219th iCeMS Seminar

April 18, 2022

4:00–5:30pm

Kyoto University KUIAS/iCeMS Main Building
2F Seminar Room

Prof Thomas Ebbesen

Chair of Physical Chemistry of Light-Matter Interactions,
University of Strasbourg Institute for Advanced Study (USIAS)

Hybridizing light and matter
- consequences for chemical and material sciences

Over the past decade, the possibility of manipulating material and chemical properties by using hybrid light-matter states has stimulated considerable interest. Such hybrid light-matter states can be generated by strongly coupling the electronic or the vibrational transitions of a material, to the spatially confined electromagnetic field of an optical resonator. Most importantly, this occurs even in the dark because the coupling involves the zero-point electromagnetic fluctuations of the resonator. After introducing the fundamental concepts, examples of modified properties of strongly coupled systems, such as chemical reactivity, self-assembly, conductivity, energy transfer and magnetism will be given to illustrate the broad potential of light-matter states.

More details are available at the iCeMS website:
www.icems.kyoto-u.ac.jp

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Hosted by Kyoto Universivty Institute for Integrated Cell-Material Sciences (iCeMS)

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