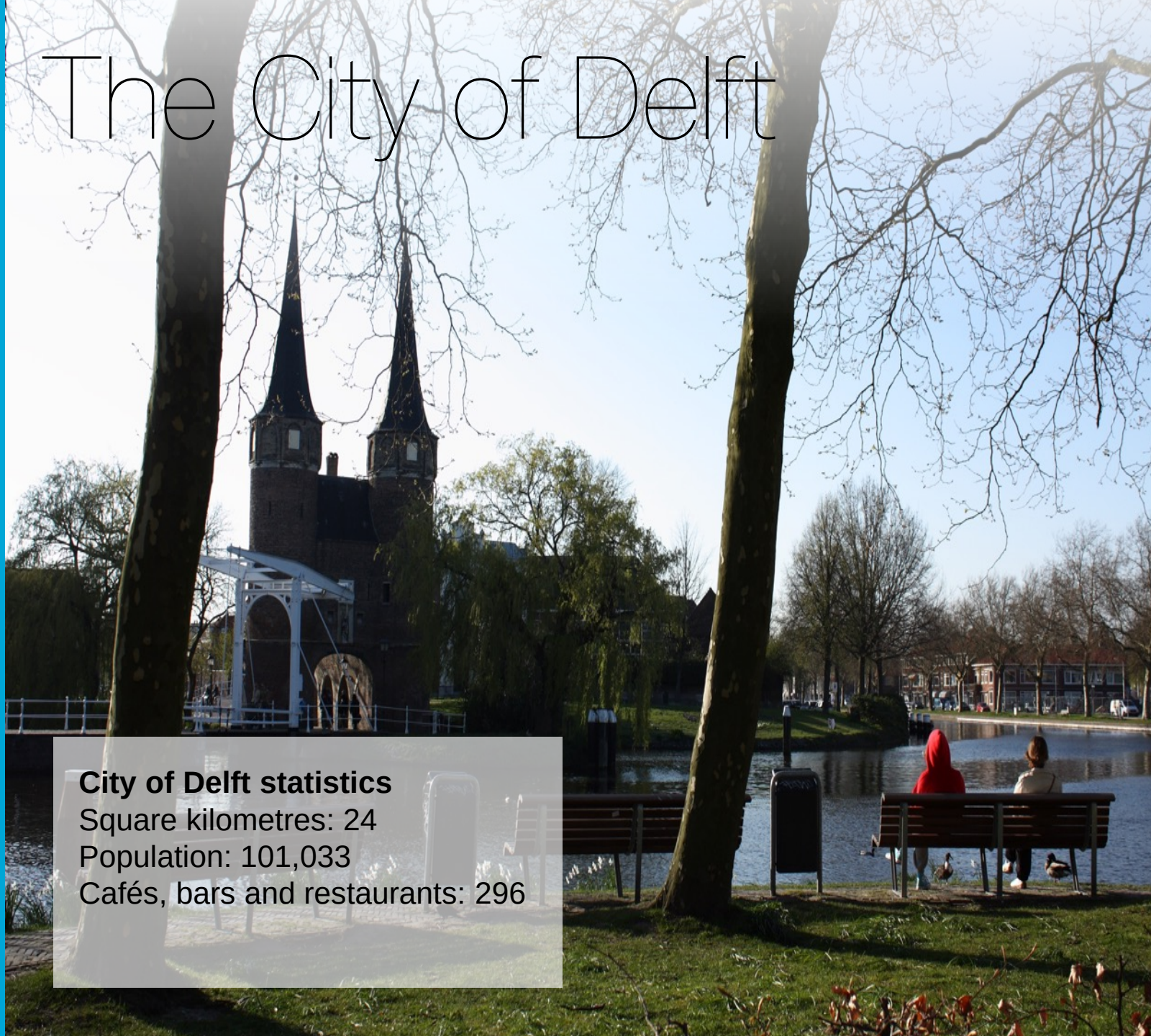
Delft University of Technology at a glance

Fred van Keulen

TU Delft

The City of Delft



City of Delft statistics
Square kilometres: 24
Population: 101,033
Cafés, bars and restaurants: 296

