

BACHELOR / MASTER THESIS

MODELING AND SIMULATION OF SPRAY COOLING PROCESS

The two-phase flows of liquid droplets in gas are omnipresent in our daily life. One of their important applications is **spray cooling** in which several liquid droplets impinge onto a hot surface to remove heat. Depending on the surface temperature many complex phenomena may occur such as droplet spreading, **liquid film formation** and **droplet evaporation** that cause **heat transfer** through different mechanisms. Because of the high removal capacity, spray cooling is a key process in many industrial applications from electronics to steel industry.

In this project, we intend to explore the **non-isothermal interactions** of the droplet(s) on a hot solid surface using **computational fluid dynamics (CFD)**.

