

## PAID MASTER'S THESIS

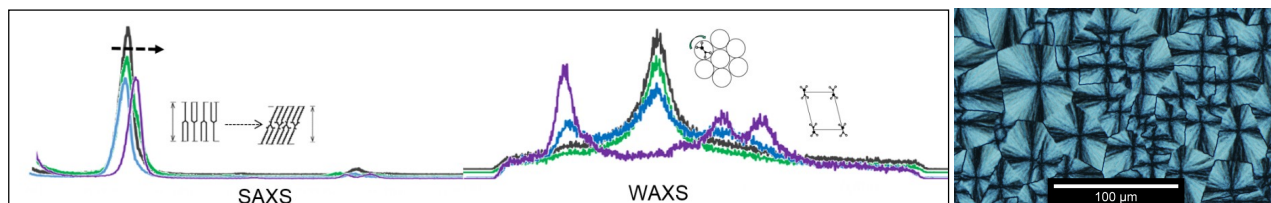
### *In Vitro Solid State Characterization of Novel Solid Dispersions for Drug Delivery Through the Lungs*

*Ref.Nr. 117*

To dedicated students of Pharmacy, Chemistry, Chemical/Pharmaceutical Engineering or related disciplines, we offer an opportunity to write a paid Master's thesis. The project is conducted in close cooperation with industry.

#### OBJECTIVE:

The aim of this study is to evaluate the solid state of crystalline dispersions loaded with a model drug. Novel excipients with a variety of chemical compositions will be screened as matrixes for this purpose. Analytical techniques as TM-DSC, SWAXS and PLM will be used to determine the incorporation of the drug into the matrix, the drug loading capacity, the potential polymorphic transitions, the nanostructure of the dispersion and its stability. Manufacturing processes for inhalable formulations will be also screened. Dissolution experiments in Simulated Lung Fluid will be run to evaluate the drug release profile from the different matrixes. The effect of the solid state stability on the dissolution behavior will be evaluated under different storage conditions.



#### WITHIN THE FRAMEWORK OF THIS MASTER'S THESIS WE OFFER THE FOLLOWING:

- Extensive participation in a top-level and industrially relevant research project in an international environment
- Supervised training in the task
- Assistance of experienced staff with the implementation of innovative ideas
- Access to highly modern infrastructure on campus of Graz University of Technology
- Assistance with the publication of results
- Adequate compensation and opportunities for personal and professional development

**FINANCING:** Compensation on the basis of a service contract

If you are interested in writing your thesis at the interface between university research and industry/business and to contribute to the optimization of product and process development in the pharmaceutical industry, please contact us indicating the reference number.

**Research Center Pharmaceutical Engineering GmbH**

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