

Lectures

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Press Conference

Taking the doctorate to a new level

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Prof. Dr. Sarah M. Springman, Rector of ETH Zurich

Doctoral work is the backbone of a university's research. There are currently over 4,000 doctoral students enrolled at ETH Zurich, equivalent to around 20 percent of total students. This is a very high percentage – even by international standards. Some 40 percent of our doctoral students have already completed a Master's degree at ETH. Just under 10 percent come from other Swiss universities, while over half come to us from universities all over the globe. A doctorate at ETH is an attractive option for promising young scientists, and the completion rate of 85% is extremely high compared with international peer institutions.

At ETH Zurich, the doctorate has developed within the framework of a few very clear rules. These have left room for the customs and practices of the international scientific communities, the different academic departments – a few of which have their own *doctoral school* – and the individual research groups. This diversity and the resulting dynamism are integral to the university's culture.

Given the occasional, but very disconcerting incidents that have occurred among the doctoral body, I realise that these are not solely attributable to the misconduct of individuals, but are also caused by structural factors, which I intend to address in my role as Rector. The most serious in this respect is the dependency of doctoral students on their supervisors. The problem is that doctoral students are assessed by the same people who supervise them, and this dual role of professors can lead to situations where problems are not addressed and thus escalate over time.

One thing is quite clear to me: we need to solve the problem of structural dependency at ETH. *By 2020*, I want to see everyone starting doctoral studies at ETH to be allocated as soon as possible at least one other support person apart from their appointed dissertation supervisor. If doctoral students are supported by at least two independent contacts, we can reduce overdependency on just one person. In addition, regular feedback sessions will help us to ensure that problems are identified at an early stage and tackled as soon as they arise. Over the coming months we will be working with the academic departments to establish the precise configuration of this new system of multiple supervision.

We will also discuss with the academic departments how we select doctoral candidates. The recruitment of new doctoral students is an essential process. We will pay particular attention to clarifying the expectations on both sides, as well as the question of whether several people should also be involved in the recruitment stage. I think it would be better if professors did not choose doctoral students by themselves. Assessing the potential and personality of candidates is much more effective if other people are involved in the selection process, as already happens in practice in many cases. These people could be experienced members of the research group. Specialists from the HR department should also be asked to contribute their expertise.

We are also in the process of producing a series of measures to encourage the exchange of information between doctoral students and their supervisors from the very start, with the aim of increasing the level of mutual trust in their collaboration. At the same time, we are adapting processes and structures so that we can identify problems early on in future and ensure they are quickly resolved at the right level before having a chance to escalate. The following measures are due to be introduced by Autumn Semester 2019:

- A new **recruitment guideline** will help professors to clarify mutual expectations with doctoral candidates during the recruitment process.
- The revised introductory programme for new professors will include a module on the supervision of doctoral students at ETH.
- Not only professors, but also new doctoral students will attend **induction courses** to familiarise themselves with the ETH culture, good scientific practice and ethical standards. These courses will explain their rights and obligations and how the university functions, and also address issues such as recruitment, time management, professional development, wellbeing and work/life balance.
- Up to now, final admission to doctoral studies was granted once the relevant department's Doctoral Committee had approved the research plan. Under the new system, doctoral candidates must successfully defend their research plan as part of an admission colloquium.
- A new questionnaire devised especially for doctoral students will support the annual **appraisal interview**. This will discuss aspects such as leadership, collaboration and development.
- An annual progress report should also be produced for the academic side.
- A newly created post in the Doctoral Administration office will support the Vice Rector for Doctoral Studies as the central **contact point in the event of disagreements** between doctoral students and their supervisors. It will also organise the induction courses for doctoral students together with the human resources department.

But let's not delude ourselves: even if we implement the measures described as quickly as possible, we have a long way to go if we are to bring the doctorate up to a new level. Our ultimate goal, after all, is for ETH to rank among the best when it comes to doctoral supervision as well.

I should mention here that most of our colleagues work extremely hard – day in, day out – to make this happen. It's worth remembering that fact in the midst of the controversy caused by cases of misconduct by individual professors. Top performances such as those produced at ETH Zurich are only possible in a fundamentally positive and motivating working atmosphere.

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But let me return to our measures to improve things. We reached an important first milestone with the two-day symposium on the supervision of doctoral students held in January. The keynote speeches from five leading international researchers in this field showed just how complex this topic is. The experiences of other universities show there is no one-size-fits-all solution and that extensive changes take time. The lively discussions during the symposium's workshops made it clear that ETH is prepared to tackle these changes head on.