Guest editorial

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Manufacturing technologies for making advanced micro-systems have been developing in a rapid pace recently. Research progress towards nano-sized structures and devices opens up a whole new horizon for miniaturized system integration. Advances in this field will have an enormous societal impact and economic benefit in areas such as information technology, energy, health-care, and many more.

There has been an enormous scientific and industrial interest in nano-sized advanced technologies. The theories, tools and practices for the design, manufacturing and test of these systems are emerging. The aim of this special section is to capture some of the latest developments in integration technologies for the micro/nano-systems, with the following topics:

- Molecular and crystal assembly inside the carbon nanotube: encapsulation and manufacturing approaches
- Electroplating for high aspect ratio vias in PCB manufacturing: enhancement capabilities of acoustic streaming
- Local synthesis of carbon nanotubes for direct integration in Si microsystems—design considerations
- Wafer-level SLID bonding for MEMS encapsulation
- Effect of substrates and underlayer on CNT synthesis by plasma enhanced CVD

These papers will briefly highlight important advancements in manufacturing technologies of the micro/nano-systems, and outline the blueprint of upcoming information technology revolution from the manufacturing point of view.

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