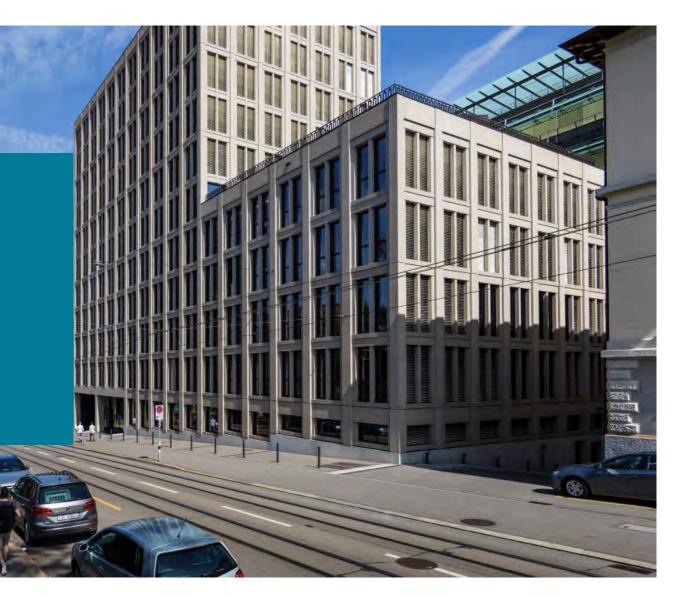


Department of Mechanical and Process Engineering



# Welcome Master's Students!

**Prof. Dr. André Bardow,** Director of Studies, D-MAVT 18 September 2023, Zurich



## ETH Zürich in brief



## Early ETH:

- Founded in 1855 with six departments (including D-MAVT)
- Driving force of industrialization in Switzerland

### ETH Zürich today:

- Leading international university for science and technology
- Top university in continental Europe
- approx. 24'534 students
- approx. 527 professors in 16 departments

### **Reasons for success:**

- Ground-breaking fundamental research
- Putting new findings into practice
- Providing rigorous technical education

## D-MAVT: your department

### **D-MAVT**:

- Departement MAschinenbau und VerfahrensTechnik
- Founded in 1855 largest department at ETH

### Figures as of 2022:

- 1'791 Bachelor's students
- 1'358 Master's students
- 479 Doctoral students
- 49 professors
- 10 patents
- 7 spin-offs

**ETH** zürich



Steam engine in the Machine Laboratory (ca. 1900)



ETH Zurich (ca. 1900)

### **D-MAVT Board**



Prof. Dr. Jenny Patrick **Head of Department** 



(Doctoral Delegate)



Prof. Dr. André Bardow **Director of Studies** 



### D-MAVT's new students

Newly beginning students, fall 2023:

### Master's students317

196

9

5

98

9

- Mechanical Engineering\*
- Process Engineering\*
- Micro and Nanosystems
- Robotics, Systems and Control
- Nuclear Engineering\*\*

### 17.8% from abroad

- \* Not yet final, as of 15.09.2023
- \*\* Starting at EPFL this semester



ETH zürich

## Master's programs – leading house D-MAVT

Programs	short	partner de	partments		
Mechanical Engineering	ME				
Process Engineering	PE				
Micro and Nanosystems	MNS	D-ITET			
Robotics, Systems and Control	RSC	D-ITET	D-INFK		
Nuclear Engineering	NE	EPFL	(first seme	ster at EPF La	usanne)
consecutive specialized		partner:	s		



## **Tutor System**

Master's studies in D-MAVT are supervised by a tutor and defined by a learning agreement:

- Tutor discusses and approves the student's choice of courses in the category "Core Courses".
- Tutor **advises** in the choice of courses for the category "*Multidisciplinary Courses*".
- Tutor **approves** the subject and the supervisor of the Semester Project and the Master's Thesis.
- The **learning agreement** formalizes the choice of courses, approved by the tutor.
- Projects abroad or in industry are possible with approval of the tutor: *discuss in advance!*
- Projects in other labs at ETH in ME are possible with approval of the tutor: *discuss in advance!*
- Tutor can approve courses in the category "Core Courses" achieved in official exchange programs during the studies at ETH Zurich: *discuss in advance!*

