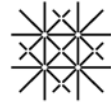




University of  
Zurich<sup>UZH</sup>

**ETH** zürich



University  
of Basel



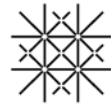
Zurich-Basel Plant Science Center

# PSC Welcome Event Fall 2017



University of  
Zurich<sup>UZH</sup>

**ETH** zürich



University  
of Basel



Zurich-Basel Plant Science Center

## Agenda

- **For new students:**

17h15-17h40: Introduction to PSC PhD programs processed  
(regulation, guidelines and navigation the graduate school)

17h40-17h50: Introduction to PSC Services

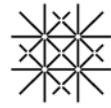
17h50-18h15: Accessing Resources to Improve Teaching  
Skills, Improving Communication Skills: Theory and practice

18h15-18h45: Time for questions



University of  
Zurich <sup>UZH</sup>

**ETH** zürich

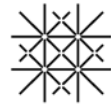


University  
of Basel

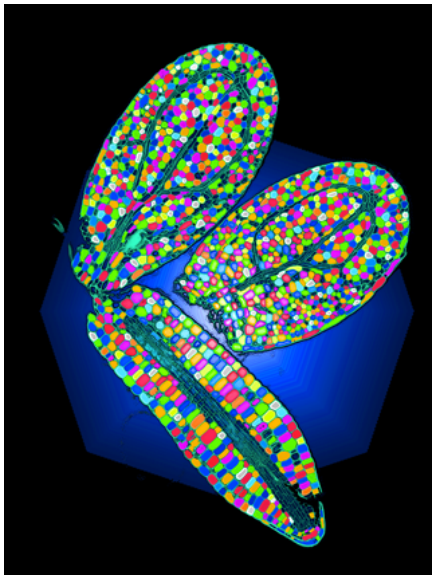


Zurich-Basel Plant Science Center

# UPCOMING EVENTS



# Dynamics of Plant Development and Evolution – PSC Symposium: 30 Nov & 1<sup>st</sup> Dec 2017



**Location:**  
**Auditorium**  
**Maximum at ETH**  
**Zurich,**  
**Rämistrasse 101,**  
**Zurich,**  
**Switzerland**

## **Session I: Selection & Adaptation**

Kirsten Bomblies, Cris Kuhlemeier,  
Juliette de Meaux

## **Session II: Response to Signals**

Fredy Barneche, Daniel Croll, Ueli  
Grossniklaus, Claudia Köhler

## **Session III: Communication**

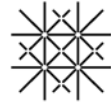
Marja Timmermans, Thomas Greb, Ross  
Sozzani, Monika Hilker

## **Session IV: Morphogenesis**

Olivier Hamant, Karin Schumacher, Elizabeth  
Hawell, Elena Kramer

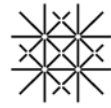
## **Session IV: Polarity & (a)symmetries**

Dolf Weijers, Ralf Reski, Dominique  
Bergmann, Erik Nielsen



## PSC PhD Symposium 2018

- PhD students will organize the PSC PhD Symposium 2018 under the supervision of Luisa Last
- PhDs will organize everything themselves with a provided budget (i.e. title, logo, program, catering, book of abstracts, etc.)
- Special Symposium → **20<sup>th</sup> anniversary of the PSC**
- Working title: “**Breakthroughs in Plant Sciences**”
  
- The first meeting of the organization committee:
  
- September 20 (15:00 to 16:00) at ETHZ, LFW B52
  
- Contact: Luisa Last



## Open Seats in Frontiers in Plant Sciences Courses

### **Frontiers in Plant Sciences: Introduction to Light Microscopy and Image Processing**

Date: October 24-26, 2017

Trainer: Dr. Simona Rodighiero (ETHZ)

### **Frontiers in Plant Sciences: Application of Chlorophyll Fluorescence**

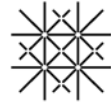
Date: November 13-14, 2017

Trainer: Dr. Jörg Leipner

### **Frontiers in Plant Sciences: Current Challenges in Plant Breeding**

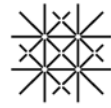
Date: November 29, 2017 & January 31, 2018

