

# Guidelines for the PhD Fellowships at the Max Planck ETH Center for Learning Systems

September 2017

## Overview

The Max Planck ETH Center for Learning Systems (CLS) is a joint research center of ETH Zurich and the Max Planck Society. The Center's mission is to pursue research in the design and analysis of learning systems, synthetic or natural. This initiative brings together more than 40 professors and senior researchers in the fields of machine learning, perception, robotics on large and small scales, as well as neuroscience. The CLS offers a wide range of activities like retreats, workshops, and summer schools as well as a unique fellowship program, where PhD students are co-supervised by one advisor from ETH Zurich and one advisor from the MPI for Intelligent Systems in Tübingen and Stuttgart, respectively.

The fellowships program is intended to support highly motivated PhD students with excellent track records. Given the limited number of fellowships available in a given year (6-8 fellowships, depending on the financial resources of the CLS), the fellows are selected in a competitive process to ensure that the best students with the highest potential are chosen.

CLS PhD fellows are expected to take advantage of the opportunities offered by both institutions and to actively seek cross-group collaborations. They will be located either in Zurich or Tübingen/Stuttgart based on interests and match with the host lab and spend one year at the partner institution as well.

## Submission

### Eligibility criteria

Candidates are expected to have a completed master's degree in computer science, physics, engineering, applied mathematics, materials science, neuroscience or other relevant fields as well as an excellent track record and must meet the general admission requirements for a doctorate at ETH Zurich (available at <https://www.ethz.ch/en/doctorate.html>).

### Application

Applications are encouraged from candidates with a keen interest in doing basic research in areas like:

- Machine Learning and Empirical Inference of Complex Systems

- Machine Intelligence, including Machine Vision and Natural Language Understanding
- Perception-Action-Cycle for Autonomous Systems
- Robust Model-Based Control for Intelligent Behavior
- Robust Perception in Complex Environments
- Design, Fabrication, and Control of Synthetic, Bio-Inspired, and Bio-Hybrid Micro/Nanoscale Robotic Systems
- Haptic Intelligence
- Data-Driven Computational Biology
- Neurotechnology and Emergent Intelligence in Nervous Systems.

Applications must be submitted via the ETH Zurich job portal at <http://www.jobs.ethz.ch/> and need to include:

- a complete CV including a list of publications, invited talks and awards (if applicable)
- a short mission statement (1-2 pages) outlining the targeted research area of the candidate
- scanned transcripts of certificates (bachelor's degree, master's degree, other degrees)
- 2-3 reference letters to be sent directly per email to the CLS Executive Office within the application deadline.

Calls for applications will be published ca. once per year. The exact date is communicated on the CLS web page (<http://learning-systems.org/>).

## Evaluation

### Time line of the evaluation procedure

Week	Task
0	Submission of applications
4-6	Assessment of applications by the CLS members according to pre-defined criteria (see below)
6	Decision on short-listing of candidates by the CLS Steering Board
6-8	Invitation of short-listed candidates for an interview
8-12	On-site interviews at Zurich or Tübingen/Stuttgart or at the annual CLS retreat
9-13	Decision on the selected fellows by the CLS Steering Board
10-14	Information of the applicants about the final decision per e-mail

In the interview, applicants have to give a short presentation about a research project they have been previously conducting (Master, Bachelor, internship or otherwise). Subsequently, they will be asked questions about their scientific development to date, the proposed research area as described in the mission statement, the particular strengths and skills they would add to the CLS, as well as about their future career prospects. In some cases, candidates may be asked to solve problems or write a few lines of code during the interview. All travel costs and miscellaneous expenses associated with the interview will be covered by the CLS.

In case of a negative decision, a resubmission for a CLS PhD Fellowship application is only possible if explicitly encouraged by the CLS Steering Board.

Candidates with a host professor located at ETH Zurich have to be approved by the Vice President of Research and Corporate Relations of ETH Zurich prior to the start of their fellowship.

## Evaluation criteria

The decision on receiving a CLS PhD Fellowship is based on a strict, quality-based evaluation process. Applications will be assessed against criteria mainly addressing the candidate's scientific aptitude. In addition, the synergy with the envisaged host lab will be taken into account.

The criteria pertaining to the candidate's scientific aptitude are based on the CV, the letters of reference and the mission statement and include:

- previous performance and potential
- track record relative to opportunities and career stage
- competence for the proposed work
- compatibility of the CLS PhD Fellowship with the career goals of the applicant
- the compliance of the proposed research area with the general mission of the CLS
- the originality of the proposed research area (high risk research is encouraged)

The criteria referring to the synergies with the envisaged host labs include:

- particular strengths and skills relevant to the host labs
- added value and integration into the host labs

## Funding

The duration of the CLS PhD Fellowship is initially three years. For fellows with good progress it can be extended for maximal one year to complete the PhD thesis (decision to be taken by the CLS Steering Board, without additional interviews).

CLS PhD fellowships will be remunerated according to the rules of the Max-Planck-Society and ETH Zurich, respectively. The corresponding guidelines for doctoral education apply. The CLS will pay for a part of the position, which is matched by the host lab at the Max-Planck-Society and ETH Zurich, respectively.

In order to be accepted as CLS PhD fellow the requirements set out by the ETH Zurich Doctoral Administration have to be fulfilled (see <https://www.ethz.ch/en/doctorate.html>). CLS PhD fellows will need to register as graduate students at ETH Zurich and - upon successful completion of their PhD project - be granted a doctoral degree by ETH Zurich. Details of this process are governed by ETH regulations and committees.

## Obligations

Selected CLS PhD Fellows are expected to start their fellowship according to the standard academic cycles at ETH Zurich. Any amendments require approval from the CLS Executive Office.

CLS PhD Fellows need to obtain course credits and take part in the teaching activities of their host group according to the respective regulations of the corresponding PhD program at ETH Zurich.

To monitor progress and improve the program, CLS PhD Fellows are expected to provide documentation of the progress of their research project as required by the corresponding PhD program at ETH Zurich as well as by the Center.

CLS PhD Fellows are expected to actively participate in workshops, summer schools and other events of the Center.

## Other

The CLS seeks to increase the number of women in areas where they are underrepresented and therefore explicitly encourages women to apply. Furthermore, the CLS is committed to increasing the number of individuals with disabilities in its workforce and therefore encourages applications from such qualified individuals.