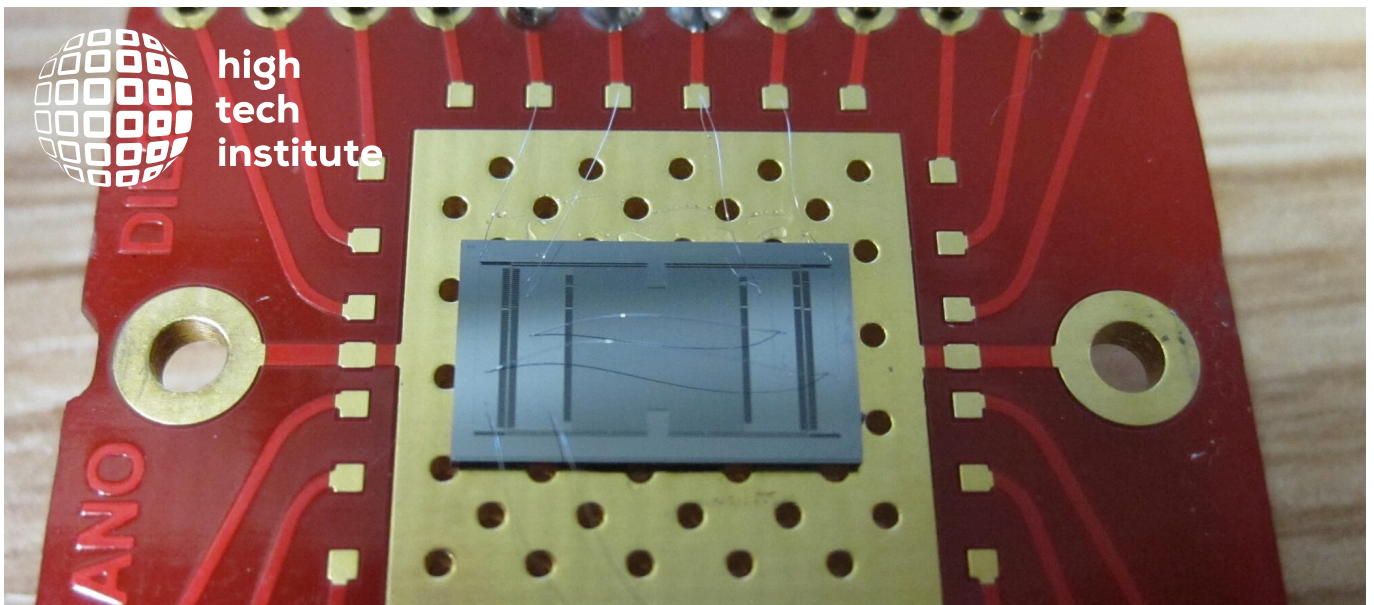


## TRAINING BROCHURE

# Microelectromechanical systems (MEMS) training



[Provisional reservation >](#)

[Book now >](#)



## Microelectromechanical systems

**Price:** € 1,910 excl. VAT \*

**Duration:** 3 consecutive days

**Contact:** [training@hightechinstitute.nl](mailto:training@hightechinstitute.nl), +31 85 401 3600

**Score:** 8.5 ★★★★★☆

### Intro

This is an introductory course of 3 days on microelectromechanical systems (MEMS): the basic theory and how MEMS are designed and fabricated, various applications of MEMS in sensors and actuators, and usage issues of MEMS.

*This training is available for open enrollment as well as for in-company sessions. For in-company sessions, this MEMS training can be adapted to your situation and special needs.*

### Objective

After having attended the course, the participant knows:

- the basic theory of microelectromechanical systems (MEMS),
- how MEMS are designed and fabricated,
- various applications of MEMS in sensors and actuators,
- how MEMS can be used.

### Intended for

This course is intended for electronic and mechanical/mechatronic design engineers (technical college/university level) working in research and product development.

Assumed pre-knowledge: elementary knowledge on IC-technology/processing.



### Certification

Participants will receive a High Tech Institute course certificate for attending this training.

