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## Semiconductor Industry Sponsors MOSIS Education Program

### *-Engineering Students and Industry Benefit From Hands-On Education Program-*

**Ann Arbor; August 10, 2000**-The Semiconductor Industry Association (SIA) will sponsor the MOSIS (MOS Implementation Service) Educational Program to provide funding to fabricate and package integrated circuits designed by university students.

“The US semiconductor industry is pleased to support the MOSIS Educational Program, which enables electrical engineering students to fabricate and test circuits which they design in VLSI courses,” stated George Scalise, SIA President. “Future economic growth and our ability to overcome technological barriers depend upon a supply of talented, well-educated graduates from US universities.”

MOSIS was organized in 1981 to provide the DARPA (Defense Advanced Research Projects Agency) research community cost-effective access to advanced microelectronics fabrication. It realized fast and cost-effective circuit prototyping by merging multiple projects onto a mask set, and sharing the cost of masks and wafer fabrication among these projects. MOSIS also provides its prototyping services to commercial customers. With DARPA and NSF (National Science Foundation) support, MOSIS expanded its services to include chip fabrication for projects from approved university courses. Students in these courses are required to test their circuits and report the results to MOSIS, including chip yield, correlation with simulations, and any design errors.

The MOSIS Educational Program became a critical part of the U.S. VLSI educational infrastructure, with more than 200 US and Canadian universities participating. Professor Carver Mead of Caltech said in 1993, "Fab and test of real silicon are essential. Our access to MOSIS is the envy of the rest of the world. It gives our graduates the experience that it would take 10 years or more to gain in a traditional engineering career."

The MOSIS educational program has been in a tenuous position since the government's phased withdrawal of support beginning in 1994. The fabrication of class projects has been continued through the present time with generous donations of chip processing, masks, and administrative services by AMI, HP, IBM, DuPont Photomasks, and the MOSIS organization, and with cash donations from AMD, Intel, Motorola, QUALCOMM, and the IEEE Computer Society Design Automation Technical Committee. SIA's \$500,000 academic-year support of this program enables it to continue into the future on a secure financial foundation.

University of Michigan Prof. Richard Brown, chair of the MOSIS Advisory Council for Education said, “The availability of a rapid prototyping service for VLSI class projects is vital if we are to continue training students in the fundamentals of integrated circuit design. For the U.S. to maintain its position in microelectronics, some of our students must be educated in the full

range of VLSI issues, and it is important that they have the opportunity to design and test custom ICs.”

Gary Daniels, Former Sr. VP and General Manager of Motorola’s Microcontroller Technologies Group, said, “We have a serious concern that without the experience offered through the MOSIS Educational Program, graduating engineers will not have the experience and maturity needed to fully and quickly contribute in industry. We hope that universities will continue to offer full-custom VLSI design courses, and we want students to be able to tape-out and test their designs from these courses. These tasks complete the design process, re-enforce design-for-test principles, and provide relevance to the courses like nothing else can.”

The Semiconductor Research Corporation will administer the SIA donation as part of a larger initiative to increase the number of engineering students. Larry Sumney, SRC President and CEO said, “Stable funding of the MOSIS Educational Program will encourage universities to offer VLSI courses so that many students will have the opportunity to design, fabricate and test integrated circuits as part of their educational experience.”

Cesar Pina, director of the MOSIS Service said, “I would like to thank the SIA, the SRC, and the industrial and professional organizations for their invaluable contributions toward preserving the MOSIS Educational Program. Over the past ten years, over 50,000 students have been enrolled in the program, and over 12,000 student designs have been fabricated. I am pleased that this service will continue to be available to students in VLSI courses.”

**MOSIS** is part of the Information Sciences Institute (ISI) of the University of Southern California. It provides prototyping and short-run production access to technologies ranging from 1.5-micron analog processes to 0.18-micron digital processes. MOSIS has fabricated more than 40,000 integrated circuit designs for commercial firms, government agencies and universities. For more information about the MOSIS organization, please visit [www.mosis.org](http://www.mosis.org).

The **Semiconductor Industry Association** is the premier trade association representing the semiconductor industry, with member companies comprising more than 90 percent of U.S.-based semiconductor production. In addition to supporting the MOSIS program, the SIA has launched educational programs to support long term growth that: train K-12 teachers in technology, work with the Maricopa Advanced Technology Education Center (MATEC) to partner with over 80 community colleges training semiconductor technicians, and promote the industry among undergraduate engineering students through the SRC. For more information about the SIA and its programs, please visit [www.semichips.org](http://www.semichips.org).

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