Call for Papers

Journal of Nanoelectronics and Optoelectronics

(www.aspbs.com/jno)

A Special Issue on

"III-V Nanowires: Synthesis, Properties, and Applications"

In the past decade, semiconductor nanowires have been extensively studied for the next generation of devices including field-effect transistors, lasers, photodetectors, photovoltaics, sensors, photocatalysis, thermoelectrics, and quantum information processing. Nanowires are pillars of semiconductor material with the diameter on the order of 10 nm to a few hundred nanometers, and length that is much greater than the diameter (on the order of microns or longer). The unique properties of nanowires, such as large surface area, quantum confinement, and effective strain relaxation, promise improved performance compared to conventional bulk or thin film technology. Among nanowires, III-V nanowire is one of the most promising material due to the high mobility, direct bandgap, and large composition tunability, which has shown great potential in high-speed transistors, nanoscale lasers, high-responsivity photodetectors, as well as high-efficiency solar cells. However, there are still plenty of issues to be solved in the field of III-V nanowires, such as the precise control of the morphology, orientation and crystal phase of III-V nanowires, fabrication of III-V nanowire heterostructures with sharp interfaces, and effective doping towards electrically pumped devices, etc.

The main goal of this special issue is to bring together researchers to share their recent results on different aspects of III-V nanowires in order to inspire innovative thinking leading to creative ideas. Focus of this work is high-quality manuscripts from all areas of III-V nanowires are a key element of the research. We invite various submissions type of *letters/short communications, research article* and *review papers* focusing on (but not limited to) the following topics:

- **III-V nanowire growth:** growth theory and technology of binary and ternary III-V nanowires.
- **III-V nanowire heterosturctures:** axial, radial, and hybrid structures with other low-dimensional materials such as quantum dots, quantum wells, two-dimensional materials, etc.
- **Physical properties:** optical, electrical, thermal, mechanical, as well as quantum properties of III-V nanowires.
- **Novel devices:** transistors, light emitters, lasers, photodetectors, solar cells, sensors etc. based on III-V nanowires.

Manuscript Submission:

Manuscripts must be prepared according to Journal's guidelines, available at http://www.aspbs.com/sam. All papers submitted to this issue will be subject to a strict peer review process to ensure high quality articles. Please make sure in the cover letter that the submitted paper has not been published previously and is not currently submitted for review to any other journal and will not be submitted elsewhere before a decision is made by this journal. ***Please notify well in advance all accepted manuscripts shall be paid manuscript processing fees 580 Dollars.***

KEY TIMETABLE DATES

Manuscript due: December 31, 2019

Authors' notification: February 29, 2020

Publication date: April-May 2020

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