## Tutors in Mechanical Engineering (1/2)















L. De Lorenzis



P. Ermanni



E. Frazzoli



A. Güntner



C. Hierold



M. Hutter











M. Lukatskaya



A. Manera





R. McKenna

M. Meboldt













A. Kunz



D. Norris

E. Mazza



21.09.2023

R. Katzschmann



## Tutors in Mechanical Engineering (2/2)



C. Onder







D. Poulikakos









A. Steinfeld







O. Supponen

E. Tilley

M. Zeilinger



R. Quidant

K. Shea

**R. Siegwart** 

A. Stemmer



## Tutors in Process Engineering



A. Bardow

M. Lukatskaya









C. Müller



D. Norris



S. Pratsinis D. Poulikakos



A. Steinfeld



M. Tibbitt



## **Tutors in Micro and Nanosystems**

D-MAVT

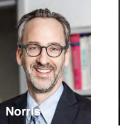




Quidant



















Tibbitt





D-BSSE







## Tutors in Robotics, Systems and Control

D-MAVT















D-INFK







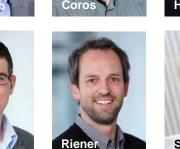


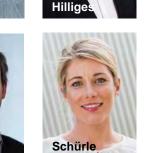












D-USYS





Gas

## D-MAVT's Code of Conduct

- D-MAVT believes that our environment should be respectful and professional for all members including students, professors, research staff, administrative staff, and lecturers.
- We treat everyone with the same respect with which we expect to be treated by others.
- We behave and present ourselves professionally at all times. (You are now ambassadors of ETH and of D-MAVT.)
- We all agree that our environment should be:
  - one of mutual respect
  - free from threats and violence
  - free from sexual harassment
  - free from discrimination
  - free from bullying and mobbing



Code of Conduct

Department of Mechanical and Process Engineering

DMAVT



### Stand up for respect!



https://www.youtube.com/watch?v=vViDmLltxwE



### Where does the joking end?

### What is mobbing?

- In mobbing or bullying, a person is, for example, systematically targeted, sneered at, deliberately ignored, constantly interrupted, slandered, treated unfairly or threatened, over a long period of time.
- Mobbing goes too far!

### What is sexual harassment?

- Sexual harassment includes any behavior that is unwelcome by the recipient; this ranges from crude remarks about the appearance, sexist jokes to sexual assault.
- Sexual harassment is not flirting!



ETH Zurich and D-MAVT do not tolerate disrespectful behavior. We interact with each other in a supportive, fair and constructive manner!



## Where can I find help?

### How do I avoid disrespectful behavior?

-> First consider whether my behavior can be hurtful towards others (even unintentionally!).

### What should I do if my behavior is interpreted as disrespectful?

-> Apologize! ("I didn't know I would hurt you with that.")

### What do I do when I observe disrespectful behavior?

-> Stand up, step in and offer support to the person concerned.

### **Contact and advice services**

- ETH internal advice and conciliation service respect Contact: +41 44 632 20 38 | respekt@ethz.ch
- More advice services: <u>https://respekt.ethz.ch/en/contact-and-advice-services.html</u>
- <u>Code of Conduct D-MAVT</u>





## **ETH Services**

#### Homepage > Service > IT student services

### IT student services



The IT Services "Informatikdienste (ID)" offers all registered ETH students, auditors, and special students the following free basic IT services:

- ETH login
- mailbox with 200 MB memory
- ETH-wide available personal home directory with 2 GB disk space
- personal ETH website for scholastic work
- polybox with 50 GB «Dropbox»-similar on campus storage
- IT shop with software for free (only for enrolled students)
- public computer labs equipped with Office, web, programming tools, mathematical software

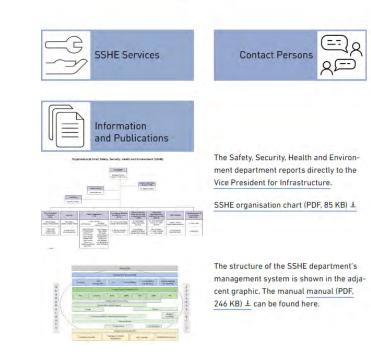
### www.ethz.ch/students/en/service/it-services.html

Homepage > ETH Zurich > Organisation > Administrative departments > Safety, Security, Health and Environment

### Safety, Security, Health and Environment

#### $\equiv$ Subnavigation

The Safety, Security. Health and Environment (SSHE) department is responsible for safety and security as well as the health of the ETH associates. SSHE advises members of ETH Zurich on how to deal with risks and hazards in order to protect people, infrastructure and the environment and assists in realizing measures.



www.ethz.ch/en/the-eth-zurich/organisation/departments/ safety-security-health-environment.html

### ETHzürich

### You are about to...

- ... join a **fantastic peer group** of students: *take full advantage, make friends, form study groups, network, enjoy the diversity!*
- ... interact with renowned **scientists** and the next generation of scientists: *take full advantage, ask questions, learn from them and challenge their thinking!*
- ... get one of the last few chances in life to **learn** whatever you wish to study: *explore new fields, learn new concepts, think outside the box, dare to think the unthinkable!*
- ... explore your **abilities** and push your **limits**: *in your classes, in your projects, in your extracurricular activities.*
- ... make a **unique contribution**: through your projects, through your inventions, through your personal interactions.
- ... become part of the ETH and D-MAVT **family** with all its privileges and responsibilities: use them carefully and thoughtfully!

