



2016年度 物質生命理工学科コロキウム

上智大学 理工学部 物質生命理工学科 主催
理工学部・理工学振興会 共催

From chemotaxis to macropinocytosis and back again

講師 Dr. Robert R Kay

Group Leader of MRC Laboratory of Molecular Biology

日時: 2016年10月21日 (金) 15:00 ~ 16:30 場所: L-821 (図書館内会議室)

We have found that Dictyostelium cells preferentially use blebs when they move under a stiff agarose overlay. To study how cells switch to bleb-driven movement, we built a 'cell squasher' to apply defined mechanical forces to cells moving under agarose. Using this device we find that cells switch almost instantaneously from using pseudopods to blebs when uniaxial loads of 100 Pa are applied. This switch is accompanied by a recruitment of myosin-II to the cell cortex and an increase in intracellular calcium. It is strongly inhibited in calcium-free medium, and also in a null mutant of the Piezo stretch-operated channel. These observations suggest that Dictyostelium cells detect mechanical forces using calcium fluxes produced by opening the Piezo channel.

学外の方の聴講歓迎・申込不要・参加無料

問い合わせ：齊藤玉緒 [tasaito\[at\]sophia.ac.jp](mailto:tasaito[at]sophia.ac.jp)