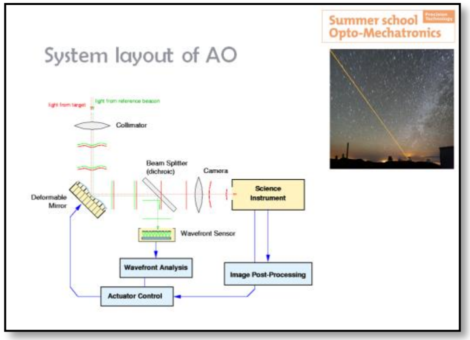
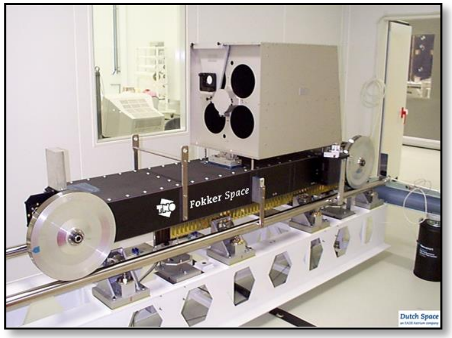
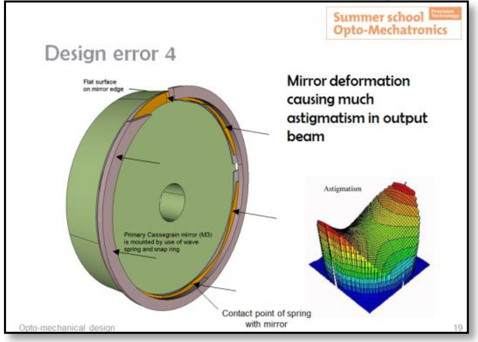
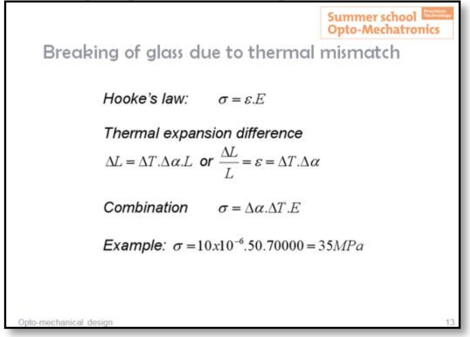
Summerschool Opto-Mechatronics

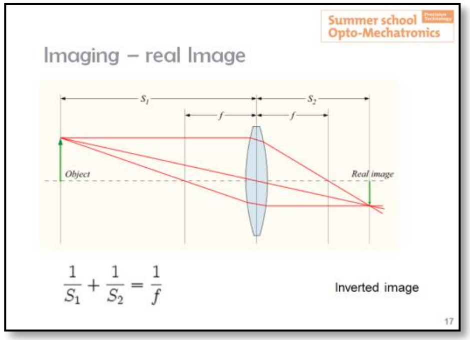
an initiative of the Dutch Society for Precision Engineering (DSPE)

