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Frontiers in On-Chip Nanolasers and Nano-Light Emitting Diodes

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Message from the Guest Editors

Dear Colleagues,

This Special Issue aims to cover the recent progress on micron- and sub-micron light emitting diodes (LEDs) and lasers and their integration to on-chip applications, as well as other miniaturized devices and light sources. Applications include a broad range, such as on-chip optical communication, sensing, and micro-displays, as well as bright light sources for healthcare applications. This Special Issue also aims to provide a comprehensive review, appealing to both field experts, newcomers and experts with a different background. Authors are encouraged to present their recent research and discuss the technological challenges in this domain. Topics of interest in structural characteristics include fabrication strategies for pixels, including a single nanoLED or single cavity nanolaser, a group of nanoLEDs or collection of nanolasers. Other interest areas include design strategies for controlling laser modes, reducing structural defects and improving overall wall-plug efficiency. With respect to performance characteristics, topics of interest include output power per footprint, power consumption, heat generation issues, response time, pulse and CW laser cavities.



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Special Issue



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Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call “nanomaterials”. These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal-organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

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