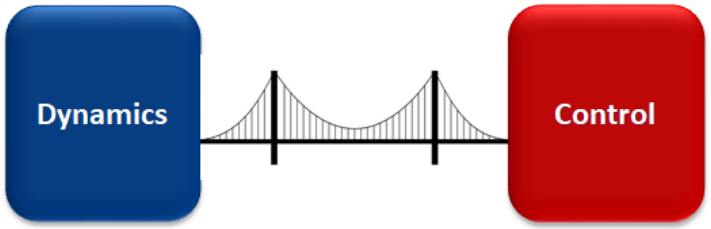
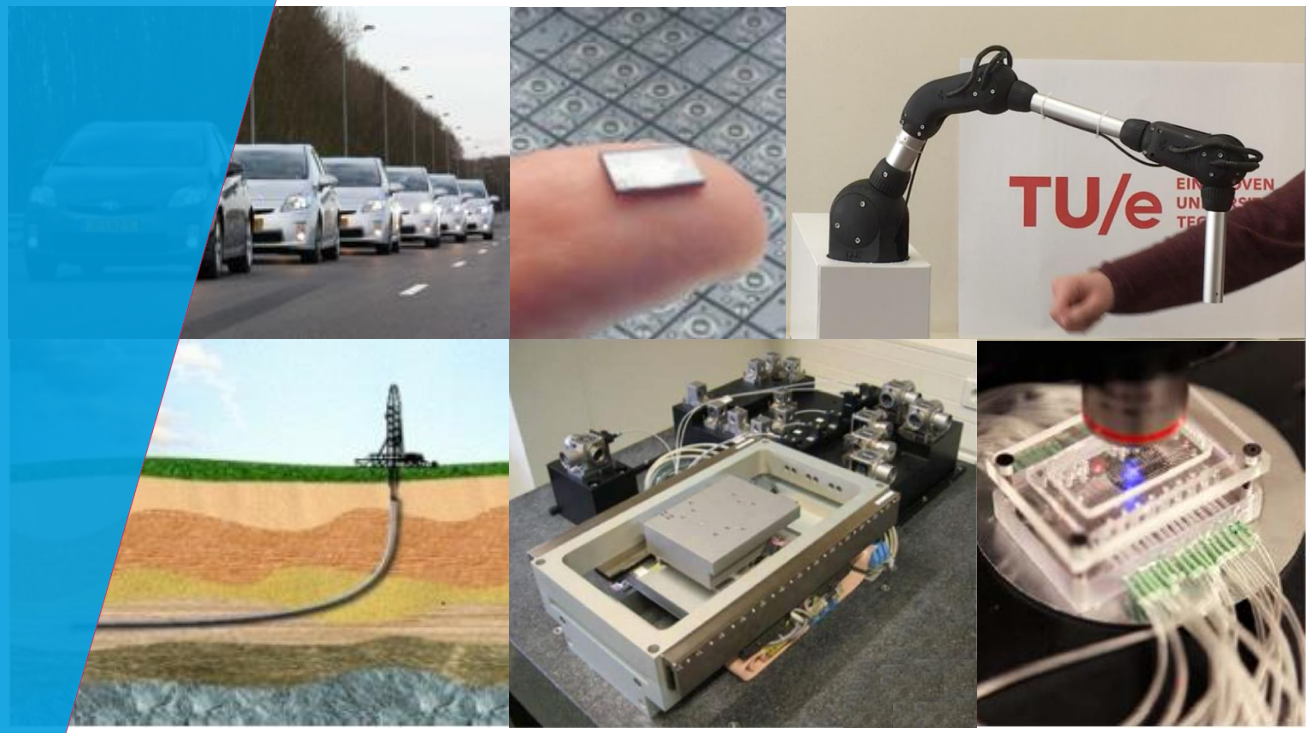
Technische Universiteit
Eindhoven
University of Technology

Dynamics & Control

Information Master



Ines Lopez Arteaga



Where innovation starts

Topics within Dynamics & Control

DYNAMICS

- Modelling and analysis of mechanical systems
- Vibro-acoustics
- Engineering design

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- Mechatronics
- Robotics
- Vehicle dynamics & control
- Hybrid and networked dynamics & control

CONTROL

- (Non-linear) control of mechanical systems
- Manufacturing networks

Dynamics & Control – this is us!

