A lively and thought-provoking look at the future of microelectronics

Nanotechnology has been named by the U.S. government as one of the most important areas of impending technology. It is a common view among leading professionals in microelectronics that current explosive developments in the field will likely lead to profound paradigm shifts in the near future. Identifying plausible scenarios for the forthcoming evolution of microelectronics presents a tremendous opportunity for constructive action today, especially since our economy and, indeed, our civilization seem destined to be irrevocably shaped by this technology.

Based on ideas and discussions arising from the third meeting in the Future Trends in Microelectronics (FTM) workshop series, held in the summer of 2001, this timely and intriguing contributed volume provides a unique forum for today’s leading experts in the semiconductor microelectronics field to discuss the future evolution of their profession. Demonstrating a diversity of opinions, leading professionals in industry, academia, and government address such provocative questions as:

* With CMOS scaling coming to an end, what kind of research does the silicon industry need to continue its expansion?

* What is the future beyond shrinking silicon devices?

* Is there practicality in the fashionable topics like quantum computing, molecular computing, spintronics, and similar research trends?

* What is the most likely future of microelectronics in the near and long term?
In this compilation of original research, contributors from academia, government, and industry provide assessments of important new ideas and approaches. The result is a lively, intelligent presentation of diverse points of view that should be required reading for professionals and students in both the microelectronic industry and academia.

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