

Welcome at D-ITET!

Welcome Event for new doctoral students

3 December 2024

Welcome



Prof. Christian Franck

- Professor for High-Voltage Engineering
- Director of Studies at D-ITET

Welcome



Virginie de Mestral

- Doctoral student at the Integrated Systems Laboratory
- President of **vmitet**



Reto Kreuzer

- Head of student administration D-ITET
- Coordinator of studies and student advisor D-ITET

Programme

1. **ETH and D-ITET**
2. Introduction vमित
3. Doctoral studies, research and teaching
4. Some employment information
5. Further information & contact persons
6. Code of Conduct

History

- 1912 Foundation of the **Electrotechnical Institute**, housed in the Federal Physics building at Gloriastrasse 35
- 1935 Establishment of the **Division of Electrical Engineering** with 241 enrolled students
- 1950 Completion of **ETF building** at Sternwartstrasse 7
- 1973 Completion of **ETL building** at Physikstrasse 3
- 1980 Completion of **ETZ building** at Gloriastrasse 35
- 1989 Foundation of the **Department of Electrical Engineering** (D-ELEK)
- 1996 Department **Website** goes online (<https://ee.ethz.ch/the-department/history-of-the-department.html>)
- 2001 Foundation of the **Department of Information Technology and Electrical Engineering** (D-ITET)

Rankings



- THE World University Ranking, Times Higher Education (2024):
Nr. 11 worldwide
Nr. 11 in Electrical & Electronic Engineering
- Academic Ranking of World Universities (2024):
Nr. 20 worldwide
Nr. 16 in Electrical & Electronic Engineering
- QS World University Ranking of Quacquarelli Symonds (2024):
Nr. 7 worldwide
Nr. 4 in Electrical & Electronic Engineering

Mission



Faculty



Prof. Morteza Aramesh



Prof. Laura Bégon-Lours



Prof. Luca Benini



Prof. Jürgen Biela



Prof. Helmut Bölcskei



Prof. Colombo Bolognesi



Prof. Florian Dörfler



Prof. Christian M. Franck



Prof. Benjamin Grewe



Prof. Ulrike Grossner



Prof. Richard Hahnloser



Prof. Gabriela Hug



Prof. Giacomo Indiveri



Prof. Taekwang Jang



Prof. Lana Josipovic



Prof. Ursula Keller



Prof. Ender Konukoglu



Prof. Sebastian Kozerke



Prof. Amos Lapidot



Prof. Jürg Leuthold



Prof. Hans-Andrea Loeliger



Prof. Mathieu Luisier



Prof. John Lygeros



Prof. Valerio Mante



Prof. Onur Mutlu



Prof. Lukas Novotny



Prof. Mickaël Perrin



Prof. Klaas P. Prüssmann



Prof. Daniel Razansky



Prof. Kaveh Razavi



Prof. Marco Stamparoni



Prof. Klaas Enno Stephan



Prof. Christoph Studer



Prof. Laurent Vanbever



Prof. János Vörös



Prof. Hua Wang



Prof. Roger P. Wattenhofer



Prof. Vanessa C. Wood



Prof. Mehmet Fatih Yanik



Prof. Maksym Yarema

Department Management

Head of
Department



Jürg Leuthold

Deputy Head of
Department



Gabriela Hug

Director
of Studies



Christian Franck

Delegate for
Communication



Mathieu Luisier

Statistics

	2010	2015	2023*	Change (2010-23)
Students	1254	1624	2427	+94%
Bachelor students	509	672	793	+56%
Master students	375	507	1080	+188%
Guest students, post-graduate students	27	42	81	+200%
Doctoral students	343	403	473	+38%
Professors (FTE)	26.1	32.8	35.7	+37%
Full Professors	21.7	28.4	28.5	+31%
Assistant professors (incl. tenure track)	4.4	4.4	7.2	+64%
Personnel (FTE)	455.5	522.2	666.3	+46%
Scientific staff (incl. doctoral students)	381.6	450.5	590.8	+55%
Technical, IT and administrative staff (incl. apprentices)	73.9	71.7	75.5	+2%