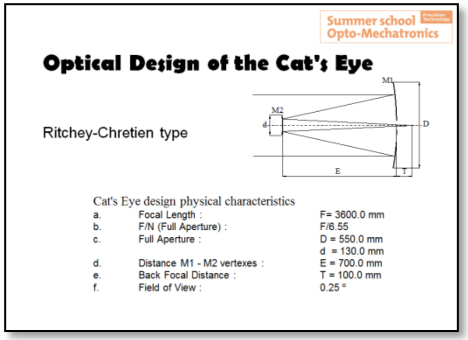


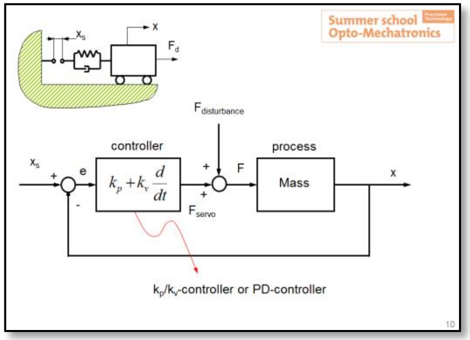


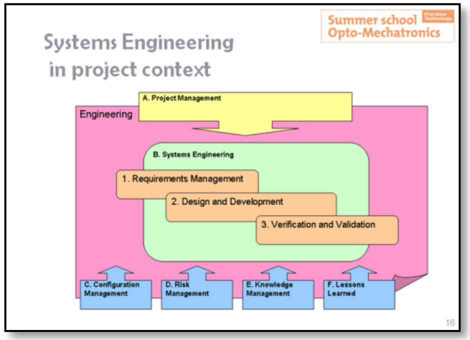


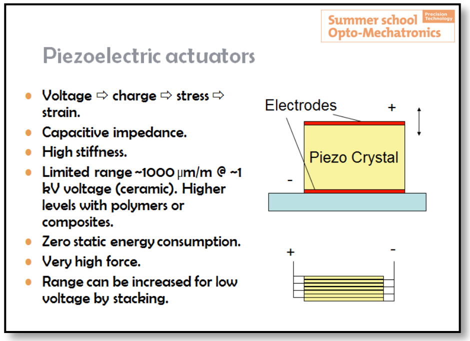


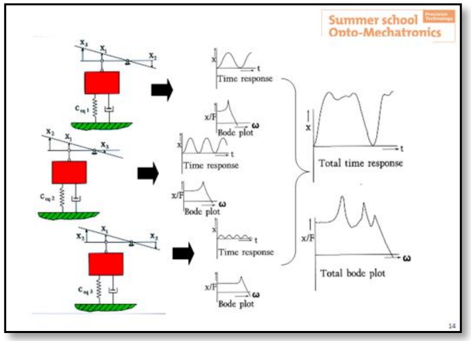


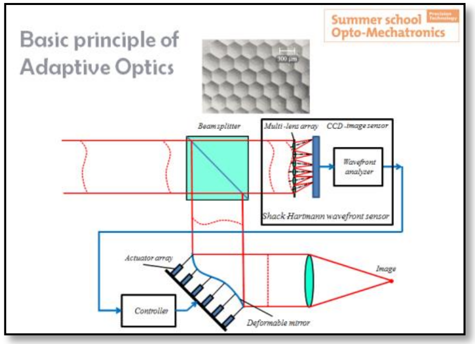


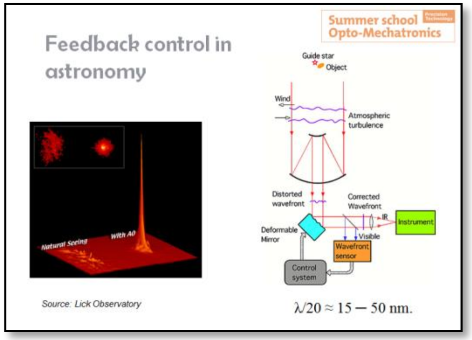








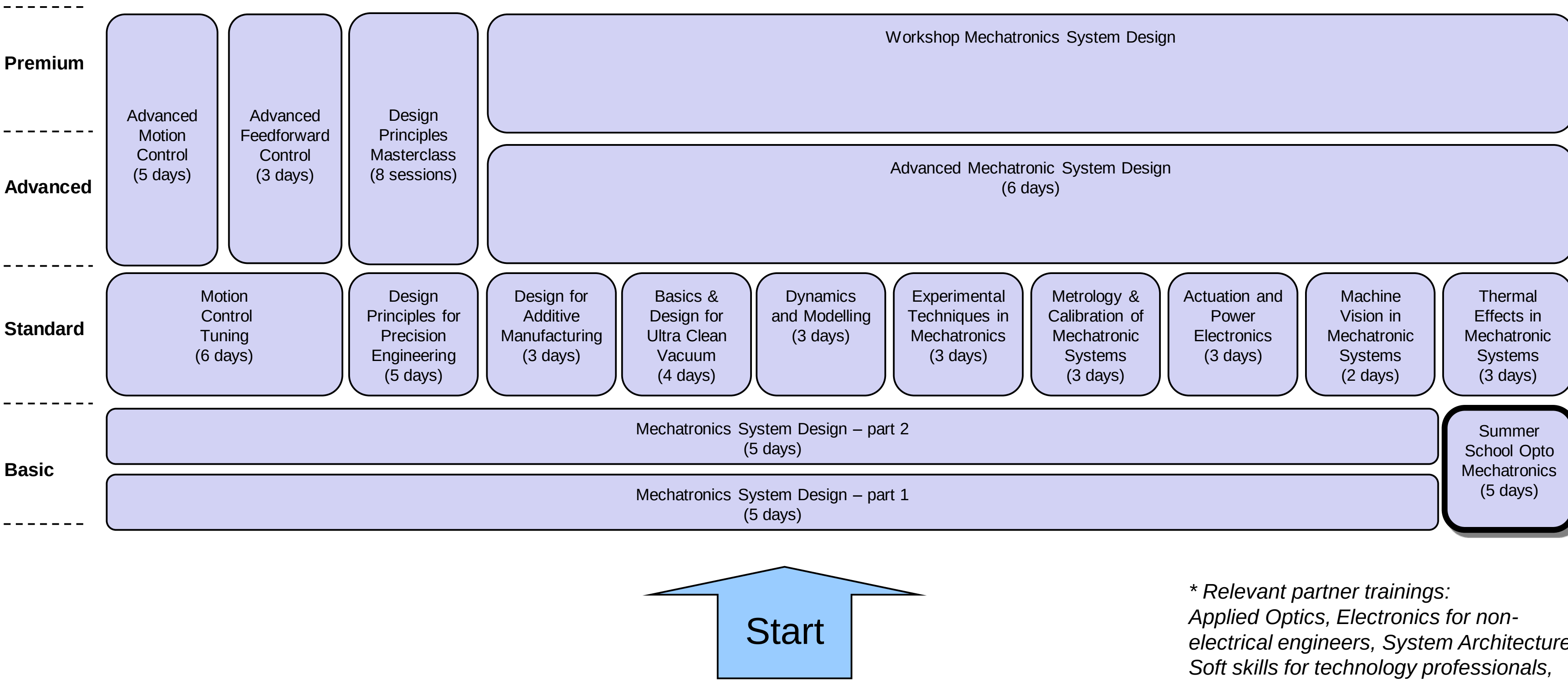




Contents

- Mechatronics Training Curriculum
- Details of Course *Summerschool Opto-Mechatronics*

Mechatronics Training Curriculum



** Relevant partner trainings:*
Applied Optics, Electronics for non-electrical engineers, System Architecture, Soft skills for technology professionals, …

www.mechatronics-academy.nl

Mechatronics Academy

- In the past, many trainings were developed within Philips to train own staff, but the training center CTT stopped.
