



Bachelor thesis / Project work / Master thesis: Energy efficient drying of solutions and suspensions by superheated steam spray drying

Background:

Energy efficiency of drying processes is critically related to the water content of the starting material. In spray drying the water content of the feed solution is limited by its viscosity. For quite some products this concentration is rather low 10% or even lower. Superheated steam provides a method to dry this materials energy efficient as the heat of evaporation can be reutilized. It is however unknown what particle structures are generated. This is related to the shrinkage and blow up behavior under these circumstances.



The work will involve:

- Experiments at the SHSSD installation
- Material characterization
- Process model development of the process impact on material properties and drying efficiency

The ideal candidate should have:

- Enjoy working in a pilot plant
- Background knowledge in process engineering
- Enjoy working in a team