* 2024 figures not yet available

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vmitet: Association
of the *Mittelbau* at ITET

**We represent your voice at
D-ITET and at the ETH-level**

**We support your career with
personal development tools
+ instructive seminars**

**We organize social events
to strengthen our
community and help you
build your network**



Vmitet board



Apero

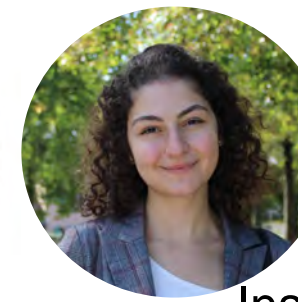


DK

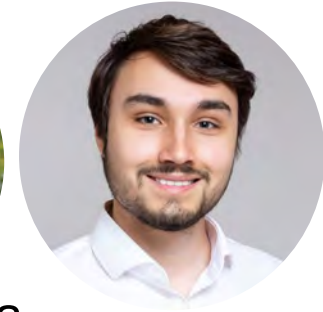


DK

Politics, DK



Insta



Events

Helpdesk, DK



DK, UK



IEEE link, DK

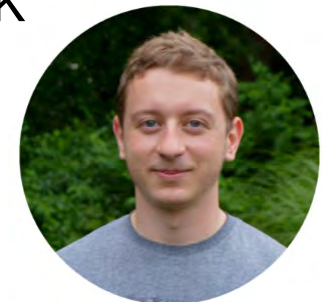
Contact Details

<https://www.vmitet.ethz.ch>

vmitet@ee.ethz.ch



vmitet_ethz



Comm, IEEE, UK, DK



Listen and Advise

We help to clarify your needs and offer advice.



Provide Guidance

We help navigating through ETH's rules and resources and also academia in general.



Assistance

We de-escalate or mediate conflicts with your colleagues or supervisors.



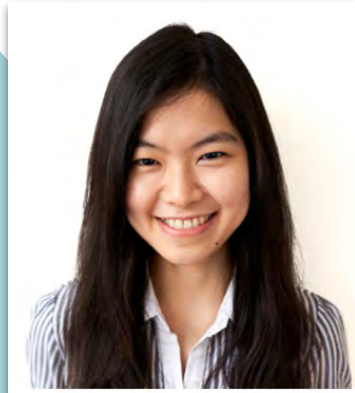
Coaching

We help improving your situation and discuss your future.



Patrick

- 4th year PhD student
- Computer Security Group (COMSEC), TIK



Cindy Karina



Leonard Deuschle

Create an open discussion and transform institutional culture
Contact us 
diversity@ee.ethz.ch



Overcoming Bias in Academia



Drinks of the World



Role of Diversity in Innovation

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What is "Research"?

...a detailed study of a subject, especially in order to discover (new) information or reach a (new) understanding

[Cambridge Dictionary]

Most important difference to your studies:

What is **new to me** versus what is **new to the world**

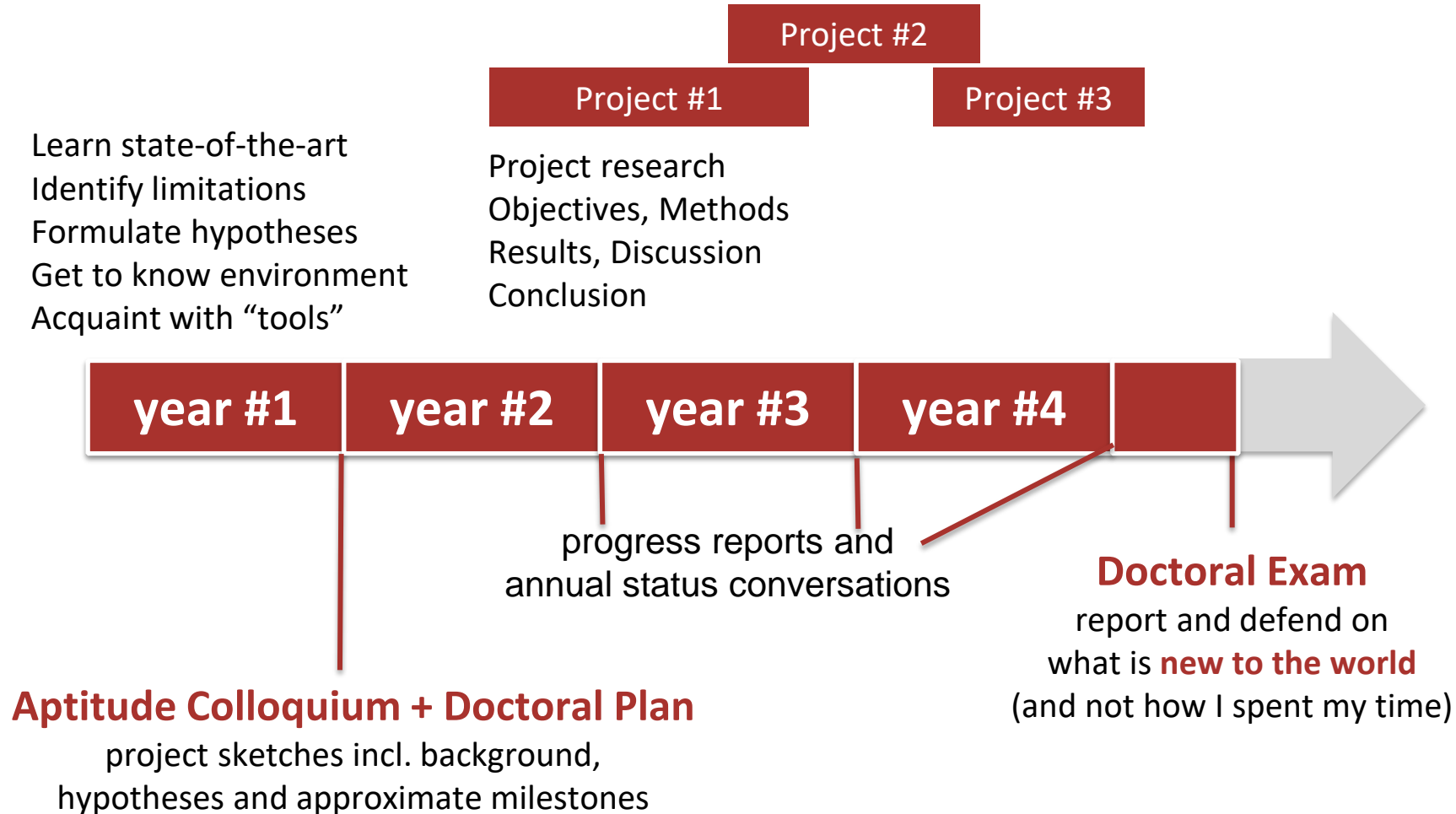
School

Undergraduate studies

Graduate studies

Research degree (PhD)

How is the doctorate structured at ETH and D-ITET?



What is a doctoral plan?

- to be written within the first year by you.
- declaration of intent between you and your doctoral thesis supervisor (“making the implicit explicit”)
- should be conceived as a living instrument. Changes are possible and almost certainly necessary. Major changes should be documented in the annual status conversations.

Should cover the following topics:

- research proposal
(abstract, introduction and current state of research in the field, progress of work to date and objectives, detailed work plan, timetable, references)
- teaching responsibilities
- other duties (e.g. operation or maintenance of equipment etc.)
- extended doctoral studies (if relevant)