TU Delft

Finances (2015)	In millions
Equity	363,6
First income stream	411,4
Second income stream	45,3
Third income stream	134,4
Education (2015)	
Bachelor's programmes	16
Master's programmes	30
Student population	20,980
PhD Students	2607
First-year students	4709
Master's degrees	2451
Valorisation (2015)	
Startups	28

Research (2015)	
Professors (FTE)	240
Publications (scientific)	5630
Promotions	357
Personnel (2015)*	
Scientific staff (FTE)	2697
Scientific staff (head count)	2953
Professional services (FTE)	1987
Professional services (head count)	2272

Diversity (2015)*	#	%
International scientific staff (FTE)	1370	51%
Female scientific staff (FTE)	671	25%
International full professors (FTE)	56	23%
Female full professors (FTE)	28	11%
International students	3820	18%
Female students	5274	25%

www.tudelft.nl/factsandfigures

* PhD students are classified as scientific staff.
The percentages are calculated over total number of scientific staff, full professors and students, respectively.

Faculties

TU Delft

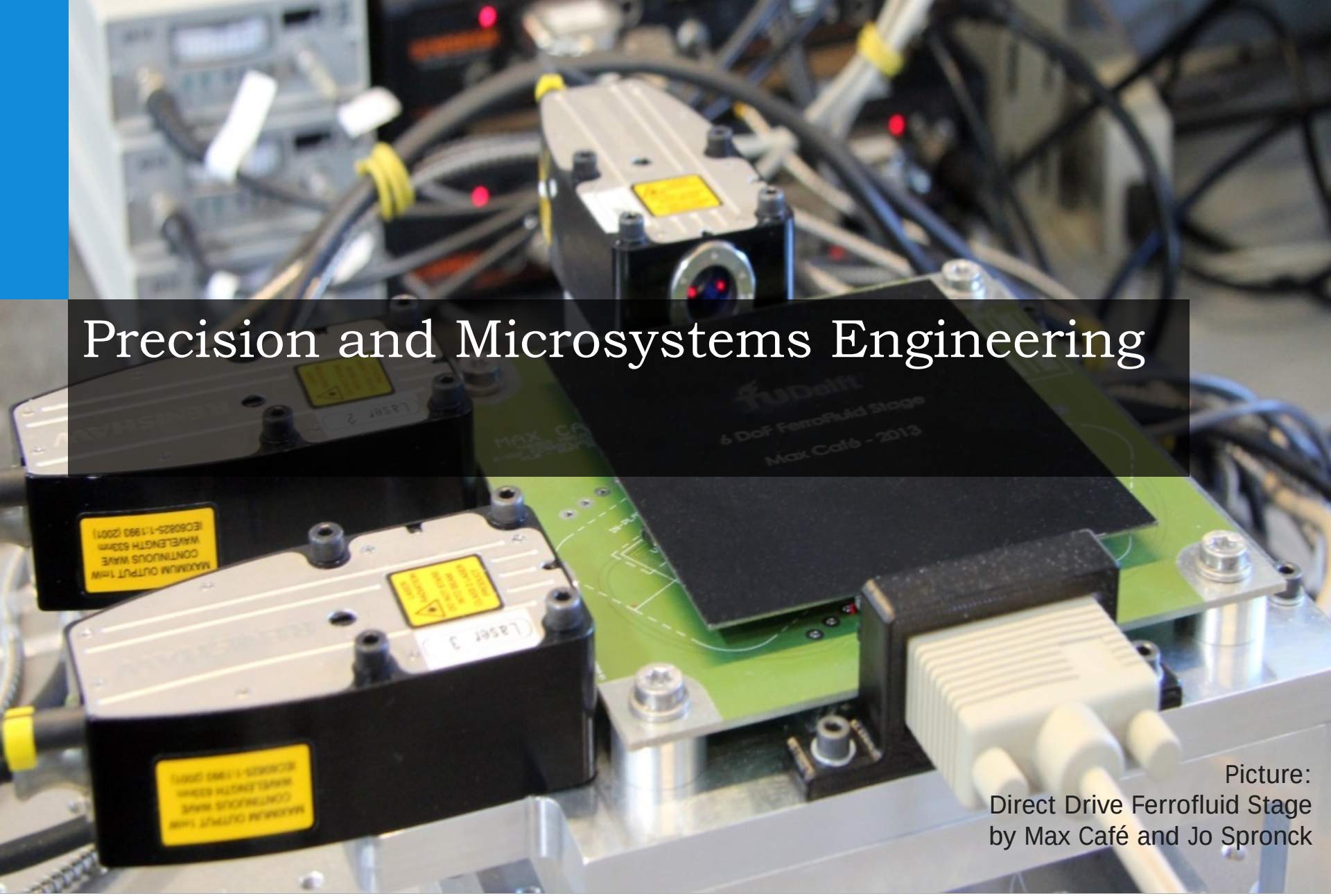
- Architecture and the Built Environment
- Civil engineering and Geosciences
- Electrical Engineering, Mathematics and Computer Science
- Industrial Design Engineering
- Aerospace Engineering
- Technology, Policy and Management
- Applied Sciences
- **Mechanical, Maritime and Materials Engineering**

