spur a more dynamic economic engine urgently needed in the semiconductor industry and EDA.

Increased investment and attention in research speaks positively of our industry and is sending an optimistic and positive message about the future of EDA. I urge companies of various sizes and disciplines to make a strategic decision to invest in the long-term future of EDA.

An earlier version of Al's opinion on this issue appeared at DA-CeZine Newsletter. Contact Al at aldunlop@adelphia.net

IEEE Approves A. Richard Newton Award for Technical Achievement

Reported by Bill Joyner

IEEE Technical Activities Board have approved a technical achievement award in the memory of Richard Newton, Professor and Dean of Engineering at UC Berkeley.

Co-sponsored by IEEE CEDA and ACM SIGDA, the award seeks to recognize important technical contributions in EDA as evidenced by their impact over a period of ten years after publication/presentation at ACM or IEEE EDA conference or publication. For more information and nominations, please contact Awards Chair, Bill Joyner *William.Joyner@src.org.*

SRC GRC Issues Call for White Papers

The Computer-Aided Design and Test Sciences area of the Semiconductor Research Corporation Global Research Collaboration is soliciting white papers in System-Level/High-Level Tools and in Logic/Physical Design Tools. One page white papers addressing needs in a new research needs document are due Thursday, January 3, 2008. A limited number of full proposals will be accepted based on the white paper submissions and a subset of these proposals will be selected for anticipated three-year contracts beginning July 1, 2008. Interested researchers should note the proposal and review schedule, needs document, and instructions for web-based white paper submissions on the SRC GRC Web site at: http://grc.src.org/fr/S200710_Call.asp

For more information please contact William Joyner william.joyner@src.org or W. Dale Edwards, dale.edwards@src.org

Upcoming Conferences and Conference Deadlines

Contact Dick Smith

The council currently sponsors or co-sponsors 10 conferences and workshops, and two conferences where it is in technical co-operation with other societies. Our conferences provide excellent opportunities for those interested in learning about latest technical trends in electronic design and automation, and to be engaged with a community of volunteers. If you are interested in participating or have an idea about new topics of interest for our conferences, please contact, Dick Smith, VP Conferences.

Conference Submission Deadlines:

MEMOCODE: Models and Methods in Co-Design, February 1, 2008

PATMOS, March 10, 2008

VLSI-SOC, March 28, 2008

Conferences:

DATE, Design, Automation and Test in Europe, March 10-14, 2008, Munich, Germany

http://www.date-conference.com/

NOCS: International Symposium on Networks-on-Chip, April 7-11, 2008, Newcastle University, http://www.nocsymposium.org/

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