MEXT-Supported Program for the Strategic Research Foundation at Private Universities
“Developmet of next-generetion medical technologies using ultra-thin polymer films”

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14：00－15：30

Micro/Nano Technology Center
Building 12

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Chinese Academy of Sciences

“Skin tribology and water based lubrication”

The tribology of human skin is a research topic that has continuously attracted scientific studies over the past years, which typically, are related to cosmetic and the effects of skin care products, dealt with dermatological questions concerning skin condition, ageing, skin injuries, would healing and prosthetics, the role of skin friction in connection with the sense of touch, and simulated tribological tests with mechanical skin models. Recent tribological studies on materials contacting skin cover medical and sports applications, textiles, as well as appropriate surfaces for consumer products and automotive applications.

The presentation will give a brief introduction of our research on the active control of friction and wear by:

I. Surface and interface design of skin contacting materials and medical devices, including surface texture and surface coating;
II. Test methodology development with the design of instrument and bio-inspired human tissue model, for instance the development of Artificial skin model and its application for the design of skin contacting products, like artificial turf, cosmetics, wound dressing, shaver, medical needle, medical suture, etc;
III. Additive and emulsion development for water based lubrication, demonstrated by graphene oxide based lubricating materials.

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