



# IDP BRIDGES*News*

IDP BRIDGES - Bridging Plant Sciences and Policy

No 4, 2016

## Upcoming training

### PSC Policy Workshop: Contributing to Policy Action - Analysis and Communication of Risks and Uncertainties

May 30 - June 1, 2016  
ETH Zurich

### PSC Policy Workshop: Stakeholder Engagement

Oct 17 - 19, 2016  
University of Zurich

### PSC Policy Training: Scenario-building and Modelling

Dec 13, 14 and 15, 2016  
University of Zurich

### PSC Mentoring: Careers in Science and Policy

Sep 20 - Dec 20, 2016  
Every second Tuesday  
17 to 20 pm  
ETH Zurich

## 3rd Annual Meeting

26 Oct 2016  
Zurich

- PhD retreat
- Supervisory Board Meeting
- Meet and Greet:  
IDP BRIDGES & Mercator  
fellows





## Welcome note



Within this fourth IDP BRIDGES newsletter, we would like to highlight one out of a wide range of outreach activities, which was moderated by three IDP BRIDGES fellows in October 2015. This public panel discussion on “Plant Sciences, Patents, and Food Security” received much attention and was certainly a highlight for all participants. This newsletter will not only show what has been presented and discussed there, but also presents an insight to the personal view of one panellist - Prof. em. Chris Leaver, Oxford University. Moreover, experiences from three secondments will be shared.

Luisa Last  
Coordinator PSC PhD Program Science and Policy, program officer of IDP BRIDGES

## ‘HE WHO HAS BREAD MAY HAVE TROUBLES, HE WHO LACKS IT HAS ONLY ONE’

Following my career as a university academic I decided to spend my time in retirement contributing to the dialogue between scientists and the public. I had spent most of my life carrying out basic research in plant science with the aim of using this knowledge to address the challenges of improving food security and sustainability for a growing population.

Global food production has kept pace with the more than doubling of the population since 1960 and is now 7.4 billion and will reach ca.9.5 billion by 2050. However more than 1 billion are malnourished and live below the poverty line. This dramatic increase in crop yields was due to a number of innovations: genetics and plant breeding (the so called public sector initiative, called the ‘Green Revolution’), mechanisation, irrigation, nitrogen fertilisers, and pesticides. Subsequently the developed world became complacent.

Eighty percent of this increase in population will live in the so called developing/transition countries of China, India, Africa, SE Asia and South America, with more than 70% living in an urban environment in megacities. To feed this increased population, food production will have to rise by around 70 percent on essentially the same area of land. This will require ‘sustainable intensification - growing more from less’ by using land and resources more efficiently with the aim of meeting the current needs while improving the ability of future generations to meet their own needs. In addition we must conserve natural resources, preserve ecosystem function while minimizing, adapting to, and where possible, reversing the affects of man-made climate change. We will have to manage decreased water availability, increased and changing biotic stress due to pests and pathogens, environmental pollution, loss of biodiversity and dietary upgrading (the ‘nutritional transition’) to address malnutrition and starvation in the developing world. Equally we will have to address the problems of the ‘developed world’ where a significant proportion of the population is obese (due to

over-consumption of calories) and food waste is reaching epidemic proportions.

Food security and the need for healthy staple food, together with the provision of energy, have become global issues with consequences for increased environmental and economic migration.

In recent years plant breeding has been enhanced by new technologies, marker assisted plant breeding, genetic modification (GM) and now gene editing. These developments have depended on our detailed understanding of the information content of plant genomes, to select for, and modify important agricultural and nutritional traits to produce improved (e.g., drought tolerant and pest resistant) and higher yielding crops. These approaches, coupled with the appropriate use of agrochemical inputs and sustainable farming practices is the only way in which the global challenges outlined above can be addressed.

GM crops are just one of many options to address the global agricultural challenges. If they are subject to appropriate regulation, responsive to local needs and combined with sustainable agricultural practices such crops can be effective and sustainable in efforts to improve the quantity and quality of food on this planet. To achieve this, the scientific community should be engaged in transferring the capacity for research and development leading to advances in agricultural productivity. It should also endeavour to see that the benefits associated with such advances accrue to the benefit of the poor. Efforts should focus on increased access for family farms in the developing world to improved crop varieties adapted to their local conditions, traditions, social heritage and administrative practices. In many cases successful technology-transfer is driven by public-private partnerships because they prove to be more responsive to local needs through more targeted and less time intensive breeding than purely public sector initiatives. This especially applies to so called ‘orphan crops’. Research on such crops tended to be neglected during the green revolution, a public sector initia-

tive that primarily focused on the improvement of wheat, maize and rice. Private sector investment in agriculture is of particular importance in Africa where agriculture is still the main engine for inclusive economic growth.

