



DataHow

Add Process Intelligence to Your Data



Short course on

Advanced Process Data Analytics

7th – 9th September 2020, *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 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 (big) 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 to follow the course.

Format

The course takes the form of lectures, case studies and 'hands-on' workshops with software tasks. 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.

What does virtual course mean?

The course will be offered as interactive presentations through Microsoft Teams. All lecture material will be provided in advance in digital or also as printouts (on demand). Group activities will be handled in small virtual rooms. 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.

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

Participant from 2019

Principal Lecturers



Michael Sokolov, Ph.D., 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 20 publications.



Alessandro Butté, Ph.D., 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 and a MBA from St. Gallen. 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 30 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

Harini Narayanan, machine learning expert

Course Program

A preliminary program is provided in a separate document (www.datahow.ch/news/events/course). It will be a three-day event from Monday, 7 September, morning to Wednesday, 9 September, late afternoon. The course will combine a pre-course on multivariate methods on the first day and a two-day course on advanced process analysis methods on days 2 and 3. A final program will be provided by 1 August 2020.

Course fees

The course fee is CHF 1'600 (CHF 1'000 for academia and 450 for students). A 20% fee reduction is offered if only the advanced two-day course is attended without the pre-course on the first day. An early-bird discount of 15% is offered until 31 May 2020. The fee includes lecture and case study summaries in electronic formats as well as the cost of all communication platforms used for 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 on 18 February 2021. Additionally, the participants can purchase the HARD-COPY package, which is a complete print folder of the course material and is delivered to an address indicated by the participants.

Terms and Conditions

Confirmation: A signed confirmation of participation will be delivered to each participant after completing the course.

Number of participants: A minimum of 8 and a maximum of 32 participants will be accepted in the course.

Cancellation policy: Cancellation of registration must be submitted in writing or via email to bigdata@chem.ethz.ch.

Cancellations made after 1st August 2020 will be subject to a 30% cancellation fee. A colleague or associate 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

Register online via:

<https://de.surveymonkey.com/r/ETHbigdata2020>

Early bird discount until May 31st 2020: -15%.

Please contact bigdata@chem.ethz.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 2019