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Semiconductor Nanostructures for Optoelectronics Applications

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Abstract

Semiconductors have played an important role in the development of information and communications technology, solar cells, solid state lighting. Nanowires are considered as building blocks for the next generation electronics and optoelectronics. In this talk, I will present the results on optoelectronic devices such as lasers/LEDs, THz detectors, energy devices such as solar cells, photoelectrochemical (PEC) water splitting and Neuro-electrodes. Future prospects of the semiconductor nanowires will be discussed.

Biography

Professor Jagadish is a Distinguished Professor and Head of Semiconductor Optoelectronics and Nanotechnology Group in the Research School of Physics, Australian National University. He is currently serving as Past President of IEEE Photonics Society. Prof. Jagadish is the Editor-in-Chief of Applied Physics Reviews (IF:17.05), Editor of 3 book series and serves on editorial boards of 19 other journals. He has published more than 960 research papers (680 journal papers), holds 5 US patents, co-authored a book, co-edited 15 books and edited 12 conference proceedings and 18 special issues of Journals. He is a fellow of 11 Science and Engineering Academies (US, Australia, Europe, India) and 14 Professional Societies (IEEE, MRS, APS…). He received many awards including IEEE Pioneer Award in Nanotechnology, IEEE Photonics Society Engineering Achievement Award, OSA Nick Holonyak Jr Award, IUMRS Somiya Award, UNESCO medal for his contributions to the development of nanoscience and nanotechnologies and Lyle medal from Australian Academy of Science for his contributions to Physics. He has received Australia's highest civilian honor, AC, Companion of the Order of Australia, for his contributions to physics and engineering, in particular nanotechnology.