Trainer: Prof. Bruno Studer, Dr. Andreas Hund, Dr. Simon Krattinger, Dr. Thomas Wicker



# Navigating Graduate School

Carole Rapo, Luisa Last and Melanie  
Paschke

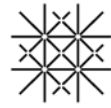


## For new PhD students

	UZH	ETH	Deadlines
<b>Registration</b>	Mandatory	Mandatory	within 3 months
<b>Interview Protocol</b>	Mandatory	Manadatory	within 3 months
<b>Thesis Committee</b>	Mandatory	Mandatory (D-Biol), Highly Recommended (D-USYS)	Yearly (3 times over PhD Studies)
<b>PSC PhD Certification</b>	Min 12 ECTS	Min 12 ECTS	Doctoral Degree Certification Awarded

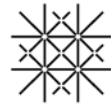
[http://www.plantsciences.ch/education/graduate\\_study/regulations\\_certificates](http://www.plantsciences.ch/education/graduate_study/regulations_certificates)





## Introductory Lecture to Good Scientific Practice and Scientific Integrity

- For all students that have **started their PhD after February 2016** it is mandatory to visit this LSZGS introduction event
- 2 hours, no ECTS, next dates will be announced by on the LSZGS webpage
- All PhD students that have or will visit a course on “Research Integrity” or “Ethics” during their studies don’t need to visit the introduction.
- For all accredited training courses see the course catalogue: PSC Webpage → PhD programs → Procedures
- The signed document becomes part of your documentation on DissGo.



## For students having started after September 2012: Thesis Committee!

Why? An important tool for PhD students to get different views and expertise on their PhD work.

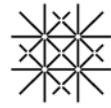
Select Thesis Committee of 3 Members (within 6 months)

- UZH: 2 Members from MNF with “Promotionsrecht”, one external
- ETHZ: official thesis supervisor (D-BIOL professor), the immediate supervisor (if applicable), two additional professors or senior scientists (at least one from the D-BIOL, one who is independent from the institute of the official supervisor
- **Composition must be communicated to PSC in Doctoral Agreement**

3 meetings: Every 12 months / Participation of external members by video-conference is allowed

**Thesis Committee Meeting Protocols:** send back to PSC within 2 months - with signatures of all thesis committee members

*Late thesis committee meetings will be reported to the MNF (dean of study) and D-BIOL (D-BIOL study panel)*



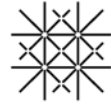
## UZH PhD students

Teaching Requirements (Planning: within 6 months)

- ↓ Guidelines Teaching requirement for PhD students (PDF, 379 KB)
- ↓ Planning teaching activities (PDF, 129 KB)
- ↓ Tracking teaching activities (PDF, 94 KB)
- ↓ Summary of teaching activities (PDF, 116 KB)
- ↓ Confirmation of teaching activities (PDF, 147 KB)
- ↓ LSLC Faculty of Science, teaching rules (PDF, 53 KB)

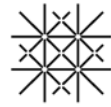
<http://www.biologie.uzh.ch/Studium/Doktorat.html>

More information today! (Carole)



## ETH PhD students

- Research Plan (within 12 months)
  - D-Biol / D-USYS: Approval by Study Panel / Hand in to the Study Administration Office of your Department
  - MNF: Discussion of the written research plan is part of the first thesis committee meeting



## MANAGE YOUR DOCUMENTS AT DISSGO

- <https://www.dissgo.uzh.ch/login>
- Direct Upload Thesis Committee Meeting Report & Others
- For questions, please contact Luisa & Carole

### DissGo

Login • Reset password

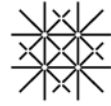
## Welcome

Welcome to the online portal of Life Science Zürich Graduate School. Please log in to get access to the system.

