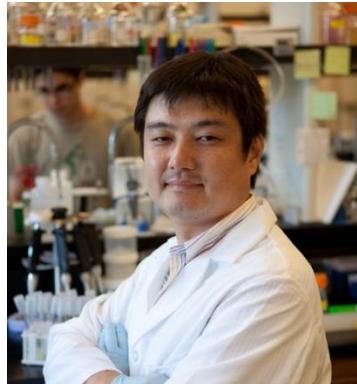


Medical Microbiology and Immunology

MMI 291 Seminar Series

Emerging Challenges in Microbiology and Immunology

Current Theme: Interdisciplinary Research



Shota Atsumi, Ph.D.

Associate Professor

Department of Chemistry

University of California, Davis

“Microbial chemical production from carbon dioxide”

Friday, October 12, 2018

Genome and Biomedical Sciences Facility, Auditorium Room 1005

12:10 PM – 1:00 PM

Research work: Prof. Shota Atsumi works in the field of synthetic biology and metabolic engineering for biochemical production. The primary research goals of his group are to develop a platform for valuable chemical production from carbon dioxide using cyanobacteria, and 2) to develop novel biosynthetic pathways to produce chemical compounds which microbes naturally produce in trace amounts or not at all.

Publication references:

- (1) Kanno, M., Carroll, A.L. & Atsumi, S. Global metabolic rewiring for improved CO₂ fixation and chemical production in cyanobacteria. *Nat Commun.* 8: 14724 (2017)
- (2) Tashiro, Y., Desai, S.H. & Atsumi, S. Two-dimensional isobutyl acetate production pathways to improve carbon yield. *Nat Commun.* 6: 7488 (2015)
- (3) Rodriguez, G.M., Tashiro, Y., & Atsumi, S. Expanding ester biosynthesis in *Escherichia coli*. *Nat Chem Biol.* 10: 259-265 (2014)
- (4) Oliver, J.W.K., Machado, I.M.P., Yoneda, H., & Atsumi, S. Cyanobacterial conversion of carbon dioxide to 2,3-butanediol. *Proc Natl Acad Sci USA.* 110(4): 1249-1254 (2013)