Microbiology

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Other Faculty Members
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Major Scientific Interests of the Group

We aim to understand fundamental biological systems of bacteria, which are distinct from eukaryotic/ multi-cellular organisms. Our research fucus on *Staphylococcus* evolutionary/ adaptation strategies and regulatory mechanisms of gene expression.

Projects for Regular Students in Doctoral or Master's Programs

1) Natural genetic competence and antibiotics resistance
2) Population heterogeneity
3) Dynamics of cellular structures: nucleoid and membrane
4) Anti-virulence drugs

Study Programs for Short Stay Students (one week – one semester)

1) Molecular genetics and biochemical techniques
2) Analysis of gene regulation

Selected Publications

1) Mais Maree, Yuri Ushijima, Pedro B Fernandes, Masato Higashide, Kazuya Morkawa. SCC*mec* transformation requires living donor cells in mixed biofilms. Biofilm 7, 100184. 2024.
2) Mais Maree, Le Thuy Thi Nguyen, Ryosuke L. Ohniwa, Masato Higashide, Tarek Msadek, Kazuya Morikawa. Natural transformation allows transfer of SCCmec-mediated methicillin resistance in Staphylococcus aureus biofilm. Nat Commun 13, 2477. 2022.
3) Vishal Gor, Ryosuke L. Ohniwa, Kazuya Morikawa. No change, no life? What we know about phase variation in *Staphylococcus aureus*. Microorganisms 9, 244. 2021.
4) Kazuya Morikawa, Yuri Ushijima, Ryosuke L Ohniwa, Masatoshi Miyakoshi and Kunio Takeyasu. What happens in the staphylococcal nucleoid under oxidative stress? Microorganisms 7, 631. 2019.
5) Vishal Gor, Aya J. Takemura, Masami Nishitani, Masato Higashide, Veronica Medrano Romero, Ryosuke L. Ohniwa, and Kazuya Morikawa. Finding of Agr phase variants in *Staphylococcus aureus*. mBio 10, e00796-19. 2019.