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invites to a seminar by

Dr. Sarah Knowles

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***What makes a microbiome? Ecological and
evolutionary forces shaping the gut microbiota in wild
mammals***

25th of September 2019 at 12.00 p.m.

Venue: Centre of New Technologies, Banacha 2C,
Lecture Hall 0142 (Ground floor)

Host: Prof. Marta Szulkin

Abstract:

The mammalian gut teems with a dense and diverse community of microbes, the gut microbiota. More than just passengers, these symbiotic microbes are now known to play key roles in a diverse range of biological processes within the host – shaping nutrition, metabolism, immune development and pathogen resistance. Despite the gut microbiota's significance, in free-living animals these communities show staggering variability both among hosts and within-hosts over time. And yet we know relatively little about the forces that shape these communities in wild animals. For example, to what extent is microbiota composition driven by deterministic processes like host genetics, as compared with environmental and more stochastic processes, like host diet and horizontal transmission through social contacts? In this talk, I will present our work examining what drives variation in the mammalian microbiome, using free-living populations of small mammals (largely rodents) as study systems. I will present recent work in which we examine how host evolutionary history, social networks and diet all shape the microbiome, and what this means for understanding the role of these symbiotic communities in the lives of their host.