

1st EPBC Conference “What Skills and Training for Future Plant Breeders”

21 October 2016, UniLaSalle Beauvais

Moderated Roundtable Discussion

- Volker Lein, Experienced Breeder, former Scientific Director Saaten Union Recherche SAS, Round Table Moderator
- Stephen Sunderwirth, Wheat Breeder & Station Manager, KWS Momont Recherche
- Alain Deshayes, President, French Association of Plant Biotechnology (AFBV)
- Teemu Teeri, Professor in Plant Breeding, University of Helsinki
- Anders Kvarnheden, Professor in Plant Virology, Coordinator Master Plant Biology, Swedish University of Agricultural Sciences
- Axel Olivier, Director, French training, consultancy and expertise assessment for the seed sector (ASFIS)⁴

Based on their personal study and professional experience, the roundtable participants identified the following major needs in educational programmes for plant breeding today:

- **Fundamental scientific skills:**
 - **Agronomy** has been underestimated for some time in relation with biotechnologies but a good knowledge of agronomy and knowledge of the crop is fundamental, especially through direct field work
 - **Genetics**
 - **Molecular Biology**
 - **Biotechnology** is very important but will not resolve all breeding problems. Breeders need to know about traditional breeding techniques and biotechnology-related breeding techniques so as to identify the assets and limits of both
 - **Plant virology** – viruses threaten plants, breeders need to know about this element although it is not always the most economically relevant trait for companies



- **Transversal and interdisciplinary skills:**

- **Communication skills, multidisciplinary work and team work** – breeders cannot afford to work alone anymore as “lonesome breeder”, they need to connect with other colleagues and departments of their company, they need to know about supply and production of crops). In Europe many breeding companies are competing but they exchange information continuously
- **Project Management skills** – since breeding projects become more and more complex, draw up a budget, break down the complexity of the project in manageable elements
- **Economics** – breeders need to know their market, calculate return on investment
- **Law** – knowledge about patents, intellectual property rights, plant breeders’ rights license and license fees, international regulatory context



- **Pioneering skills**

- **The new technologies** – breeders are also at the forefront of technology and need to know about biotechnology interspecific crosses, dihaploid, protoplast fusion, molecular biology, sequencing (read genetic code), genetic engineering
- **Bioinformatics** The development of new tools like: high-throughput phenotyping, digital imaging technologies and others can increase the speed and scale of plant physiological measurements, and help to minimize the phenotyping bottleneck that is restricting the flow-through of genomics advances (like sequencing) into improvements in crop performance to facilitate breeding.

- **Data analysis/Big data/Statistics** in Agriculture is becoming more and more important. Today it is possible to obtain information from genome sequences and analyse them through bioinformatics tools, however in breeding it is fundamental to link the genetic function with the associated phenotype. This is the reasons why phenotyping platforms using the technical advances provided by robots, sensors and artificial vision machines are becoming a common tool for breeders. These high throughput phenotyping platforms can provide with millions of measures which need to be handled properly in order to recover useful information. At this point is where Big Data analysis basics are needed by plant breeders.



- **Networking Lunch** The Moderated Roundtable Discussion was followed by a Networking Lunch during which the 23 students took the opportunity to exchange with the company, association and university representatives about career perspectives as well as job and internship opportunities. The organisations represented were: AFBV, ANTEDIS, ASFIS, BAYER, KWS, MONSANTO, AGORA, UNISIGMA, the 5 EPBC universities, the University of Helsinki, Umea University, Institut de Genech.



novembre
08

Des compétences internationales pour le Plant breeding

 par Estelle Bultez le 08/11/2016 13:45
 Catégorie: Du neuf dans l'enseignement; C'était à la une

L'European Plant Breeding College, un projet Erasmus+ permet aux masters européens en sélection végétale de passer un cap.



Unilasalle a accueilli le 21 octobre dernier la première conférence des partenaires EPBC rassemblant étudiants, universitaires et industriels du secteur semencier.

Vingt-quatre étudiants représentant les cinq masters ont présenté leurs travaux de groupe inter-établissements, travaux attachés à des cas d'étude réels, amorcés lors des deux semaines de programme intensif et poursuivi d'ici février 2017. La quinzaine de représentants des industries semencières ont ainsi pu se rendre compte de leurs compétences originales.

