

Editorial for Focus Issue on *Silicon Photonics*

In recent years, “nanoscience”, “nanotechnology”, and “nanofabrication” have been the focus of the science and technology community in both academia and industry. This technological trend points to a general interest in ever *smaller and more compact devices and products*. Furthermore, as integrated circuit feature sizes continue to shrink and chip sizes continue to expand, conventional electrical interconnects and switching technologies are rapidly becoming critical issues in device and system integration. New devices, new interconnects, and new integration schemes must be developed to meet the demand for high-density data communication and high-speed data processing.

“Siliconizing” photonic devices or making them compatible with silicon microelectronic technology is one of the most promising approaches to fulfill the requirement of extending “Moore’s Law” and producing ever smaller, more compact, and less expensive devices and systems, because This approach will be able to leverage the well established semiconductor manufacturing facilities and fabrication methodologies. It is in this view that world communities have been greatly increasing their investment and research efforts in this fast growing area for a few years now.

It is our intention to bring the Chinese research community’s attention to this new, emerging research area through this “Focus Issue on *Silicon Photonics*”. In this issue, many excellent review articles as well as original contributions by internationally renowned experts in the field are specially presented. Focused topics include light sources, modulators and detectors, resonator devices, waveguide devices, and materials and fabrication. We hope the readers will find them inspiring and enjoyable.

Finally, we would like to express our appreciations to authors of the invited papers to devote their precious time to write the intriguing articles and to reviewers for their helpful comments.

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