Email:

Password:

Login



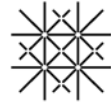
## PSC offers two structured PhD programs

### PhD Program in Plant Sciences (150 PhD students)

- Prepares for a scientific or non scientific career with skills that are also transferable to industry and other sectors

### PhD Program in Science & Policy (52 PhD students)

- Deals with the interface of science and policy; helps students **elaborate tools and skills for engaging with institutions active in decision making and implementation.**
- Strengthens network at science/policy interface



## PhD Program in Plant Sciences

Mandatory courses (2 ECTS)

Colloquium in Plant Sciences

Elective courses (min. 8 ECTS)

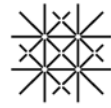
- PSC PhD courses (min 4 ECTS)
- or complementary offer LSZGS and other

PSC PhD symposium (3 ECTS)

1 presentation at international conference (1 ECTS)

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**= 12 ECTS**



# ECTS & Transcript of Records

## INFORMATION ON THE CONTENTS AND RESULTS GAINED

**Mode of study:** full-time research plus completion of a structured curriculum of 12 ECTS:

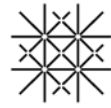


Module	ECTS
<b>Mandatory Module:</b> Colloquium "Challenges in Plant Sciences"	2
<b>Mandatory Elective Modules:</b> Intensive Courses in Plant Sciences: frontier research skills, methods and techniques in plant sciences Transferable Skill Courses in the areas of statistical methods / research management / communicating and disseminating science / professional conduct / finance, funding and resources/ professional and career development / science and policy integration.	4 - 10
<b>Elective Module:</b> Remainder of 12 ECTS may be chosen from*: Participation in international scientific symposium with own scientific contribution (oral or poster presentation) (max. 1 ECTS) Organization of PSC PhD Symposium (max. 3 ECTS) Other transferable skill courses	max. 6

\* with approval from principal investigator or thesis committee







## Six must-have courses to survive your PhD

**Scientific Writing:** work on your own publication (Spring)

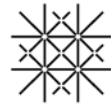
**Basics of Statistics:** e.g., Introduction to R (Spring / Fall)

**Dealing with the Publication Process:** establish a publication strategy (Spring)

**Grant Proposal Writing:** make your first post-doctoral grant proposal a success (SNSF / Marie Curie) (Fall)

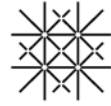
**Responsible Conduct in Research:** e.g., IPR management, Access and Benefit Sharing (Spring / Fall)

**Career Cornerstones - Active Career Building in Academia & Business:** offered by LSZGS (Spring / Fall)



## Navigating PhD course offers

- Course Catalogue
- Planning ahead
- Reminder: Colloquium “Challenges in Plant Sciences” is mandatory!
- **Courses fully accredited:**
  - Graduate Campus UZH (ETHZ students please contact us beforehand if you want to join),**
  - Life Science Zurich Graduate School**
- Shop for your needs
- Registration and Deadlines



## PhD Program Science and policy

### Mandatory courses

6 Block courses (4 mandatory, 8 ECTS):

- Evidence-based Policymaking
- Stakeholder Engagement
- Communicating Science
- Building Political Support
- Contributing to Policy Action
- Understanding Policy Evaluation (Risks & Uncertainties)

Basic lecture in Political Sciences (1 ECTS)  
Scenario building and Modelling  
Transdisciplinarity/Sustainability

### Elective courses (min. 3 ECTS)

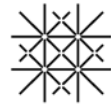
- PSC PhD courses
- PhD courses of ETHZ, UZH & UniBas (VVZ)
- Transferable Skills courses from Life Science Zurich Graduate School

PSC Summer School (2 ECTS)

PSC Symposium OC (3 ECTS)

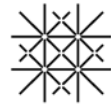
Int. Conference (max. 1 ECTS)

**= 12 ECTS**



## Reminders: Last year of your studies

- Collect your certifications of participation
- Accredit external ECTS, conference participations (with presentation) with the PSC using form
- Register for the exam
- Get your Certification & Diploma supplement from the PSC