Mechanical, Maritime and Materials Engineering

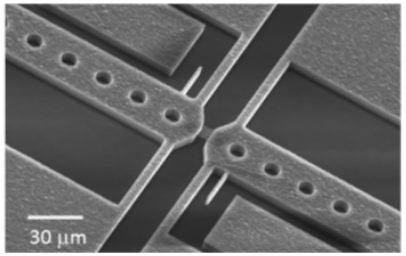
- Biomechanical Engineering
- Systems & Control
- Maritime & Transport Technology
- **Precision & Micro-systems Engineering**
- Process & Energy
- Materials Science & Engineering

TU Delft

Precision and Microsystems Engineering



Picture:
Direct Drive Ferrofluid Stage
by Max Café and Jo Spronck



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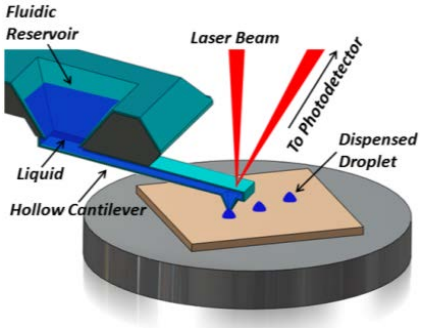

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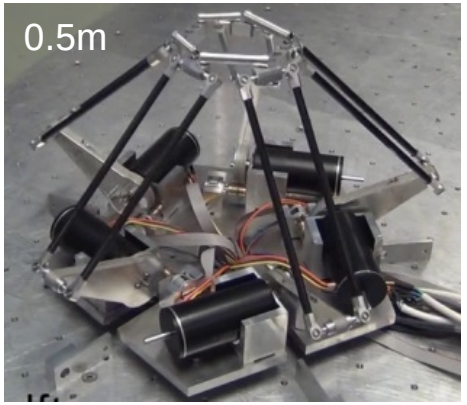
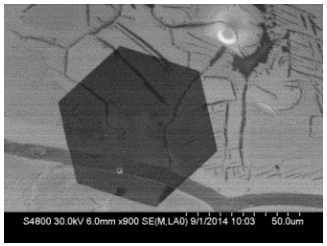
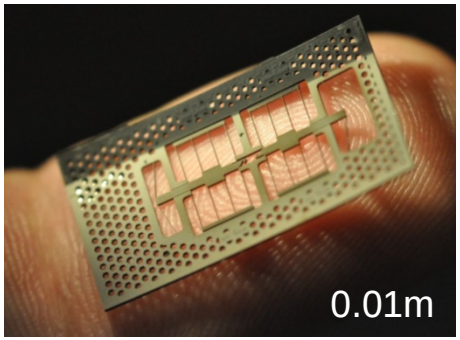
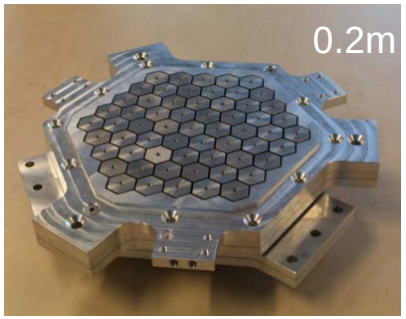
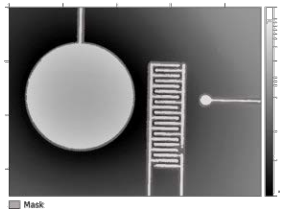




