

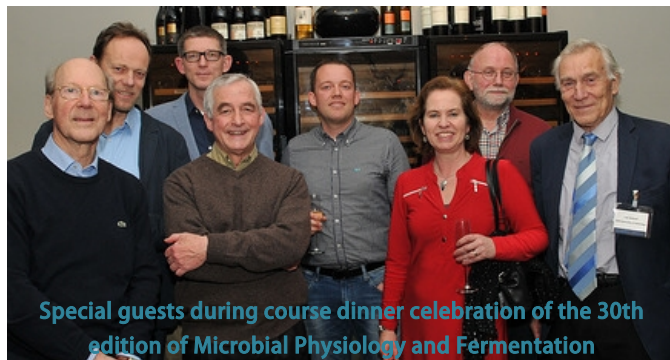


**BioTechDelft**  
POSTGRADUATE EDUCATION

# Year report 2018

BioTech Delft  
Foundation Biotechnology Academy Delft

First edition of the Advanced Course Multiscale  
Computational Methods in Bioprocesses.  
19-23 November 2018 Delft, the Netherlands.



Special guests during course dinner celebration of the 30th  
edition of Microbial Physiology and Fermentation



## Preface

This year Biotech Delft started with the 30<sup>th</sup> edition of the successful course on Microbial Physiology and Fermentation Technology, an impressive and memorable achievement! Indeed, over 1000 scientists from all over the world have followed the two-week course enabling them to put the Delft based theory in their own practice. Previous and present course leaders were treated to a festive dinner and thanked for their unrelenting input over so many years. Again the course had a full registration so we had to make a waiting list for future participants. This was the first of a total of 6 advanced courses organised this year, with an average of 30 participants per course. Our formula of mixing hands-on training with theory seems to continue going strong - we are proud to announce that participants scored us with a 4.3 for content and even 4.6 for organisation on a scale of 1 to 5!

This coming year we will take all the suggestions on board again to even further improve our courses and we start a new adventure. Under the enthusiastic leadership of Henk Noorman we have developed a new course on Multiscale Computational Methods in Bioprocesses. We are eager to add this course to the list and hope to welcome a novel group of international scientists. Biotech Delft has also supported the running of the 5th edition of the TU Delft Massive Open Online-Course (MOOC) on Industrial Biotechnology and the making of a new joint MOOC Biobased Products for a Sustainable Bioeconomy, which we did together with Universities in Ghent, Aachen, Wageningen and CLIB2021 in Germany.

In the Board we have a temporary vacancy. In June Prof. Isabel Arends left as head of Department of Biotechnology and hence as vice-chairman of the Board, we wish her all the best in her new function as dean of the Faculty of Science at Utrecht University. Awaiting the appointment of a new chairman of the Department of Biotechnology we have left the position open for the moment. In the team of Vincent Renken Claudia left and was replaced by temporary staff while we are trying to find an equally devoted new secretary.

Also this year we awarded a course-grant to the winner of the now 4th edition of the TU Delft MOOC on Industrial Biotechnology. The winner was Benjamin Honorio from Peru. Benjamin told me he did everything possible to become a winner and so get his entrance to the AC Microbial Physiology and Fermentation Technology. He really loved the course.

Last but not least, Biotech Delft would never be a success if it was not run by committed people. Vincent, Claudia Ilinaat and Sandra were responsible for the smooth organisation and they can be proud on the high marks that participants gave them for looking after everything so well. Thank you Biotech team!

On behalf of the board I wish all a pleasant read of the annual report 2018!

Prof.dr. Patricia Osseweijer – treasurer and acting vice-chairman



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## **1. Summary**

In 2018 six courses were organised, of which one was new: Multiscale Computational Methods in Bioprocesses). With an average of 30 participants per course, 4.3 for content and 4.6 for organising the courses, we look back on a very successful year. The 30<sup>th</sup> edition of MPFT was celebrated, the registration process was enhanced and the feedback is now fully digital via GoogleForms.

We thank our partner (Wageningen University & Research), all lecturers and participants for this cooperative and successful year!



Prize winning team during AC EB



Working on de Case Study during AC DP



Lunch during AC MCB



Working at BioTech Campus Delft during AC MCB



Prize winning team during AC DP



AC BD participants (in



AC BD participants



AC EB participants

## 2. BioTech Delft in 2017

### 2.1 General

The foundation "Biotechnology Academy Delft" (short: BioTech Delft) manages the outreach program of the department of Biotechnology at the Delft University of Technology. Our aim is to stimulate high-end education activities. Our target group are scientists and engineers from universities and industries.