## Zurich-Basel Plant Science Center

# PSC PhD Program Certification



Zurich-Basel Plant Science Center

Zürich-Basel Plant Science Center  
ETH Zürich, LFW B 51  
savuzest@icmawco.2  
8002 Zürich  
savuzest@icmawco.2  
www.plantsciences.ch



Zurich-Basel Plant Science Center

### Certification of Successful Completion

#### PSC PhD Program in Plant Sciences

The Zurich-Basel Plant Science Center Graduate Program was created in response to demands from academia and the private sector for building new capacities in PhD students, including: frontier research skills methods and techniques in plant sciences / statistical methods / research management / communicating and disseminating science / professional conduct / finance, funding and resources/ professional and career development / science and policy integration.

The program aims to broaden the skill base of PhD students and to strengthen their research competence in the plant sciences. The curriculum is composed of:

- the colloquium "Challenges in Plant Sciences", which highlights the variety and interconnectivity of scientific questions and methods within the center.
- a choice of intense scientific courses, led by one or more professors, on frontier scientific and methodological topics in the plant sciences.
- a selection of transferable skill courses following international frameworks for the development of core competencies for their professional and scientific careers.

#### This is to certify that



has successfully completed the PSC PhD Program in Plant Sciences with 12 ECTS.

Zurich, 11. February 2014

Prof. Samuel Zeeman

Dr. Melanie Paschke

President  
Zurich-Basel Plant Science Center

Managing Director  
PhD Program in Plant Sciences  
Zurich-Basel Plant Science Center



### TRANSCRIPT OF RECORDS

Title of the course unit	ECTS
<b>Mandatory Module:</b> Colloquium "Challenges in Plant Sciences"	2
<b>Mandatory Elective Modules:</b>	
Scientific Writing Practice 1: General Principles	1
Computational Biology	1
QTL Analysis in <i>Arabidopsis</i> : Theory and Practical Applications	1
Statistical Methods in Biology	1.5
Online Publication Practice	1
<b>Elective Module:</b>	
Chromosomal Counting Technique for the Research of Polyploid Species	1.5
Discussions in Genomics and Systems Biology	1
Discussions on Plant Chromosomal Evolution	1
<b>Modeling Approach in Plant Sciences</b>	1

### INFORMATION ON THE FUNCTION OF THE QUALIFICATION

Access to further study: The certification confirms that the fellow has completed a structured PhD curriculum as part of his or her PhD studies.

**ADDITIONAL INFORMATION:** <http://www.plantsciences.ch/education>

### INFORMATION ON THE NATIONAL HIGHER EDUCATION SYSTEM

Doctorate: Admission to a doctoral degree program is solely within the purview of the admitting university and is always applicant-specific, based on qualifications. A university-level master degree is in most cases a prerequisite to doctoral admission. However, admission with a master degree from other types of higher education institutions is possible, if the scientific qualification is judged to be sufficient. The qualification "Master of Advanced Studies" (MAS) is not sufficient for admission to the doctoral level.

For completion of the doctorate, there is no predefined number of academic credits. ECTS credits can be given for curricular elements. In general, time to completion of the doctorate is 3–5 years. A structured PhD program defines an approved curriculum that is attested with a certification. This certification is part of the doctoral degree conferred by the University of Zurich, the ETH Zurich or the University of Basel, corresponding to the academic affiliation of the student's host laboratory.

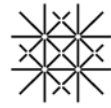
### CERTIFICATION OF THE SUPPLEMENT

Date: Zurich, 11. February 2014

Official Stamp:

Signature:

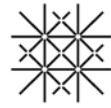
Dr. Melanie Paschke (Managing Director PSC)



## Information on procedures

Website with all documents:

<http://www.plantsciences.uzh.ch/en/teaching/phdplantscience/procedures.html>



## For questions about the PhD programs...

Plant Science



Melanie Paschke

Science & Policy

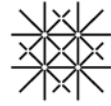


Luisa Last

Both PhD Programs

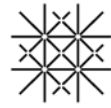


Carole Rapo



# Mentoring for Research Impact and Career Development

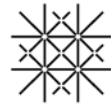




## Mentoring objective

Respond to growing list of PhD-completion obligations

- involve stakeholders
- generate policy impact
- create public awareness
- demonstrate capacity for teaching
- communicate science appropriately
- (respect administrative formalities)

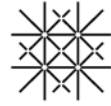


## Time Commitment

PhD research work

Transfer work - flexible and if applicable facilitated  
by PSC mentors

Course work (24 – 36 course days in three years)



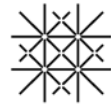
## How do we support you? Format 1: Peer-Mentoring

- You have a question?
- You want to get your question answered.
- You can organize a workshop together with your peers and invite an expert!

Contact: Melanie

For example:

- How to communicate with land owners when doing field studies?



## How do we support you? Format 2: One-to-one Mentoring – join our internal experts

You want to gather experience  
in outreach activities?

- School Class Workshops
- Plant Science Expeditions

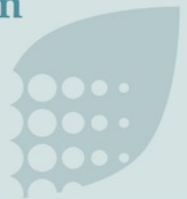
Contact: Carole or Juanita

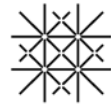


Botanisches Institut der Universität Basel  
Schönbeinstrasse 6, Basel  
Freitag, 16. Mai 2014, Terminabsprache



Vom Protein zum  
Stammbaum  
*Unterrichtsangebot  
für Schulklassen*





## How do we support you? Format 2: One-to-one Mentoring – join our internal experts

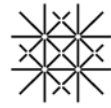
### Science and policy - affecting outcomes

- Questions at the interface of science and policy?
- Identifying policy-relevant aspects of your research
- Getting started with your policy transfer work

Contact: Luisa

For example:

- What are my stakeholders? How should I plan / facilitate a stakeholder workshop?

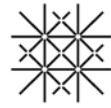


## **Improve the impact of your science in policy**

- Identify policy-relevant aspects of your research
- Plan for outreach, dialogue and information
- Media possibilities and methodological support

## **Improve networks and collaborations**

- Identify relevant stakeholders (Stakeholder Analysis)
- Connect to collaboration and other projects
- Informal lunch meetings, exchange of experiences
- Roundtables and panel discussions: invite Experts from your field



## What we can offer to help you to increase your impact at the science-policy interface

### Training:

Policy workshops A – F  
Summer schools:  
Theory and Tools

### Network:

Workshop contributors  
Interview partners  
Experts

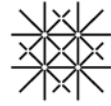
### Best Practice:

Case studies  
Roundtables  
Previous Fellows

### Resources:

Links  
Literature

Peer Mentoring?



## **Format 3: Site Visits to Industry**

### **Examples of 2015/2016:**

Syngenta AG, Switzerland

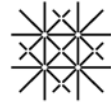
KWS Saat AG, Germany

Ricola, Switzerland

(1) Site Visit (2) Poster Presentation (3) Career Talk

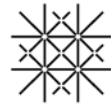
**Next VISITS start in SPRING 2018 (to be announced)**





## What the mentoring program *is not*

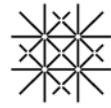
- a replacement for any research supervision
- an unlimited commitment
- an opportunity for others to do your work



## Contact for PSC career services and access to internal and external mentors

Dr. Melanie Paschke

[paschkme@ethz.ch](mailto:paschkme@ethz.ch)



## Tap into Teaching Resources

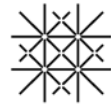
### Tailoring your Teaching



**Dr. Carole Rapo**

044 632 89 50

[carole.rapo@usys.ethz.ch](mailto:carole.rapo@usys.ethz.ch)



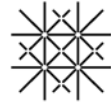
## Tailoring your Teaching

### Teaching at university level as a PhD student

- Requirements/ regulations
- Main website university teaching and learning
- Structured programs for learning about teaching
- Course offers to improve teaching skills
- Funding options for teaching and learning
- Online learning platforms
- Transferable Skill courses

