

# RESEARCH PROJECT 2022-2023

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## Department/Area

Mechanical Engineering

## Title/Name

Technical requirements and challenges for the controlled crystallization of high end culinary salt

## Abstract/Description

Certain types of salt have become high-end culinary products that can sell for 1,000x the price of ordinary industrial food grade salts. This is of course a very attractive idea for salt producers, who are investing resources into creating innovative and attractive types of salt. One of the main attributes of high-end culinary salts is the type of crystals they form, similar to the Maldon pyramids from the UK, flakes from Cyprus or fleur de sel from Guérande in France.

Students will be requested to study the different forms of crystallization these salts undergo and what are the technical requirements to achieve them in controlled environments (temperature, humidity, sequence of crystallization, etc.). They will also identify the main difficulties to obtain them and how these can be overcome. In order to familiarize themselves with these attributes, the students will be offered an organoleptic tasting of different high-end salts from across the world, similar to how it is done in official salt quality contests in Spain.

By participating in this project, students will have the opportunity to know different types of salt making processes at industrial scale and contribute to the quality of this everyday commodity.

The research project will be done in the form of bibliographic review. As is usual at ICAI, if the work delivered by the students has enough quality, it can be considered for publication in scientific or technical journals.

The work will be done with the assistance of IPAISAL – the Institute of Saltscapes and Salt Heritage, an organization with 20+ years experience in sustainable salt making.

## Prerequisites

Required	
Recommended	Basic knowledge of chemistry

## Supervisor(s)/Tutor(s)

Name(s)	Katia Hueso Kortekaas
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## Structure

Format	Semester (extensive, 15 weeks), Summer (intensive, preferably 8 weeks), Both are available
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Workload	100 hours (4 ECTS)
Students	1-2