グローバル COE 物質科学イノベーション講演会

演 題：**Monitoring Surface Metal Oxide Catalytic Active Sites with Raman Spectroscopy**

講 師：**Prof. Israel E. Wachs**

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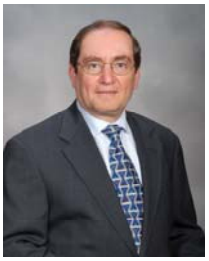

日 時：2011 年 12 月 8 日（木） １５：００～１６：３０

場 所：工学部材料化学棟 213 講義室（MC213）

要 旨：The molecular aspect of the Raman vibrational selection rules allows for the molecular structural and reactivity determinations of metal oxide catalytic active sites in all types of oxide catalyst systems (supported metal oxides, zeolites, layered hydroxides, polyoxometalates (POMs), bulk pure metal oxides, bulk mixed oxides and mixed oxide solid solutions). The molecular structural and reactivity determinations of metal oxide catalytic active sites are greatly facilitated by the use of isotopically labeled molecules. The ability of Raman spectroscopy to (1) operate in all phases (liquid, solid, gas and their mixtures), (2) operate over a very wide temperature (-273 to >1000 °C) and pressure (UHV to >>100 atm) range, and (3) provide molecular level information about metal oxides makes Raman spectroscopy the most informative characterization technique for understanding the molecular structure and surface chemistry of the catalytic active sites present in mixed oxide heterogeneous catalysts. This lecture will show many examples of the application of Raman spectroscopy to determine the nature of the catalytic active sites present in mixed oxide catalysts.

本講演は『化学研究先端講義／総合化学特別研究第二』の一部として認定されています

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