### Course leader

[Hans Vink MSc](#)

### Trainers

[Prof. Michael Kraft](#)

*\* Prices are subject to change. Price correction will be applied at the end of the year.*

Keep me posted



## Program

### Introduction to microelectromechanical systems

- MST - MEMS - micromachines
- MEMS, general aspects and motivation: miniaturisation, portability, markets

### Micromechanical processing techniques

- Bulk micromachining
- Surface micromachining
- Dry etching
- Deep reactive ion etching
- Wafer bonding techniques, Silicon on Insulator
- Bonding

### Sensors and actuators

- Transduction methods (capacitive, piezoresistive, piezoelectric)
- Pressure sensors
- Accelerometers, gyroscopes
- Actuators
- Acoustic MEMS
- Resonant based sensors
- Optical MEMS and applications
- Gas sensors, chemical and Biosensors

## Methods

Lectures and exercises. Course material: course notes.

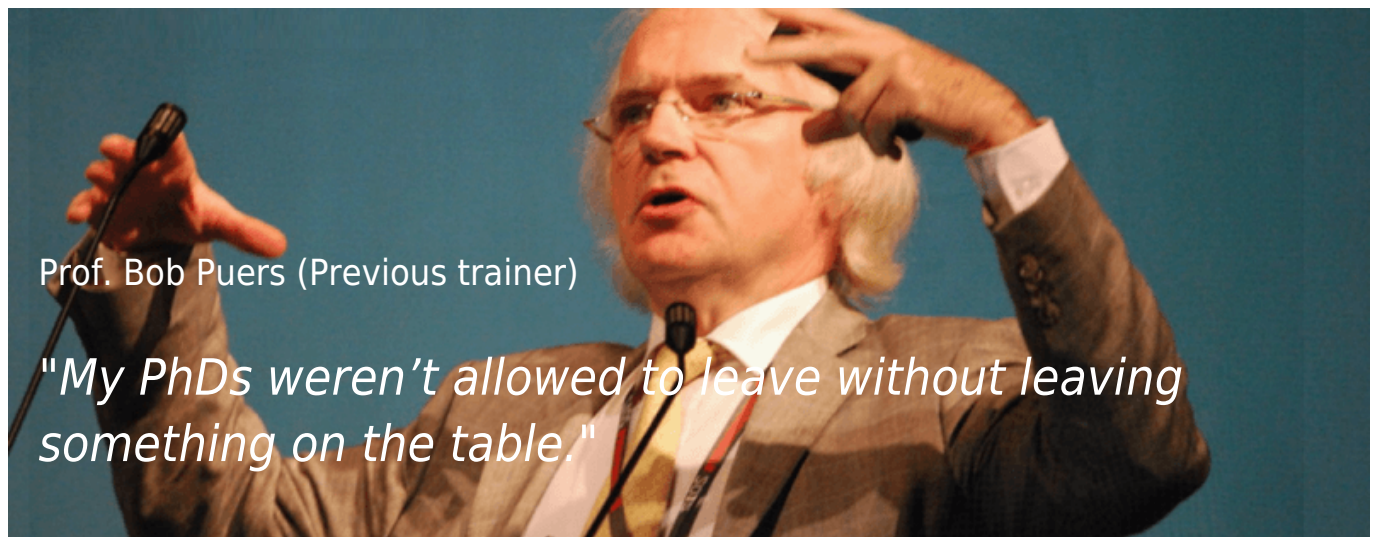
## Trainers

Prof. Michael Kraft

## Frequency

Once per 1,5 year

Read the interview:



Remarks from participants:

- 'It was an excellent training both in terms of contents and presentation. The trainer was exceptional in answering the questions raised by the trainees.' > Anonymous (Beijing)
- 'It was excellent for the beginners who want to study the technology from scratch. I have learnt different technique for MEMS manufacturing which are very helpful.' > Anonymous (Beijing)
- 'The course was useful for the overall understanding of hardware design of MEMS and the fabrication techniques of MEMS.' > Anonymous (Beijing)
- 'The training is very nice, in fact excellent. Very informative containing a lot of knowledge about the title of training (MEMS). Everything in training including contents, material and lecturer is excellent.' > Anonymous (Beijing)