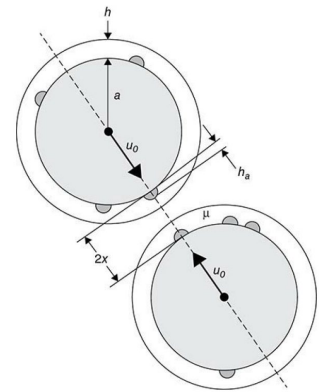




Project work / Master thesis: Population balance modeling of a spray agglomeration process

Get to know this project:

Population Balance Modeling (PBM) is a mathematical approach used to describe the evolution of the particle size distribution in a dynamic process. This modeling technique is widely used in chemical engineering, pharmaceutical and food science to simulate and predict the outcome of processes such as crystallization, spray drying or other particle formation processes. The models can provide valuable insight into the effect of process parameters on particle size and can be used to optimize the process for desired product characteristics.



We offer a master thesis on the modeling of a spray agglomeration process using population balances. The objective of the thesis is to develop a model that describes the agglomeration process with an integrated fluidized bed using binding agents. The model should be validated with data from the pilot plant.

The work will involve:

- Literature review on population balance modeling and spray agglomeration processes
- Development of a population balance model for the spray agglomeration process
- Implementation and validation of the model using experimental data

The ideal candidate should have:

- Interests in particle technology, chemical engineering, or related fields
- Strong mathematical skills, especially in differential equations and statistical analysis
- Programming experience, preferably in MATLAB, Wolfram Language or Python
- Excellent organizational, analytical, communication and presentation skills
- Ability to work independently and take initiative
- Started a master's degree in the field of Food Science and Engineering or comparable

