



UNIVERSITÄT  
LEIPZIG

Fakultät für Physik und  
Erdsystemwissenschaften  
Fakultät für Lebenswissenschaften

Prof. Dr. J. Deiglmayr  
Prof. Dr. I. Sodemann



# Physics Colloquium

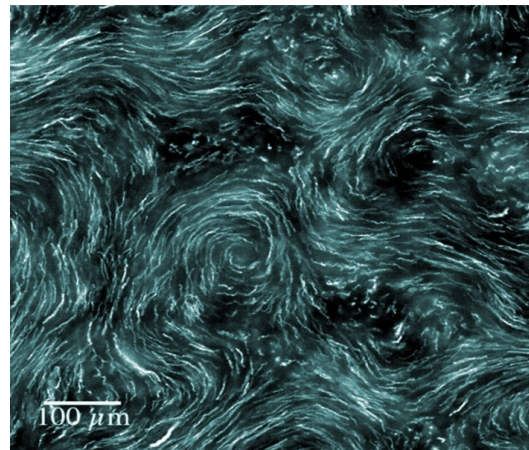
Tuesday, 21 May 2024 at 16:30

**Prof. Dr. Eric Clément**

PMMH-ESPCI-PSL, Sorbonne University, Paris

## Active bacterial fluids

Understanding the way motile micro-organisms such as bacteria explore their environment is central to many ecological, medical and biotechnological issues. Fluids loaded with swimming micro-organisms have become a rich domain of applications and a conceptual playground for the statistical physics of “active matter”. Such active bacterial fluids display original emergent phases as well as unconventional macroscopic transport properties, hence leading to revisit standard concepts in the physics and hydrodynamics of suspensions.



Here, I will present some recent advances obtained in my group, on the anomalous spatial exploration undertaken by flagellated bacteria undergoing sequences of runs and tumbles. Then, I will address the question of spontaneous emergence of a “critical fluid” for a dense suspension of bacteria, characterized by a vanishing viscosity and the presence of large scale collective motion.

Venue: Universität Leipzig, Faculty of Physics and Earth Sciences  
04103 Leipzig, Linnéstraße 5, Small Lecture Hall

Everyone is welcome to a reception with coffee, drinks and cookies in the Aula following the talk.

For an up-to-date semester program, sign-up for the physics colloquium mailing list, and subscription to the digital calendars in CalDAV format, head to the colloquiums web page <https://www.physes.uni-leipzig.de/fakultaet/veranstaltungen>.

