

# The Fourth Seminar at Advanced Nanomaterials Laboratory Between Osaka University and University of Amsterdam

(INSD NanoScience Seminar)

Supported by International Joint Research Promotion Program,  
R<sup>3</sup> Institute of Newly-Emerging NanoScience Design,  
and Program for Leading Graduate Schools; Interactive Materials Science Cadet

Date: February 29 (Thu), 2024, 14:00-15:00

Place: Seminar room @2F, Zairyo-Kaihatsu-Busse-Kinenkan (#R4)  
<https://www.eng.osaka-u.ac.jp/en/access/>

URL: zoom meeting

<https://us06web.zoom.us/j/87235252694?pwd=4ruGI91UuyRC7LHBEQOXNY3JidHMd1.1>

Meeting ID: 872 3525 2694

Passcode: 574468

Program:

14:00-15:00 Prof. Peter Schall

Van der Waals - Zeeman Institute, University of Amsterdam

**“Low-dimensional semiconductors:**

**Photophysics and Applications”**



Nanocrystals and other low-dimensional semiconductor materials exhibit exceptional optoelectronic properties, distinct from bulk materials, suitable for a wide range of applications. Due to their quantum confinement, they can serve as “artificial atoms”, as acknowledged in this year’s Nobel prize in Chemistry. Their exceptional optoelectronic properties root not only in their quantized electronic states, but also in the special properties of excitons and higher-order bound electron-hole states in confinement. In this talk, I will give an overview over some fundamental properties and applications of nanocrystals, and highlight some of our developments in 2D materials and 2D material-nanocrystal combinations.

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