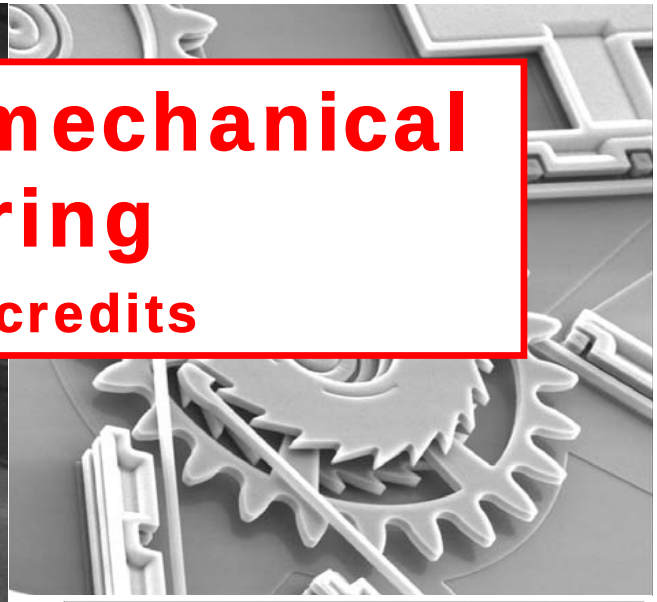
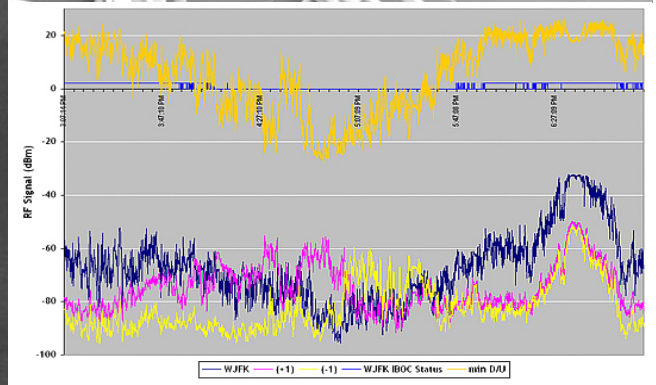
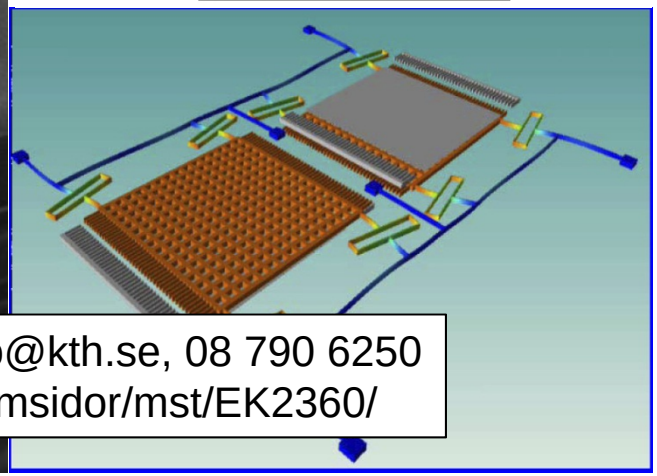
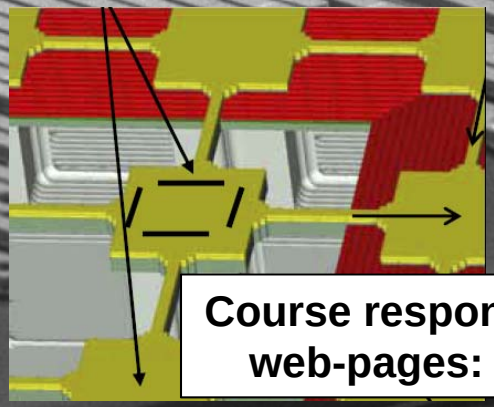
Hands-on micro-electromechanical Systems Engineering