While science can provide technological solutions, it is institutions that ensure its safe, responsive and responsible use in practice. This is not only the job of scientists but of politicians, policy makers, regulators and funding organizations. Now, and in the future, making sure everyone has enough to eat is more than ever about politics, socio-economics, communications and science. Science and its application is not a quick fix and cannot be switched on and off like a tap. However we must invest now as time is not on our side.

As with many new technologies, people are keen to embrace the benefits but are concerned about the potential risks. In Europe and North America the manner of introduction of these new technologies coupled to a lack of coherent political policy has led to loss of community confidence which has been exploited by global pressure groups and activists for their own political ends. This has resulted in developing countries being denied access to the science where it has the potential to contribute to the improvement of food security and help alleviate poverty.

This is where the Science and Policy programme in Zurich can play an important role in providing an environment to educate the next generation of advisors and opinion formers to develop answers and contribute to the challenge of feeding the world.

## Doing nothing is not an option!!

Professor Christopher J. Leaver  
Emeritus Professor of Plant Science, University of Oxford





## PANEL DISCUSSION

### Plant Sciences, Patents, and Food Security

Arianna Nigro and Sofia Nobre

Across all fields of science and technology, the topic of Intellectual Property rights has been a hot issue, extensively debated by scientists and innovators, investors, industry and policy makers. The role of plant sciences and agriculture in dealing with increasing world population and food security is also a core matter of the current debate.

In what way does patenting help or hinder the use of crop varieties? Who can access them and in what terms? Can investment in the development and commercialization of cash crops be used as a platform for investment in orphan crops, or does it prevent it by encouraging intensive monoculture? How are traditional varieties preserved? Who owns them – the breeders or the farmers? What are the conditions and agreements for trade, transfer and use of these varieties? Can open innovation platforms for novel plant breeding technologies be attractive enough for investment? Who can access them and who should be in charge?

The urgency of debating these issues brought together the Plant Science Center, **Dr. Philipp Aerni** (director of the Center for Corporate Responsibility and Sustainability at the University of Zurich) and three PhD fellows of the Marie Curie Actions research fellowship program IDP BRIDGES, with the aim of creating an open space to address these great challenges. On the 9th of October 2015 international experts, university students, private sector and the public gathered for the panel discussion “Plant Sciences, Patents, and Food Security”.

Our guest speaker **Prof. Chris Leaver** brought to the table his extensive knowledge and experience in science communication through his work in the charitable trust “Sense About Science” ([www.senseaboutscience.org](http://www.senseaboutscience.org)) and his first-hand experience in technology and innovation transfer through his involvement



in the not-for-profit initiative “Biosciences for Farming in Africa” ([b4fa.org](http://b4fa.org)). **Jayashree Watal**, Counsellor in the Intellectual Property Division of the World Trade Organization (WTO), offered us a unique insider’s perspective on the various trade agreements and their intersectionality, along with a panorama of the complexity that comes with juggling multiple treaties across multiple countries, each with different interests and priorities.

**Karin Nichterlein**, Agricultural Research Officer of the Food and Agriculture Organization of the United Nations (FAO), who is in charge of the Tropical Agriculture Platform (TAP) ([www.tropagplatform.org](http://www.tropagplatform.org)) presented an overview of the current initiatives to promote capacity development for agricultural innovation in tropical countries.

Despite international commitment and efforts to improve global food security lack of access to nutritious food is still a problem worldwide. The progress made since 1990 towards the eradication of hunger, although positive, has been uneven across geographical regions and so far failed to achieve the goals proposed at 1996’s World Food Summit and 2000’s Millennium Development Goal (The State of Food Insecurity in the World 2015 – FAO reports). In developing countries the vast majority of farms are family farms and they account for over 80% of the world’s food in terms of value, although occupying a mere 12% of total agricultural land. These family farms range from large scale farms of more than 500 hectares to micro-farms with a size of less than 0.4 hectares. Most of these very small farm holdings cannot afford to hire external labour, are unable to sell any surpluses that could be reinvested in more productive farming and cannot provide a future to their often numerous offspring because it would require to further subdivide their tiny property. In

other words they are food insecure because they cannot offer their children a future on the farm, which makes the availability of off-farm employment very important. In return, the larger family farms are productive and prosperous and as such the backbone of global agriculture.