## Graduation (your pictures here soon?)



**ETH***zürich* Department of Mechanical and Process Engineering



# Good luck and much success!

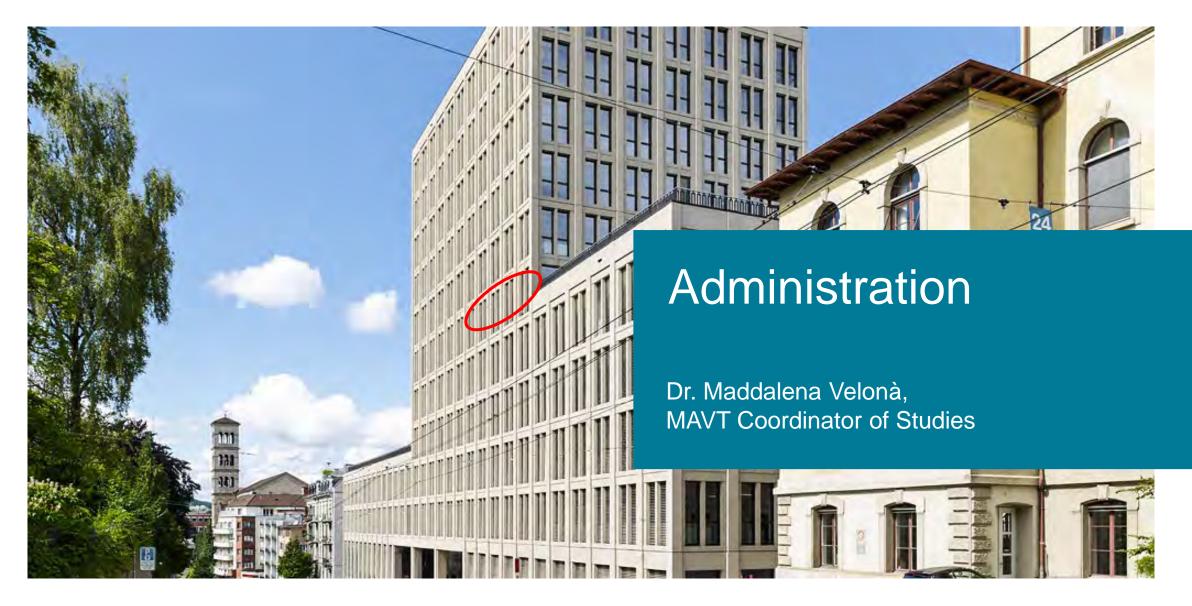
**Professor André Bardow** D-MAVT Director of Studies

ETH Zurich D-MAVT LEE K 208 Leonhardstrasse 21 8092 Zurich





Department of Mechanical and Process Engineering



## Master's curriculum

1 <sup>st</sup> Semester	2 <sup>nd</sup> Semester	3 <sup>rd</sup> Semester	ECTS
Core Courses			36
Multidisciplinary C	ourses		6
Science in Perspec	tive		2
Industrial Internsh	iip		8
	Semester Project		8
		Master's Thesis	30
Master of Science	ETH*		90



## Core Courses (36 ECTS)

- Core Courses (36 ECTS) ~ 9 courses
- Core Courses = core knowledge in the tutor's area of specialization
- Performance assessment of "Core Courses" has to be graded
- Max. 100 credits in total over all categories max. 46 in Core Courses
- Relevant for the final GPA



## Multidisciplinary Courses (6 ECTS)

- Multidisciplinary courses ~ 2 courses
- Add depth to scientific and technical knowledge or breadth to the range of your skills
- ME & PE: Student's choice (with/without suggestion of tutor)
- MNS & RSC: in agreement with tutor



## Semester Project (8 ECTS)

- Semester Project ~ 240 hours 6 weeks (full-time)
- Generally carried out during the 2<sup>nd</sup> semester in agreement with the tutor
  - Part-time during the semester parallel to courses
  - Full-time during the semester break
- In the tutor's area of specialization or in another field of an ETH professor (to be approved by tutor)
- Report and presentation of the project is requested
- Registration on myStudies required
- Deadlines have to be respected

ETHzürich

## Science in Perspective (2 ECTS)

At least 1 course, selected ONLY from the Course Catalogue: "GESS Science in Perspective" in HS/FS

- Available courses are listed in Course Catalogue Programme: GESS Science in Perspective
- Recommendations in Section: Type B Subsection: D-MAVT

Detailed information at: https://www.gess.ethz.ch/en/studies/science-inperspective.html



### **Search for Courses**

Semester	Autumn Semester 2023 🔹	
Level	▼	
Department	Mechanical and Process Engineering 🔹	
Structure		
Programme	Mechanical Engineering Master	•
Section	Science in Perspective 🔹	



## Industrial Internship (8 ECTS)

- At least 12 weeks in an industrial company, in Switzerland or abroad
- Research institutions are not allowed
- Only Internships undertaken after completing the Bachelor's degree can be recognized
- In Master's Program ME and PE, The internship has to be completed before the Master's Thesis
- Students organize the internship independently
- Catalogue of companies available under <u>www.mavt.ethz.ch/praxis</u>
- Recognition: upload "Certificate of employment" with description of tasks under <u>www.mavt.ethz.ch/praxis</u>

## Master's Thesis (30 ECTS)

- 6 months full-time
- supervised by an ETH professor (to be approved by tutor)
- report and presentation of the project is requested
- registration on myStudies required
- deadlines must be respected

In order to start the Master's Thesis, students must have:

- finalized the Learning Agreement
- achieved the required amount of credit points in the Core Courses
- obtained the credit points for the Semester Project
- obtained the credit points for the Industrial Internship (ME and PE)

## Online portal for students – myStudies, www.mystudies.ethz.ch



#### Learning Units

Register for course units, courses and groups	Course registrations 🔶
Register for, view and edit research projects/papers and Master's theses	Projects/papers/theses ->

#### Performance Assessments

Show transcript of records and assign performance achievements to categories Transcript of records 🗧
--

Back



Students enrolled in specialized Master have the tutor already assigned during the admission.