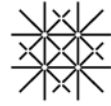
### 2. Teaching at high school level (secondary education) as a PhD students

- Classes for high school students
- Continuing education workshops for high school teachers



# Improving Communication Skills with the Public: Theory and practice

**Juanita Schläpfer**  
**Carole Rapo**

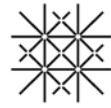


## Improving Communication Skills: Theory and practice

examples of PSC activities

outreach opportunities

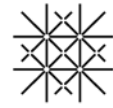
PSC courses offered



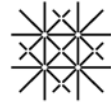
# Plant Science at School

## Continuous Education for Secondary School Teachers









## Upcoming Events:

<http://www.plantsciences.uzh.ch/outreach/atschool.html>

=> Be involved for one day: Design Hands-on Experiment, Present your Research

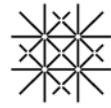
=> Final Certification

=> **2 Open Seats** for Workshop on *Plant Ecophysiology*: Feel the Puls of the Plants – Life Science Learning Center (25 January 2018)



## Example activities

Plant Science Expedition 2013 “Smart Breeding for the Future” – Botanical Institute, Zürich



Zurich-Basel Plant Science Center



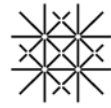
Plant Science Expedition 2013 “Smart Breeding for  
the Future” – Research Station Eschikon



## Fascination of Plants Day 2013 – Botanical Garden, Basel



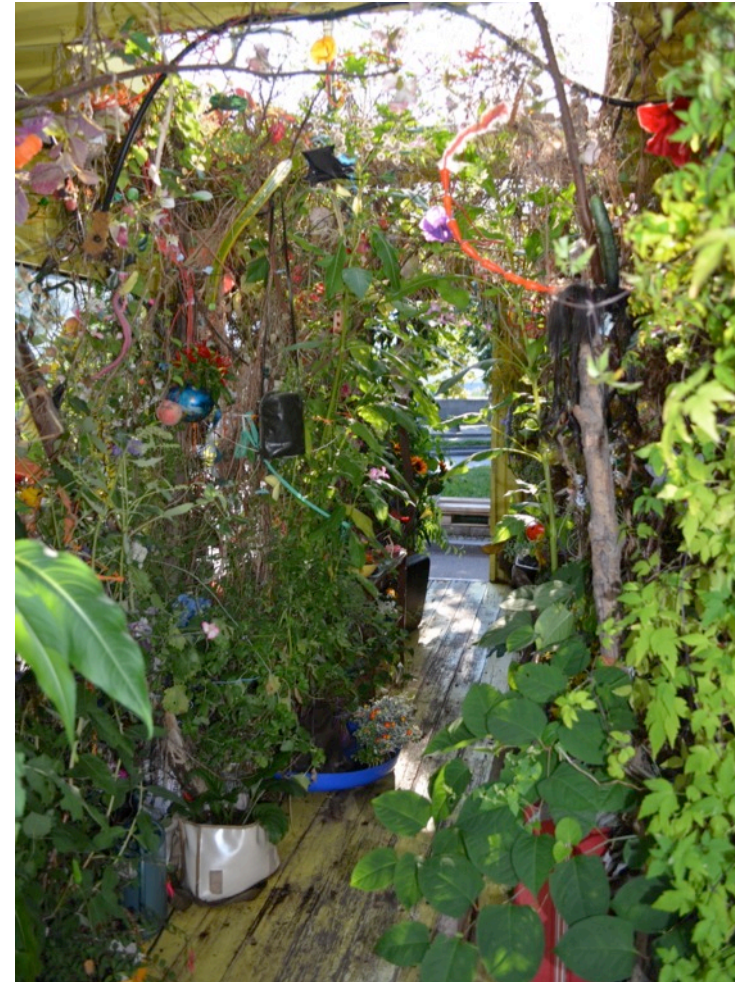
## Plants and technology workshop Mimosa 2014 – TüftelLabor Zürich

