



# FUNGAL GROWTH: A RESPONSE TO ENVIRONMENTAL CONDITIONS

## Background

Fungi are able to grow and survive even in the most extreme environments, such as volcanoes and glaciers. Although their nutritional requirements are minimal and can be covered by a vast range of substrates, most species need specific environmental conditions in order to flourish. The two main environmental factors affecting fungal dynamics are temperature and relative humidity. It is important to investigate these dependencies in detail because of their economic and ecological importance. For instance, construction errors often give rise to moisture problems, ultimately leading to the appearance of fungi. The damage caused by fungi in buildings averages millions of euros every year.

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In addition, fungi are subject to climate change. This makes that some fungal species that were historically confined to certain parts of the world might nowadays be found in many other ecosystems. Even though the migration of autochthonous fungal species can have disastrous consequences for the newly colonized ecosystems the effect of climate exchange has not been sufficiently studied due to the novelty of these findings.

## Goal of the thesis

During the course of this master thesis, methods from image analysis will be used to study the effects of environmental factors on fungal dynamics. The master student has to design a new experimental set-up and perform the experiments in order to collect data on the studied species. Ultimately, these data will be used to extend an existing three-dimensional spatially explicit model mimicking the growth of fungi.