In our courses we invite a wide variety of influential lecturers from universities and industries speak about their vision on the biotechnology. Our Advanced Courses are short in-depth courses, which are full-time and given in one or two weeks.

Our current portfolio consists of seven advanced courses. Five of them are principally organised yearly, three every other year:

Yearly:

- Bioprocess Design (in partnership with Wageningen University & Research)
- Downstream Processing
- Environmental Biotechnology
- Microbial Physiology and Fermentation Technology
- Multiscale Computational Methods in Bioprocesses (new)

Every other year:

- Biocatalysis and Protein Engineering
- Genomics in Industrial Biotechnology
- Metabolomics for Microbial Systems (in partnership with Forschungszentrum Jülich)

In 2018 Microbial Physiology and Fermentation Technology, Biocatalysis and Protein Engineering, Bioprocess Design, Downstream Processing, Environmental Biotechnology and Multiscale Computational Methods in Bioprocesses were organised.

### 2.2 Strategy and goals

BioTech Delft has a strong portfolio and the courses have a well-known reputation. Besides organising our courses, effort goes into the continuous maintenance and improvements of the courses as well as setting up new ones. We will shortly discuss the results of the goals set for 2018.

- development of new courses

Multiscale Computational Methods in Bioprocesses has been organised in November 2018 on the Biotech Campus Delft. With 25 participants it was a success. Participants and lecturers were very enthusiastic (average content score 4.3). Small (content) alterations will be implemented in the 2019 version.

- more targeted and timed advertisement

We have been tracking our advertisement more closely (see 3.3) and explored some new options of advertisement. We made standard powerpoint slide for all course board members to show during their presentations and gatherings, and used the departments network to spread our flyers and brochures.



- improvements in the registration process (more automatized)

The registration process has been mostly automated and standardized.

- explore possibilities for online education

Is still being explored. We will continue that next year.

For 2019 we will keep exploring options for promotion, start-up online learning, continue improvement of MCMB, try to start up a new course (multi omics) and organise an in-house training in Brazil.

### **2.3 Organisational changes**

After 5 years of being chair of the Biotechnology department and vice-chair of this foundation, Isabel Arends was appointed dean of the Faculty of Science at the University of Utrecht in July 2018. The position is open for the moment until Biotechnology has a new department head.

In October Claudia Westhoff found a new challenge and Sandra Flotman replaced her in November.

## **3. Results 2018**

In total we had 180 participants, which is almost equal to the 2016 record! This year we only organised 6 Advanced Courses (7 in 2016). On average we had 30 participants in the course and scored 4.3 for content and 4.6 for the organisation.

As every year, the organisation of the Bioprocess Design was in cooperation with Wageningen University & Research. This year the course was held in Wageningen. In 2019 the course will be held in Delft again.

The new AC Multiscale Computational Methods in Bioprocesses was organised at a new location: Biotech Campus Delft. We are very pleased with the collaboration.

### 3.1 Advanced Courses

An overview of the advanced courses of 2018 is shown in table 1.

Table 1: Courses in 2018

Advanced Course	Times organised (since)	Length (weeks)	Participants (Industry / PhD / PDEng)
<b>Microbial Physiology and Fermentation Technology</b> 15-26 January	30 (1988)	2	37 (20/17/0)
<b>Bioprocess Design</b> 27-31 March	5 (2014)	1	31 (16/3/12)
<b>Biocatalysis and Protein Engineering</b> 9-13 April	17 (1999)	1	32 (5/26/1)
<b>Environmental Biotechnology</b> 13 – 23 June	23 (1993)	2	23 (3/17/3)
<b>Downstream Processing</b> 3-7 July	30 (1989)	1	32 (18/6/8)
<b>Multiscale Computational Methods in Bioprocesses</b> 19-23 November	1 (2018)	1	25 (12/12/1)

In the graphs on the next page, the number of participants of the last seven years is shown. Three groups are visualised: PDEng (Professional Doctorate in Engineering), PhD's and participants from industries. We aim for a balanced distribution between industrial and PhD participants. This stays an important discussion point with all course boards.