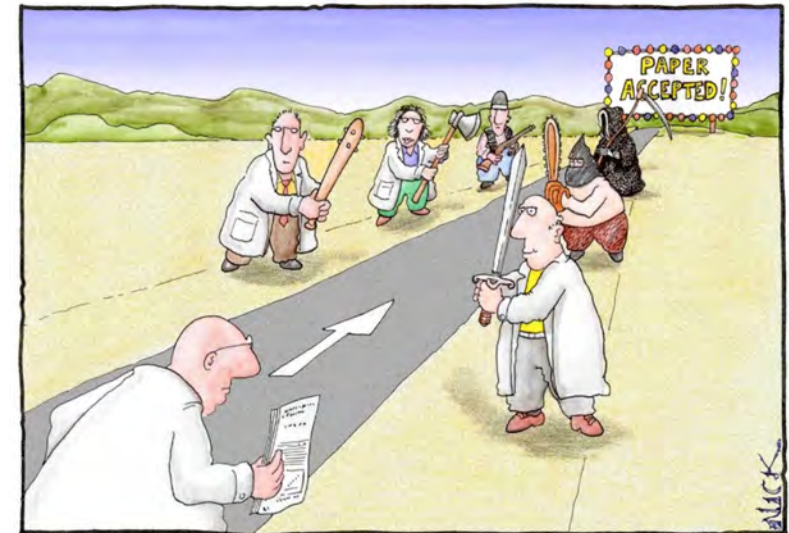
Any "Research" advice?

- **Be pilot and driver of your projects**
- **Take ownership and communicate**
- **Arrange for regular personal meetings with supervisor** (prepare them well for optimal use of time and to get the feedback/information that you need)
- **Nobody solves everything by her/himself:** seek feedback and advice from your advisor(s), colleagues, experts in the field,
- **Keep work-life balance** (despite bumpy roads)

Why research papers?

- **A research project is never finished** – a paper forces you to report, discuss and conclude your current results and relate them to overall progress in the field
- **You learn to defend your work objectively and critically** during review process
- **Much** easier to do this in smaller steps rather than once at end of your doctoral work
- **Papers document your progress relative to your peers**
and hence allow you to gauge your performance
- **Papers make your data & results accessible to outside world** (“ETH open access policy”)

<https://ethz.ch/en/research/open-science/open-access.html>



Second advisors

- All doctoral students must agree on a **second advisor within the first year** of doctoral studies – contact your (first / main) supervisor for more information.
- The second advisor provides **additional academic mentoring and support** to doctoral student.
- The second advisor must hold a doctoral degree him / herself.

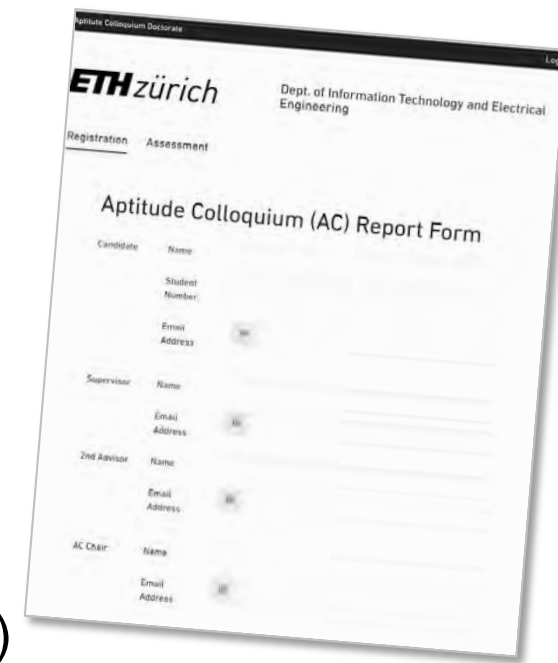
<https://ethz.ch/students/en/doctorate/second-advisor.html>

Yearly updates – after first year

What is the aptitude colloquium?

- In-depth discussion of the first year of doctoral studies based on the **doctoral plan** between the doctoral student and a committee composed of the supervisor, the second advisor and a chair ("**aptitude colloquium**") on the progress of the research project, doctoral studies, work situation in research group etc.
- Committee decides on continuation of doctoral studies
- Mandatory for all doctoral students

Plan your AC by logging in onto <http://acd.ee.ethz.ch>



The image shows a screenshot of a web application interface for the Aptitude Colloquium (AC) Report Form. The header includes the ETH zürich logo and the text "Dept. of Information Technology and Electrical Engineering". Below the header, there are tabs for "Registration" and "Assessment". The main title is "Aptitude Colloquium (AC) Report Form". The form contains several sections for data entry, each with a label and a corresponding input field:

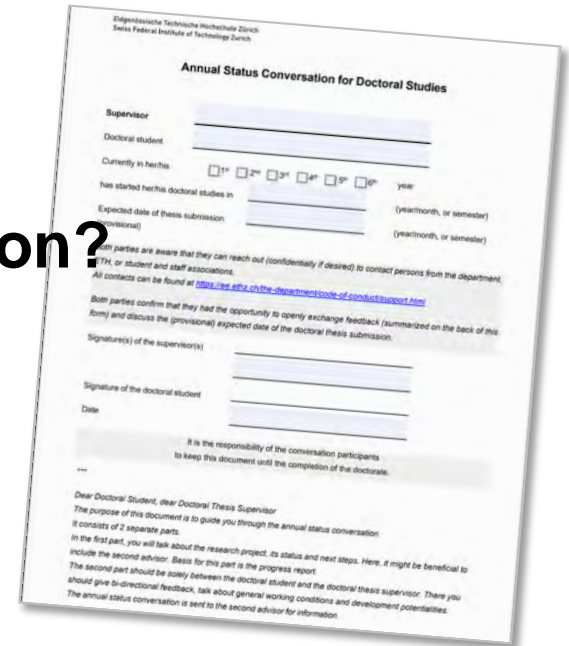
- Candidate:** Name, Student Number, Email Address
- Supervisor:** Name, Email Address
- 2nd Advisor:** Name, Email Address
- AC Chair:** Name, Email Address

Yearly updates – following years

What are the progress report and annual status conversation?

- Discussion between doctoral student and supervisor based on a **progress report** of the research project, doctoral studies, work situation in research group, as well as development opportunities.
- Mandatory for all doctoral students once per year

<https://ee.ethz.ch/doctoral-studies/forms-and-documents.html>



The image shows a form titled "Annual Status Conversation for Doctoral Studies" from the Eidgenössische Technische Hochschule Zürich (ETH Zürich). The form includes fields for Supervisor and Doctoral student, checkboxes for the current year (1st to 6th), and expected dates for submission. It also contains a section for signatures and dates, and a disclaimer at the bottom stating that the purpose of the document is to guide the annual status conversation and that it consists of two separate parts: one for the research project and one for the progress report.

“Becoming a Researcher”

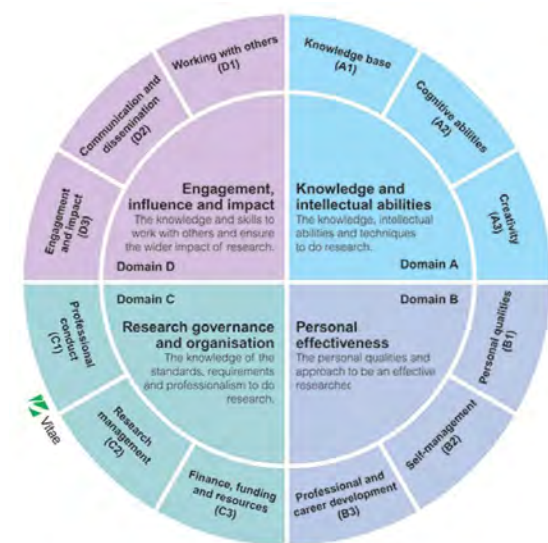
“The doctoral degree provides certification of the ability to conduct high-quality scientific research and is conferred on the basis of an original thesis and an oral examination.”

[Rector’s Implementation Provisions for the ETH Zurich Ordinance on the Doctorate, RSETHZ 340.311en]

But, becoming a researcher goes beyond “hard facts”

- Knowledge and intellectual abilities
- Personal effectiveness
- Research governance and organisation
- Engagement, influence and impact

[Researcher Development Framework]



Doctoral studies – credit point requirements

During doctoral studies, all doctoral students must acquire **at least 12 credit points ECTS** from courses (or equivalent).