- **Mechatronics Academy B.V.** has been setup to provide continuity of the existing trainings and develop new trainings in the field of precision mechatronics. It is founded and run by:
  - Prof. Maarten Steinbuch
  - Prof. Jan van Eijk
  - Dr. Adrian Rankers
- We cooperate in the **High Tech Institute** consortium that provides sales, marketing and back office functions.

Summerschool Opto-Mechatronics

Course Directors / Trainers / Guests

<u>Course Director(s)</u>

- Prof. ir. Rob Munnig Schmidt
- Dr.ir. Adrian M. Rankers

<u>Teachers</u>

- Prof. ir. Rob Munnig Schmidt (RMS Acoustics & Mechatronics)
- Dr.ir. Adrian M. Rankers (Mechatronics Academy)
- Dr.ir. Stefan Bäumer (TNO)
- ir. Eddy van Brug (TNO)
- Dr.ir. Pieter Nuij (NTS-Group)
- ir. Jan Nijenhuis (Nijenhuis Precision Engineering)
- Ing. Fred Kamphues (Millhouse Consultancy)

<u>Guest Speakers</u>

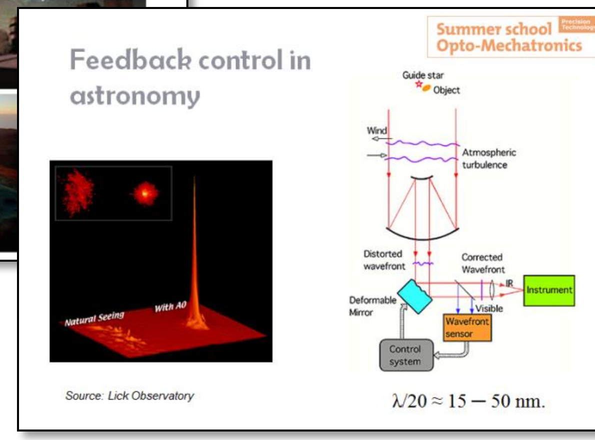
- ir. Frank de Lange (ASML)
- Dr. Frederic Derie (ESO)