Une table ronde focalisée sur le développement du métier de sélectionneur a mis en évidence le nouveau mix de

compétences que devront acquérir les jeunes professionnels durant leur formation (agronomie, génétique, biotechnologies, big data, propriété intellectuelle, gestion de projet, réseaux professionnels internationaux...).

Philippe Choquet, directeur général d'UniLaSalle, et Nathalie Lebas, présidente de la commission Enseignement supérieur & recherche du Conseil régional des Hauts de France ont ouvert la 1^{ère} conférence de l'EPBC.

D'autres rencontres à venir

Dans le même cadre, quatre séminaires sont programmés simultanément entre le 6 et le 17 février. Les étudiants des différents masters s'y répartiront selon leurs intérêts :

- La sélection végétale hybride en Belgique,
- La sélection végétale des légumes en Espagne,
- Les mécanismes de résistance en Suède
- La production de semences en Turquie

Éclairage

Un secteur en pleine adaptation

Le secteur européen des semences doit développer de nouvelles variétés de plantes à haut rendement et multiplier les innovations pour répondre aux défis que sont la hausse de la population mondiale, le rôle croissant de la production alimentaire européenne, l'impact du changement climatique et les stress environnementaux sur la production agricole, ainsi que la nécessité d'un système agricole plus durable.

Pour mener ces changements, le secteur européen des semences a besoin de chefs de projets hautement qualifiés, ayant une connaissance approfondie à la fois des techniques traditionnelles d'amélioration des plantes et des biotechnologies. Ils devront être des experts capables de communiquer entre ces deux mondes.

L'European Plant Breeding College pour une visibilité internationale

C'est dans cet objectif que cinq établissements d'enseignement supérieur européens se sont associés pour enrichir la formation de leurs étudiants en master de Plant breeding et soutenir leur intégration professionnelle. L'Université de Gand (Belgique), l'Université Ege (Turquie), l'Université polytechnique de Valence (Espagne), l'Université suédoise des sciences agricoles (Suède) et UniLaSalle (France) ont ainsi créé l'European Plant Breeding College (EPBC) qui a reçu l'appui et un co-financement d'Erasmus +.

Connaître les détails de l'EPBC par ce lien : www.epbc.eu

L'info en plus

Sujets des travaux de groupe présentés lors de la 1^{ère} conférence :

- Breeding African Cabbage (*Cleome gynandra* L.) to improve dry season production in East Africa
- Quinoa : Qualitative characteristics, Market demand, Breeding plan
- TYLCV resistant and long shelf life tomatoes for Nigeria
- Breeding for Hypoallergenic Peanuts in the EU

| | 0 Commentaire(s)

Catégories

Au-delà des frontières
C'était à la une
Du concret dans le réseau
Du côté des activités Recherche
Du neuf dans l'enseignement
Hors les murs
Informatique
Infos campus
Infos institutionnelles
La presse en a parlé
LaSalle Beauvais Alumni
Les enseignants-chercheurs vous expliquent
Les événements de l'année
Les services et vous
Ouverture sur l'entreprise

Archives

novembre
octobre
septembre
août
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EUROPEAN PLANT BREEDING COLLEGE



1st EPBC Conference « What Skills and Training for Future Plant Breeders? »

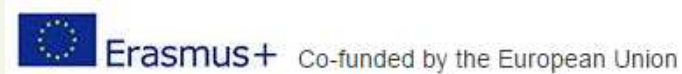
21 October 2016

UniLaSalle

(www.unilasalle.fr)

<http://www.epbc.eu/>

With the kind support of:



1st EPBC Conference
« What Skills and Training for Future Plant Breeders? »

PROGRAMME 1/2

20 October 2016

19:00 Welcome reception and dinner

21 October 2016

09:00 Arrival and welcome coffee

09:30 Introduction

- *Philippe Choquet*, President, UniLaSalle
- *Nathalie Lebas*, Member of Parliament, Regional council Hauts-de-France, President Commission on Higher Education and Research

10:00 **Presentation of finalised case study** (Master Plant Breeding 2014-2016)

- *Nga PHAM*, "HOHS broomrape resistant Sunflower"

10:30 **Presentation of three ongoing mini case studies** by students of the Intensive Study Programme