For the AC MPFT it was the 30<sup>th</sup> time we organised it. We celebrated it small with a more elaborate course dinner and invited the most frequent invited speakers from the last 30 years.



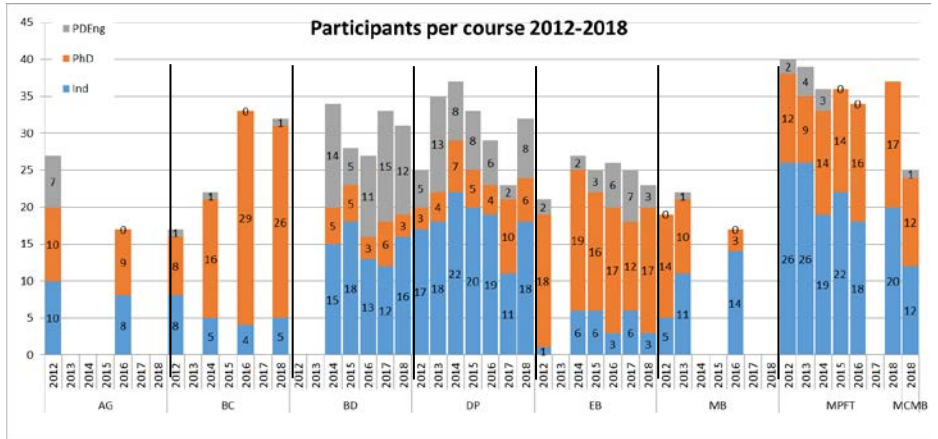


Figure 1: participants sorted per course over the last 5 years.

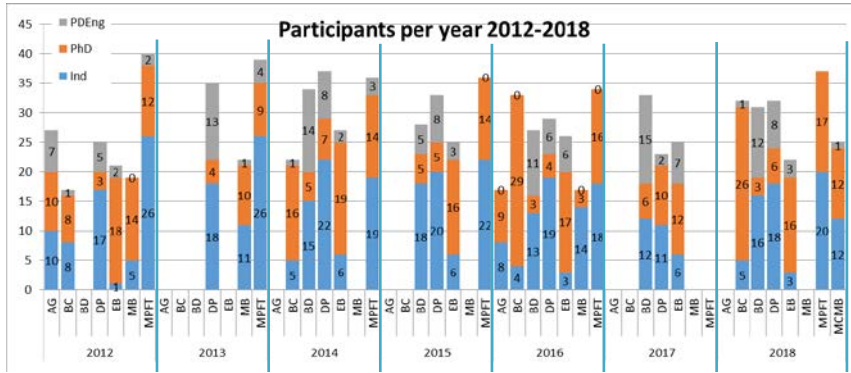


Figure 2: Participants sorted per year.

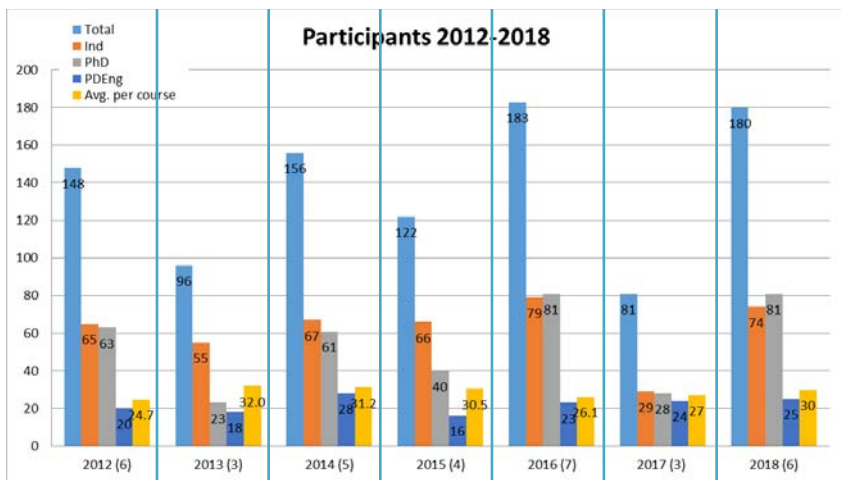


Figure 3: Participants totals per year in three groups. Below: year (number of courses)

### 3.2 Quality of the Advanced Courses

To ensure the quality of the Advanced Courses, all courses are evaluated and discussed yearly with the course boards. The evaluation gives insight in the relevance and didactic qualities of all presentations and lecturers. Furthermore the organisational part the course is evaluated.

