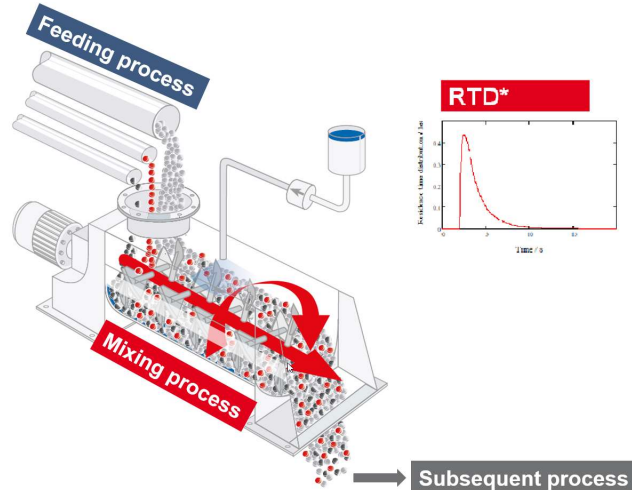


Internship or Semester:

Development of mechanistic models for continuous mixers to predict the mean residence time as a function of material properties and machine parameters.



Gericke is a Swiss engineering and manufacturing company, incorporated 1894, specialized in the supply of powder processing equipment and systems to the food, chemical and pharmaceutical industry.

Continuous mixing of oral solid dosage forms (tablets, capsules etc.) in pharmaceutical manufacturing is a relatively new approach that has generated significant attention. While it has been used for decades in the other industries, showing significant advantages, the pharmaceutical industry has been slow in its adoption of continuous processing, primarily due to regulatory uncertainty.

One of the main remaining challenges to derive machine parameters on the Quality by Design approach.

As part of this Bachelor/Master Thesis or internship semester we would like to develop mechanistic models to predict mean residence time of a continuous mixer as function of material properties and machine parameters.

Project start will be summer 2021 for minimum 4 months at Gericke in Regensdorf near Zurich, Switzerland.

Tasks:

- Plan and conduct trials based on DoE
- Derive mechanistic models for given process equipment (continuous mixing)
- Provide models, datasets, and results for parameterisation
- Validate established models

Student Profile:

- Chemical, Food, Pharmaceutical, Mechanical, or Process Engineer
- Experience with statistical DoE Software (such as Design Expert)
- Modelling the physics of systems is a plus
 - Powder flow
 - Fluid flow
- Experience with powder handling and processing equipment or comparable know-how is a plus
- Fluent German in word and writing

Contact:

Dr. Fabian Müller

fabian.mueller@gerickegroup.com

Product Manager Mixing

D +41 44 871 36 70

Gericke AG | Althardstrasse 120 | CH-8105 Regensdorf | Switzerland