



Special lecture on

**“Layer-engineered inorganic-organic hybrid thin films by ALD/MLD:
from new-material discoveries to next-generation applications”**

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Date : August 2, Thursday, 2018
Time: 13:30~14:30
Room : 1F Meeting room, Building R3

Abstract:

The combined ALD (Atomic Layer Deposition) and MLD (Molecular Layer Deposition) technique provides us with an elegant, yet industrially feasible way to fabricate hybrid inorganic-organic thin films through sequential self-limiting gas-surface reactions with atomic/molecular level precision. In this talk I will discuss our recent successes in the ALD/MLD fabrication of fundamentally new types of layer-engineered hybrid materials. In particular, we have employed the ALD/MLD technique to deposit textile-integrated oxide-organic thin-film superlattice thermoelectrics in which the periodically introduced ultrathin organic layers between oxide layers hinder phonon transport, and demonstrated the first flexible and transparent Li-ion/organic microbattery. Also discussed are the new directions foreseen for metal organic framework (MOF) materials and new exciting luminescence phenomena.

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