However, family farms will have to ensure in future that productivity increases are not achieved at the expense of the environment and the well-being of the local population. They need to find more sustainable forms of agricultural intensification.

Prof. Leaver presented the topic of sustainable intensification, the goal of increasing food production while minimising environmental impact. Sustainable intensification depends, of course, on the local environmental and climatic conditions and resources, but innovation and investment in R&D, and inclusive extension services, are key in enabling and empowering family farms. Within this context, FAO’s recent SOFA report - introduced by Karin Nichterlein - focuses on family farming in tropical regions and its challenges (The State of Food and Agriculture 2014 – Family Farming – FAO reports).

Small local farms are also important repositories of genetic variation. Access, use and trade of these resources present a complicated issue that weighs ownership and protection against fair and democratized access and benefit sharing. To shed light on this subject, Jayashree Watal gave an overview of the several treaties that play a key role in this controversial debate, among which the Nagoya protocol, UPOV’s International Convention for the Protection of New Varieties of Plants, FAO’s International Treaty of Plant Genetic Resources for Food and Agriculture, as well as the WTO’s role through the TRIPS agreement are the most important ones.

Despite all these standards, there are still debated points, such as the matter of farmers’ rights versus breeders’ rights. Jayashree pointed out that the WTO does not force anyone to embrace UPOV 91 with its focus on the strengthening of breeders’ rights. India for example did not even adopt UPOV 78 as a valid *sui generis* system under WTO Article 27. However, she showed that a stronger protection of breeder’s rights may also provide important incentives for making farming more productive in tropical countries, as the case of Kenya well illustrates.

Karin introduced us to the TAP, a G20 initiative to mobilize innovation for agricultural development in tropical countries. A first needs assessment conducted by TAP in Southeast Asia, Africa and Latin America, showed the importance of private sector involvement in national agricultural innovation systems and the fact that overseas development assistance often tends to neglect this aspect. TAP uses a three-sided approach to incentivize agricultural innovation in tropical countries: policy dialogue platforms for all stakeholders, promoting and negotiating marketplace demands for capacity development and knowledge sharing platforms, all taking into account the input and role of the private sector, civil society and farmers’ organizations.

It is evident that a multifaceted network of needs, perspectives, interests, priorities and limitations characterizes this fascinating debate. Our enthusiastic audience actively engaged with the panel, which led to a spirited discussion, until time limit dictated the end of the event. We are sure that such a challenging and vitally important topic has inspired everyone and we hope that by listening and interacting with our guest speakers new perspectives and action will arise.

#### To go further

Aerni, P. et al, Making Agricultural Innovation Systems Work for Development in Tropical Countries. 2015. Sustainability 7:831-850

FAO “Introduction to the International Treaty on Plant Genetic Resources for Food and Agriculture” [www.planttreaty.org](http://www.planttreaty.org)

FAO “The State of Food Insecurity in the World 2015” [www.fao.org/hunger](http://www.fao.org/hunger)

FAO “The State of Food and Agriculture 2014 – Family Farming” [www.fao.org/publications/sofa](http://www.fao.org/publications/sofa)

The Oxford Martin Programme on the Future of Food - “Sustainable intensification in agriculture. Navigating a course through competing food system priorities” [www.futureof-food.ox.ac.uk/sustainable-intensification](http://www.futureof-food.ox.ac.uk/sustainable-intensification)

UN-UNEP “The Nagoya Protocol on Access and Benefit-sharing” [www.cbd.int/abs](http://www.cbd.int/abs)

UPOV - International Union for the Protection of New Varieties of Plants [www.upov.int](http://www.upov.int)

WIPO “Intellectual Property and Bioethics – An Overview” [www.wipo.int/policy/en](http://www.wipo.int/policy/en)

WTO “TRIPS Agreement” [www.wto.org/english/tratop\\_e/trips\\_e/trips\\_e](http://www.wto.org/english/tratop_e/trips_e/trips_e)





Yuanyuan Huang collecting data

About IBCAS

The Institute of Botany of the Chinese Academy of Sciences (IBCAS) is one of the oldest comprehensive research institutions in China, which has led the development of plant science in China since its establishment in 1928. The institute has received three first-level National Natural Science Awards and more than 160 awards at the national and provincial level. With a focus on integrative plant biology, IBCAS conducts innovative research at the molecular, cellular, physiological, ecological and landscape levels and develops applications to benefit agriculture and the environment.

