The Sartorius Group is a leading international laboratory and process technology provider covering the segments of Bioprocess Solutions, Lab Products & Services and Industrial Weighing. In 2012, the technology group earned sales revenue of 845.7 million euros according to preliminary figures. Founded in 1870, the Goettingen-based company currently employs more than 5,500 persons worldwide. Sartorius has its own production facilities in Europe, Asia and America as well as sales subsidiaries and local commercial agencies in more than 110 countries.

In the PAT-Unit within the Research & Development of the Sartorius Stedim Biotech GmbH we offer a

Proposal Master Thesis
(Chemometrics in Bioprocesses)

The PAT-Unit (R&D Automation & Control, Dep. PAT | Sensors & Chemometrics) within Sartorius is an interdisciplinary team of physicians, chemists and engineers responsible for several sensor systems such as NIR spectroscopy, refractometry, and single use sensors. The unit develops and evaluates new applications of these sensors used in pharmaceutical industry and biotechnology matching PAT requirements. Currently, the PAT unit evaluated a new adaption of NIR spectroscopy (and others) to bioreactors for online monitoring and control of fermentation / cell cultivation processes. Data from sensors are acquired during early project stages. The open position contains generating chemometric models focused on model robustness and/or qualitative process control via batch trajectories.

What you can look forward to accomplishing:

A: Batch Trajectories for Bioprocess Monitoring and Control

- Merge data of different nature (NIR, MIR, pH, Temp, DO and others)
- Evaluate different data pre-treatment suitable for different data origins
- Merge data and generate batch trajectories based on several sensors
- Generate trajectories for different phases of batch bioprocesses

B: Chemometric model for prediction of analyte concentration

- Evaluate the robustness of chemometric models for prediction of analyte concentration
- Identify and evaluate new and commercially available tools in respect to model robustness
- Generate guidelines for robust calibration of endpoint determination and batch trajectories
- Use statistical tools to establish ranking of model robustness
- Evaluate transferability of quantitative models during scale-up

Skills and experience that you need to bring to our company:

- strong background in multivariate data analysis (PCA, PLS, HCA), data pre-treatment,
- routine use of standard software tools like Simca, Unscrambler, Matlab, MS-Office
- experience with spectroscopic data
- knowledge in statistics (bootstrapping) beneficial
- basic knowledge in biotechnology (in particular: cell cultivation)
- basic knowledge in spectroscopy (NIR / MIR)
- willingness to stay several month in Goettingen / Germany
- strong communication skills
- creativity + thought-provoking
- Identification with our corporate values: Sustainability, Openness, Enjoyment

Would you like to set new standards in a dynamic international environment by contributing innovative ideas? Then we are looking forward to receiving your application at johanna.curdt@sartorius.com

Do you have any further questions? Please contact Mrs. Johanna Curdt by phone at +49(0)551. 308-3801, who will be happy to answer your questions and provide you with further assistance.