

# Microsystems and nanotechnology

## Course Overview

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There is a great deal of interest worldwide in the field of Microsystems technology and many devices have been demonstrated at the laboratory scale. Increasingly, there is an overlap with the field of nanotechnology in which the manipulation of matter on the nanometer scale is used to obtain entirely new structure and materials properties.

The Microsystems & Nanotechnology course will provide you with a general overview of the MST and Nanotechnology world combining scientific theory, market realities and up-to-date information from industry and international experts in this field.

## Content

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### Set 1

- **Processing of MEMs high aspect ratio structures**  
Dr Paul Kirby, Cranfield University
- **Advanced lithography**  
Dr Andrew Holmes, Imperial College
- **Integration of Microsystems with electronics**  
Dr Andrew Holmes, Imperial College

### Set 2

- **Introduction to MEMs packaging**  
Dr Paul Kirby, Cranfield University
- **Packaging of MEMs devices by anodic/fusion bonding**  
Dr Jan Kowal, Applied Micro Engineering Ltd
- **Pressure sensors and packaging**  
Dr Russel Craddock, Druck Ltd
- **Clean room practices and environmental issues**  
Mr John Rayner, Cotmore Consultants

### Set 3

- **Si carbide MEMs**  
Dr Rebecca Cheung, University of Edinburgh
- **Biomedical MEMs market and techniques**  
Dr Arianna Menciassi, Scuola Superiore Sant'Anna
- **MEMs performance and evaluation**  
Dr Swavik Spiewak, University of Calgary
- **Statistical analysis in an industrial fabrication line**  
Dr Chris Sansom, Bookham Technology

### Set 4

- **Rapid prototyping-stereolithography to microstereolithography**  
Dr Heather Almond, Cranfield University
- **Introduction to non silicon MEMs and related fabrication techniques**  
Prof Dominiek Reynaerts, University Katholieke Leuven
- **Nanotechnology-The future**  
Prof Roger Whatmore, Cranfield University