We design precision machines down to the nano scale







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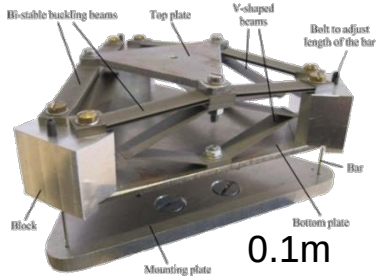

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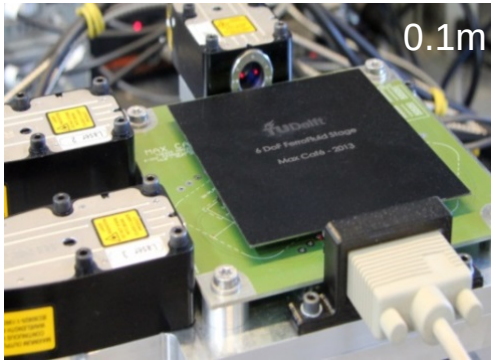


PME research faculty members

MSD
Mechatronic System Design


Just Herder


Ron van Ostayen


Jo Spronck


Nima Tolo


Hassan HosseinNia


Volkert van der Wijk

SOM
Structural Optimization and Mechanics


Fred van Keulen


Matthijs Langelaar


Hans Goosen


Can Ayas


Alejandro Aragon

MNE
Micro and Nano Engineering


Urs Staufer


Guido Jansen


Marcel Tichem


Murali Ghatkesar


Luigi Sasso


Ivan Buijnsters

DMN
Dynamics of Micro and Nano Systems


Peter Steeneken


Farbod Alijani


Vacancy


Vacancy

MOOM
