



## Smart Sensor Systems

April 16-20, 2018  
 Delft, The Netherlands

Deadline for registration:  
 March 23, 2018

For full program, fees and registration information,  
 please visit the course website at: [www.mead.ch](http://www.mead.ch)

MONDAY, APRIL 16	
Introduction to the Course Program Designing Smart Sensor Systems	Prof. Kofi Makinwa, Dr. Michiel Pertijs, TU Delft Prof. Kofi Makinwa, TU Delft, The Netherlands
Measurement and Calibration Techniques Analog-to-Digital Converters Dynamic Offset-Cancellation Techniques	Dr. Michiel Pertijs, TU Delft, The Netherlands Dr. Marcel Pelgrom, Pelgrom Consult, The Netherlands Prof. Kofi Makinwa, TU Delft, The Netherlands
TUESDAY, APRIL 17	
Smart Temperature Sensors Integrated Hall Magnetic Sensors Smart Inertial Sensors CMOS-Compatible Microfabrication	Prof. Kofi Makinwa, TU Delft, The Netherlands Dr. Pavel Kejik, EPFL, Switzerland Prof. Michael Kraft, Univ. of Liege, Belgium Dr. Reinoud Wolffenbuttel, TU Delft, The Netherlands
WEDNESDAY, APRIL 18	
Multi-Electrode Capacitive Sensors Precision Instrumentation Amplifiers Guided Simulation on Multi-Domain Modeling	Prof. Gerard Meijer, TU Delft, The Netherlands Prof. Han Huijsing, TU Delft, The Netherlands Dr. Reinoud Wolffenbuttel, Dr. Mohammadamir Ghaderi, TU Delft, The Netherlands
THURSDAY, APRIL 19	
CMOS-Based DNA Microarrays <b>References for Smart Sensors (NEW)</b> Implantable Smart Sensors for Advanced Medical Devices	Prof. Roland Thewes, TU Berlin, Germany <b>Dr. Fabio Sebastiano, TUDelft, The Netherlands</b> Dr. Tim Denison, Medtronic, USA
FRIDAY, APRIL 20	
Smart Acoustic Sensors CMOS Image Sensors Closing Session	Dr. Michiel Pertijs, TU Delft, The Netherlands Prof. Albert Theuwissen, TUDelft, The Netherlands

# SMART SENSORS SYSTEMS COURSE INFORMATION

## GENERAL INFORMATION

The Smart Sensor Systems Course is a post-graduate engineering course. The lectures are given by top experts from academia and industry, thus ensuring a good mix between recent developments and established practice. The prerequisite for the course is a basic knowledge of electrical circuits and systems. The course will be taught in English. After the course, each attendee will receive a certificate of attendance.

## SHORT DESCRIPTION

This course addresses the design and development of smart sensor systems. After a general overview, various key aspects of sensor systems are discussed: measurement and calibration techniques, the design of precision sensor interfaces, analog-to-digital conversion techniques, microfabrication techniques, and sensing principles for the measurement of magnetic fields, temperature, capacitance, acceleration and rotation. The state-of-the-art smart sensor systems covered by the course include smart magnetic-field sensors, smart temperature sensors, multi-electrode capacitive sensors, implantable smart sensors, DNA microarrays, smart inertial sensors, smart acoustic sensors and CMOS image sensors. A systematic approach towards the design of smart sensor systems is presented. The lectures are augmented by an introduction to multi-domain modelling and simulation, and hands-on experiments.

This course is a part of the PhD Education Program approved by the Graduate School of TU Delft, Delft, The Netherlands. PhD students can be granted 3 ECTS credits after evaluation based upon a paper on a theme to be agreed with the course directors.

## REGISTRATION

### Registration fees:

Until March 23:	€ 1,800.-
After March 23:	€ 2,000.-
PhD students:	€ 900.-

Please visit [www.mead.ch](http://www.mead.ch) for on-line registration. Included in the fee are lecture notes, the books "Smart Sensor Systems" and "Smart Sensor Systems – Emerging Technologies and Applications", daily lunches, coffee breaks and a course dinner organized for all attendees and instructors of the course.

## LOCATION

The course will be held at Delft University of Technology, in the EWI building (the tallest building located in the University area).

Address: TUDelft – EEMCS  
Mekelweg 4  
2628 CD Delft, The Netherlands

### Access to Delft:

From Amsterdam Airport (Schiphol): by train to Delft Central Station or by car on highway A4 (Den Haag) - A13 (Delft, Rotterdam)

From Rotterdam Central Station: by train to Delft Central Station or by car on highway A13.

From Delft Central Station to TU Delft: by taxi or by bus (line 121).

## ACCOMODATION

Hotels and reservation deadlines are listed at the website ([www.mead.ch](http://www.mead.ch)). After the deadline, reduced prices or room availability cannot be guaranteed. It is therefore strongly recommended to book early.

## CONTACT FOR ADDITIONAL INFORMATION

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