Berlin Mathematics Research Center
MATH+

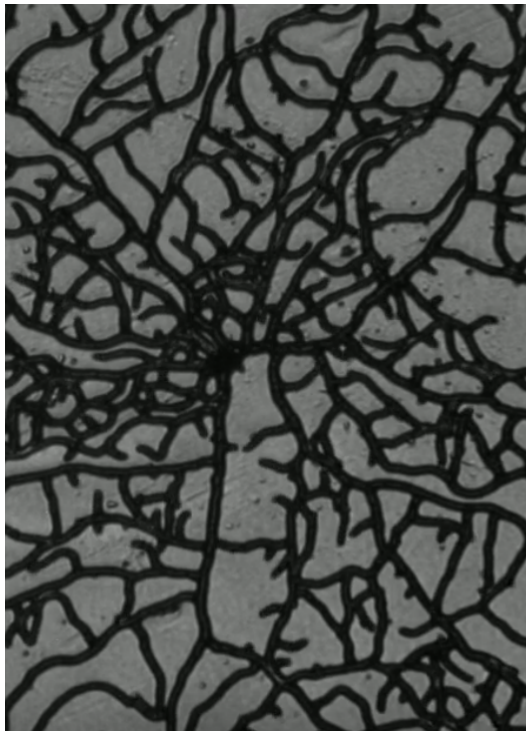**Berlin Mathematical School**
BMS

Kovalevskaya Colloquium

Friday 9 February 2024 at 14:15

TU Berlin, Physics Building, Room EW 201 *Tea & Cookies starting at 13:00!*

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Amandine Véber
(CNRS, U Paris Cité)

A stochastic model for the growth of a filamentous fungus

Filamentous fungi form a large family of species playing an important role in the functioning of many ecosystems. They develop in space thanks to the growth and multiplication of filaments which allow the absorption and sharing of nutrients and other molecules. This talk will present a toy model for the development of a hyphal network, whose main aim is to identify a small number of key parameters describing the growth of the fungus in homogeneous conditions (in particular, in lab conditions) and to understand and quantify the impact of different forms of stress on this growth.

The results presented are in joint work with Vincent Bansaye (École Polytechnique), Lena Kuwata (Université Paris Cité) and Milica Tomasevic (CNRS and École Polytechnique) on the maths side, and Cécilia Bobée, Florence Chapeland-Leclerc, Thibault Chassereau, Pascal David, Eric Herbert, Christophe Lalanne, Clara Ledoux, Gwenaël Ruprich-Robert, all at LIED (Université Paris Cité) on the biology and physics side.

Amandine Véber obtained her PhD in 2009 under the supervision of Jean-François Le Gall and Alison Etheridge at the University of Paris-Sud. From 2010 to 2020, she was a CNRS junior researcher at the Centre of Applied Mathematics (CMAP) of École Polytechnique in Paris. In 2020, she was promoted to CNRS senior researcher and moved to the Department of Applied Mathematics (MAP5) of Université Paris Cité. The core of her research consists in developing and studying stochastic models describing dynamics of growth, interactions or genetic transmission in populations with a spatial structure, in close collaboration with colleagues from different fields of biology.