<http://english.ib.cas.cn/>

Fixing carbon to mitigate climate change

YUANYUAN HUANG

My project explores whether more diverse forests can take up more carbon dioxide from the atmosphere and thus reduce global warming. We aim to develop a better forest management strategy and to enhance the public awareness of the protection of forest species. During my secondment I had the opportunity to cooperate with my associated partner, Prof. Keping Ma, who initiated biodiversity research in China in the early 1990s and is an expert in digitalization of biodiversity information. Together with colleagues from China, Germany and Switzerland he built up the research platform BEF-China, one of the largest Biodiversity-Ecosystem Functioning research platforms in the world, in Jiangxi province in south-east China. I took tree inventories there to find out the best diversity of the tree species that maximizes productivity and thus carbon uptake. During the same time, I set up a micro-channel public platform through which people can receive biodiversity

and forest ecosystem related information with cellphone. We also did some teaching in local primary school, contributing to children's education of forest conservation. The BEF-China platform is located in a quite area surrounded by mountains, far away from big cities. Old generations of local people are very knowledgeable about forest ecology. They have good experience about where and how to grow particular tree species. Using questionnaires and interviews with local farmers, forest managers and government officials, I assessed attitudes towards forest diversity and ecosystem services as well as knowledge about forest management.

—  
**“Now we forbid cutting broad-leaf tree species. The economic trees will strictly be managed according to stand age...”**

...the chairman of the board of the forest company in the town told us.

Cooperation and teamwork were very important for my secondment. My colleagues Bo Yang and Xiaojuan Liu, both coordinators of the BEF-China project from Prof. Ma's group, were very helpful. Besides gaining skills of inventorying trees, interviewing people and digitalization biodiversity information, the biggest benefit for me was to communicate with different people whom I would never have met and talked to otherwise. I learned to look at the world in different perspectives, which broadened my research ideas. Back here in Zurich, I am analyzing the data collected during the secondment and building a forest-management model. The interviewing experience benefits my future social-science work. My experience of the digitalization of biodiversity information makes it easier for me to present scientific research to the public. The platform I built can help to increase people's awareness of biodiversity, as well as increase cooperation. The memories of my secondment will remain in my mind and brighten my way.



Interview with local farmer



English course in local primary school about forest ecosystem services



Tree inventory places in Jiangxi province in southeast China



# Potato seed certification at Agroscope

SILVIA TURCO

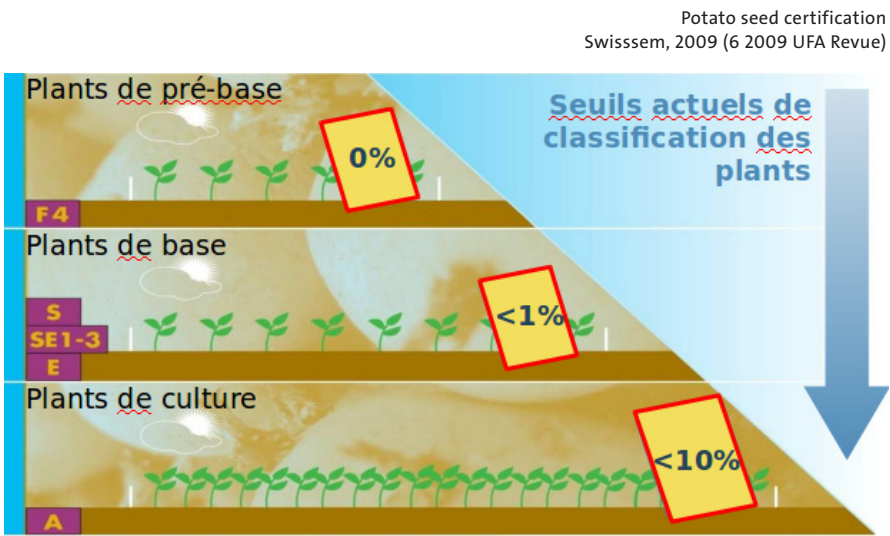
During my secondment at Agroscope in Changins (Nyon), I had the opportunity to follow the process of seed potato certification, requested every year by the Federal Office for Agriculture (FOAG). The aim of this process is to supply producers and farmers with high quality seed potato, in purity, germination capacity, free from pesticides and diseases that can be used for propagation. In Switzerland, the guidelines that regulate each step of the process, like sampling, variety parameters, infection threshold, import/export are defined by different lawful orders like the Regulation on the production and circulation of plant propagating material (OR916.151) and the Ordinance on Plant Protection (OR916.20). The process starts with 80 authorized experts who visit around 1000 potato fields all over Switzerland, looking for diseased plants. Based on this first level of control, they discard the diseased plants in order to reduce the contamination and the final viral-outcome of the following molecular tests. Every July, around 200 to 400 tubers from each of the 1000 fields are harvested, brought to Changins. Here, in the last 30 year, the tubers were treated with rindite, a toxic compound which breaks dormancy, thus inducing germination and also viral replication. After a process of potato juice extraction, the samples were then tested by ELISA for the presence of the most common potato viruses, with special attention for *Potato virus Y* (PVY) and *Potato Leafroll virus* (PLRV), the two most dangerous viruses which cause severe symptoms like stunting, systemic mosaic, chlorosis and necrosis. Starting from 2015, rindite and ELISA are no longer in use. Instead, a new approach based on real time PCR has been developed, improving the sen-