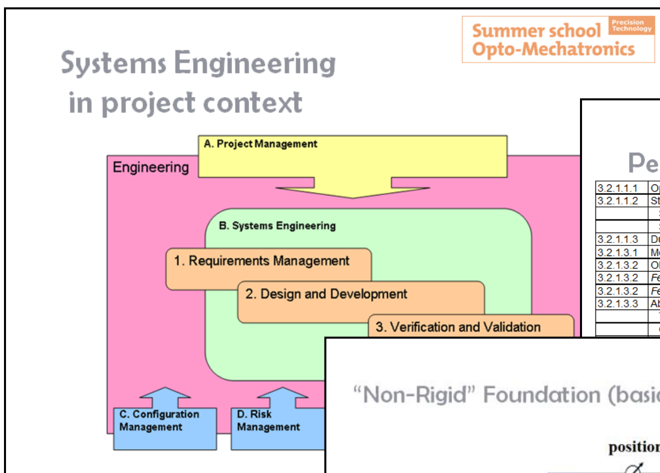
Program

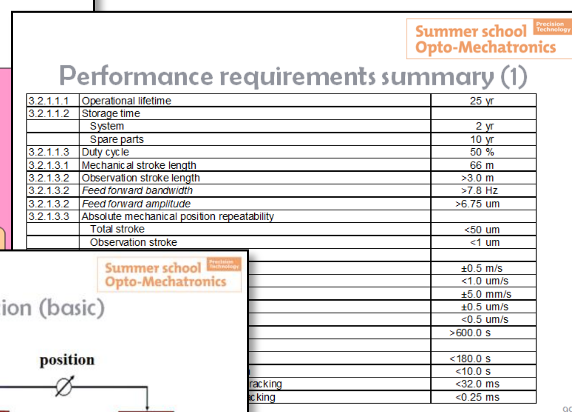
Day	Topic	Trainers
Monday	Systems Engineering Basic Modelling *Dinner* *Evening Presentation: Systems Engineering at ASML*	Rob Munnig Schmidt Adrian Rankers *Frank de Lange*
Tuesday	Optical Design *Dinner* *Evening Presentation: E-ELT, the World's Biggest Eye on the Sky*	Stefan Bäumer Eddy van Brug *Frederic Derie*
Wednesday	Control Design I *Evening: Summerschool Construction Challenge (incl. Pizza's)*	Pieter Nuij Adrian Rankers
Thursday	Optomechanical Design	Jan Nijenhuis Fred Kamphues
Friday	Actuation, Sensing & Dynamics	Rob Munnig Schmidt Adrian Rankers

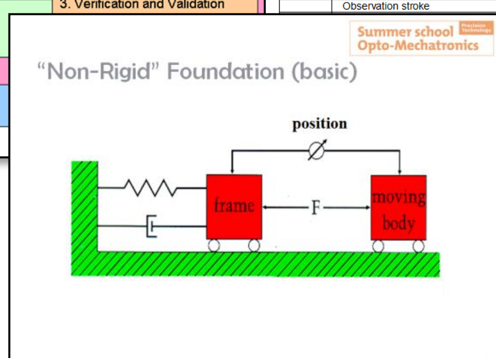
Day 1: Systems Engineering & Modelling

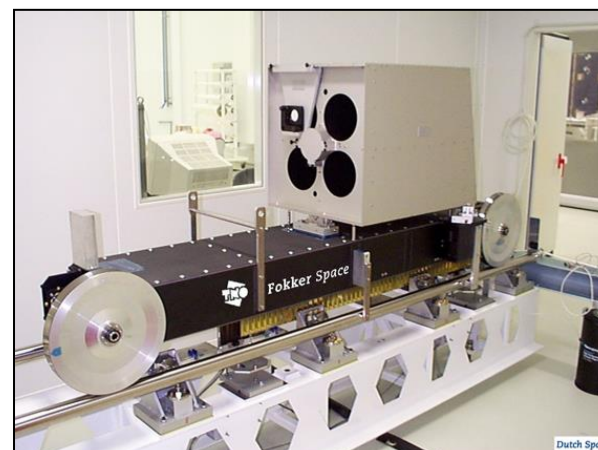
- Introduction Case
- Systems Engineering
- Basic Modelling









