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【952】 Connecting cilia organization to collective cilia dynamics in *Paramecium*

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Cilia are hair-like organelles on the surface of many cells beating collectively in a metachronal wave pattern creating essential fluid flows. The mechanisms behind cilia coordination remain poorly understood. We use *Paramecium*, a unicellular organism containing a few thousand cilia to study how metachronal waves emerge. By quantifying the cilia density, characterizing networks connecting the cilia, and measuring the metachronal wave properties, we are able to connect the structure of the cilia array to the emerging dynamics. This allows us to investigate the importance of mechanical coupling by networks underneath the cell surface in the formation of metachronal waves.

Author: LAAN, Daphne

Co-author: Prof. RAMIREZ-SAN-JUAN, Guillermina (EPFL)

Presenter: LAAN, Daphne

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