

# Colloquium on Green Nanomaterials

## INSD NanoScience Seminar No. 32

Organized by International Joint Research Promotion Program

Co-organized by Education and Research Center of Advanced Structural and Functional Materials Design,  
Institute of NanoScience Design, and Program for Leading Graduate Schools; Interactive Materials Science Cadet

**Date:** January 21 (Tue) 15:00~18:00

**Place:**

- Room 319, 3<sup>rd</sup> floor in R2 Building, Suita Campus
- Room 304, 3<sup>rd</sup> floor in Interdisciplinary Research Building, Toyonaka Campus

**Speaker:** Prof. Peter Schall

Van der Waals - Zeeman Institute, University of Amsterdam

**Title:** Photonic and excitonic coupling in quantum-dot supercrystals

**Abstract:** The assembly of colloidal quantum dots (QDs) into supercrystals holds great promise for novel photovoltaic devices, but needs efficient light absorption and carrier transport. Here, we study the growth of CdSe and inorganic perovskite QD supercrystals and show that they simultaneously enhance the absorption efficiency and inter-dot coupling of QDs.

**Speaker:** Prof. Yasufumi Fujiwara

Graduate School of Engineering, Osaka University

**Title:** Semiconductors intracenter photonics; red LED using Eu-doped GaN

**Abstract:** The ongoing search for an efficient red LED based on GaN is pivotal to the realization of micro-LED display. We invented a novel red LED using Eu-doped GaN, exhibiting characteristic emission properties. Current status of the red LED and strategies toward further enhancement of its output power are presented.

**Contact person :** Prof. Yasufumi Fujiwara, Graduate School of Engineering