ETH and EPFL Bachelor's students in consecutive Master select their tutor at the start of their Master's studies

## **Course Catalogue**

http://www.courses.ethz.ch

Important information regarding courses and exams in HS / FS

- Lecturers
- Periodicity
- Language of instruction
- ECTS credits: credits received after successfully completing examinations

### Course Catalogue Courses Lecturers Time and Place Search

## **Search for Courses**

Semester	Autumn Semester 2023	•
Level		•
Department	Mechanical and Process Engineering	•

### Structure

Programme	Mechanical Engineering Master	
Section	Core Courses	-
Subsection		-

## Learning Agreement (LAG)

- Possible after approval of tutorship
- Submission: within 3 weeks after the start of the semester on myStudies
- Final version: before enrolling for the Master's Thesis

### As soon as possible:

- Ask for an appointment with the tutor
- Request the tutor approval on myStudies
- Prepare your proposal, based on your interest and sample curricula on the web
- Submit the LAG on myStudies

Programme regulations Master's Degree Programme in Mechanical Engineering	
Tutor	Prof. Dr. C. Onder
Programme Information	
Together with the students,	utors define the courses in the category Core Courses.
The Learning Agreement m	ust be submitted in myStudies and approved by the tutor within 3 weeks after the start of the semester.
It can be updated during the study period. The final version must be submitted before enrolling in the Master's thesis.	

Course		🔿 Not registered 😑 Registered 🔍 Passed 😝 Repetition failed 🜑 No more availab	le		
Sem		Semester A: Autumn Semester S: Spring Semester			
Completion of mane courses	datory	Declare how mandatory courses will be or have been completed: Yes: In this programme Bachelor: In the Bachelor or another ETH pro-		ETH pro	
Not regular		Category assignment differs from that in the Course Catalogue.			
Changes		New: Newly added, Moved: Moved to another category, Modified: Text modified, for exter	nal course units only.		
Category				ECTS cred	its
Number	Course	Title	Sem	Planned	Needed
Core Courses				36	36
151-1115-00L	0	Aircraft Aerodynamics and Flight Mechanics	S	4	
151-0854-00L	0	Autonomous Mobile Robots	S	5	
227-0124-00L	0	Embedded Systems	А	6	
151-0567-00L	0	Engine Systems	А	4	
151-0623-00L	0	ETH Zurich Distinguished Seminar in Robotics, Systems and Controls	А	1	
151-1116-00L	0	Introduction to Aircraft and Car Aerodynamics	А	4	
151-0310-00L	0	Nonlinear Model Predictive Control of Mechatronic Systems	S	4	
151-0573-00L	0	System Modeling	А	4	
151-0569-00L		Vehicle Propulsion Systems	А	4	

### Calendar 2023 - 2024

### Academic Calendar

Fall semester (HS)	18 Sep 2023– 22 Dec 2023
Winter session examinations:	22 Jan 2024 – 16 Feb 2024
Spring semester (FS)	19 Feb 2024 – 31 May 2024
Summer session examinations:	5 Aug 2024 – 30 Aug 2024

"End of semester examination": during the last two weeks of the semester and first two weeks after the end of semester (in winter: calendar weeks 2 and 3 in January)

### Examinations

Session examinations: twice a year planned by the Academic Services

**End-of-semester examinations:** carried out during the last two weeks of a semester and during the first two weeks of the semester break, organized by lecturers. Enrollment in the courses and registration for the examination is required.

**Semester performance:** integrated performance assessments during the semester or performance assessments which take place outside the normal semester schedule. Enrollment in the courses is required.

### MAKE SURE TO NOT MISS THE DEADLINE FOR THE REGISTRATION OF EXAMINATIONS



### Assessment and grading scale

- Performance assessments are always graded.
- Courses can be assessed with pass/fail or with a grade.
- Students check their performance overview on myStudies.
- The pass grade is 4.0
- No show = 1<sup>st</sup> attempt

6.0 - 5.75	Excellent
5.5 - 5.25	Very Good
5.0 - 4.75	Good
4.5 - 4.25	Satisfactory
4.0	Pass
3.5	Fail
3.0	Poor
2.5	Very Poor
2.0	Extremely Poor
1.0	Not Measurable

### Master's Degree

The grade point average of the Master's Degree is based on following categories (different weights in Master's Programs):

- Core Courses
- Semester Project
- Master's Thesis

The D-MAVT Master's Graduation Ceremony takes place at the end of the spring semester





## Culture shock

To adapt to the new environment requires a lot of effort. If problems arise, please ask for assistance. We can help you!