Micro-optics and Opto-mechatronics


Vacancy

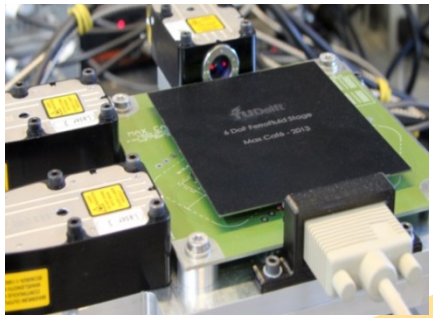

Vacancy


Vacancy

MSD

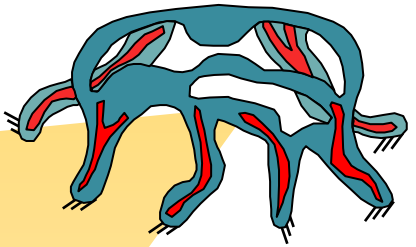
Mechatronic System Design

Compliant mechanisms

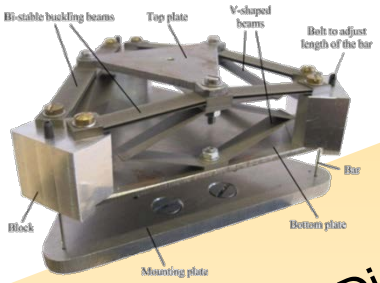


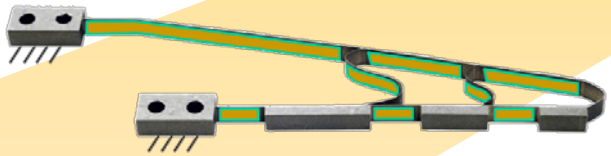
Metrology

Energy Harvesting

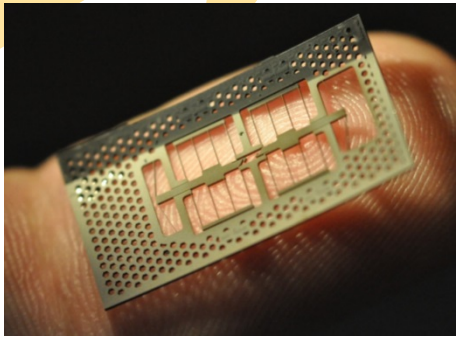


Miniaturize

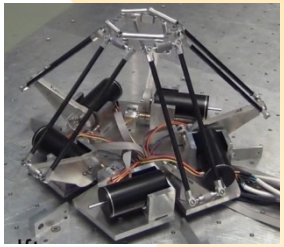




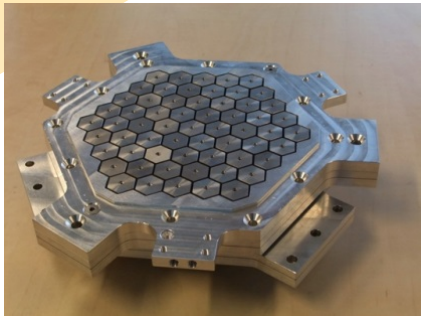
Distribute



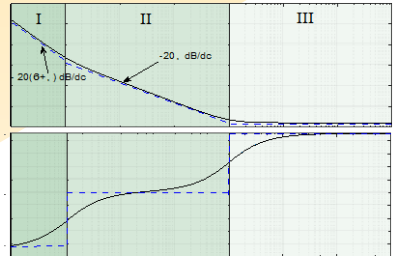
Micromechanisms



Robotics



Tribotronics



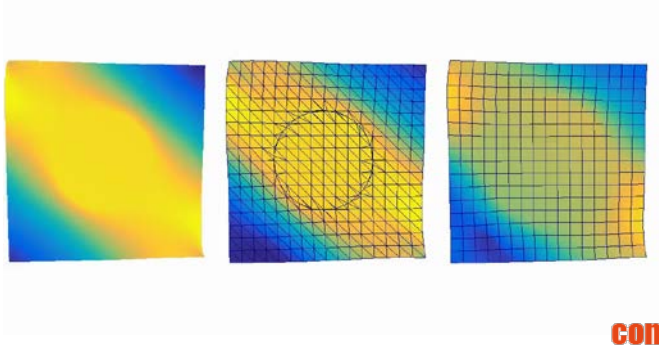
Motion control

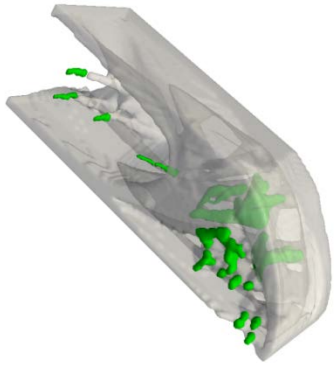
Distributed Mechatronics

- Function integration
- Energy-efficiency
- Resource-friendly
- High-Tech & Health