<http://www.epbc.eu/>

1st EPBC Conference
« What Skills and Training for Future Plant Breeders? »

PROGRAMME 2/2

- 11:00 Coffee
- 11:15 **Moderated round table discussion on
« What Skills and Training for Future Plant Breeders? »**
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 - *Stephen Sunderwirth*, Wheat Breeder & Station Manager, KWS Momont Recherche
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- 12:45 Lunch
- 14:00 **Speed dating Students/Seed sector representatives and networking among participants**
- 16:15 **Wrap-up**
- 16:30 **End of Conference**

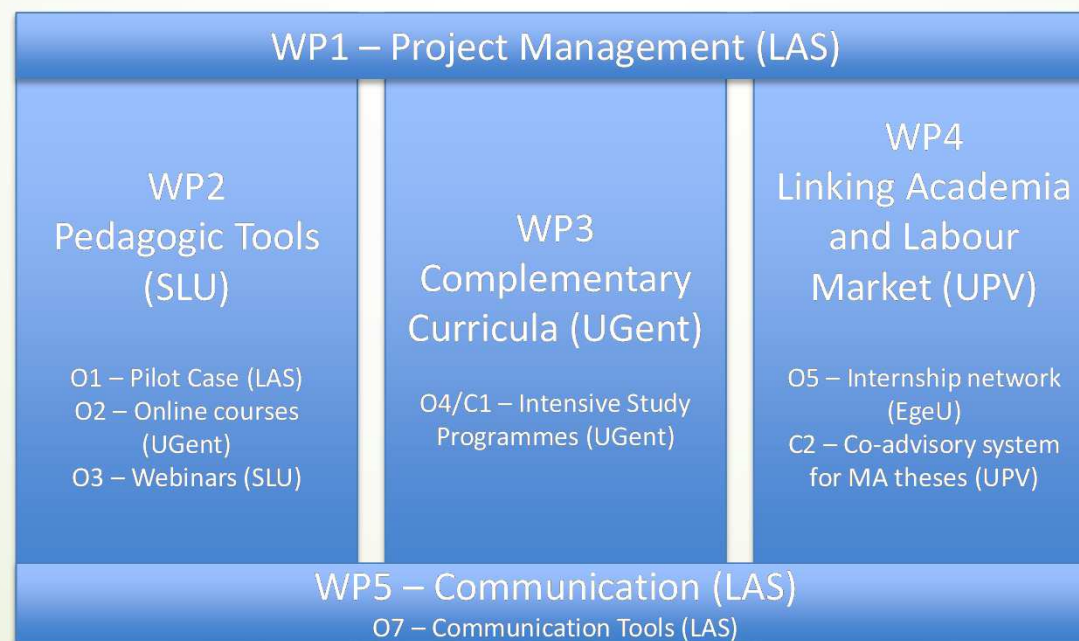


EUROPEAN PLANT BREEDING COLLEGE

What is the European Plant Breeding College?

The University of Gent, Ege University, Polytechnic University of Valencia, Swedish University of Agricultural Science and UniLaSalle have decided to **join forces** to:

- **Share knowledge** and **experience** for the benefit of their students
- **Improve** the **academic quality** of their Plant Breeding Master Programmes
- **Improve** the **employability** of their alumni
- **Create** a European **dialogue** with the seed sector on **human resource policy**
- Increase the **excellence**, **international visibility** and **integration** among European Plant Breeding education programmes
- **Increase** the **number** of **joint projects** among EPBC participants



About
EPBC

<http://www.epbc.eu/about>





EUROPEAN PLANT BREEDING COLLEGE

The Pilot Case

The pilot case is an **applied practice-oriented teaching module**, during which the students have to **design a virtual breeding project** on their own, from original demand to variety launching including seed production, marketing plan, and intellectual property management.

Students have to follow classic project specifications: estimate objective stakes, scope interfaces and departure hypotheses, describe expected results and deliveries, organise their team, phases of the project, evaluate budget and analyse risks, learn about adaptations to plant breeding. They will be guided by a professor and a professional plant breeder but are responsible for the set-up of the design and the implementation of the project.

During the **Intensive Study Programme at LaSalle Beauvais** (10-21 October 2016) the selected participants from all EPBC universities have chosen their topic and their group and started their project work which will last until February 2017.