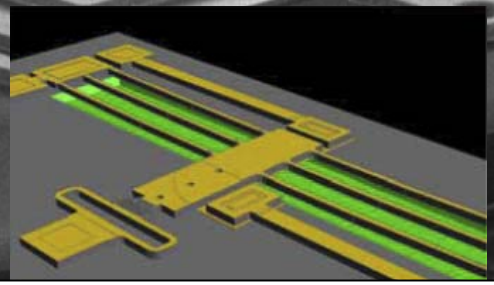
EK2360 HT-P2 7.5 credits









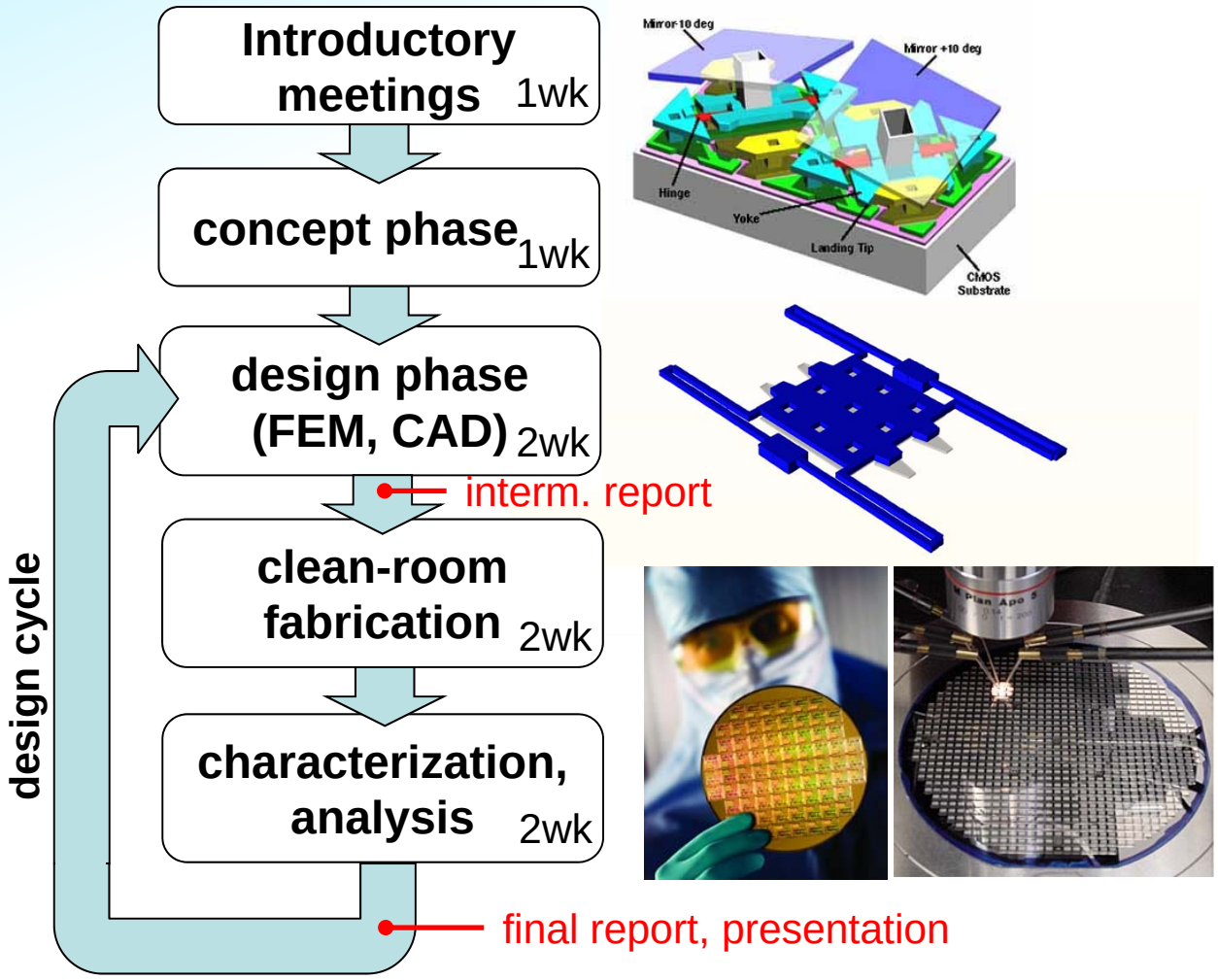


Course responsible: Joachim Oberhammer, joachimo@kth.se, 08 790 6250

web-pages: http://www.kth.se/ees/utbildning/kurshemsidor/mst/EK2360/

EK2360 “Hands-on MEMS Engineering”

- “hands-on” project work in small teams (2-3 people)
- design, fabricate, evaluate your own MEMS device !!

