



“Tribology Derived from Interfacial Structure”

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Language : English

Style : Hybrid Seminar (onsite & online)

**Place : room 301, IMS main office building (onsite) &
Zoom meeting (online)**

Registration : <https://registration.ims.ac.jp/openseminar>

Registration site



Abstract

Tribology is one of academic disciplines covering friction, wear and lubrication in engineering for a lot of industrial applications such as bearings, gears, engine pistons in car and so on. Lubricating oil is indispensable for reducing friction and preventing wear on sliding surfaces in machines. A typical lubricating oil consists of a base oil and several types of additives, among which friction modifier is one of additives that plays a role in reducing the coefficient of friction by physically/chemically adsorbing onto the surface. Meanwhile, analytical techniques for solid-liquid interfaces have been rapidly progressing, which has promoted the understanding of tribological phenomena. What is the actual structure of adsorbed additive layer? What is the relationship between the interfacial structure and coefficient of friction? What is the process for achieving the best additive composition in lubricating oil? This talk will present interfacial structures formed by several types of additives on top of metal substrates and provide a clue, I hope, for near-future development of advanced design concepts for sliding surfaces that further contribute to the creation of an eco-society.

Keywords

Tribology, Lubricating oil, Additive, Adsorption, Coefficient of Friction