Students must acquire **credits in three areas**, that

- A. Subject specialization** – deepen knowledge in the area of research field and extend knowledge outside of it
- B. Transferable skills** – Enable cross-disciplinary competences. **1 ECTS** at least must be from an **ethics course**, e.g. *851-0047-00L Ethics, Science and Scientific Integrity*, *851-0178-00L Ethics and Scientific Integrity for Doctoral Students*, *227-0809-00L Ethics in Technology* etc.
- C. Integration into Scientific Community** – e.g. conferences, summer schools etc.

Courses must be **agreed upon with the supervisor** in a **learning agreement** (see myStudies).



For more information and details see the [D-ITET website](#).

Education at ETH and your role in it

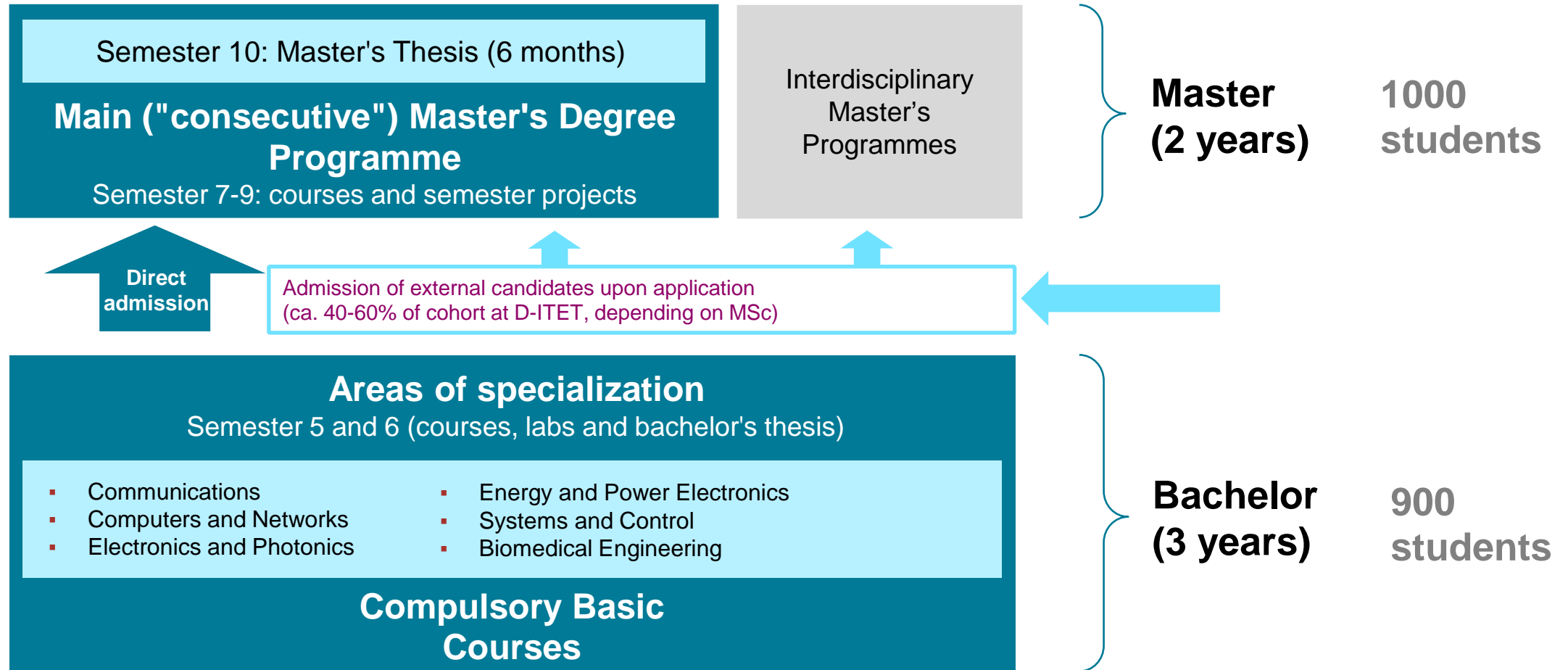
- **Education at ETH Zurich – a quick overview**
- **Your interaction with bachelor's and master's degree students**
- **Teaching as an opportunity?**

Education at ETH Zurich

- **A comprehensive offer** – currently over 20 BSc and close to 50 MSc programmes
- **Compact** study programmes
 - **Bachelor's Degree Programs** are 6 semester (3 years), Language of instruction is mainly **German** in year 1+2 and English in year 3.
 - **Master's Degree Programs** are 4 semester (2 years), teaching language is **English**.
- **ETH Zurich is a research university** – teaching at ETH is a combination of sound scientific foundations and practical application in industry and research.