The average numbers are given in table 2. The scoring is given from 1-5.

Table 2: results of evaluation Advanced Courses 2017

Advanced Course	2018 Content / org.	2017(or 2016) Content / org.	Historical avg. (10yrs)
Microbial Physiology and Fermentation Technology	4,4 / 4,7	(4,5 / 4,9)	4,3
Biocatalysis and Protein Engineering	4,4 / 4,4	(4,3 / 4,6)	4,2
Bioprocess Design	4,2 / 4,6	4,4/4,5	4,3
Environmental Biotechnology	4,3 / 4,6	4,1/4,3	4,3
Downstream Processing	4,1 / 4,6	4,1/4,3	4,0
Multiscale Computational Methods in Bioprocesses	4,3 / 4,4	-	-

In general we still see a high appreciation of the courses (average 4,3) and the organisation (average 4.6) of them. Improvements made since last year to the course location could be causing the small increase in appreciation. The new course (MCMB, which was organised at the Biotech Campus Delft) also scores very well. We are proud of these good results.

### 3.3 Promotion of the Advanced Courses

Our courses have an very good international reputation, but continuous promotion remains an important topic. Below the data on how participants were informed about us (indicated by themselves at registration).

Table 3: how course participants found the courses

	Total %	Total	BC	BD	DP	EB	MCMB
By a colleague	59%	48	8	5	12	11	12
Via <a href="http://biotechnologycourses.nl">biotechnologycourses.nl</a>	16%	13	3	3	4	1	2
Supervisor	12%	10	2			1	7
By the brochure	6%	5		2	2		1
Other	5%	4					4
Via search engine	2%	2			2		
<b>Total</b>	<b>100%</b>	<b>82</b>	<b>13</b>	<b>10</b>	<b>20</b>	<b>13</b>	<b>26</b>

As can be seen in table, our courses are best advertised via word of mouth (by colleagues and supervisors (72%)). Keeping a high standard in organising will remain a priority. Above that, we have invested in using our networks better, by activating old participants and invest in informing the department staff. Also online visibility remains an important topic.