- Tutor
- Other Students
- **D-MAVT:** Dr. Maddalena Velonà, LEE K 210, Tel +41 44 632 21 99
- Academic Services: Dr. Andrea Schrott, HG FO 22.1, Tel. +41 44 632 57 96
- Psychological Counseling Center of ETH and the University of Zurich: <u>http://www.pbs.uzh.ch/index\_en.html</u>
- Student Advisory Service: <u>https://ethz.ch/students/en/advice/student-advisory-service-coaching.html</u>
- Student Association: <u>www.amiv.ethz.ch</u>

#### Information

#### Student Administration info@mavt.ethz.ch

#### **Study Guide**





Department of Montanial and Process Engineering

DMAYT





## **ETH** zürich

= Subnavigation

**MAVT** web

ICh Department of Mechanical and Process Engineering

www.mavt.ethz.ch/studies/master.html

News & events The Department Research

Studies Doctoral studies Continuing education

Homepage > Studies > Master

#### Master's Programs

The Department of Mechanical and Process Engineering (D-MAVT) offers five Master programs.

The Master in Mechanical Engineering and the Master in Process Engineering are consecutive program. The three other Master's programs specialized and are offered in cooperation with other departments of ETH Zurich or other universities. With a Bachelor's degree in mechanical engineering, students can also attend various other Master's programs at ETH Zurich.

D-MAVT Master Programs

Mechanical Engineering → Process Engineering → Micro and Nanosystems → Robotics, Systems and Control → Nuclear Engineering →

Mechanical Engineering

DMAVT

9

Student administration ETH Zurich D-MAVT

Leonhardstrasse 21 LEE K 208 8092 Zurich Switzerland

↓ +41 79 666 86 89 →
E-mail →
V-Card (vcf, 1kb) ↓

Contact us

- by email

- by phone:
- 9-12 and 13-16 hrs
- Appointments upon agreement

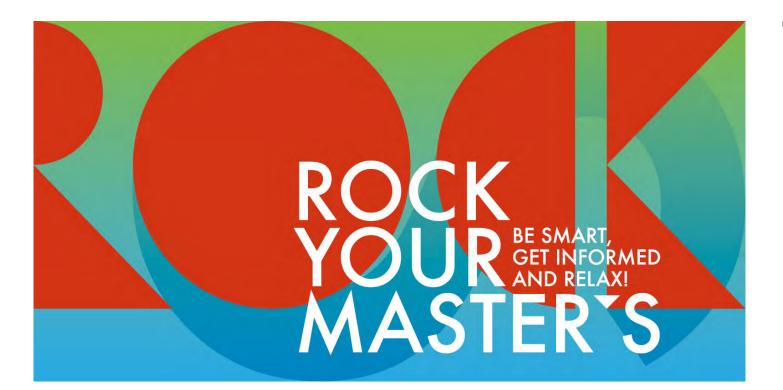
General





### Safety and Security at ETH Zurich - for Students Training Module

Safety and Security at ETH Zurich - for Students – Staffnet | ETH Zurich



7 November 2023 16.00–19.00

ETH Library InfoCenter Rämistrasse 101, HG

- Get prepared to stay on time with your studies and your Master's thesis
- Know where to find help before the workload peaks
- Meet your peers, expand your **network**
- Enjoy **impro theatre** and a **free drink**

More information at: library.ethz.ch/rock-your-masters

ETH zürich E

ETH Library

#### **D-MAVT Student Administration**



Silvia Häfliger



Danijela Lukic



Lorena Luzi



Maddalena Velonà

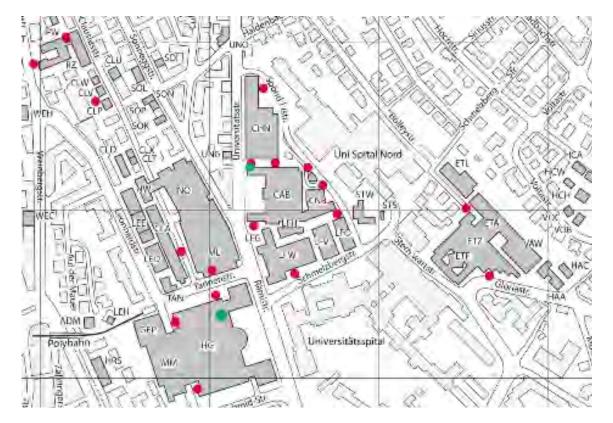
ETH Zentrum LEE K 208 Leonhardstrasse 21 8092 Zürich *info@mavt.ethz.ch*  Opening hours during the semester:

Mon, Thu	13:00 - 16:00		
Tue, Wed, Fri	09:00 - 12:00		



#### Additional information

- Food and drinks are not allowed in the lecture rooms
- Bicycles can be parked in the areas marked in red ETH Zurich Zentrum:



- Bicycle parking spaces
- Bicycle pump stations



We wish you a lot of success and fun!







### **By Students For Students**

**Work with Fabrics** 

**Come to the Cinema** 

Be a DJ

**Digitize Pictures** 

**Be Creative in the Darkroom** 

**Get a Virtual Machine** 

### https://sos.ethz.ch

**SOSETH** 

#### Voluntary contributions 🕕 for the Autumn Semester

Note: If membership is selected, the personal and address data required for member administration and other club activities will be forwarded to the respective club.