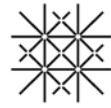


Zurich-Basel Plant Science Center



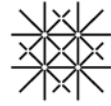
Scientifica 2013 – Von Neophyten bis GMOs: Risikopflanzen? ETHZ /UZH, Zürich





## Klimagarten 2085 – April-Sept 2016





## Outreach Mentoring

Tailoring your presentation to your audience and event

Designing hands-on experiments

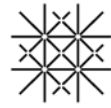
Developing metaphors for children – how to engage  
and delight

Beyond posters - Finding alternative formats

What existing programs provide potential  
opportunities?

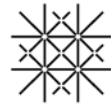
Tapping into local and regional resources





## Outreach events to get involved in

- Camp discovery – Science adventure camp
- Frühlingsfest Botanical Garden Zürich - Spring 2018
- Fascination of Plants day 2018, Botanical Garden Basel  
18.5.18 – Contact Sylvia Martinez
- Migros bugnplay Prizegiving – Lab visit
- Treffpunkt Science City, 2x per year eg Help needed Nov  
19<sup>th</sup> 2017
- Creative Camps: art science and creativity Spring and  
summer 2018
- Social media – year round! FB and blog

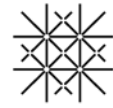


## Workshop: Visualizing your research – next time FS2018

- 2-day workshop with communication professionals

Goal: Create a visual communication concept

- Marina Bräm - Graphic designer, Scientific Visualization (NZZ Sonntag), Tom Reed - Illustrator and author (Freelance), Juanita Schläpfer - Science Communicator and artist (PSC)
- 1 ETCS Point



# Workshop: Visualizing your research

**Free Pepper – Wie aus einer natürlichen Paprika eine patentierte Pflanze wurde**

Am 8. Mai 2013 hat das Europäische Patentamt (EPA) Syngenta, dem weltweit grössten Agrochemiekonzern, ein Patent auf konventionell gezüchtete, insekten-resistente Paprikapflanzen erteilt. Solche Patente haben negative Auswirkungen auf die Innovation. Deshalb hat im Februar 2014 eine breite Koalition Einsprache gegen dieses Patent erhoben.

**JAMAICA**  
In Jamaica gibt es eine wilde Paprikapflanze, die gegen den Befehl von Thoreus und der Weibling Fliege resistent ist. In den 1870ern hat Professor Paul G. Smith von der Universität von Kalifornien diese Pflanze in Jamaica gesammelt und in die USA gebracht.

**HOLLAND**  
Von der Universität in Kalifornien gelangte die wilde Paprika 1870 in die holländische Saatgutbank - Centre for Genetic Resources, the Netherlands (CGN).

**EINSPRACHE**  
Im Februar 2014 hat eine breite Koalition aus NGOs, Bauern- und Züchtereinrichtungen Einsprache gegen das Patent eingeworfen. Sie argumentiert, dass Syngenta die Ressource nicht erhalten haben kann, da diese bereits in der Natur existiert.

**PATENTANMELDUNG**  
2008 hat Syngenta ein Patent beim Europäischen Patentamt (EPA) angemeldet und exclusive Rechte auf alle Paprikapflanzen, die gegen die Weibling Fliege resistent sind.

**SYNGENTA**  
Syngenta erhielt die wilde Paprika von CGN und fing ungefähr 2002 an, damit zu arbeiten. Sie kreuzte die wilde mit kommerziellen Paprikapflanzen. Dabei konnte das gewünschte Merkmal – die Insektenresistenz – mittels Präzisionszucht (SMART breeding) spezifisch isoliert werden. Die Präzisionszucht ist eine konventionelle Züchtungsmethode, basierend auf Kreuzung und Selektion, die von hochentwickelten Mitteln unterstützt wird. Das Ergebnis: eine kommerzielle Paprikapflanze, die resistent gegen die Weibling Fliege ist.

**Zurich University Ecology Film 2013**  
from tom reed

04:51

HD vimeo