sitivity and avoiding the use of rindite. It was really interesting visiting Agroscope, following all the molecular analysis, meeting experts, getting to know the agricultural regulations behind the delicious potatoes I love to cook. I also improved my knowledge about viral diagnostic, beyond the Northern-Blot and the bioinformatic analysis I am used to doing during my daily PhD-student life. The outcome of these analysis are three different categories of seeds potato showed below. The seeds potato certified below 0% or 1% of viral infection can be sold for seed propagation or sold to the producers for consumption. Potato seeds certified below 10% can be sold only for consumption. This means that the potato tubers we regularly buy in our shops could still be infected (without problem for human health), specially by potato virus Y and Potato virus X, as I already found in the tubers analyzed during the first year of my PhD.

About Agroscope

Agroscope is the Swiss center of excellence for agricultural research, affiliated with the Federal Office for Agriculture (FOAG).

www.agroscope.admin.ch

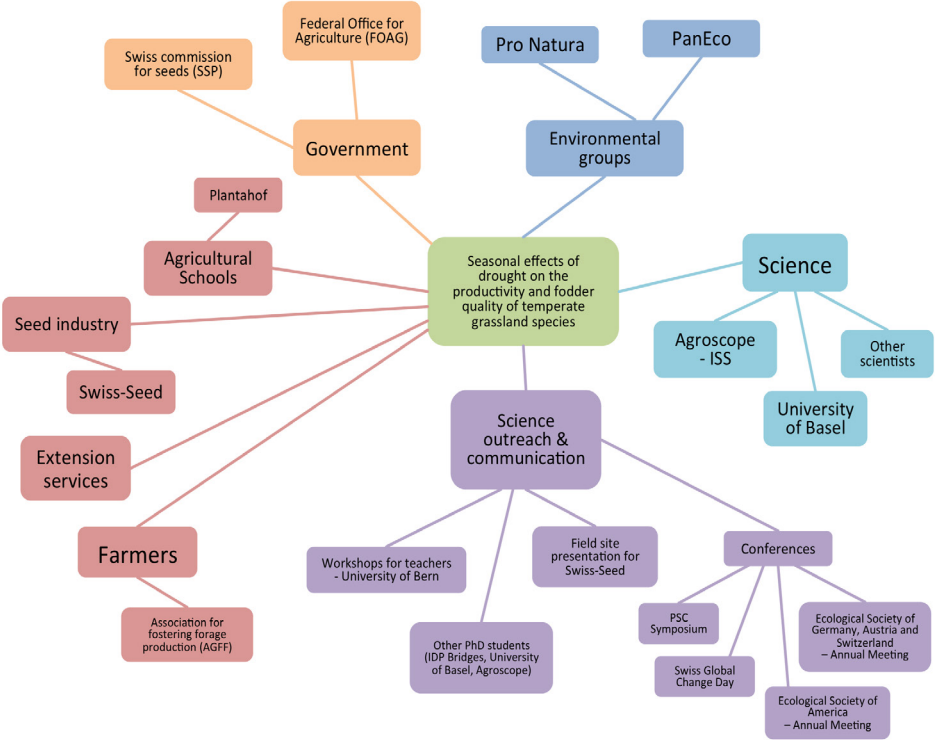


# Learning about Swiss agriculture: Who recommends what and why?

CLAUDIA HAHN

What I really like about my PhD project is the applicability of my research. I am investigating drought effects on grassland species in different times of the growing season. I am assuming that different phenological stages (due to their altering water demand) are differently susceptible to drought stress. This is important knowledge since extreme climatic events, such as droughts, are supposed to occur more often under future climate change. Thus, today's agriculture already is threatened by yield and production losses through drought events. Gaining knowledge about agricultural ecosystems and formulating recommendations on the basis of this knowledge is one thing, but being able to implement these recommendations is a whole other story. This includes much more bureaucracy and stakeholders one could imagine. Therefore, I spent my secondment with the Arbeitsgemeinschaft zur Förderung des Futterbaues (AGFF) - the Swiss Grassland Society, an association of farmers and institutions interested in forage production. The aim was to learn about institutions, processes and regulations regarding agricultural recommendations. I went through almost every step that is needed to formulate species recommendations in Switzerland. At first I was part of the cultivar testing, where in big field trials new and approved species are tested and examined for different fitness factors. These trails

provide the fundament for recommendations. In meetings between different associations interested in a sustainable fodder production initial recommendations are adjusted regarding feasibility and availability of for example seed material. On this basis a recommendation report is then published every two years. Although the theory may sound a bit dry, this knowledge is very important for a successful application of scientific results and thus, inevitable for me to know. Moreover, I was able to present my study to representatives of the Swiss seed industry and was able to