

令和元年 12 月 4 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お願い申し上げます。

演題：NEW PROPERTIES OF MATTER UNDER LIGHT-MATTER HYBRIDIZATION

講師：Thomas W. Ebbesen 氏

(USIAS and ISIS, University of Strasbourg • Professor)

日時：令和元年 12 月 19 日（木） 10:30～11:30

場所：北海道大学創成科学研究棟 5 階大会議室(05-213)

後援：応用物理学会北海道支部

講演の要旨

Light-matter interactions are not only fundamental for the existence of life but also play a key role in our culture and technology. What is perhaps more surprising, is that light-matter interactions occur even in total darkness. This is because vacuum, the three-dimensional space in which we exist, is not a void but is full of quantum electromagnetic fluctuations. When such light-interactions become strong enough, a new regime arises characterized by the formation of hybrid light-matter states. This is the so-called strong coupling regime which leads to fundamental changes in material properties. After introducing basic concepts, examples of modified material properties such as chemical reactivity, energy transfer and superconductivity will be presented.[1-5]

- 1 T.W. Ebbesen, Acc. Chem. Res. 2016, 49, 2403-2412.
2. X. Zhong et al, Angew. Chem. Int. Ed. 2017, 56, 9034-9038.
3. A. Thomas et al, Science 2019, 363, 615-619.
4. J. Lather et al, Angew. Chem. Int. Ed. 2019, 58, 10635-10638.
5. A. Thomas et al, arXiv:1911.01459

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