Young Scientist Seminar

Dr. Yusuke Nasu

Institute if Biological Chemistry
Academia Sinica

July 29th (Wed) 2026, 16:30~16:30 JPT
@ iCeMS Main Building 4F seminar room



Development of genetically-encoded fluorescent metabolite sensor

Introduction

At Nasu Laboratory, we advance the frontiers of protein engineering to create functional proteins with exceptional and transformative properties. By integrating cutting-edge methodologies including directed evolution with state-of-the-art experimental platforms, we design and optimize next-generation protein tools. These engineered proteins empower researchers to probe and visualize complex biological systems with unprecedented precision, ultimately driving new discoveries across the life sciences.

Reference

1. Glucose regulates the survival of newborn hippocampal neurons in the adult brain
Wang X., Chen L., Syty M.D., Wang Z., Kim T.A., Wang F., Zhang Y., Wehrle P., Nasu Y., Xiong Q.*, Ge S.* Neuron, 114, 1−16 (2026)
2. A red fluorescent genetically encoded biosensor for in vivo imaging of extracellular L-lactate dynamics. Kamijo Y., Mächler P.#, Ness N.#, Vu C.Q.#, Kusakizako T.#, Mannuthodikayil J., Ku Z., Boisvert M., Grebenik E., Miyazaki I., Hashizume R., Sato H., Liu R., Hori Y., Tomita T., Katayama T., Furube A., Caraveo G., Paquet M-E., Drobizhev M., Nureki O., Arai S., Brancaccio M., Campbel R.E., Kleinfeld D., Nasu Y.* Nature Communications, 16, 9531 (2025)

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