

Theme : New Logic Device

- Sub Theme : New Logic Devices based on Alternative Channel Material, Functional Dielectrics, or New concept

As gate node in Si CMOS gets smaller, more than billions of transistors generate enormous amount of heat in its GHz operation and power management becomes extremely important. However, semiconductor market, for example, targeted for application processor in smartphones requests even higher performance with reduced power consumption to maximize user experience on hand with prolonged battery life.

We are looking for disruptive device concept or technology which enables further scaling with resolving the issue of high power consumption in logic devices. New technology can originate from the implementation of newly-developed material in existing devices or from the application of new device concept.

The topics we pursue through this GRO are as follows:

- New logic device using new channel material and its proof of concept
- New logic device using functional dielectrics and performance test
- New logic device modeling
- New concept device and its proof of concept

※ The topics are not limited to the above examples and the participants are encouraged to propose original idea.

※ Funding : Up to USD \$150,000 per year