D&C chair

Henk Nijmeijer

nonlinear control

Nathan van de Wouw

Sasha Pogromsky

Hans Zwart

autonomous systems/robotics

Alessandro Saccon

Erjen Lefeber

Vibrations & Acoustics

Ines Lopez

vehicle dynamics and control

Igo Besselink

Peter Zegelaar

manufacturing networks

Ivo Adan

structural analysis

Rob Fey

engineering design

Nick Rosielle

mechatronics

Marceel Heertjes

Hamed Sadeghian

supporting staff

Geertje Janssen-Dols

Peter Hamels

Erwin Meinders

about **50 MSc students/year**, **25-30 PhDs**, **3 PostDocs**

Mentors

Mechanical Engineering

- Prof. dr. Henk Nijmeijer , Secretariaat.DC@tue.nl
- Prof. dr. ir. Ines Lopez Arteaga, Secretariaat.DC@tue.nl
- Prof. dr. ir. Nathan v.d. Wouw, Secretariaat.DC@tue.nl
- Dr. ir. Igo Besselink, I.J.M.Besselink@tue.nl
- Dr. ir. Erjen Lefeber, A.A.J.Lefeber@tue.nl
- Dr. Sasha Pogromsky, a.pogromski@tue.nl
- Dr. Alessandro Saccon, A.Saccon@tue.nl

Manufacturing Systems Engineering

- Prof. dr. ir. Ivo Adan, i.adan@tue.nl
- Prof. dr. Henk Nijmeijer, Secretariaat.DC@tue.nl
- Dr. ir. Erjen Lefeber, A.A.J.Lefeber@tue.nl
- Dr. Sasha Pogromsky, a.pogromski@tue.nl

Master within Dynamics & Control

- Regular (once per quarter) consultation about progress on individual MSc program with mentor
- Choose a mentor during Q1-Q2 (Q3-Q4 if you start in Q3)
- Course list approval in Q4 (if you start in Q3, then Q2 of the next academic year)
- Internship (15 EC), preferably abroad. Assessment based on input external supervisor, report and presentation. Usually mentor is the examiner.
- Graduation project (45 EC):
  - Guidance by daily supervisor and (once a month) consultation with graduation professor (Nijmeijer, v.d. Wouw, Lopez Arteaga)
  - Internal or external: Coupled to exciting research within the group and/or within a company

Courses

Core	20 EC	Choose 4 out of 11 offered core courses
Specialization courses	20 EC	Choose 20 EC from the list of specialization
Individual program	15 EC	Free choice of all master's courses at TU/e
Professional skills	5 EC	Two mandatory courses
Trainee-/Internship	15 EC	
Graduation project	45 EC	

Answer on the question about Specialization courses:

- We recommend you choose all specialization courses from the Dynamics & Control list
- You may choose a specialization course from another section if it contributes to building a coherent course list with a clear profile.

Master courses Dynamics & Control

- 4DM00 Structural Dynamics & Vibro-acoustics, Q1
- *4AT00 Vehicle Dynamics, Q1*
- *4SC060 Homologation Dynamics of Mechanical Systems, Q1*
- **4DM10 Multibody & Non-linear Dynamics (Core), Q2**
- 4DM30 Non-linear control, Q3
- *4SC050 Performance of Nonlinear Control Systems, (2.5) Q4*
- 4DM50 Dynamics and control of cooperation, (2.5) Q4
- 4DM40 Modelling & control of manufacturing systems, Q4
- 4DM60 Control of distributed parameter systems, (2.5) Q4
- *4AT050 Vehicle control, (2.5) Q4*
- 4CM50 Applications of Design Principles (Core), Q4

https://assets.studiegids.tue.nl/fileadmin/content/Faculteit_WTB/Graduate_School/Masteropleidingen/Mechanical_Engineering/Formulieren/Core_and_Specialization_courses_MW_2019-2020.pdf

https://assets.studiegids.tue.nl/fileadmin/content/Faculteit_WTB/Graduate_School/Masteropleidingen/Mechanical_Engineering/Formulieren/Recommended_courses_individual_space_MW_2019-2020%20.pdf

Master courses Dynamics & Control

More or less compulsory

- 4DM10 Multibody & Non-linear Dynamics (Core), Q2
- 4CM00 Control Engineering, Q1&Q3

Recommended

- *4AT00 Vehicle Dynamics, Q1*
- 4DM00 Structural Dynamics & Vibro-acoustics, Q1
- 4DM30 Non-linear control, Q3
- 4DM20 Engineering optimization, Q3

Possible lines

- **Line 1:** 4AT00 Vehicle Dynamics/ 4CM00 Control Engineering, 4DM10 Multibody&Non-linear, 4DM30 Non-linear control, 4SC050 Performance/4DM50 Cooperation/4AT050 Vehicle Control

- **Line 2:** 4DM00 Struct.&Vibro., 4DM10 Multibody&Non-linear,4CM00 Control Engineering/ 4DM10 Engineering Optimization, 4CM50 Applications of Design Principles

- **Line 3 (MSE):** 4CM00 Control Engineering, 4DM10 Multibody&Non-linear, 4DM30 Non-linear control, 4DM40 Modelling & control of manufacturing systems

Scientific integrity

https://www.tue.nl/en/university/about-the-university/integrity/scientific-integrity/