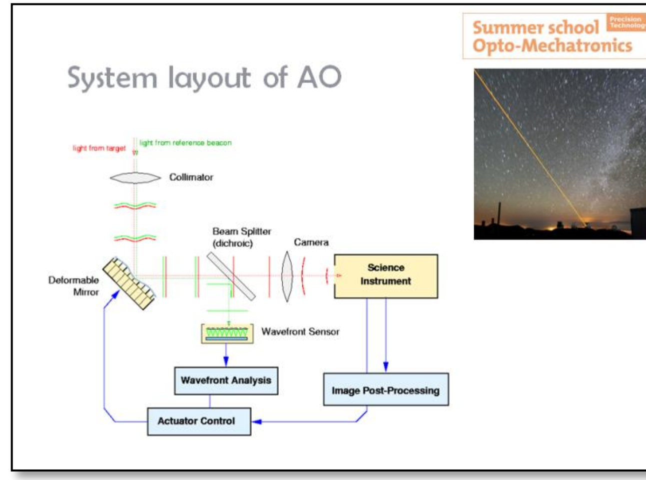


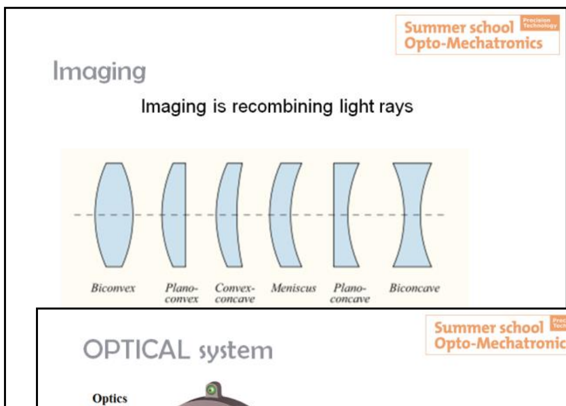
mechatronics academy brainport

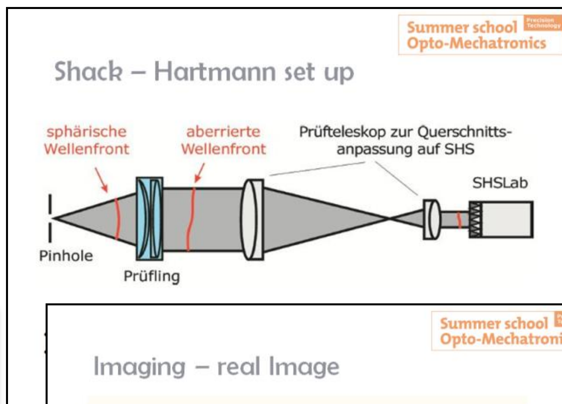
HIGH TECH INSTITUTE

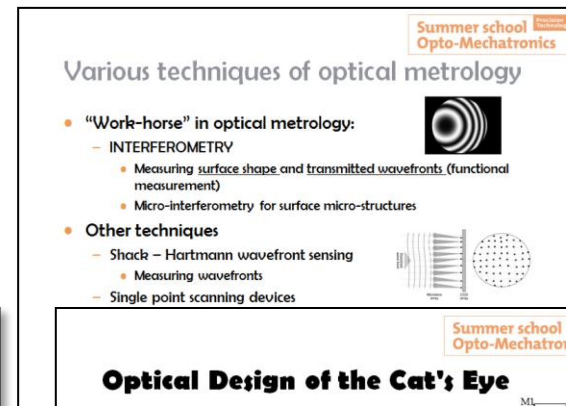
Day 2: Optical Design

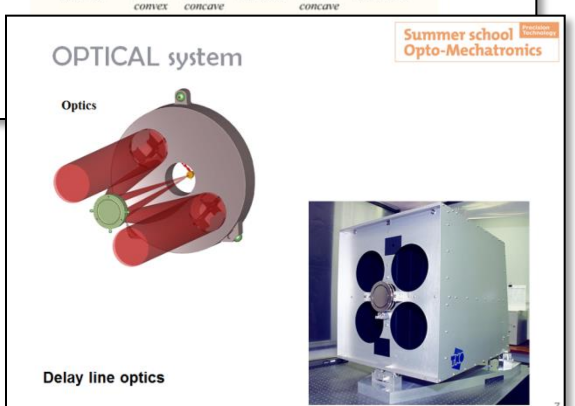
- Basic Optics
- VLT Delay Line
- Optical Metrology / Optical Design