	Yes	No
Solidarity fund for foreign students (CHF 5)	0	0
SOSETH membership (CHF 5)		0
VSETH membership (CHF 10; for doctoral students CHF 35)	0	0
	Save	

## https://sos.ethz.ch

#### Zürich, September 18<sup>th</sup> 2023

## Welcomé-Day







# Representation of students' interests

## Questions or complaints to info@amiv.ethz.ch

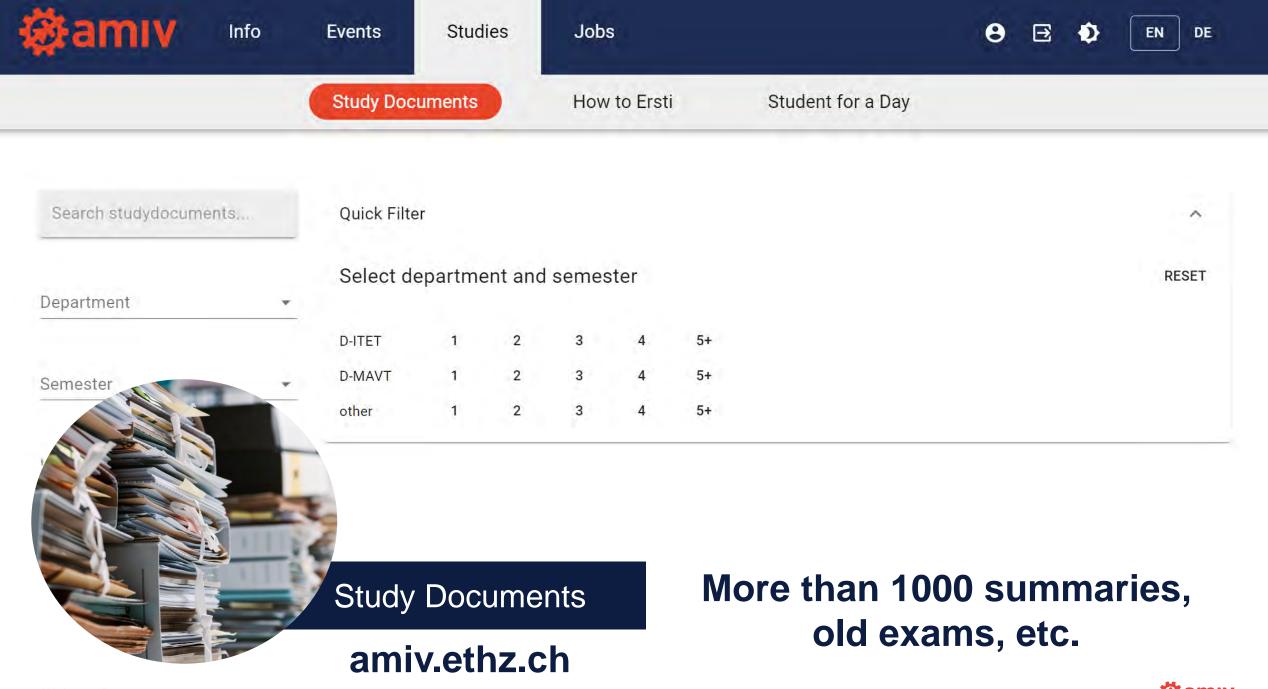


Welcome Day 2023

### **Offers and Activities**

- Theater
- Poker- / Jass tournament
- Sushi-Night
- Graduationparty
- Skiweekend
- Lasertag
- Beachvolleyball tournament







### Written recollections of oral exams

# extremely useful when preparing for an exam





- Coffee machine
- Beer vending machine
- Table football
- Billiard table
- Mate tea machine

- Couches
- TV with game console
- microwaves









WOMEN\* IN ELECTRICAL AND MECHANICAL ENGINEERING AT ETH ZURICH



die Fachzeitschrift des amiv an der ETH





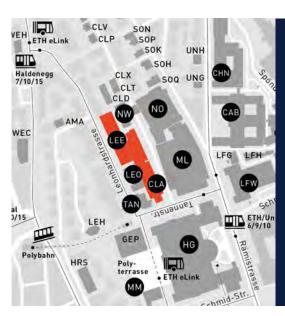


eestec ELECTRICAL ENGINEERING STUDENTS'



#### • AMIV Kontakt.23:

- The Job Fair for Engineers!
- CLA & LEE Buildings
- 10. & 11.10.2023, 11:00–17:00



57 companies 2 days Free CV-checks Free photo shoots Presentations & Workshops





#### • AMIV Kontakt.23:

- Presentations and Workshops
- with free Apéros!

•Lateral entry into Software Engineering •Tuesday, 27.09.2023, 18:15, HG E 5

#### Career Misconceptions

• Inursuay, 04.10.2023, 17:13, HG E 3







#### Voluntary contributions 🛈 for the Autumn Semester 2019

Note: If membership is selected, the personal and address data required for member administration and other club activities will be forwarded to the respective club.