get an insight into the interests and needs of this branch. This whole secondment gave a lot of input into my professional work. It helped me to present my study to a non-scientific audience and also to get to know the needs of farmers and other stakeholder interested in agriculture. The stakeholders primarily approached in my project are indicated on the stakeholder map below. At the end I will use my knowledge about the recommendation process and also about the needs of the farmers and seed providers to publish an information and recommendation sheet. The results of my study are supposed to be advantageous especially for direct stakeholders and a hand-out on the «Effects and adaptation options of grasslands to climate change» will provide stakeholders with important knowledge about drought-induced biomass losses and possible counter measures.



About AGFF

Arbeitsgemeinschaft zur Förderung des Futterbaues (AGFF) is a farmers' organization based at Agroscope.

www.agff.ch

Stakeholder map  
© Claudia Hahn

## PSC Policy Workshop Contributing to Policy Actions - Analysis and Communication of Risks and Uncertainties

30 May - 1 June 2016, ETH Zürich

The reliability of data and models which are lacking an adequate attention to the impact of risks and uncertainties are constantly under public and political debate. The aim of this course is to understand the concept of risk and uncertainty in order to be able to improve the effectiveness of science in informing policy-makers by providing a comprehensive scientific basis. Moreover, the course is dedicated to the aspect of risk and uncertainty communication.

Lecturers: Prof. Tobias Krüger, Global Environmental Change, Humboldt University (Berlin, Germany),  
Prof. Anthony Patt, Institute for Environmental Decisions, ETH Zurich;  
Dr. Sergio Bellucci, TA SWISS; Christoph Beuttler, Stiftung Risiko-Dialog

## PSC Summer School 2016 Agriculture in Transformation

11 - 16 and 19 Sep 2016, Zurich, Einsiedeln

Future demand in agricultural output is supposed to match the needs of 9 billion people with less input of resources. We want to address the question, if and how we can transform current agricultural practices and overcome existing paradigms to develop innovative and sustainable agriculture production systems. Students will discuss ideas, concepts and trends with stakeholders from federal agencies, NGOs, research and industry. Using current transition examples, we will explore, how these can be assessed at different scales in the dimensions of «socially fair», «environmentally safe» and «economically viable».

### Invited speakers

Prof. Hans Herren, The Millennium Institute, Washington, USA  
Franziska Stössel, ETH Zurich, Institute for Environmental Engineering, CH  
Michel Griffon, AEI, Paris, France  
Prof. Alan Buckwell, Institute for European Environmental Policy, Brussel, Belgium  
Francois Meienberg, Erklärung von Bern (EvB), CH  
Dr. Philipp Aerni, Center for Corporate Responsibility and Sustainability, University of Zurich, CH  
Dr. Melanie Paschke, Zurich-Basel Plant Science Center, CH  
Markus Frank, BASF Crop Protection, Limburgerhof, Germany  
Jose Vogelesang, WUR Wageningen, Netherlands

