

Bachelor and Master theses: Production of structured particles by melt emulsification

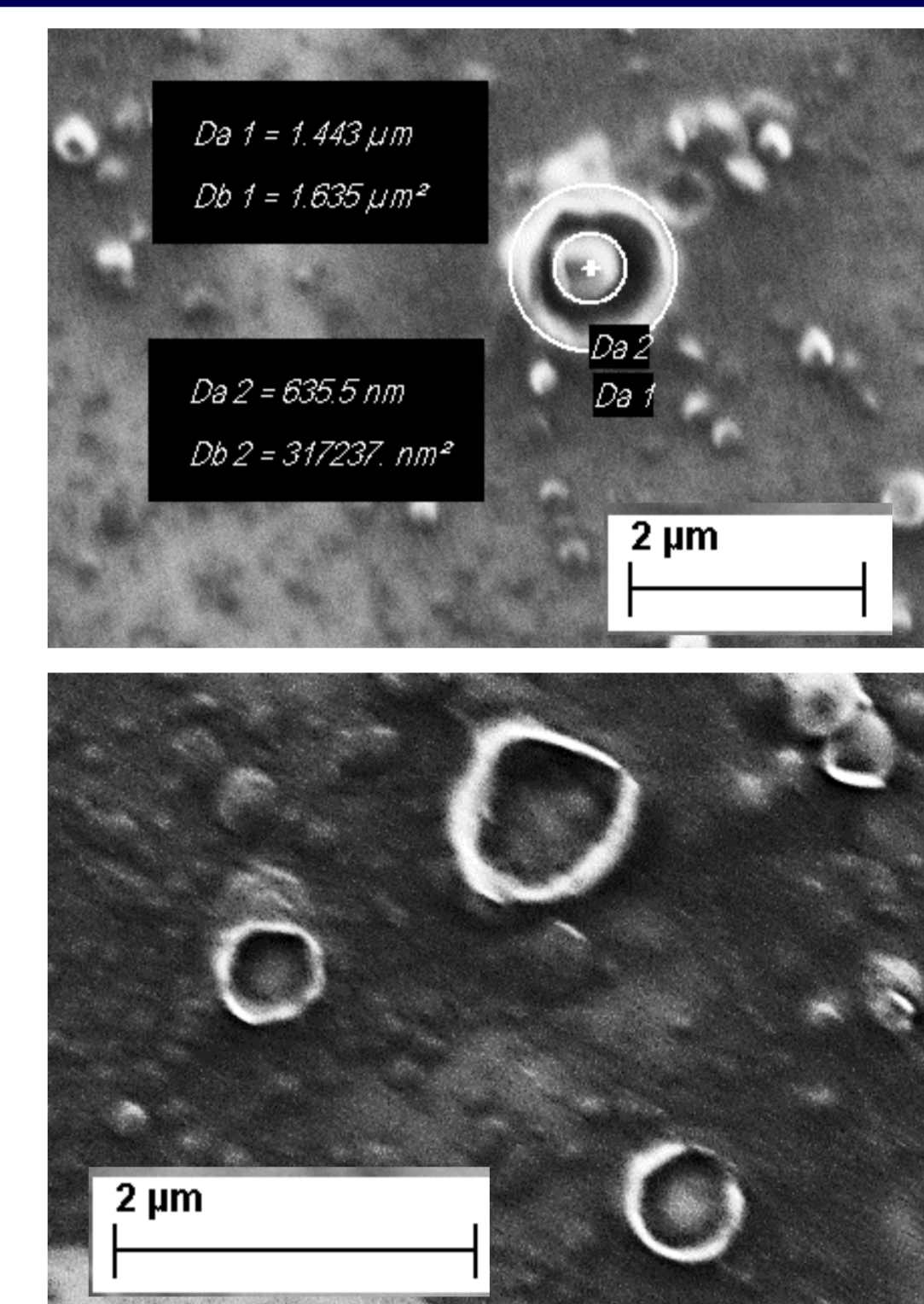
Particle Processing Group, Institute of Interfaces and Particle Technology (IPT)

Motivation

The formulation of structured particles by melt emulsification enables the targeted production of particles from polymers or waxes, for example, with defined size, shape, and internal structure.

Since the process does not require solvents, it offers an environmentally friendly and efficient alternative to conventional methods (e.g., antisolvent precipitation of polymer particles).

The aim of the project is to systematically investigate the influence of process conditions on the resulting particle properties and to specifically optimize the production of functionalized particles.



Tasks and profile

The tasks in this thesis include planning and conducting experiments for the production of structured particles at the melt emulsification plant.

The focus is on investigating the influence of *key process parameters* such as *temperature*, *energy input*, and *system formulation* on the resulting particle size and structure.

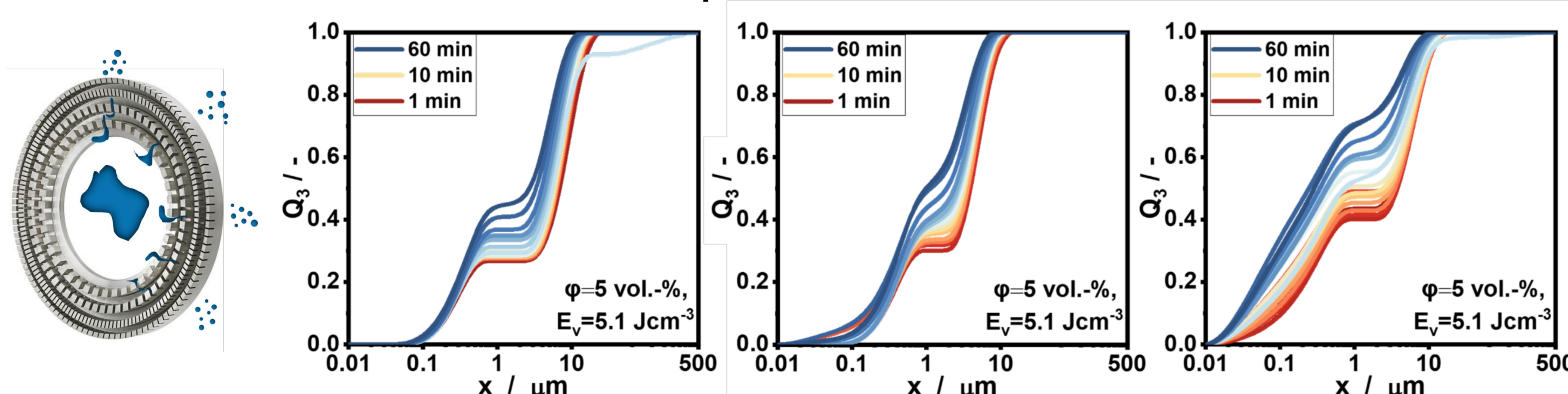
The particles are characterized using suitable analysis methods such as laser diffraction and microscopy.

Another very important part of the thesis is the evaluation and interpretation of the experimental results as well as their careful documentation and presentation.



We are looking for a committed individual with a degree in chemistry, process engineering, or a related field.

You should have an interest in particle technology and be motivated to familiarize yourself with an interdisciplinary research topic.



Summary

- Formulation of structured particles by melt-emulsification
- Parameter studies & particle characterisation
- Exciting and diverse topics with interdisciplinary character
- Working independently with the opportunity to realize your own ideas

Contact

Please send inquiries to

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