発生ダイナミクス分野主催セミナー Developmental Dynamics Seminar

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2025.5.13 (Tue) 16:00~

片平・生命科学プロジェクト研究棟講義室AB(ハイブリッド開催) Life Sciences Project Research Laboratory, Lecture hall. (Hybrid)

<第一部> 16:00~17:10 The impact of non-Mendelian transmission on reproduction and speciation メンデルの法則に反する遺伝様式が有性生殖と種分化に与える影響

Abstract: Mendel's Law of Segregation states that each allele has an equal chance to transmit to the next generation. However, this law can be violated by selfish genetic elements, which manipulate the production of gametes (e.g., eggs, sperm) to increase their own transmission rate. This genetic cheating in meiosis, meiotic drive, has significant impacts on Genetics, Evolution, and Reproduction because the cheating alters transmission ratios and manipulates gametogenesis, often leading to fertility issues and genetic disorders (e.g., Down Syndrome). In female meiosis, selfish elements bias their transmission by preferentially segregating to the egg. However, it remains largely unknown how these elements bias their segregation to the egg especially in animals. My lab uses mouse models and cell biological approaches to visualize selfish elements to reveal how these elements manipulate female meiosis to preferentially segregate to the egg. I will discuss our recent findings on the mechanisms of meiotic drive and how it impacts mammalian reproduction and speciation.

References: Clark FE, Akera T., et.al, . An egg sabotaging mechanism drives non-Mendelian transmission in mice. Curr Biol. 9;34(17):3845-3854 (2024)

El Yakoubi W and Akera T. Condensin dysfunction is a reproductive isolating barrier in mice. Nature 623(7986):347-355 (2023)

<第二部>A career talk 17:10~18:00 ~pursuing a childhood dream of going to space, while running a lab in the US-海外独立そして宇宙への挑戦

Abstract: Career path after acquiring a PhD degree is becoming increasing diverse. During this and Europe to launch my own laboratory. While pursuing basic science in the lab, I never forgot my childhood dream to go to space. I will also discuss how I balanced my real life as a PI while applying for the astronaut position to achieve my dream and what I eventually got from this experience even though I was not selected. I wish this presentation would provide some hope to junior scientists who are deciding their career trajectories.

*This seminar will be held in English.*単位認定セミナー・イノベーションセミナー(2ポイント)

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