D-ITET bachelor's and master's curricula



D-ITET master's degree programs

Programmes offered

- MSc Electrical Engineering and Information Technology – “main program”, consecutive
- MSc Biomedical Engineering – interdisciplinary, with D-HEST, D-MAVT and D-PHYS
- MSc Energy Science and Technology – interdisciplinary, with D-MAVT and D-MTEC
- MSc Quantum Engineering – interdisciplinary, with D-PHYS

Common to all D-ITET master's degree programmes

- **Tutor-based** programs – a professor helps students select courses
- **1-2 academic projects** (14 weeks, part-time) – training for master's thesis
- A **master's thesis** (6 months, full-time) – the final piece of the program

Your interaction with undergraduate (BSc/MSc) students

Semester	Course type	Specifics
All	Lectures	Ex-cathedra, usually held by a professor (graded exams)
All	Exercises	Solving exercises, usually in smaller groups, supervised by teaching assistants – doctoral students or senior undergraduate students (teaching assistants)
All	Exams	Various types (written, oral) and schedules (end-of-semester, session), corrected mostly by doctoral students
1 to 6	Lab courses	1 compulsory lab per semester (1 st / 2 nd year), afterwards free choice of lab courses, most labs offered by doctoral students .
3 to 6	Projects & Seminars	Various type of small projects or seminars ranging from a few meetings to all-semester offers, various groups, usually supervised by doctoral students or self-supervised by student TA.
5 and 6	Group Projects / BSc thesis	Small third year BSc projects in groups, usually supervised by doctoral students .
7 to 9	Semester projects	Compulsory at the MSc level, <u>alongside courses</u> , 14 weeks, ca. 25h per week, routine, day-to-day supervision by doctoral students . Official supervision and grading by professor, projects finish with a written report and presentation
10	MSc thesis	Final project, sometimes at very advanced academic level. Supervision, grading and presentation as in semester projects (doctoral students + professors)

In a nutshell

- Teaching at **ETH is interdisciplinary**, courses offered in various programmes / students with different backgrounds – keep in mind when addressing students' questions
- Admission of **students without an ETH-Bachelor's degree** further diversifies student body
- Students' **workload** in first two years of Bachelor programme is **very high** but varies largely in third year and higher
- **Final exams** play a very important role at ETH (few midterms), particular care in grading exams is important
- Semester projects and master's theses are the culmination of each programme, **different students need different levels of supervision**
- If you encounter problems **don't hesitate to ask!**

For study related questions, contact info@ee.ethz.ch

Teaching Responsibilities ... *and Opportunities!*

- Teaching is a **stepping stone** in any **academic career** – consider it an opportunity
- There are **many levels of teaching**, starting at rather informal lab courses, managing exercises, supervision of projects/theses and regular teaching in classes
- For **regular teaching in classes**, you should get a [teaching assignment](#) and **appear** in the course catalogue **as lecturer**



You want to **get better at teaching?** – check out the [offers](#) of the group for **educational development**, e.g., didactic courses, teaching labs, refresh teaching, etc.

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Rules, regulations, directives – doctoral students with an employment at ETH

- **Duration of employment contracts**

- Employment lasts from the date of matriculation until the doctoral examination, *up to 6 years*
- First employment contract is 18 months, subsequent contracts 12 months each, final phase before doctoral examination 3 months possible

- **Employment level**

- 100% – part-time employment only in special cases

- **Progress report and status conversation**

- *A status conversation* must be conducted each year

- **Extension of the employment contract**

- Communication: Preferably six months (and at the latest three months) before the contract expires
- Initiation of the extension process: Two months before the contract expires at the latest
- If the contract is not to be extended, the doctoral candidate must be informed (in writing) 3-6 months in advance.

