B·DEBATE International Center for Scientific Debate BARCELONA

upf. Universitat Pompeu Fabra Barcelona

MUNEHIRO ASALLY

CV

PARTICIPANT AT:

SYNTHETIC BIOLOGY.
FROM STANDARD BIOLOGICAL PARTS TO ARTIFICIAL LIFE

September, 17th-18th, 2015, Barcelona

Munehiro Asally, Assistant Professor, Warwick Integrative Synthetic Biology Centre, School of Life Sciences, University of Warwick, Coventry , UK

The main focus of his research is the dynamics of bacterial community formation. Combining fluorescent time-lapse microscopy, quantitative analysis, molecular genetics and mathematical modelling, his group aims to understand and engineer biofilm formation, mainly using the gram-positive model bacterium Bacillus subtilis. His research group launched in September 2014 at the University of Warwick. Prior to the current position as an Assistant Professor at Warwick, he worked as a postdoctoral researcher in the laboratory of Gurol Suel at the University of California San Diego. He received his PhD from Osaka University in 2007.

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ABSTRACT

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A Solution to Conflicts in a Growing Biofilm

A community of cells often faces internal conflicts of cooperation and conflict. It remains largely unknown how a community of cells resolves the internal conflicts. Structured bacterial community, known as biofilm, is an ideal experimental platform to investigate such conflict and the population level solutions in a living system. Using the gram-positive bacterium Bacillus subtilis as a model system, we recently discovered a novel metabolic interaction within a biofilm, which in turn increased the fitness of the community under stress condition. The insights obtained in our work offer a novel strategy to control biofilms.

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