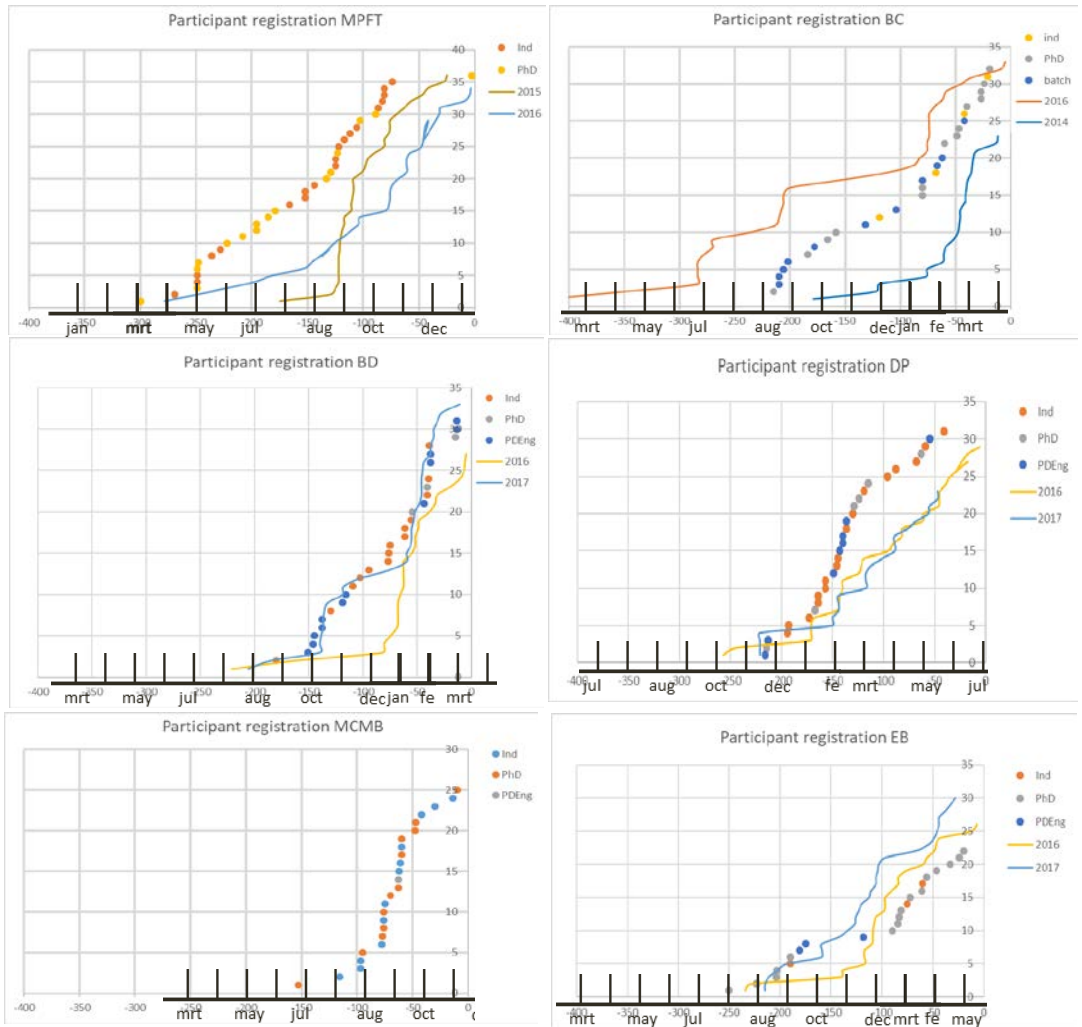


Figure 4: Registration of participants in time. 3 categories of participants are visualised (dots) and the data of previous two years (line)

Registration data looks similar compared to the last three years. Only the MPFT registration starts early (probably due to not organising the course in 2017). On general, registration starts about 7 months in advance.

All efforts which have been started last year were continued (e.g. DIDEA, flyers) and some intensified (e.g. banners, contacts via department staff)

Looking at the usage of the website, an increase in activity can be seen compared to last year. Compared to two years ago, we had 7% less users but for the rest the numbers are comparable.