SOM

Structural Optimization & Mechanics





High performance components and systems

Metamaterials

Micro/nano devices

Integrated Design

Multi-disciplinary

Design and Optimization

Multi-physics

Manufacturing modeling

Topology Optimization

Micromechanics

Computational Modeling

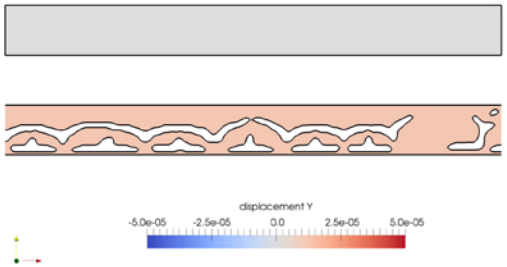
Additive manufacturing

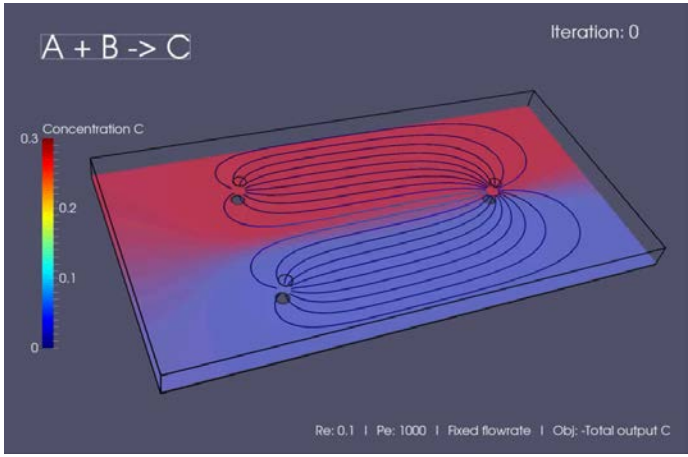
Nonlinearities

GFEM/IGFEM

Solid Mechanics

Advanced Finite Element analysis





MNE

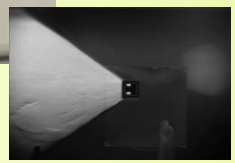
Micro Nano Engineering

economical

competitiveness

advanced industrial instrumentation

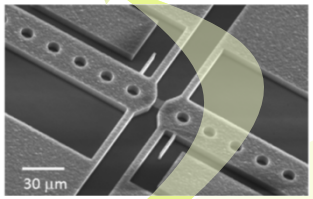
nano production

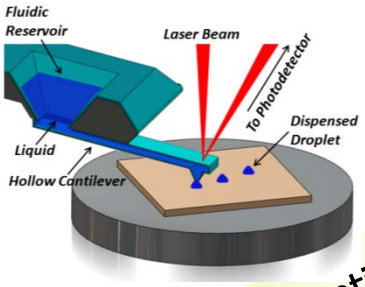


bio-medical applications

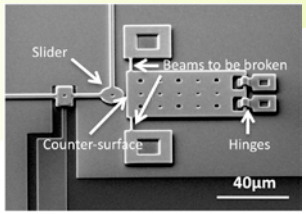
health

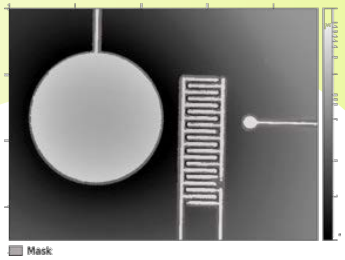
advancing science





scientific instrumentation
2D materials
processing
µ-assembly

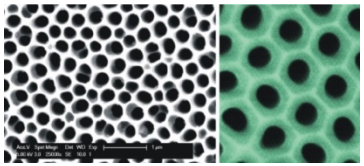


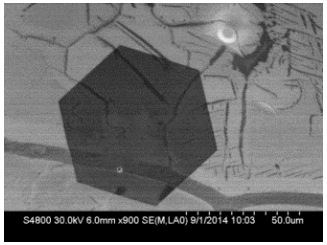


biology

physics

chemistry

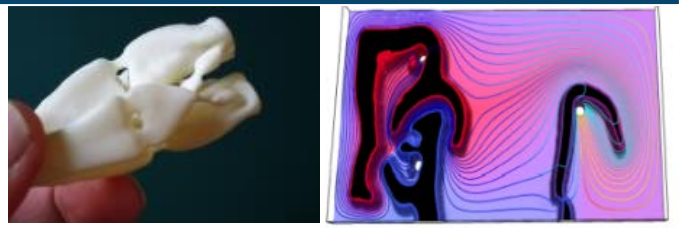




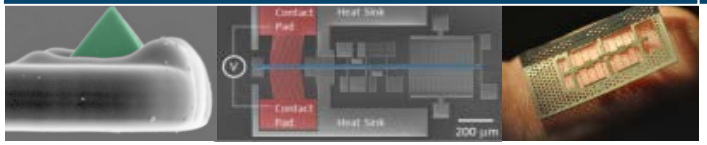
PME Research Program

Systems

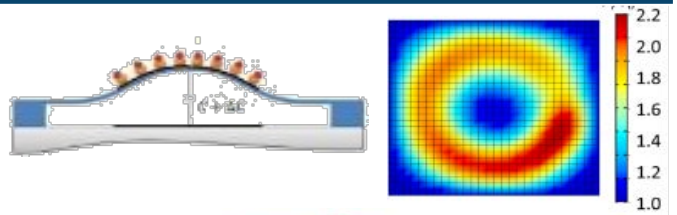
Design optimization



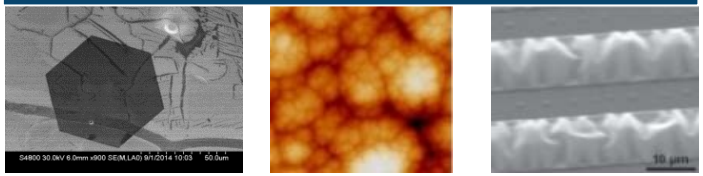
Devices and processes



Numerical modelling

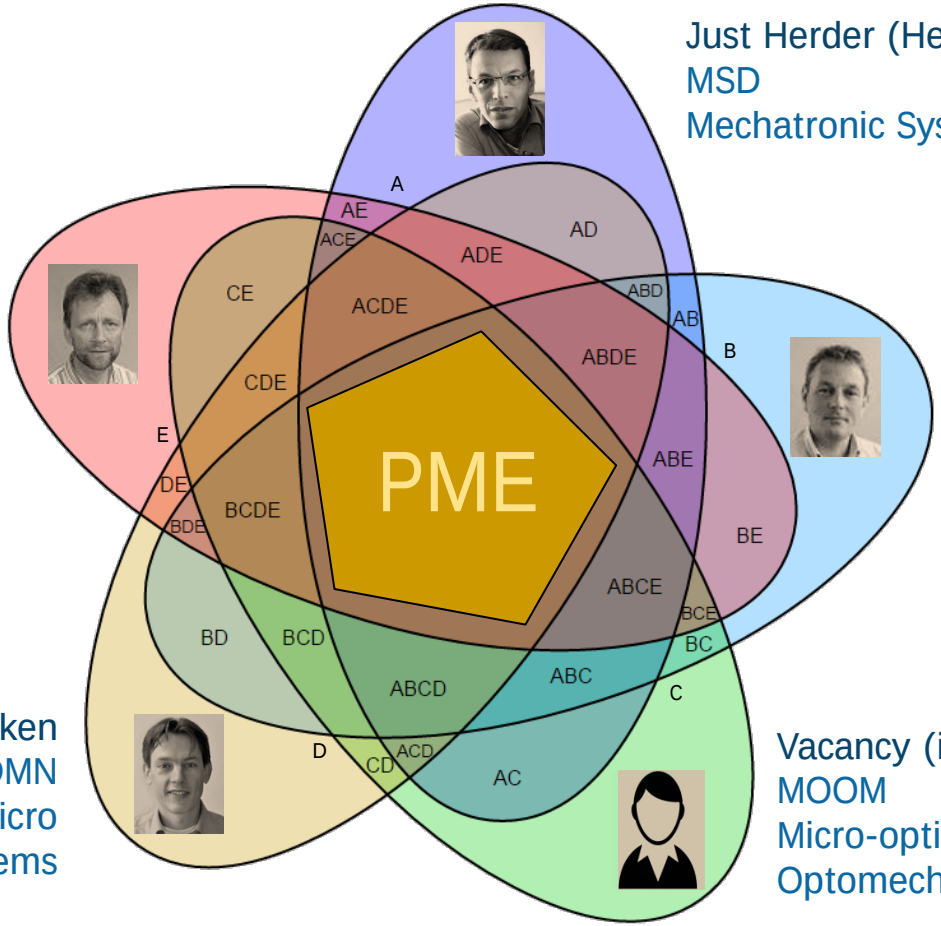


(Nano)material structures



PME is focused on the **High-Tech Systems and Materials** domain,