Check out a [video](http://www.epbc.eu/pilot-case/) to see what previous participants of the Pilot Case say (<http://www.epbc.eu/pilot-case/>)

Pilot Case



<http://www.epbc.eu/pilot-case/>





EUROPEAN PLANT BREEDING COLLEGE

Online courses

The EPBC partners have identified **topics taught abroad** that will **enrich the knowledge and competencies** of their **Master students and local professionals**. Courses on those topics are currently being made available via online courses to EPBC students and interested professionals.

Topic	Organiser	Date
Plant Chimeras – Living Together As One Plant	UGent	November 2016
Plant Breeding In A Coherent Regulatory System	UniLaSalle	November 2016
Transgenic Resistance To Pathogens	SLU	Available at www.epbc.eu
Artificial Hybridisation in Plant Breeding	UPV	Available at www.epbc.eu
Seed Quality and Testing	EgeU	Available at www.epbc.eu

Online
courses

A **total of 15 online course** will be organised during the life-time of the project, please do not hesitate to check regularly at www.epbc.eu

<http://www.epbc.eu/online-courses/>



Webinars

The EPBC partners are currently setting up webinars through which **EPBC students and professionals can interact virtually** to share knowledge and exchange without travelling. Each **EPBC partner** organises **webinars** in the field of their **expertise**.

Topic	Organiser	Date
International Treaty On Plant Genetic Resources For Food And Agriculture	UPV	26 April 2016 Available at www.epbc.eu
Agro-Biodiversity Of Turkey	EgeU	05 October 2016 Available at www.epbc.eu
Intellectual Property : Introduction To UPOV And Benefits Of UPOV PVP System	UniLaSalle	17 October 2016 Available at www.epbc.eu
What Does A Breeder Need To Know About Production?	UniLaSalle	18 October 2016 Available at www.epbc.eu

Webinars

A **total of 10 webinars** will be organised during the life-time of the project, please do not hesitate to check regularly at www.epbc.eu

<http://www.epbc.eu/webinars/>





EUROPEAN PLANT BREEDING COLLEGE

Intensive Study Programmes (ISP)

The EPBC partners organise **5 Intensive Study Programmes** so as to combine **sharing of knowledge and expertise** with a **cultural experience** in a different country and on-the-spot exchanges with students/teaching staff and external plant breeding professionals from the partner universities.

Where	When	What
UniLaSalle	10-21 October 2016	Project Management and IPR
Ghent University	06-17 February 2016	Hybrid Breeding
Polytechnic University Valencia	06-17 February 2016	Vegetable Breeding
Swedish University of Agricultural Sciences	06-17 February 2016	Resistance Mechanisms
Ege University	06-17 February 2016	Seed Production and Breeding

ISP

More information as well as the preliminary and final programmes of each ISP are available at www.epbc.eu/isp

<http://www.epbc.eu/isp>



Internship Network

The EPBC Internship Network is a data-base that **brings together companies** and **research centers** that are looking for qualified Plant Breeding **students** and Plant Breeding students who are looking for internship and job opportunities.

- **Are you a professional** advertising an internship or employment offer?
- **Are you a student** currently looking for an internship or an employment opportunity?

Register on www.epbc.eu/internships and **post** your **offer/CV** and **browse** available opportunities!

Internship
Network

<http://www.epbc.eu/internships>



Master thesis mobility

The Co-advisory system for Master theses aims at **providing EPBC students with expertise from EPBC partner universities. 20 EPBC students** will be given the opportunity to spend at least **1 month at an EPBC partner institution** in the framework of their Master thesis, sponsored by an Erasmus+ grant.

The Master thesis will be co-supervised by the host institution.

At www.epbc.eu/theses EPBC students can find available Master thesis topics and related supervisors.

1 student has already returned from his Master thesis mobility and another student is currently abroad. The majority of EPBC students will leave during spring 2017.

- Gómez Rodríguez, Ramsés, UPV, Thesis Director at receiving lab: Tina Kyndt; UGent
- García Fortea, Edgar, Thesis Director at receiving lab: Stefaan Werbrouck; UGent

**Master
thesis mob.**

<http://www.epbc.eu/theses>





EUROPEAN PLANT BREEDING COLLEGE

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