



HOKKAIDO UNIVERSITY

# AMBITIOUS LEADER'S PROGRAM

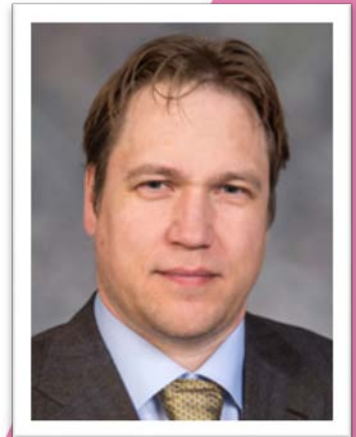
Fostering Future Leaders to Open New Frontiers in Materials Science

Ambitious 物質科学セミナー

## Understanding the protein corona one molecule and one nanoparticle at a time

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**平成 30 年 8 月 3 日 (金) 14:00~14:45**  
**北海道大学 理学部 7号館 7-310**

The fate of nanoparticles interacting with the environment including the human body depends strongly on the corona that forms after contact with proteins. It is well established now that this protein corona affects the biological interactions with cells as receptors recognize the adsorbed proteins rather than the nanoparticle core. However, much less understood is the time-dependent composition of the protein corona and any structural changes of the adsorbed proteins potentially altering their natural function or leading to unwanted nanoparticle aggregation. While ensemble characterization techniques have been very powerful, they are often limited to ex-situ conditions. Here, we present our recent progress on characterizing the protein corona using powerful super-resolution single molecule fluorescence microscopy and various single particle spectroscopy including circular differential scattering.

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