平成 20 年 9 月 1 日

応用物理学会北海道支部
会員各位

応用物理学会北海道支部

講演会のお知らせ

下記講演会を開催いたしますので、多数ご参加下さいますようご案内申し上げます。

演題：Nanoscience galore: hybrid and nanoscale optoelectronics
講師：Pavlos Lagoudakis 氏
（School of Physics & Astronomy, University of Southampton, UK, Professor）
日時：平成 20 年 9 月 16 日（火） 15:00～16:00
場所：北海道大学大学院工学研究科・応用物理学専攻会議室 A3-62 室
主催：応用物理学会北海道支部

講演の要旨

The whole gamut of nanoscience consists of investigations on the nanoscale and nano-engineering of artificial structures that give rise to desirable macroscopic physical properties. As an example, shape control in the synthesis of colloidal semiconductor nanostructures offers unprecedented abilities to tune the interaction of solid state quantum structures with the environment, opening up the possibility of performing truly nanoscale manipulations of the optical and electronic properties. Control of light-matter interaction on the single wavefunction level constitutes a powerful characterization tool to access the elementary physical nature of nanoparticles and enables novel functions such as spectral modulation due to the quantum confined Stark effect on the single particle level [1] and exciton storage at room temperature within a single nanostructure [2], a feat previously identified as highly desirable yet improbable with prior approaches. By unfolding the intriguing dynamics that govern the optoelectronic properties at the nanoscale, we can further engineer nanostructures in novel hybrid configurations of organic/inorganic materials with applications in light emitting diodes and artificial light harvesting complexes [3].

[1] J. Muller et al., Nano Lett. 5, 2044 (2005).
[2] R.M. Kraus et al., Phys. Rev. Lett. 98, 017401 (2007).
[3] S. Rohrmoser et al., Applied Physics Letters 91, 092126 (2007).

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