Zurich-Basel Plant Science Center

PhD Program in Plant Sciences

www.plantsciences.ch
The PhD Program in Plant Sciences

The PhD Program in Plant Sciences is a joint program of the University of Zurich, ETH Zurich and the University of Basel. It offers training in frontier topics in the plant sciences, including molecular biology, ecology and agronomy. It also provides opportunities to acquire technical skills and transferable skills for careers in- and outside of academia.

The program offers about 30 courses each year in the following domains:

- Fundamental and applied plant sciences
- Statistics, data management and data science
- System thinking
- Understanding the research environment and scientific community
- Research management
- Ethics and responsible research and innovation
- Scientific writing and grant proposal writing
- Communicating science
- Career development

The structured curriculum is fully accredited by the University of Basel, ETH Zurich and University of Zurich, and is a component of the Life Science Zurich Graduate School (International PhD Programs in the Life Sciences). The Program follows the international research qualification framework of Vitae* for competencies that should be advanced during PhD studies. All coursework is in English.
Courses and Modules

The PhD Program responds to the evolving needs of PhD students with a diverse set of offerings.

Frontiers in plant science and technical skill courses
World-class experts from Switzerland and abroad share their specialties with our PhD students. Our offerings are constantly evolving based on guidance from faculty, students, and progress in the plant sciences.

Example topics:
• Visualization of complex data sets
• Next-generation sequencing and functional genomics
• Computational biology

Transferable skills
The program offers a broad range of topics, including:
• Dealing with the publication process
• Grant proposal writing
• Project management in research
• Statistics with R
• Scientific writing
• Open data
• Research integrity
• Filmmaking for scientists

Summer Schools
PSC summer schools address some of the biggest challenges facing science and society. These intensive programs allow students to explore cutting edge plant science topics and meet experts from around the world.

Recent and upcoming topics:
• Responsible research and innovation in plant sciences
• Understanding risks and resilience in plant systems
• Agriculture in transformation – New concepts for an agriculture production that is socially fair, environmentally safe and economically viable
• Tackling wicked problems
• Emerging technologies and global sustainable agriculture
• Governing the transition to a bio-based economy
• Terrestrial ecosystem dynamics in a changing world
• Food security – how can science and policy contribute?
**Mentoring**

The PSC mentoring offers help students tapping into existing resources and networks to optimize their efforts in outreach, science communication, and policy impact.

Example topics:

- Teaching skills – how to get meaningful experience
- Linking research to outreach
- Orienting your research towards impact at the science-society interface

The feminno career development program offers mentoring and training for female scientists and young professionals interested in innovation.

[www.feminno.ch](http://www.feminno.ch)

**Curriculum**

Students can tailor coursework to their needs within the flexible curriculum of the PhD Program. The 12 ECTS required for program completion should be selected as follows:

<table>
<thead>
<tr>
<th>Course Categories</th>
<th>ECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandatory course</td>
<td>2</td>
</tr>
<tr>
<td>Colloquium “Challenges in plant sciences”</td>
<td></td>
</tr>
<tr>
<td>4-10 ECTS must be selected from</td>
<td>4 to 10</td>
</tr>
<tr>
<td>Frontiers in plant sciences</td>
<td></td>
</tr>
<tr>
<td>Technical skill courses</td>
<td></td>
</tr>
<tr>
<td>Statistical methods</td>
<td></td>
</tr>
<tr>
<td>Transferable skill courses</td>
<td></td>
</tr>
<tr>
<td>Any remaining ECTS may be selected from</td>
<td>up to 6</td>
</tr>
<tr>
<td>Personal contribution at an international scientific symposium (1 ECTS)</td>
<td></td>
</tr>
<tr>
<td>Organization of a PSC PhD Symposium (3 ECTS)</td>
<td></td>
</tr>
<tr>
<td>Other scientific or transferable skill courses</td>
<td></td>
</tr>
<tr>
<td>Total ECTS necessary for program completion</td>
<td>12</td>
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</tbody>
</table>
Who can join?

Students accepted for a PhD position in a plant science-related research group based at the Faculty of Science (University of Zurich), the Department of Environmental System Sciences, the Department of Biology (ETH Zurich), or the Department of Environmental Sciences (University of Basel) are welcome to join the program.

Once enrolled at one of the universities, you can apply for the program at:

psc_phdprogram@ethz.ch

You must hold a Master’s degree or equivalent in natural sciences. For the registration form and further details, please visit:

www.plantsciences.ch/education

Plant science students may also apply directly to the program, as we offer a limited number of open PhD positions (twice yearly). Information and online application at:

www.lifescience-graduateschool.ch

Deadlines: December 1st and July 1st
General Information

The Zurich-Basel Plant Science Center (PSC) is a competence center linking and supporting the plant science research community of the University of Zurich, ETH Zurich and the University of Basel.

The PSC promotes fundamental and applied research in the plant sciences. We seek creative approaches to research mentoring and coursework for students and postdocs, and we provide platforms for interactions with peers, policymakers, industry and stakeholders. We help graduate students put together the right package of classes in the plant sciences, statistics, policy, communication and other transferable skills. Finally, we help match students and PIs with appropriate funding sources to take on some of society’s most important questions.

www.plantsciences.ch

Degree

Students will obtain the PhD from the University of Zurich, ETH Zurich or the University of Basel; an additional program certification and diploma supplement are issued by the PSC.

Length of the program

3 years

Registration

www.plantsciences.ch/teaching/phdplantscience/application.html

Help desk

psc_phdprogram@ethz.ch

Photos and cover picture by Christoph Grieder (ETH Zurich). Cover: Wheat during early development in the field. Normalized difference vegetation index (NDVI) displayed in false color. Illustration by Gaia Codoni.