### Registration

[www.plantsciences.ch/teaching/summerschool](http://www.plantsciences.ch/teaching/summerschool)

*This summer school is part of the "Sustainable Development at Universities Programme" of the Swiss Academies of Arts and Sciences with funding by the Swiss University Conference (SUC), the ETH Critical Thinking Initiative and the Graduate Campus, University of Zurich. PSC is program partner of CerealPath with support from the European Union's Horizon 2020 research and innovation program under the Marie Skłodowska-Curie, grant agreement no. 674964.*

### Panel Discussion

Timothy Sykes and Devang Mehta will moderate the panel discussion at the EUCARPIA General Congress: *Plant Breeding, the Art of Bringing Science to Life*

29 Aug - 1 Sep 2016, ETH Zurich

### Innovation vs. regulation – Facilitating access to germplasm and release of innovative cultivars

A compromise has to be found between innovative breeding strategies and ensuring cultivar reliability for growers and consumers within the scope of a regulatory framework. Emerging new techniques in breeding make it necessary to review existing regulations along the production chain, taking into account the interests and concerns of a diverging range of stakeholders: breeders and other holders of intellectual property rights, variety testers, seed producers and merchants, farmers, consumers and environmental agencies. The keynote lecture by Richard Visser, future president of EUCARPIA, will be followed by short and concise opinion statements of important stakeholders and an open plenary discussion. Do not miss this special event which will terminate the scientific program of the congress!

<http://eucarpia2016.org>

### Mentoring

#### Careers in Science and Policy (1 ECTS)

20 Sep - 20 Dec 2016  
Every second Tuesday, 17 to 20 pm

Input talks from and discussions with guests from leading institutions and organisations that are offering career opportunities for PhD students. Discussions will be moderated by students.

## PSC Policy Lecture Introduction to Political Sciences

3 and 5 Oct 2016, ETH Zurich

This introductory lecture explains the influence of political actors on decision-making processes, political negotiations and public opinion. Students will discuss theoretical approaches to the study of politics and policies across a range of states, international organizations and issue areas. Topics include: leading ideologies in political sciences, democracies, actors in politics, public opinion, decision making, negotiations and evaluation.

Lecturer: Dr. Sarah Bütikofer, Department of Political Science, University of Zurich

## PSC Policy Workshop Stakeholder Engagement

17 - 19 Oct 2016, University of Zurich

Natural scientists may engage in implementing policy programs or may also be invited to participate in stakeholder engagement processes. Communicating and collaborating effectively within the context of different stakeholder groups and engaging constructively with representatives of different sectors of society in multi-stakeholder processes will be key competencies in this context.

Lecturer: Minu Hemmati (Berlin, Germany)

## PSC Policy Training Scenario-building and Modelling

13-15 Dec 2016

This three day workshop consists of two components highly relevant to scientific conceptions and visions of the future.

The first two days will focus on scenario-building. It will be organized around a practical workshop allowing students to test the scenario method, specific to foresight practices, through the exercise. The goal is not to perform a real foresight study in just two days, but to ensure that students 1) understand the basic requirements to build consistent and argued scenarios and 2) the different uses of scenario-building. The third day will focus on coupling modelling and scenario-building building through a role-playing game experiment. The day will be structured in three parts. Firstly, we will play the ReHab game that mimic a specialized tragedy of the commons.

Lecturers: Véronique Lamblin, Foresight and Strategy Studies Director Futuribles (Paris, France);  
Dr. Claude Garcia, Forest Management and Development, ETH Zurich



Registration:

[www.registration.ethz.ch/spsw](http://www.registration.ethz.ch/spsw)



# 3rd ANNUAL MEETING

## 26 OCTOBER, 2016

*At this event, all fellows, PIs and associated partners will meet and present research results and policy outcomes*