	Yes	No
Solidarity fund for foreign students (CHF 5)	۲	0
SOSETH membership (CHF 5)	۲	0
VSETH membership (CHF 10; for doctoral students CHF 35)	۲	$\bigcirc$
	Save	



Ersti-Apéro Today from 1 pm CAB building

Ersti-Rallye Wednesday, Sep 20

Masterweekend Sign-up today 6pm Sep 29 – Oct 1



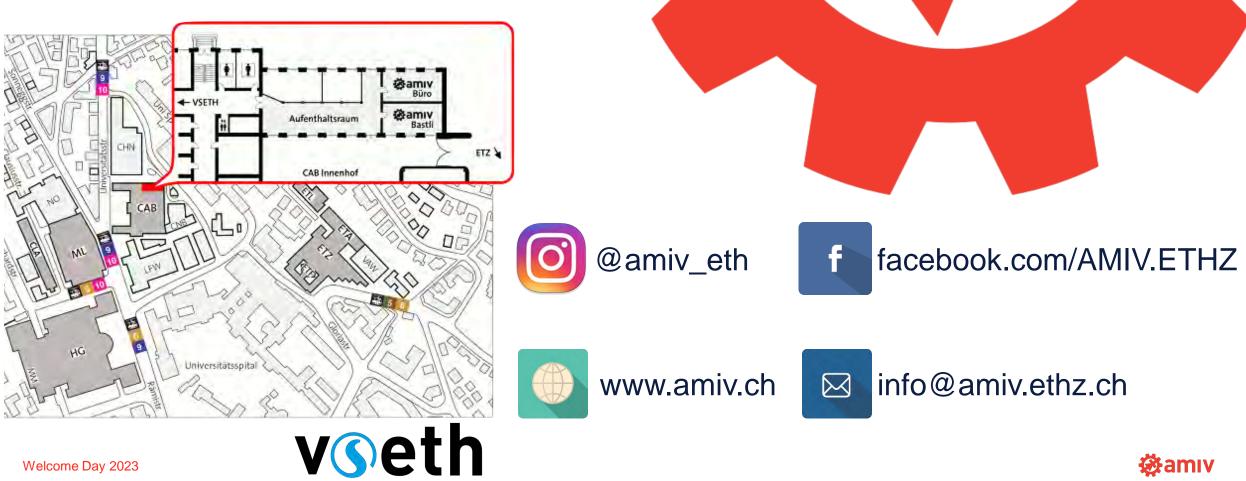
### More information on amiv.ethz.ch

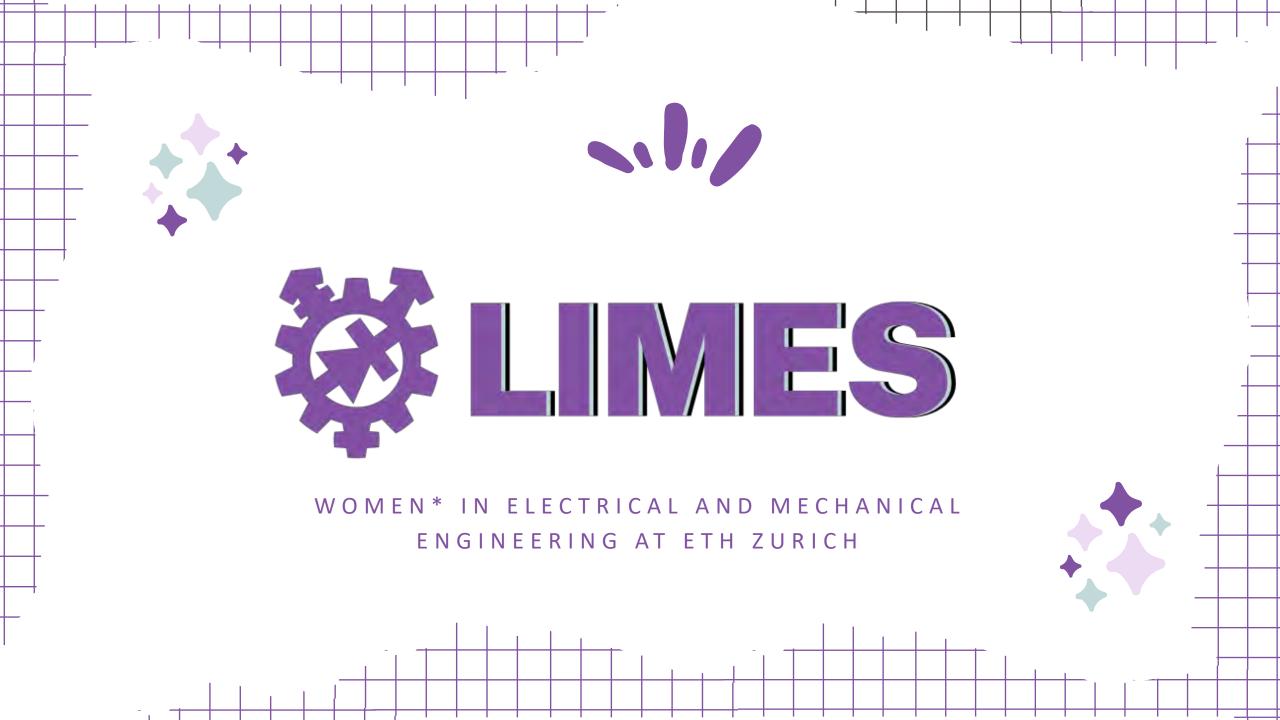




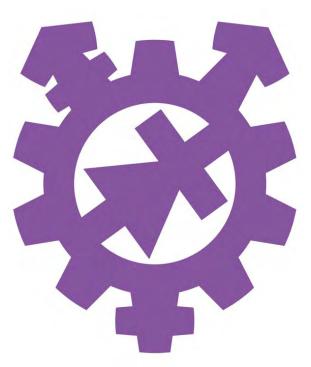


#### **AMIV** and der ETH **CAB E37 Universitätstrasse 6** 8092 Zürich









## About us

LIMES is the women\* student committee of AMIV, the association for students studying Information Technology and Electrical Engineering (<u>D-ITET</u>) and Mechanical and Process Engineering (<u>D-MAVT</u>).

\*Our use of the term "women" includes all individuals who identify as women, non-binary, inter- and transgender and face gender-based discrimination.



## Our mission

### Insight

We equip our members with invaluable industry insights prior to their completion of studies.

### Network

We connect women\* engineering students, fostering a strong support network that goes beyond their academic pursuits.

#### Inspire

We seek to inspire high school students to pursue technical career paths.



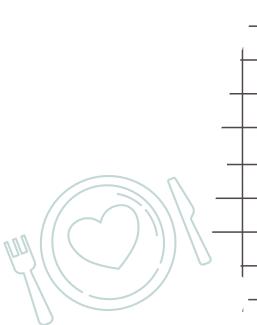


## Events

- Women\*'s Evening
- LIMES Talk
- Regulars' table (Stammtisch)
- Summer Cocktail Night
- LIMES Cup A Soccer Tournament
- Excursions
- Workshops
- Hackathons
- Team Events
- Schülerinnen\*tag
- .. & many more!







## 28.09. 30.09. Upcoming Events

2023

20.09. Ersti-Rallye LIMES Booth

For all new joiners

9. Welcome Aperitif Grab your free welcome drink!

• Workshop w/ ABB @WeTechTogether Join our workshop at the WeTechTogether Conference in Technopark Zurich

04.10. Mentee-Mentor Dinner D-ITET Spaghetti Dinner for D-ITET exclusive!

> TBA LIMES goes Google Let's visit the Google office together!

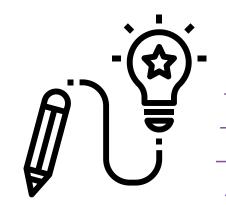