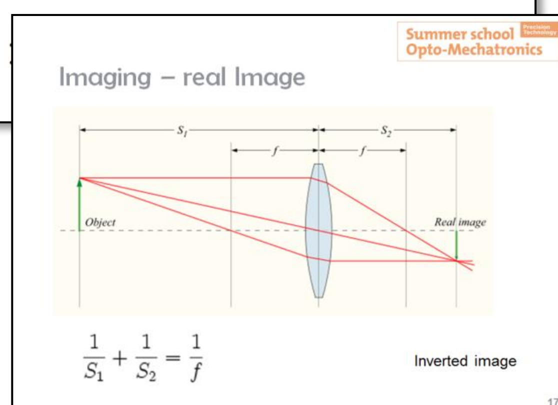


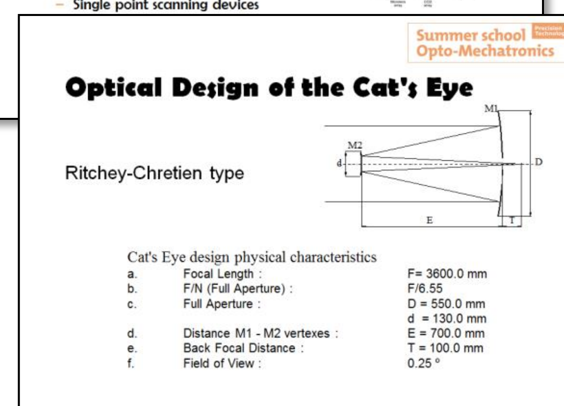




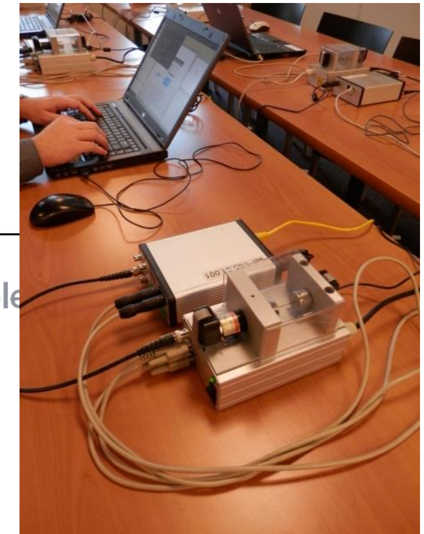








Day 3: Control Design

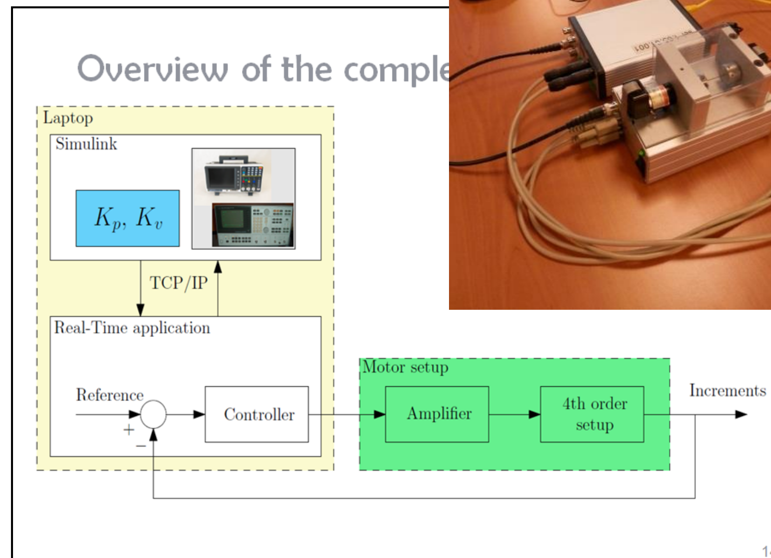


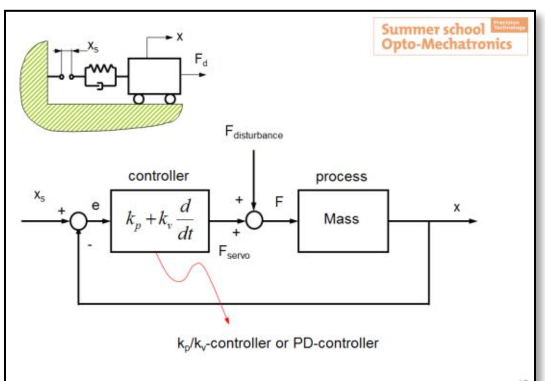
Program Control Design

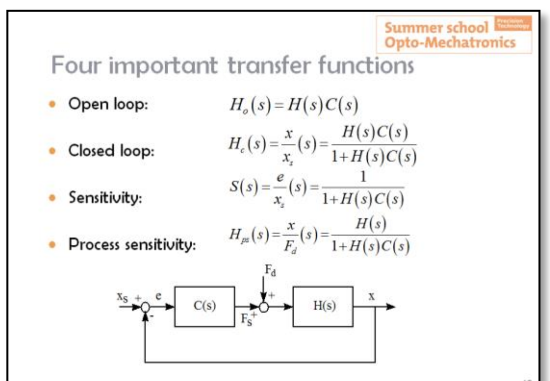
Summer school Opto-Mechatronics

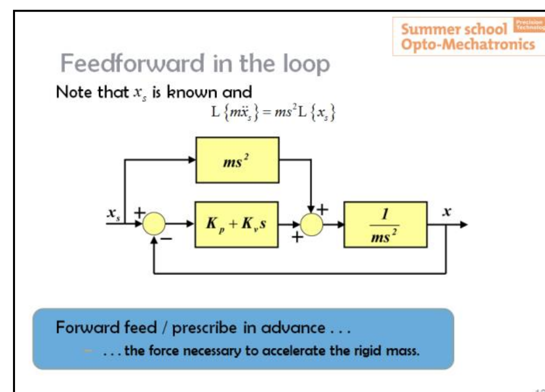
- 9:00 Time domain tuning: theory and hands-on
- 10:30 Coffee break
- 10:45 From time domain to frequency domain
- 12:30 Lunch
- 13:15 Identification and stability: theory and hands-on
- 15:00 Coffee break
- 15:15 Filters and performance
- 16:00 Feed forward: theory and hands-on
- 17:15 Evaluation
- 17:30 Drinks
- 18:00 Activity program & Diner
- 21:30 End

