

学术报告会

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Controlling Human Microbiota

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Abstract:

We coexist with a vast number of microbes—our microbiota—that live in and on our bodies, and play important roles in human physiology and diseases. Our microbiota is inherently dynamic and changes throughout our lives. The changeability of our microbiota offers opportunities for microbiome-based therapies, e.g. fecal microbiota transplantation and probiotic administration, to restore or maintain our healthy microbiota. Yet, many fundamental questions regarding the efficacy and long-term safety of those therapies remain open. In this talk, I will discuss our recent progress on controlling human microbiota.

Biography:

Professor Yang-Yu Liu is currently an Assistant Professor of Medicine at Harvard Medical School (HMS) and an Associate Scientist at Brigham and Women's Hospital (BWH). He received his Ph.D. in Physics from University of Illinois at Urbana-Champaign in 2009, with thesis research focusing on phase transitions in disordered magnets. After that, he held positions as Postdoctoral Research Associate and then Research Assistant Professor at the Center for Complex Network Research at Northeastern University, before he joined HMS and BWH in 2013. The primary goal of his recent research has been to combine tools from control theory, network science and statistical physics to address fundamental questions pertaining to the control of complex networks. His work on controllability and observability of complex networks 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. He recently co-authored a review article entitled "Control principles of complex networks", which will be published in *Reviews of Modern Physics* soon. His current research efforts focus on developing multidisciplinary approaches for network medicine and complex diseases. For more information, please visit <http://scholar.harvard.edu/yyl/>