# SOA formation in wildfire plumes

## Introduction

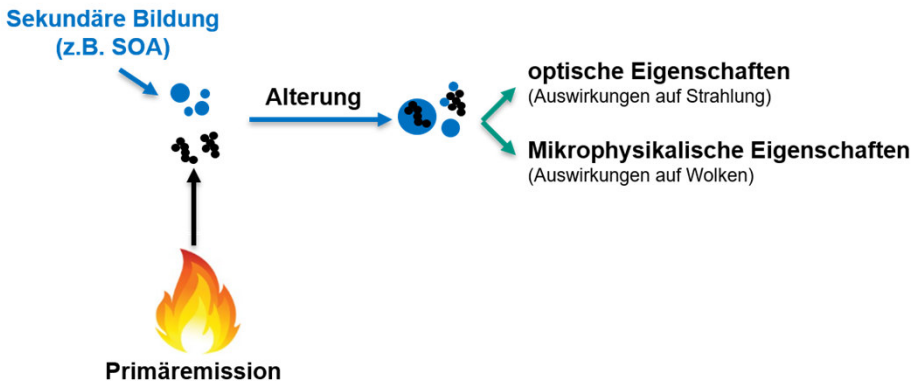
Organic aerosol (OA) is a major component of atmospheric particulate matter and consists of primary organic aerosol (POA) and secondary organic aerosol (SOA) formed from the oxidation of organic gases. Wildfires are an important and growing source of OA, yet SOA formation from wildfire emissions remains highly uncertain in atmospheric models.
To efficiently represent these processes, simplified SOA parameterizations based on the volatility basis set (VBS) framework can be used. In this thesis, a simple SOA parameterization implemented in ICON-ART will be applied and evaluated for wildfire aerosols.

## Research Topic

Implementation and application of a simplified SOA parameterization for wildfire aerosols in ICON-ART

## Working Plan

Step 1: Literature review and familiarization with ICON-ART
Step 2: Adaptation and implementation of the SOA parameterization for wildfire emissions
Step 3: Numerical experiments, analysis, and validation
Step 4: Thesis writing




## Requirements

Motivation, self-organization and team work

Programming: Fortran & Python (basic), shell & unix (basic)