2





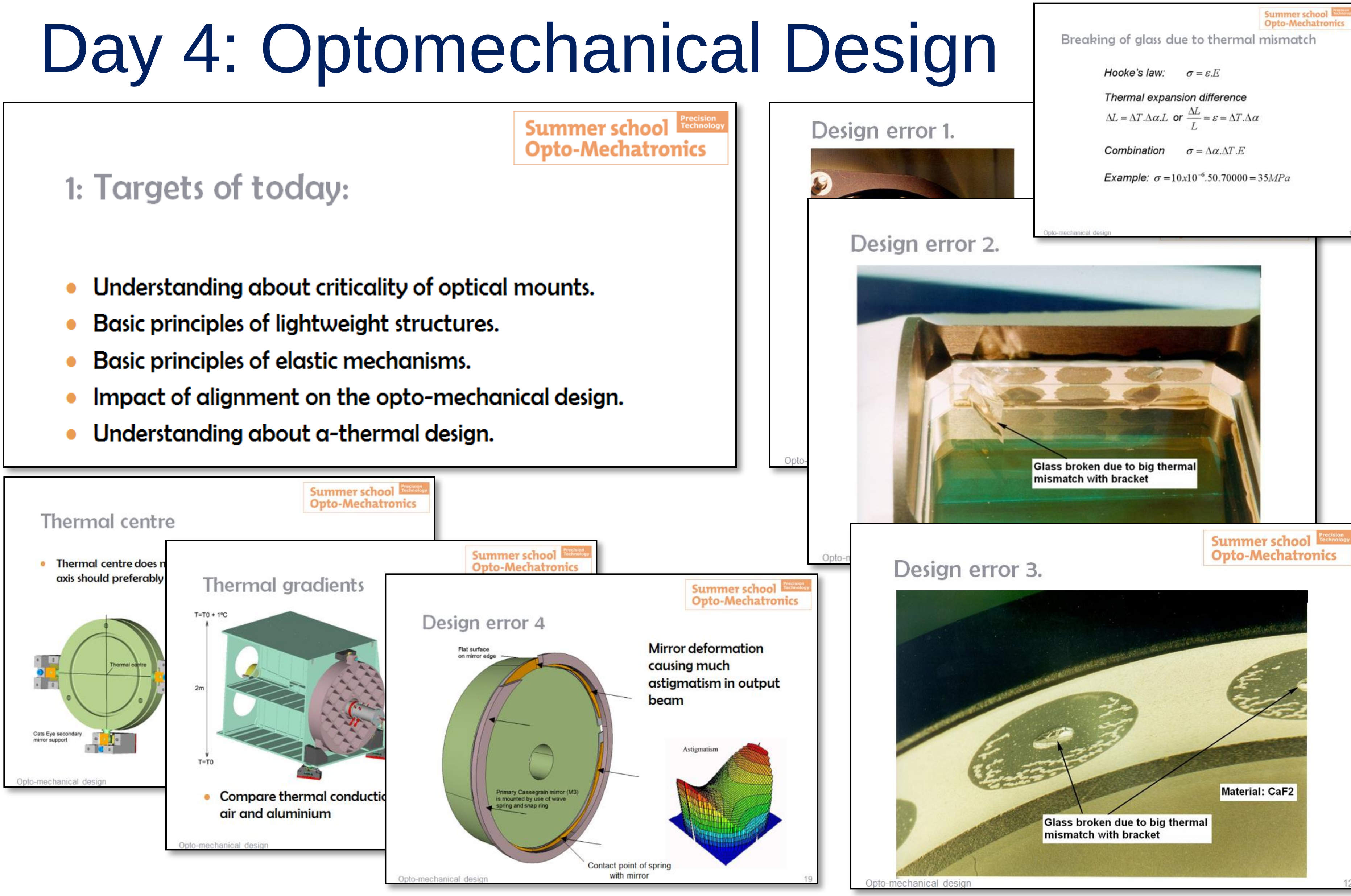




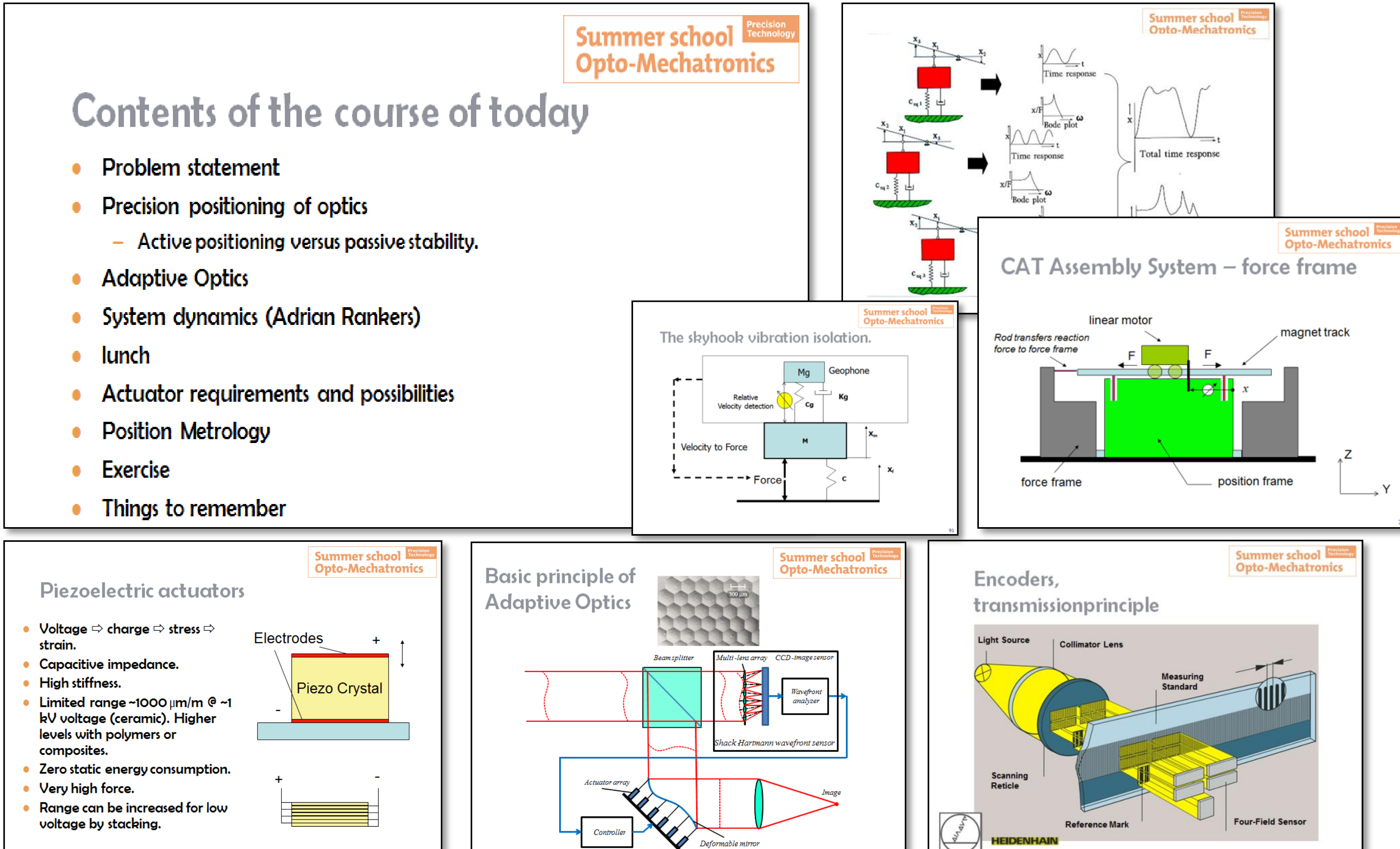
mechatronics academy brainport

HIGH TECH INSTITUTE

Day 4: Optomechanical Design



Day 5: Actuation, Sensing & Dynamics



[Sign-up for this training]

Via the website of our partner

High Tech Institute