DataHow
Add Process Intelligence to Your Data

Applied Course on

Advanced Process Data Analytics
8-10 and 15-17 November 2022,
6 x half day, Virtual

Aim
The aim of this course is to provide an overview and advanced insight into data analytics and modeling methodologies for process data. Fundamental concepts to visualize high-dimensional and highly correlated process and product quality data, to identify the important process drivers as well as to forecast the process and product quality behaviour will be presented in lectures. Hands-on coding and brainstorming sessions will be used to solve case studies from the (biopharmaceutical) industry. After the course the participants will be aware of relevant techniques and literature for process data analysis and will be able to evaluate different analysis paths for a given problem.

Scope
- Special analysis techniques for process data
- Introduction to multivariate data analysis
- Introduction to machine learning techniques
- Hybrid process modeling based on process data and process know-how
- Model-based process understanding & optimization
- Model-based process monitoring and forecasting
- Application of techniques to industrial use cases

Who should attend
The target group of the course encompasses scientists and engineers from academia and industry who encounter or are working with (bio)process data. The course shall motivate to utilize the presented techniques in ongoing and perspective projects. Previous experience in data analysis can be advantageous but is not mandatory. The course is designed to be attractive for participants in several time zones (e.g. US morning and European afternoon).

Format
The course takes the form of lectures, industry examples and case studies as well as hands-on sessions with software tasks (different software packages will be provided to the participant). Supervisors and graduate assistants will support the participants during the interactive workshops and data analysis sessions.
The course will be intense in content, interactive in learning and interdisciplinary in application and vision.
The situation caused by Covid-19 pandemic motivated us to provide this course as a virtual event.

"A lot of knowledge on a relevant topic in the pharma industry very well explained and delivered."

Participant from 2021

Venue and Organization

The course will be offered as interactive presentation through Microsoft Teams. Group activities will be handled in small virtual rooms. The provided proprietary software from DataHow as well as the open-source packages can be used during and after the course. Despite the limitations of such teaching format, it is our clear intention to deliver the content in similar comprehensibility to a in-person event and allow for many questions and discussions. The participants are welcome to provide their own case studies to be solved in the brainstorming sessions as well as in dedicated Q&A sessions.

Principal Lecturers

Michael Sokolov, *Ph.D., MBA, COO of DataHow and Lecturer at ETH Zurich*
Michael is an expert in bioprocess modelling and regular speaker on the potential of smart digital pharma solutions on international conferences. He conducted his research in close collaboration with the pharma industry and co-authored more than 25 publications.

Alessandro Butté, *Ph.D., MBA, CEO of DataHow & Lecturer at ETH Zurich*
Besides a long-standing research experience in polymer, separation and biotechnological processes, Alessandro has several years of experience in the pharma industry. He is a co-author of more than 70 publications and 4 patents.

Moritz von Stosch, *Ph.D., CIO of DataHow*
Moritz is one of the leading experts for hybrid modelling of bioprocesses. He combines an academic career path with several years of experience in the pharma industry. He is a co-author of more than 50 publications on microbial and mammalian upstream as well as downstream processing.

Further Lecturers and Tutors

Dr. Fabian Feidl, bioprocess digitalization expert
Dr. Nicolas Cruz, *modeling and automation expert*
Prof. Massimo Morbidelli, *thought lead bioprocessing*
Dr. Adam Szalkowski, IT infrastructure expert
Dr. Martin Luna, PhD, DoE and optimization expert
Dr. Harini Narayanan, machine learning expert

Course Program

A preliminary program is provided in a separate document (www.datahow.ch/news/events/course). The course will be distributed over 6 days with half-day teaching sessions. A final program will be provided by 15th October 2022 when we will have collected some preferences of the registered participants.

Course fees

The course fee is CHF 3'000 (CHF 1'800 for academia and 600 for students. 15% fee reduction is offered if the optional Day 0 is not attended. An early-bird discount of 15% is offered until 15th September 2022. The fee includes lecture and case study summaries in electronic formats as well as the cost of all communication platforms and software packages used fin the course. It also includes one free participation voucher (non-transferrable) for the Symposium on Digitalization and Big Data Analytics (https://www.datahow.ch/news/events/symposium/), preliminary scheduled in Zurich in Q2 2023.

Terms and Conditions

<u>Confirmation:</u> A signed confirmation of completion will be delivered to each participant after the course.
<u>Number of participants:</u> A minimum of 8 will be accepted in the course.
<u>Cancellation policy:</u> Cancellation of registration must be submitted in writing or via email to m.sokolov@datahow.ch.
Cancellations made later than 3 weeks before the course start will be subject to a 30% cancellation fee. A colleague may be substituted without penalty. Full refunds will be made in the case that the course is cancelled, e.g. due to insufficient enrolment.

Registration

https://www.surveymonkey.com/r/course22B

Please contact l.meier@datahow.ch
in case of questions. Registration is only complete after payment or payment confirmation. Registration is binding unless the minimum of participants cannot be reached.

"Gives a great overview and clarifies many concepts in the data analytics jungle."

Participant from 2020