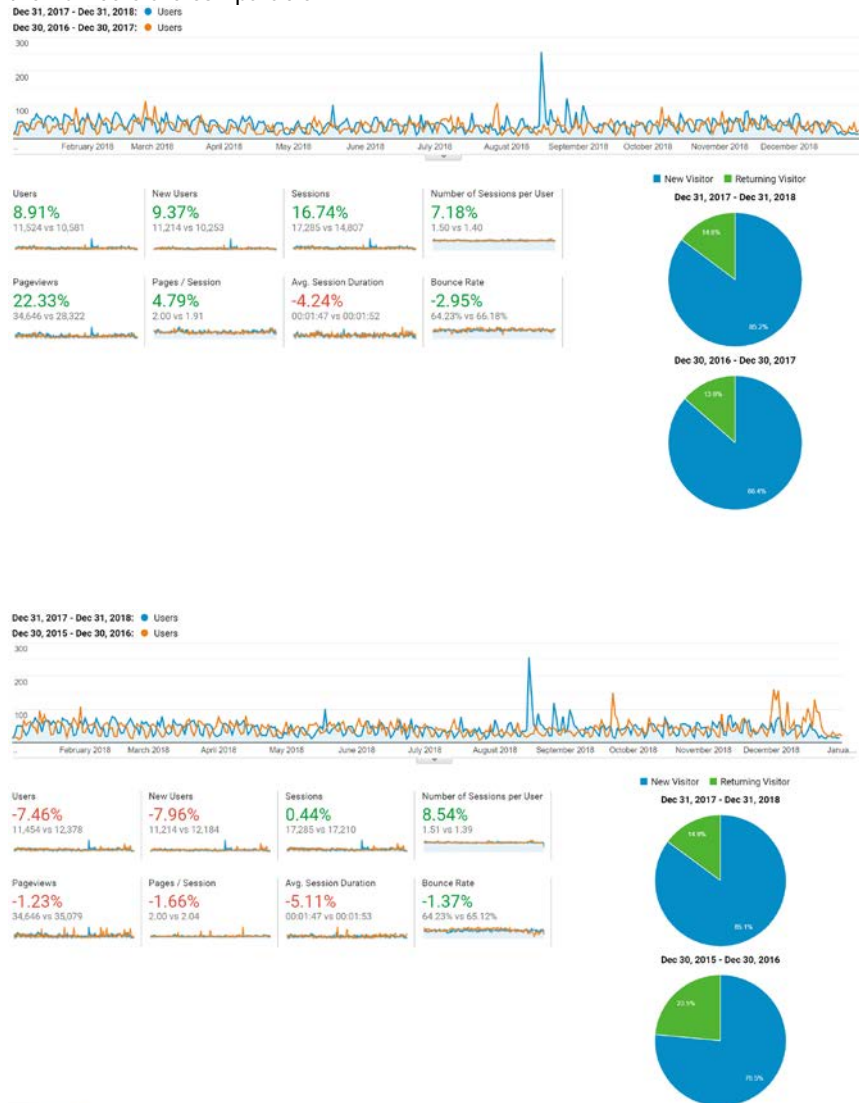


Figure 5: a comparison between the amount of visitors on our website of the last two years.



Figure 6: Flow diagram how visitors browsed through the website in 2018

Generally speaking, we are more visible than last year and also our registrations increased. Looking at averages per day per year, we see the following:

- 2015: 36,3
- 2016: 33,7
- 2017: 28,9
- 2018: 31,6

On 16 August the course calendar was send. With 24,2% who opened it is about average. 6.5% clicked on the newsletter, which is higher than last years. Below there can be also seen where the receivers clicked.

August, 2018 (1)

 **BioTech Delft Course Announcement 2018/2019** Sent **24.2%** **6.5%**  
Opens Clicks  
Regular - BioTech Delft full list  
Sent Thu, August 16th, 2018 11:56 AM to 2K recipients by Vincent Ronken


July, 2017 (1)

 **BioTech Delft Course Announcement 2018** Sent **27.3%** **5.8%**  
Opens Clicks  
Regular - BioTech Delft full list  
Sent Fri, July 7th, 2017 4:09 PM to 2K recipients by you

November, 2016 (1)

 **BioTech Delft Course announcement** Sent **25.5%** **4.8%**  
Opens Clicks  
Regular - BioTech Delft full list  
Sent Wed, November 16th, 2016 4:21 PM to 2K recipients by you

December, 2015 (1)

 **Newsletter concept 2016-11** Sent **22.8%** **3.5%**  
Opens Clicks  
Regular - BTD Mailinglist  
Sent Tue, December 22nd, 2015 2:06 PM to 2K recipients by Jenny Boks

## Course Announcement 2018/2019



**BioTechDelft**  
POSTGRADUATE EDUCATION

Dear << Test F [redacted] Last Name >>,

Hope you are looking back at a long and well deserved vacation! We would like to show you our courses for the coming year, and to give special attention to our new course: Multiscale Computational Methods in Bioprocesses.

Furthermore, 15th October 2018 we will relaunch our free MOOC in Industrial Biotechnology. There will be a prize for the most active participant: a free advanced course (incl. your travel cost)!

Check our courses down below!

[Why did I receive this email?](#)

[Stop receiving this newsletter](#)

[What is BioTech Delft?](#)

[No, thank you](#)

Use your own custom HTML

## Course Calendar

Date:	Advanced Course:	Registration:
19 - 23 Nov 2018	Multiscale Computational Methods in Bioprocesses	OPEN (till 29 Oct)
21 Jan - 1 Feb 2019	Industrial Fermentation Technology	OPEN
18 - 22 Mar 2018	Bioprocess Engineering	OPEN
May 2019*	Industrial Biotechnology	OPEN
Jun 2019*	Bioprocess Engineering	OPEN
1 - 5 Jul 2019	Industrial Biotechnology	OPEN
Nov 2019*	Bioprocess Engineering	OPEN
April 2020*	Bioprocess Engineering	OPEN
*Exact date to be determined		



**New! Multiscale Computational Methods in Biotechnology**



Multiscale Computational Methods in Biotechnology will be organised 19-23 November 2018. Amongst the teachers will be: Henk Noorman, Sef Heijnen, Cristian Picioareanu, Adrie Straathof, Cees Haringa, Mathias Reuss, Frank Bruggeman and others. Check out the [full program here](#) or [download our brochure!](#)

0%

2.2%

7.5%

**Free Online Course in Industrial Biotechnology**

On the 15th of October 2018 the online course Industrial Biotechnology will start again. Learn the basics of sustainable processing for biobased products to further understand their impact on global sustainability. All for free! Make your account on [Edx.org](#) and enjoy. In this online course you can win a trip to Delft including a BioTech Delft. The course will stay open until the end of December 2018.

