

微生物サステイナビリティ研究センター MiCS国際セミナー

日時：2026年3月4日（水）
14：00～15：30

会場：筑波大学 総合研究棟 A110
公開講義室



講師：Prof. Jacques FATTACCIOLI
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- Institut Pierre-Gilles de Gennes)

Functional lipid droplets : a biophysical tool for immunology

Abstract

Response to pathogens and homeostasis is orchestrated by the complex interactions and activities of the large number of diverse cell types involved in the immune response. The innate immune response occurs soon after pathogen exposure and is carried out by phagocytic cells such as neutrophils or macrophages. The subsequent adaptive immune response involves antigen-presenting cells such as macrophages or dendritic cells; and antigen stimulation-dependent cell types such T cell subsets and B cells. As an alternative to polymers or hydrogels that are commonly used when model substrates are needed for uptake or migration studies from the point of view of mechanobiology, we developed ligand-functionalized lipid droplets to address these questions. In this talk, I will present how to make and characterize functional lipid droplets, how they can be used in the context of phagocytosis, cell migration and antigen extraction, and I will present the ongoing results, including the transfer of this technology to the cell therapies market.

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