



學術報告

Controlling Human Microbiota



报告人: Dr. Yangyu Liu

Harvard Medical School, USA

Dept. of Medicine

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Biography: Yang-Yu Liu is currently an Assistant Professor of Medicine at Harvard Medical School and an Associate Scientist at Brigham and Women's Hospital. He received his Ph.D. in Physics from UIUC. The goal of his research has been to combine tools from control theory, network science and statistical physics to address questions of complex networks. His work have been featured as a cover story in Nature, a cover story in the PNAS, and received broad media coverage including Nature, Science, ScienceNews, ScienceDaily, Wired, etc. His current research efforts focus on developing multidisciplinary approaches to studying human microbiome from the dynamic systems and control theory perspective.

We coexist with a vast number of microbes-our microbiota-that live in and on our bodies, and play an important role in human physiology and diseases. There are many fundamental questions regarding the dynamics and control of microbiota to be addressed. It is well established that human-associated microbes form a very complex and dynamic ecosystem, which can be altered by drastic diet change, medical interventions, and many other factors. The alterability of our microbiome offers opportunities for practical microbiome-based therapies to restore or maintain our healthy microbiota. Yet, the complex structure and dynamics of the underlying ecosystem render the quantitative study of microbiome-based therapies extremely difficult.