JSPS Core-to-Core Program
"Establishment of Global Research Institute for Uncovering Glycan Organized Life Principle (UGLIP)"

UGLIP Seminar

iGCORE
Institute for Glyco-core Research
Tokai National Higher Education and Research System

08 mars 11:00-12:00

Bât C9, Salle André Verbert

Cité Scientifique, Université de Lille

Unraveling of regulation mechanisms of signal transduction in cell membranes by high-speed single-molecule imaging and super-resolution microscopy

Kenichi G. N. Suzuki[1,2]

1. Institute for Glyco-core Research, Gifu University, Gifu, Japan
2. National Cancer Center Research Institute, Tokyo, Japan

Intracellular molecules do not work synchronously but essentially in a stochastic process. Individual molecules engage in interactions lasting less than seconds, with the proportion of interacting molecules rarely exceeding 10%. To elucidate the mechanisms of such transient and rare molecular events in cells, we developed a high-speed single-molecule imaging system and collected statistics on the time and frequency of events. Furthermore, by using the technique of high-speed single-molecule observation, we developed high-speed dual-color PALM/dSTORM super-resolution microscopy and the analysis methods. By using these state-of-the-art imaging techniques, we recently discovered the clustering of gangliosides in small rafts via glycan-glycan interactions, which inhibit dimerization and activation of EGF receptors. In this talk, I will introduce these imaging techniques and recent advances in our studies.

Link to webinar

https://univ-lille-fr.zoom.us/j/99928148634?pwd=a2c4Y1NSb0NjcGZkaHZLV3Z2SVRBdz09

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