

## Lab-on-a-chip: Principles and Applications

Scheduled 8 April 2017, 10:00-17:00

HAN, Laan van Scheut 2, Nijmegen

### Content

This one-day course will treat several aspects of the “laboratory on a chip”, including design and fabrication, microfluidics and detection principles, and applications in the life sciences and analytical and synthetic chemistry.

### Target audience

The course is taught in the framework of the Analytical Sciences Talent Program (ASTP) for top talents in vocational education (HLO/Universities of Applied Sciences), in the third year of their program (ASTP-2). The course is thus also well suited for employees at this level.

### Topics

- Introduction to the concepts of lab-on-a-chip and microfluidics
- Micromachining methods for Lab-on-a-Chip (silicon, glass, polymers)
- Electrokinetic separations on a chip
- Examples of devices: HPLC, NMR, IR, and chemical reactions on a chip
- Detection on a chip: UV-Vis spectroscopy, fluorescence and electrochemical
- Design of a lab on a chip (group assignment)

### Lecturers



*Prof. Dr. Sabeth Verpoorte and Prof. Dr. Han Gardeniers*

Prof. Sabeth Verpoorte has been head of the Pharmaceutical Analysis group in the Groningen Research Institute of Pharmacy, University of Groningen, since 2003. Research in the Pharmaceutical Analysis group is primarily devoted to better understanding micro- and nanofluidic systems and how they can be applied to chemical and cell biological problems. Before coming to the Netherlands, she worked at Ciba-Geigy AG (Basel, Switzerland) and the University of Neuchâtel, Switzerland. She has more than 25 years of research experience in the lab-on-a-chip field. Verpoorte has published more than 100 peer-reviewed papers.

Prof. Dr. Han Gardeniers did his MSc in Chemistry, and a PhD in Physical Sciences at Radboud University, Nijmegen. Since 1990 he has worked as a scientist at the University of Twente and at 2 SME companies in the field of lab-on-a-chip systems for biomedical and chemical analysis. His current research focus is on micro and nanofabrication, microreactors with alternative activation mechanisms (e.g. ultrasound or plasma) and microfluidic systems for chemical analysis (LC & NMR on chip). He has published over 200 peer-reviewed papers. Website:

<http://www.utwente.nl/tnw/mcs/>



## At the end of the course

You will have gained knowledge of the basic principles, designs and applications of Lab-on-a-Chip and microfluidics, and recent developments in this field.

## Course duration and time investment

Course duration:	1 day from 10:00 till 17:00
Company time:	0 hours (as this course is on a Saturday)
Participant's investment:	1 day + optional self-study

## Extra Information

This course is part of the Saturday's program of ASTP and is taught every year.

### Course fees:

- €800 (ex. BTW/VAT) per day
- COAST members pay a reduced fee of €400 per day (ex. BTW/VAT) or use a wildcard
- ASTP / MSc+ students: Free

Special fees can be offered to PhD students and companies registering for three or more persons.

For up-to-date information about the course program visit our website at [www.ti-coast.com/L3](http://www.ti-coast.com/L3).

Please contact us for more information.

## Registration

To register fill out, sign and email the form attached to [lifelonglearning@ti-coast.com](mailto:lifelonglearning@ti-coast.com).

Registration Form

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HAN, Laan van Scheut 2, Nijmegen

Name	
Organization	
Address	
Billing address (if different from above)	
Educational background	
Email address	
Phone number	

Payment

- I will pay the full course fee of €800 per day (ex. BTW/VAT)
- I qualify for 50% discount, because my employer is a COAST participant, and will pay €400 per day (ex. BTW/VAT)
- I am a PhD student and will pay €400 per day (ex. BTW/VAT)
- I am a PhD student from a group participating in COAST and will pay €200 (ex. BTW/VAT) per day
- I have received a wildcard from: ..... Therefore, I will follow this course for free (note: this person must receive a copy of your registration mail, to indicate approval)

Date:

Place:

Signature:

To register, please email the duly signed registration form to [lifelonglearning@ti-coast.com](mailto:lifelonglearning@ti-coast.com)