

**INVITED:** SEMICONDUCTOR MEMORIES

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The viability of semiconductor memories is dependent on continuing reduction of its cost per bit. Efforts to achieve such cost reduction involve improvements in processing techniques and the introduction of new approaches, such as the use of larger silicon wafers, which in turn are dependent on the solution of a variety of materials problems. Other approaches to cost reduction involve the utilization of new device concepts, such as the use of charge storage cells, to implement memory functions. This in turn places additional requirements on the properties of the semiconductor and dielectric materials.

In this talk, progress in the technology of random access memories and of programmable read only memories is reviewed from the standpoint of its dependence on the solution of material problems.