

九州大学超顕微解析研究センター、
微細構造解析プラットフォーム「ナノマテリアル開発のための超顕微解析共用拠点」共催

第 215 回 H V E M 研究会 のお知らせ

平成 29 年 3 月 1 日

スウェーデンの Chalmers University of Technology より、Eva Olsson 教授をお招きし
下記の内容でご講演いただきます。皆様、奮ってご参加下さい。

【日 時】平成 29 年 3 月 22 日(水) 15 時 00 分～16 時 30 分

【会 場】九州大学 伊都キャンパス 超顕微解析研究センター (CE21) セミナー室
(〒819-0395 福岡県福岡市西区元岡 744 番地)

【講 師】Prof. Eva Olsson
(Department of Physics, Chalmers University of Technology, Sweden)

【講演題目】 In situ TEM studies of electrical, mechanical and thermal
properties

【要 旨】

In situ electron microscopy enables the direct observation and correlation between material structure and properties on small scales reaching the atomic level. Examples of important mechanisms that can be studied are those of transport properties of charges, heat, liquids and particles in complex structures and also of effects induced by light, mechanical strain and temperature changes.

The direct correlation on the small scale involving individual interfaces, defects and atoms provides access to new information about which microstructural constituents that are active in determining the material properties on the macro, micro, nano and atomic scale. New aspects of material properties and mechanisms not obvious from measurements on the macro scale can also be revealed due to the high spatial resolution. The knowledge is crucial for not only the understanding of the mechanisms that are involved but also for the design of materials and devices with tailored properties.

The need for high spatial resolution imaging and spectroscopy of both surfaces and internal structure can in many cases only be met by transmission electron microscopy (TEM) or a combination of electron microscopy and other techniques. TEM holders for in situ dynamic experiments and manipulation including studies of transport of charges and condensed matter further expand the dimensions of information that can be extracted. This talk will address method developments and results of electrical, mechanical and thermal transport measurements of carbon based materials (e.g. graphene and carbon nanotubes), metals and semiconductors. Different aspects of specimen geometries and electron beam effects for the correlation between structure and properties will also be discussed.

交通手段の詳細や当研究会についてのお問い合わせは、下記の連絡先をお願いいたします。
各講演の概要と会場へのアクセスを次ページに示します。

H V E M 研究会世話人：波多 聡・安田和弘・佐藤幸生
連 絡 先：金子賢治（九州大学大学院工学研究院材料工学部門教授）
E-mail: kaneko@zaiko.kyushu-u.ac.jp

九州大学へのアクセスマップ。会場は伊都キャンパスにあります。



伊都キャンパスマップ。会場は41番の建物（超顕微解析研究センター）内にあります。

