As the program encompasses practical workshops on real machine tools and laboratory equipment, the maximum number of participants is limited to 24.

Registration fee:
500 euros including material, all lunches during the course and a farewell diner.
Help with accommodation can be provided, contact us for more details.

A limited number of scholarships are available to students from institutions which are partners of the 4M Association (http://www.4m-association.org/)

Registration deadline May 15th 2019

All information is posted on the summerschool website:
https://www.conferencemanager.dk/MPPsummerschool2019

Contact DTU-Mekanik:
Department of Mechanical Engineering
DTU - Building 427 A
DK-2800 Kgs. LYNGBY
Phone: +45.45.25.47.63

Assoc. Prof. Giuliano Bissacco,
gibi@mek.dtu.dk

Mrs. Pia Holst Nielsen, pini@mek.dtu.dk

A unique course in the European scenario, where the entire product development process is dealt with in practice, from definition of design specifications to manufacturing and testing.

Watch the video and see what students do at the PhD Summer School:
https://www.youtube.com/watch?v=ee_aByzb8EE

PhD Summer School website
https://www.conferencemanager.dk/MPPsummerschool2019

4M Association

Technical University of Denmark

PhD Summer School

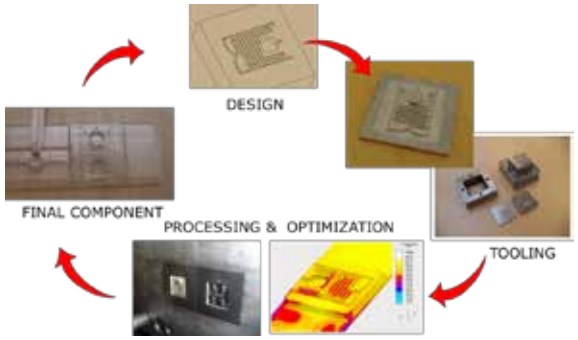
Micro Mechanical Systems Design and Manufacture

June 24th – July 5th 2019

Technical University of Denmark

Course aim

The aim of this course is to give the students a complete overview of manufacturing technologies at micro scale and enable their active participation in **all phases of micro product development in an industrial setting**, from definition of functional requirements to manufacturing and testing. This goal is achieved by developing a comprehensive understanding of the characteristics of micro components combined with the unique possibilities and limitations of manufacturing processes at micro scale. To develop the necessary competence required in designing micro products and the associated production process chain, classroom lectures are complemented by laboratory workshops on selected process technologies, project work, classroom exercises and demonstration of practical case studies.



Micro Manufacturing Process Chains

Coherent selection of process technologies enabling the realization of micro components matching defined specifications.

Activities

- lectures from highly qualified experts,
- hands-on workshops and tutorials
- project work.

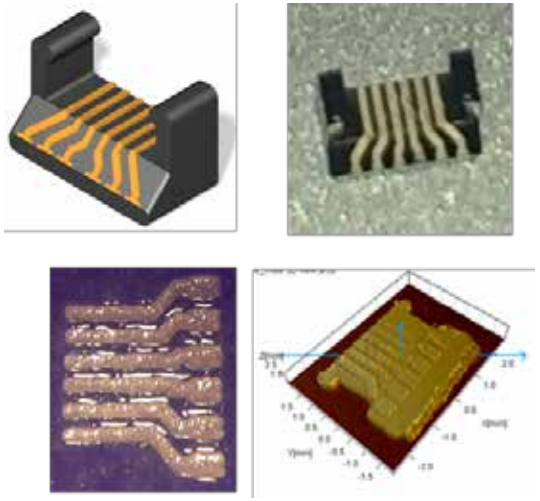
Examples of lecture topics

- Micro Manufacturing Process Chains
- Design for Micro mechanical parts
- Micro tooling processes (e.g. micro milling, micro electrical discharge machining, micro electrochemical machining, micro grinding)
- Polymer micro replication technologies (e.g. micro injection moulding, multicomponent injection moulding, hot embossing, Nano imprint lithography)
- Metal micro replication (e.g. micro forming, metal injection moulding)
- Thick film metal deposition, Electroplating
- Molded interconnect devices
- Metrology, Tolerancing and validation

Project work

Practical work focused on a project were the students apply the acquired knowledge to **design and produce a challenging prototype micro product**:

- understanding of the complete product development, emphasizing on collaboration and integration,
- from product requirements to manufacturing and testing,
- first-hand experience in various micro manufacturing processes.



Project 2014: From design to functional validation.

Student group 2014.