26.10. Workshop w/ FemmeInvest Invest in yourself. In your financial education. In your future.

24.11. Schülerinnen\*tag

**30.11.** Sensor-Challenge w/ Sensirion Compete against other students at the sensor challenge!

**TBA** Dinner Event w/ Belimo & ETH Juniors

Evening with keynotes, talent acquisition scouts, drinks and dinner



## Projects

MENSTRUATION STATION STATION

In total, 23 dispensers which dispense free tampons and pads are installed in women's and gender-neutral toilets on ETH campus.

The aim of the project is help normalize and eliminate the stigma surrounding the subject of menstruation.

See: https://ethz.ch/staffnet/en/news-and-events/internal-news/archive/2021/09/free-menstrual-products-on-the-eth-campus.html

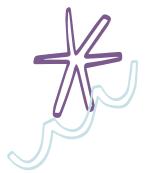
## Meetings

Meetings are held bi-weekly during the semester on ETH campus.

You can simply come to one of our meetings and learn more about what we do - no strings attached!

The meeting schedule can be found on our website and social media. Snacks are provided.

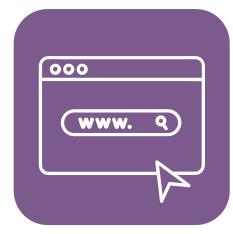




## Become a member

Becoming a LIMES member is easy! If you are interested in joining our organization, write us or simply attend our next meeting to learn more.

## Stay updated



https://limes.ethz.ch

@limes.eth

0



#### company/limes-eth



## Any questions?

Send an email to: limes@amiv.ethz.ch





### **By Students For Students**

**Work with Fabrics** 

**Come to the Cinema** 

Be a DJ

**Digitize Pictures** 

**Be Creative in the Darkroom** 

**Get a Virtual Machine** 

https://sos.ethz.ch

**SOSETH** 

#### Voluntary contributions 🕕 for the Autumn Semester

Note: If membership is selected, the personal and address data required for member administration and other club activities will be forwarded to the respective club.

	Yes	No
Solidarity fund for foreign students (CHF 5)	0	0
SOSETH membership (CHF 5)		0
VSETH membership (CHF 10; for doctoral students CHF 35)	0	0
	Save	

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