



演題：**From Imparting Functionality to Shielding Against Unfolding via Embedding Enzymes into Metal-organic Frameworks: the insight of material biology**

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日時：2017年8月3日（木）13:00~14:00

場所：フロンティア応用科学研究棟 1F セミナー室1

共催：物質科学フロンティアを開拓する Ambitious リーダー育成プログラム

要旨：Recently, our group has pioneered a de novo approach to embed enzyme in MOFs. This new approach provides a new tool to immobilize enzymes and has a great advantage compared to the previous works. MOFs of pore sizes smaller than the size of the enzymes can be used so that not only is leaching prevented but also the selection of enzymes and MOFs is greatly expanded; therefore, researchers could use a wider range of MOFs to impart various interesting functions to different enzymes. Furthermore, an enzyme maintains its biological function under a wider range of conditions after being embedded in metal-organic framework (MOF) microcrystals via this de novo approach. This enhanced stability arises from confinement of the enzyme molecules in the mesoporous cavities in the MOFs, which reduces the structural mobility of enzyme molecules. A fluorescence spectroscopy study shows that the structural conformation of the embedded enzyme changes less under these denaturing conditions than free enzyme.

Ref: J. Am. Chem. Soc., 2017, 139, 6530-6533; J. Am. Chem. Soc., 2015, 137, 4276-4279

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(ただし、8/2 (水) 13:00 からの Prof. Yu-Tzu Huang 講演会もしくは 8/3 (木) 10:30 からの Prof. Kevin C.-W. Wu 講演会どちらかと併せて2件以上の聴講で出席一回とカウントします。)

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