4.7%



10.3%

There are several ways in which you could have made it into our address database: Perhaps you took a course, requested information, a colleague might have known you are interested, or you are friends with one of the course leaders. If you are not interested in biotechnology courses, you can unsubscribe from our newsletter at any time. If you want to be deleted from our database completely, and also stop receiving paper brochures, please let us know by email.

BioTech Delft is a non-profit foundation for education in the field of Biotechnology. BioTech Delft is coordinated by the Delft University of Technology in the Netherlands. BioTech Delft has developed several types of postgraduate education in biotechnology, but currently focusses on the Advanced Courses in Biotechnology.

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Our mailing address is:  
 Institute Biotechnology Academy Delft  
 Van der Maasweg 9  
 Delft, ZH 2628 HZ

0%

Figure 7: newsletter with indications of amount of clicks by viewers

**3.4 Synergy with the department of Biotechnology**

The reputation of the Advanced Courses is strong and has a positive effect on the branding of the Biotechnology department. They also offer staff members the opportunity to keep, and get, in contact with industries via invited lecturers as well as via participants. Furthermore all Biotechnology employees are invited to follow the guest lectures, which is often made use of.

The courses form an important part of the PDEng students' education as well as PhDs from the department and campus. The opportunity to let PhD and PDEng students work side by side with industrial participants is appreciated by all. Promotion was made during the advanced courses regarding the aims and possibilities of the PDEng-educational program to all participants.

All in all both sides benefit from the organisation of the Advanced Courses. This is something we value and will strive to maintain.

## 4. Organisation

### 4.1 Employees of Foundation BioTech Delft

Program Director

V.L.J. Renken, MSc MSc(Ed)

Office Manager

Claudia Westhoff (till October) / Sandra Flotman (from November)

Financial Administration

I.G.M. van Kersbergen (Kersenbentjes BV)

### 4.2 Board of BioTech Delft

Chair: Dr. Ir. J.M.A. Geertman, Sr. Manager product & process research, Heineken, Zoeterwoude

Vice-chair: Prof. Dr. I.W.C.E. Arends, Head of the department of Biotechnology and professor in Biocatalysis and Organic Chemistry, TU Delft

Treasurer: Prof. Dr. P. Osseweijer, professor in Biotechnology and Society, TU Delft

Board member: Dr. A. Wahl, Assistant Professor Cell Systems Engineering, TU Delft

Board member: Dr. D. Claessen, Associate Professor Institute of Biology Leiden, Leiden University

### 4.3 Advisory Council

Dr. E.C. Roos, (voorzitter), Eric Roos Consulting/Koninklijke Nederlandse Chemie Vereniging, Delft

Dr. R. Bos, TIFood & Nutrition, FrieslandCampina, Deventer

Prof. Dr. Ir. C.J.N. Buisman, WETSUS, Leeuwarden / Universiteit Wageningen

Dr. Ir. C.B. de Gooijer, Food & Nutrition Delta, Wageningen

Dr. P.C.A.M. van Helvoort, Royal HaskoningDHV, Amersfoort

Prof. Dr. Ir. J.F.T. Keurentjes, TNO, Delft

Drs. A.C.A.J. van de Leur, Synthron Biopharmaceuticals, Nijmegen

Dr. B. Marthi, Unilever Research Laboratorium, Vlaardingen

Dr. Ir. F.J. Nagel, Janssen Biologics BV, Leiden

Dr. W. van Waesberghe, Heineken Supply Chain, Zoeterwoude

Dr. Ir. R.J. Zoetemeyer, Corbion Purac, Gorinchem

### 4.4 Contact information

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E: [biotechdelft@tudelft.nl](mailto:biotechdelft@tudelft.nl)

W: [www.biotechnologycourses.nl](http://www.biotechnologycourses.nl)

## **5. Acknowledgment**

Our courses could not be organised without the effort of a large part of the Department of Biotechnology. We would like to thank all staff and lectures of our courses.

Special thanks go to prof. Isabel Arends for her 5 years of commitment to the board and the department, and to Claudia Westhoff who quickly took on the responsibility and independency of organising the courses.