

Professor [Stanislas Leibler](#) , will visit CECs during the week of January 5th, 2015, and will speak for a broad audience at a special Colloquium on January 7th at 18:00 hours.



Stanislas Leibler divides his time between [Rockefeller University](#) in New York, where he heads the Laboratory for Living Matter, and the [Institute for Advanced Study](#) in Princeton, where he is one of the leaders of the [Simons Center for Systems Biology](#).

His research builds on the complementary strengths of biologists, mathematicians, physicists and computer scientists exploring quantitative and theoretical approaches to fundamental biological problems. By tackling basic questions on simple genetic and biochemical networks in microbial systems, Leibler is beginning to quantify how individual components can give rise to collective phenomena. A highlight of his research is the implementation of a "rational network design" approach allowing the engineering of new behaviors in bacteria, as a way to understand naturally occurring biochemical networks. More recent research topics include quantitative studies of interacting microorganisms. In particular, the question of the survival of microbial populations in varying environments is being addressed both experimentally and theoretically. Professor Leibler and his colleagues are developing new experimental techniques that will facilitate quantitative analysis of long-time population dynamics in microbial populations.

Long-term dynamics of closed microbial ecosystems are being analyzed by statistical methods. Theoretical approaches are also applied to other problems, such as protein assemblies or evolution of protein families.