

Micro Electronics & Micro Engineering

Course Overview

Whether you are in research, design or marketing, this comprehensive programme will provide you with an introduction to the technology design methods, applications and markets that will be affected by Micro Electronics and Micro Engineering (MEMs).

Benefits

This course is guaranteed to give you:

- New insights into the benefits of incorporating MEMs into your business
- An overview of the impact on your products
- A guide to Micro Engineering processes technology that you will need to incorporate in your products

Content

Set 1: MST & Micro Electronics: Technology, Development Process & CAD Overview

- **Evolution from 1972 to 2002**
Dr J Malcolm Wilkinson, Technology for Industry Ltd, Cambridge, UK
- **MEMs materials & processing**
Prof Zsolt Illyefalvi-Vitez, Budapest University of Technology & Economics, Hungary
- **MEMs Technologies**
Prof Zsolt Illyefalvi-Vitez, Budapest University of Technology & Economics, Hungary
- **Actuator principles & applications**
Prof Zsolt Illyefalvi-Vitez, Budapest University of Technology & Economics, Hungary
- **Comparisons: MST & IC development process from concept to production & overview of CAD tools**
Dr Andrew Richardson, Centre for Microsystems Engineering, University of Lancaster, UK

Set 2: MST Design & Development Process & Overview of CAD Tools

- **Microsystems packaging technology**
Dr Andrew Richardson, Centre for Microsystems Engineering, University of Lancaster, UK
- **Modelling techniques for MEMs & Microsystems**
Dr Andrew Richardson, Centre for Microsystems Engineering, University of Lancaster, UK
- **Microsystems test engineering**
Dr Andrew Richardson, Centre for Microsystems Engineering, University of Lancaster, UK
- **Roadmaps & market forecasts**
Dr J Malcolm Wilkinson, Technology for Industry Ltd, Cambridge, UK

Set 3: Sensors, Amplifiers & System Integration

- **Sensor technologies**
Prof Gábor Harsányi, Budapest University of Technology & Economics, Hungary
- **Sensor structures**
Prof Gábor Harsányi, Budapest University of Technology & Economics, Hungary
- **Sensing effects**
Prof Gábor Harsányi, Budapest University of Technology & Economics, Hungary
- **Sensing various parameters**

- Prof Gábor Harsányi, Budapest University of Technology & Economics, Hungary
- **Application fields: overview**
Prof Gábor Harsányi, Budapest University of Technology & Economics, Hungary
- **Signal conditioning & A to D conversion**
Dr David Hitchings, Kirkstall Ltd, Cambridge, UK
- **Integration of sensors & electronics**
Dr David Hitchings, Kirkstall Ltd, Cambridge, UK

Set 4: The Business & Economics of Micro Electronics & MST

- **Why use MST ? Added Value / competitive advantage Industry structure and supply chains**
Dr J Malcolm Wilkinson, Technology for Industry Ltd, Cambridge, UK
- **Business strategies for MST companies**
Dr J Malcolm Wilkinson, Technology for Industry Ltd, Cambridge, UK
- **Foundries, design houses, survey & competitive analysis**
Dr J Malcolm Wilkinson, Technology for Industry Ltd, Cambridge, UK
- **MST development costs**
Dr J Malcolm Wilkinson, Technology for Industry Ltd, Cambridge, UK
- **MST production costs**
Dr J Malcolm Wilkinson, Technology for Industry Ltd, Cambridge, UK
- **Packaging & system integration costs**
Dr J Malcolm Wilkinson, Technology for Industry Ltd, Cambridge, UK
- **Practical issues in applying new technologies**
Dr David Hitchings, Kirkstall Ltd, Cambridge, UK

Set 5: Application Case Studies

- **Medical devices**
Dr David Hitchings, Kirkstall Ltd, Cambridge, UK
- **Communications/RF**
Dr David Hitchings, Kirkstall Ltd, Cambridge, UK
- **Automotive**
Dr Guido Tschulena, sgt Sensorberatung, Wehrheim, Germany
- **Domestic/household**
Dr Guido Tschulena, sgt Sensorberatung, Wehrheim, Germany