[Legal basis doctorate](#)

Salary – doctoral students with an employment at ETH

- **Fixed rates** for Doctoral students / Postdocs / Scientific Assistants I & II
- Payment is in 12 **monthly instalments**
- Automatic **increase** every year until 3rd-year-rate
- Obligation to top up the salary to at least the standard rate (SNF) for doctoral students with a **scholarship** or - where possible, to the usual rate for the Institute / Professorship
- Employees with children of minor age or children in education receive a **family allowance**

- **Policy D-ITET:**
 - Each Institute / Professorship handles the **salary rates transparently** and ensures a **fair distribution** of work in teaching and service.
 - This must be **applied consistently** for all group members

Vacation and absences – doctoral students with an employment at ETH

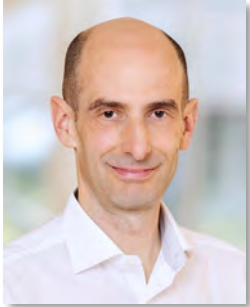
- Register absences in [ETHIS](#) – obligation for scientific personnel: vacation and absences only
- **5 weeks of vacation per year**
- Vacation days must be taken in the year the entitlement arises, at least once 2 weeks in a row
- Your supervisor is allowed to decide **when vacations can be taken** – plan and discuss your vacation plans early in order to ask for an early approval
- Vacation means regeneration – it is not allowed to reduce the annual entitlement
- Accidents must be reported through the Human Resources [webpage](#), a doctor's certificate or accident certificate is required after 3 days of absence

[Regulations for the recording of working time and absences](#)
[Personnel Law ETH domain](#)

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Human Resources



Adrian Anner (ETZ H 86)

HR Partner D-ITET

adrian.anner@vppl.ethz.ch

+41-44-633-2646

Contact person for

provides support in operational personnel management, labour law issues, retention and development, conflicts, consulting



Melanie Rösch (OCT F19)

Personnel administration D-ITET

melanie.roesch@vppl.ethz.ch

+41-44-633-8072

Contact person for

Residence / work permits, family allowance, social insurances, accident and sickness

Doctoral administration



Yasemin Tomaschett (ETZ H 85)

Doctoral administration D-ITET

doktorat@ee.ethz.ch

+41-44-632-3336 (Monday, Wednesday, Thursday)

Contact person for

All administrative steps regarding doctoral programme from official application to doctoral exam



Reto Kreuzer (ETZ H 83)

Head of student administration D-ITET

reto.kreuzer@ee.ethz.ch

+41-44-632-0815 (upon appointment)

Contact person for

Student counselling, curricula questions and regulations

*Ask your supervisor and
the administration / secretary of
your lab for inside knowledge!*

Contact and Advice Services



- [Support contacts at D-ITET](#) – First point of contact: you can always turn to our designated D-ITET contact person (Prof. Ch. Franck or R. Kreuzer for teaching-related issues / A. Anner for HR issues)
- [ETH advice and conciliation service “respect”](#) – Provides all members of ETH with advice and support regarding bullying, harassment and discrimination
- [Ombudsperson and confidants](#) – General contact point for conflicts and issues concerning integrity and scientific misconduct
- [Psychological Counseling Service](#) – Free of charge service open to all students and doctoral students at the UZH and ETH Zurich
- [Safety, Security, Health and Environment \(SSHE\)](#) – Responsible for safety and security as well as the health of the ETH members.

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6. Code of conduct

"At D-ITET, we maintain an inclusive, open and friendly environment, where our students, employees and faculty can thrive and achieve their highest potential, based on mutual respect.

To preserve this cordial environment, we do not tolerate misbehavior of any kind, including threats, violence, bullying, sexual harassment, discrimination, or dishonesty in study and in research."

See our website for:

- Our principles – what is inappropriate behavior?
- How to react to inappropriate behavior?
- Support, contact people



Thank you