

Correlation of certain chemical compounds in coffee plants with sensory quality traits of the coffee beverage

Project Overview:

In this project, extracts from coffee plants as well as roasted and ground coffee beans are analysed for any correlation with respect to the sensory quality (“taste”) of the final beverage. The goal is to identify a chemical profile that can be linked to the final product quality. Therefore, extracts from different plants are analysed with a device combining chromatography and mass spectrometry. Chromatography separates mixtures, so that the components leave the device after different times, and mass spectrometry analyses the components and reports the molecular mass of the substances it analyzes. Both combined yield a 3D data set (intensity over time and mass), which should be correlated to the quality of coffee beverages. Due to the magnitude of substances present in extracts of organic plants, but also due to the complexity how to define “tastes good”, this task is highly complex and requires the application of advanced techniques such as artificial intelligence. If such a correlation can be found, the growing process can be optimized and adjusted e.g. to market needs or changes.

Eligible Departments:

Electronics	X
Communications	-
Networking	-