



Technische  
Universität  
Braunschweig

## Masterarbeit

# MALDI-TOF based analysis of filamentous fungi



### Background

MALDI-TOF biotyping is a common platform for bacterial identification and wide-spread in clinical routine analyses. While analyses have been extended to clinical relevant fungi, method development for the field of indoor and food isolates and reference strains remains open and is linked to specific demands of these strains. This method has the potential to be established as a routine approach in round robin tests and improve future identification routines by a fast and reliable alternative.

### Objectives

The main goal of this project is to establish a pipeline for reproducible growth and MALDI-TOF based analysis of indoor and food relevant molds. Target are in first instance fungi of the German reference laboratory run by PD Dr. Baschien.

### Main methodology

Cultivation of different molds in two different media, one more clinical related and one closer to mycological demands. Extraction, MALDI-TOF measurements, quality control and data calibration and evaluation alongside with the comparison to sequence-based analysis. The thesis will include laboratory work, work with mass spectrometry devices and computational work.

### The department

The department of Metabolomics & Services is located at the Leibniz-Institute DSMZ in Braunschweig, Science Campus Braunschweig-Süd, and the BRICS (Braunschweig Integrated Centre for Systems Biology) at the TU Braunschweig main campus. Our research focus lies on the investigation of novel metabolic pathways by using mass spectrometry-based metabolomics techniques.



**BRICS**

Braunschweig Integrated Centre  
of Systems Biology

**Start:** As soon as possible

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