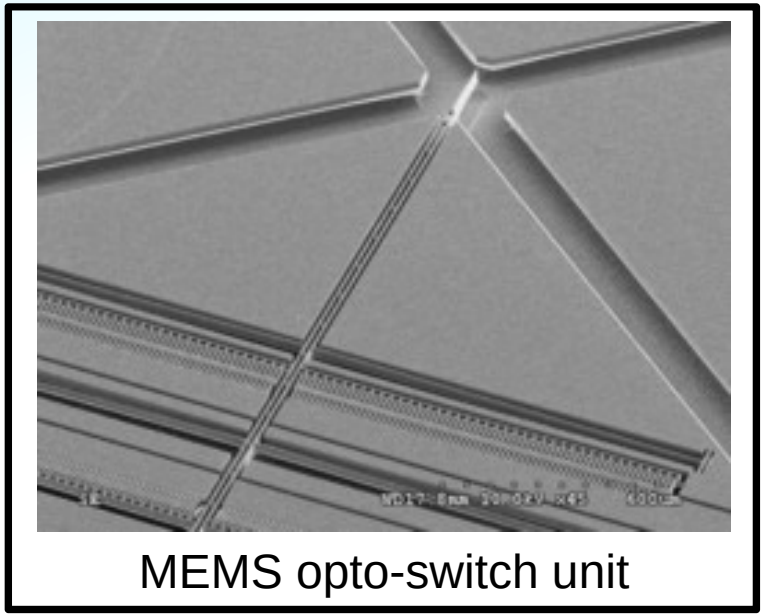


- **understand MEMS device engineering**
- **develop your own ideas!**
- **use state-of-the art design tools**
- **find your way in the clean-room**
- **compare measurements with simulations**
- **analyse failure modes**
- **suggest design improvements**

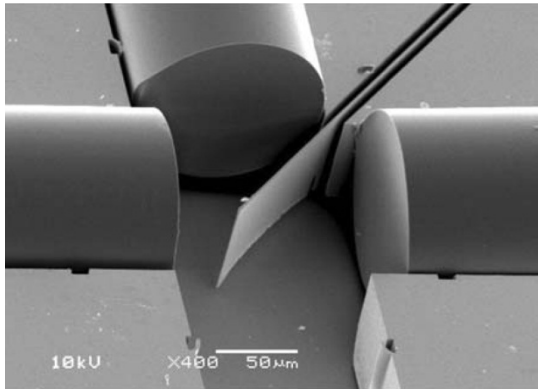
KTH-EE-MST
Joachim Oberhammer

Last year's task ...

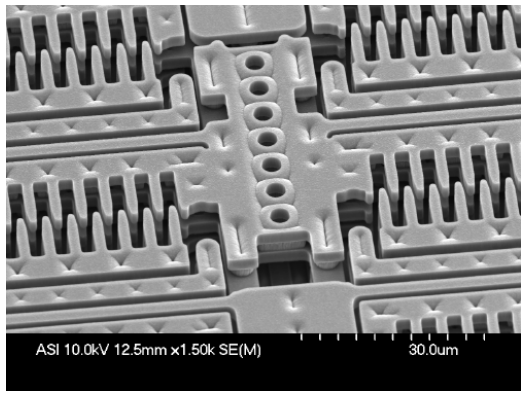
- design a **MEMS optical switch for telecommunication networks**, based on real-world specifications



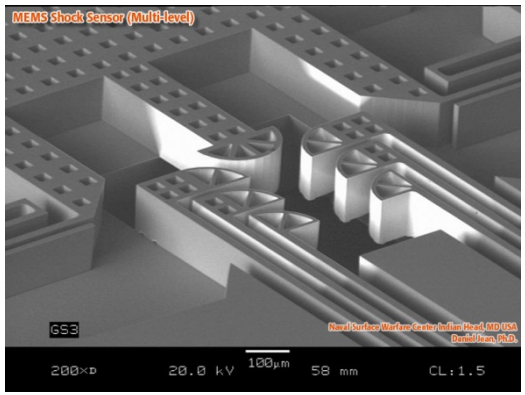
MEMS opto-switch unit



moving micromirror



comb-drive actuators



interlocking mechanics

Joachim Oberhammer, KTH-EE-MST

[Promotional video, created within a Best-Movie-Award competition among the course participants in 2011. The movie shows the devices designed, fabricated and evaluated by the students, in particular moving MEMS actuators in a measurement setup]

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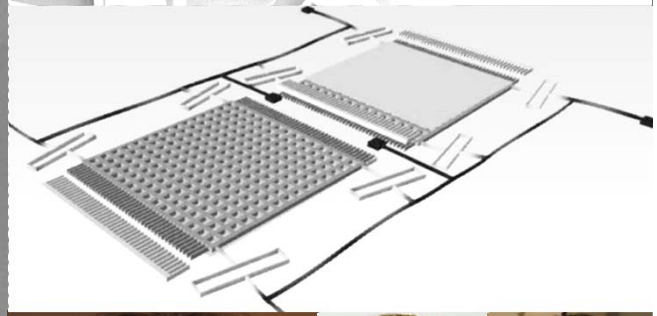
Course evaluation of 2011:

- 30% of students consider the course as one of the best 10% KTH courses
- 70% of students consider the course as one of the best 25% KTH courses

Course start 2012:

Monday, Oct. 22, 10:15-12:00
Q13 (KTH main campus)



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teachers 2012