and has the mission to **integrate micro/nano-science into Mechanical Engineering**

PME Structure



Just Herder (Head of Dept)
MSD
Mechatronic System Design

Urs Staufer
MNE
Micro and Nano Engineering

Fred van Keulen
SOM
Structural Optimization and Mechanics

Peter Steeneken
DMN
Dynamics of Micro and Nano Systems

Vacancy (in progress)
MOOM
Micro-optics and Optomechatronics

<<< individual excellence & intensive collaboration >>>

NERI: NanoEngineering Research Initiative

- Long-term collaboration with industry and research institutes
- Joint roadmapping and strategy building
- Vision and content-driven
- *Nano-enabled* and *enabling nano*

(2D) Nanomaterials mech. functions

Technology platform for developing functions and devices based on (2D) nanomaterials

Miniaturized and sensitive sensors

Functional material structures

Multi-material
Multi-length-scale
Function integration
Manufacturing upscaling and integration

Tuneable properties sensing, actuation

Scientific instrumentation (for bio/health)

Environment for accepting cell and tissue, provide stimuli, analyse

Organ-on-chip, scientific instruments, PoC devices

Opto-mechatronic devices / systems

Optics for high-precision processes and (sensor) devices. Integrated design and manufacture.

Metrology, local fabrication, optical (bio) sensors

Contact data:

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