Program

9:00 – 11:00	<b>PhD Retreat Part 1</b>  <b>Keynote talk: tbd</b>  <b>Margarida Sofia Nobre:</b> Evaluating the potential of apomixis for sustainable agriculture and food security  <b>Arianna Nigro:</b> Arabidopsis guard cell carbon metabolism in response to drought stress  <b>Wuyan Wang:</b> Developing starch diversity in the orphan crop tef  <b>Devang Mehta:</b> Engineering durable resistance to viral diseases in cassava for sustainable industrial production in Southern Africa  <b>Guillaume Lacavé:</b> Growth and bioactive properties of native potatoes under drought stress  <b>Timothy Sykes:</b> Molecular breeding strategies to control pollination for improved forage and turf grass breeding
11:00-11:30	Coffee break
11:30-13:10	<b>PhD Retreat Part 2</b>  <b>Keynote talk: tbd</b>  <b>Silvia Turco:</b> siRomics for universal diagnostics of plant viral disease and virus diversity studies  <b>Michael Thieme:</b> Using epigenetics to help improve plant breeding in organic farming  <b>Lukas Schütz:</b> The use of PGPRs and mycorrhizae as biofertilizers on marginal land in India  <b>Claudia Hahn:</b> Seasonal effects of drought on the productivity and fodder quality of temperate grassland species  <b>Constantin Pöhl:</b> Recent biodiversity changes in managed grasslands in the Swiss mountains
13:10-14:00	Lunch
14:00 – 15:00	<b>PhD Retreat Part 3</b>  <b>Keynote talk: tbd</b>  <b>Lisa King:</b> Sensible Consumerism for Environmental Sustainability  <b>Charlotte Pavageau:</b> Modelling alternative agroforestry scenarios to improve sustainable land use  <b>Yuanyuan Huang:</b> Diversity and primary productivity in subtropical forests – fixing carbon to mitigate climate change
15:00 - 15:30	Coffee break
15:30 – 17:30	<b>APs, PIs: Supervisory Board Meeting</b>

PhD Retreat

All fellows present output-oriented and discuss their PhD projects together with supervisors, associated partners and peers in the light of the interface of science and policy-making.

IDP BRIDGES meets Mercator

In summer 2016, 4 new Mercator fellows will join the PSC as well as the PhD program Science and Policy. At this mentoring event the new fellows will introduce themselves and their projects to their advanced colleagues in the program. The aim is to share ideas and advice about the program, the courses, and to highlight challenges and opportunities.

Website

[www.plantsciences.uzh.ch/research/fellowships/idpbridges.html](http://www.plantsciences.uzh.ch/research/fellowships/idpbridges.html)

Contact

Luisa Last, [llast@ethz.ch](mailto:llast@ethz.ch)

Location

Botanical Garden University of Zurich

Consortium: ETH Zurich, University of Zurich, University of Basel  
Coordinator: Prof. Samuel C. Zeeman, ETH Zurich  
Project Management: Dr. Melanie Paschke, Zurich-Basel Plant Science Center  
Project Officer: Dr. Luisa Last, Zurich-Basel Plant Science Center  
Financial Administration: Sandrine Gouinguené, Zurich-Basel Plant Science Center

Principal Investigators

**ETH Zurich:** Dr. Eduardo Perez, PD Dr. Hervé Vanderschuren, Prof. Achim Walter, Prof. Samuel Zeeman, Prof. Bruno Studer, Prof. Jaboury Ghazoul  
**University of Basel:** PD Dr. Mikhail Pooggin, Prof. Thomas Boller, Prof. Ansgar Kahmen, Prof. Jürg Stöcklin  
**University of Zurich:** PD Dr. Diana Santelia, Prof. Bernhard Schmid, Prof. Pascal Niklaus, Prof. Ueli Grossniklaus

Fellows

**ETH Zurich:** Guillaume Lacavé, Devang Mehta, Wuyan Wang, Timothy Sykes, Lisa King, Charlotte Pavageau  
**University of Basel:** Silvia Turco, Claudia Hahn, Michael Thieme, Constantin Pöhl, Lukas Schütz  
**University of Zurich:** Arianna Nigro, Yuanyuan Huang, Margarida Sofia Nobre

Associated Partners

**Dr. María Elvira Zúñiga** - Centro Regional de Estudios en Alimentos Saludables, Chile  
**Prof. Maria Emma Christine Rey** - University of Witwatersrand, South Africa  
**Dr. Monika Messmer, Dr. Lucius Tamm and Dr. Paul Mäder** - Research Institute of Organic Agriculture, FiBL, Switzerland  
**Dr. Willy Kessler, Dr. Andreas Lüscher and Dr. Olivier Schumpp** - Agroscope Reckenholz, Switzerland  
**Dr. Klara Simkova** - PSI, Czech Republic  
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Our twice-yearly newsletter is distributed to all IDP BRIDGES participants and other interested people. It provides information about scheduled training and outreach events as well as highlights of significant research results and policy outcomes.

Contributions are always welcome! If you are interested in contributing to the next issue, please contact [llast@ethz.ch](mailto:llast@ethz.ch)

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