

**Price:** € 1,575.00 excl. VAT

**Duration:** 3 consecutive days

**Contact:** training@hightechinstitute.nl, +31 85 401 3600

## Program

### Introduction to microelectromechanical systems

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

### Micromechanical processing techniques

- Bulk micromachining
- Surface micromachining
- Dry etching
- Wafer bonding techniques
- Problems: outgassing and getters, sticking, drift phenomena

### Sensors and actuators

- Pressure sensors, flow sensors
- Accelerometers, gyroscopes
- Electrostatic actuation, xy stages, resonators and RF MEMS
- Thermal sensors, thermal MEMS
- Optical MEMS and applications
- Gas sensors, chemical and biosensors
- Microfluidics

### Packaging issues

- Interconnection of systems, assembly, testing and housing

## Methods

Lectures and exercises. Course material: course notes.

## 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.

## Intro

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

## Trainers

Prof. Bob Puers



## Certification

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

## Course leader

Hans Vink MSc

## Trainers

Prof. Bob Puers