AIM OF THE COURSE
The general theme is the quantitative systematic design of integrated downstream processes. Biotechnological engineers need to design compact and clean processes to efficiently separate bioproducts, such as proteins, from dilute complex fermentation broths. This course provides and explains the tools to quantitatively and systematically design integrated downstream processes. The lectures and tutorials combine both academic and industrial points of view.

COURSE REGISTRATION
Please register via the website (www.biotechnologycourses.nl) to attend the course. Deadline for application is 10 June 2019.
Applicants will be handled in order of the date of receipt.

MORE INFORMATION
Go to www.biotechnologycourses.nl
ADVANCED COURSE
Downstream Processing
1 - 5 July 2019

COURSE DESCRIPTION
This one-week course is intensive and has long days. To ensure active participation by those attending, a combination of theoretical (lectures) and practical (exercises, computer simulations and case study) work is offered. Some online preparatory materials will be given to ensure all have the same basic knowledge.

TOPICS
The thermodynamical basics and bioseparation principles will be introduced and developed during the course. Special attention will be paid to the unit operations typically used in this field of industry. Every day will be focused around a central theme. The following subjects will be addressed:

- Various solid-liquid separation techniques and cell disruption
- Application of major concentration techniques such as extraction, adsorption and membrane separation
- Scientific and industrial aspects of purification by means of precipitation and chromatography
- Process integration to connect all units of operation

During the course, a case study on the design of an integrated purification process for a recombinant protein will offer the participants the opportunity to practice on the individual unit operations as well as on the integrated process.

TARGET AUDIENCE
This Advanced Course is aimed at professionals (MSc or PhD level) in (bio)chemical engineering, or in microbiology or biochemistry with a basic knowledge in chemical engineering. The course is primarily aimed at those already employed in industry and who are interested in the separation of biotechnological products.

COURSE LOCATION
The course will be held at the Delft University of Technology, Department of Biotechnology