

Education in system oriented science

The Erasmus Mundus Joint Master Programme

PlantHealth

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Crops need protection

Insects



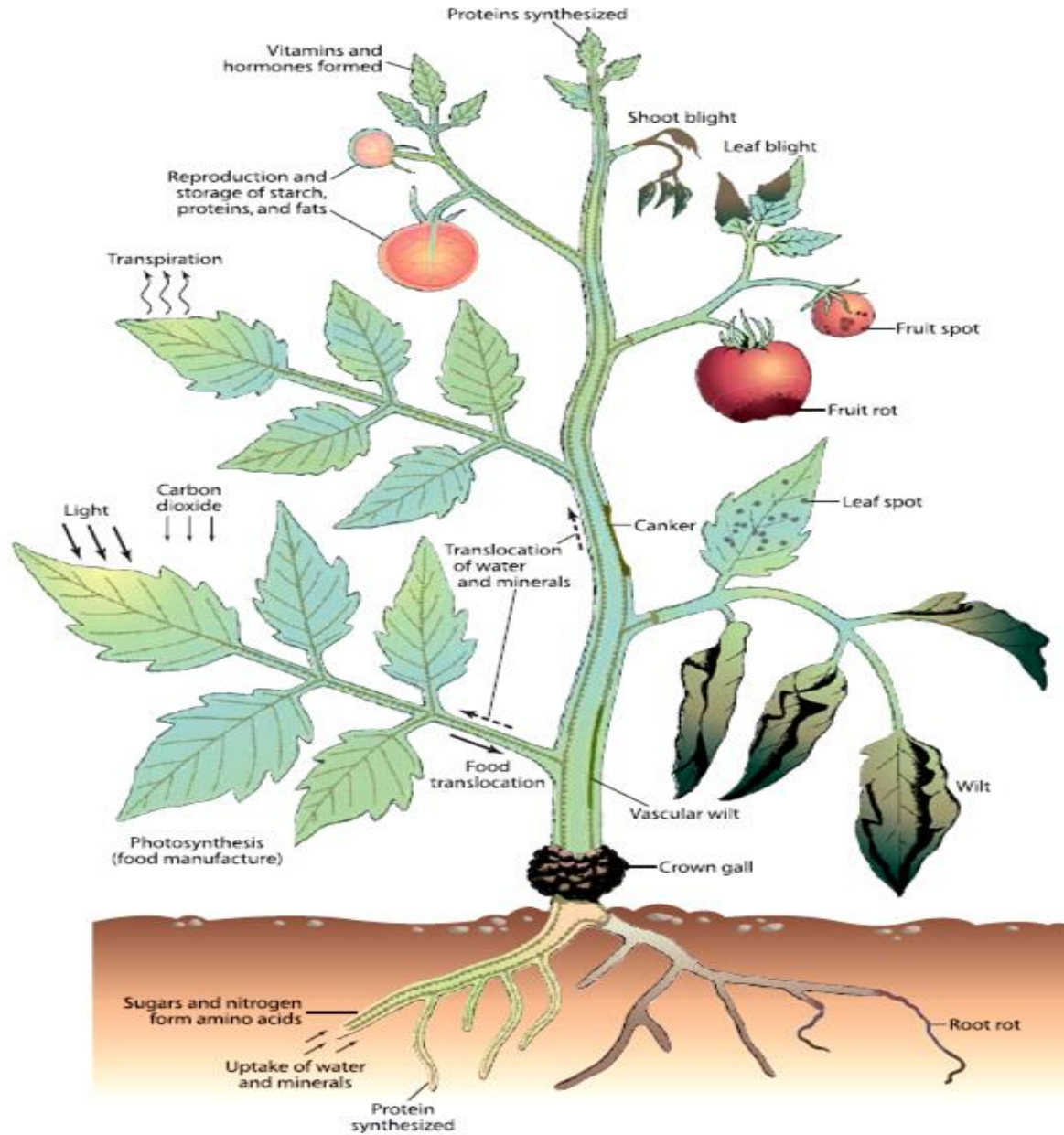
Nematodes



Weeds



Abiotic factors
(drought, frost, salinity)



Diseases
& Damages

→ Losses

Agrios, 2005

Crop Protection needs experts

Knowledge of :

- Pests, diseases, weeds - biology, life cycle, yield impact
- Control methods - biological, cultural, plant resistance, chemical control
 - Regulation & registration
 - Toxicology,
 - Cut off criteria, MRLs
 - Ecotoxicology
 - Bee toxicity
 - Environment, biodiversity

Madeira Declaration 2004 by EPPO

Plant Health Endangered - State of Emergency

The work of National Plant Protection Organizations (NPPOs) relies on scientific expertise, but the services providing this expertise **increasingly lack staff, funds and training.**

On the one hand, **the whole scientific basis of the phytosanitary field is quickly eroding. Taxonomy, classical plant pathology** and other scientific fields which are vital for sustaining sound public policy **are threatened with extinction, because they are no longer in the forefront of science priorities.**

Madeira Declaration 2004 by EPPO

Plant Health Endangered - State of Emergency

On the other hand, the need for phytosanitary expertise, training and research is substantially and continuously increasing. **The number and complexity of plant pest problems increases every year.** New developments and new technology have to be mastered, going far beyond existing expertise

Unless urgent action is taken, indispensable expertise and scientific disciplines will irreversibly disappear, and NPPOs will be unable to do their duty.

The Mission: Strengthening research & education in crop protection

Experts must be broadly trained to understand pests and pathogens on the whole plant and crop level, as key requirement for sustainable plant health management.

The action:

Establishing science-based and practice-oriented international Master Programmes in crop sciences/crop protection/PlantHealth

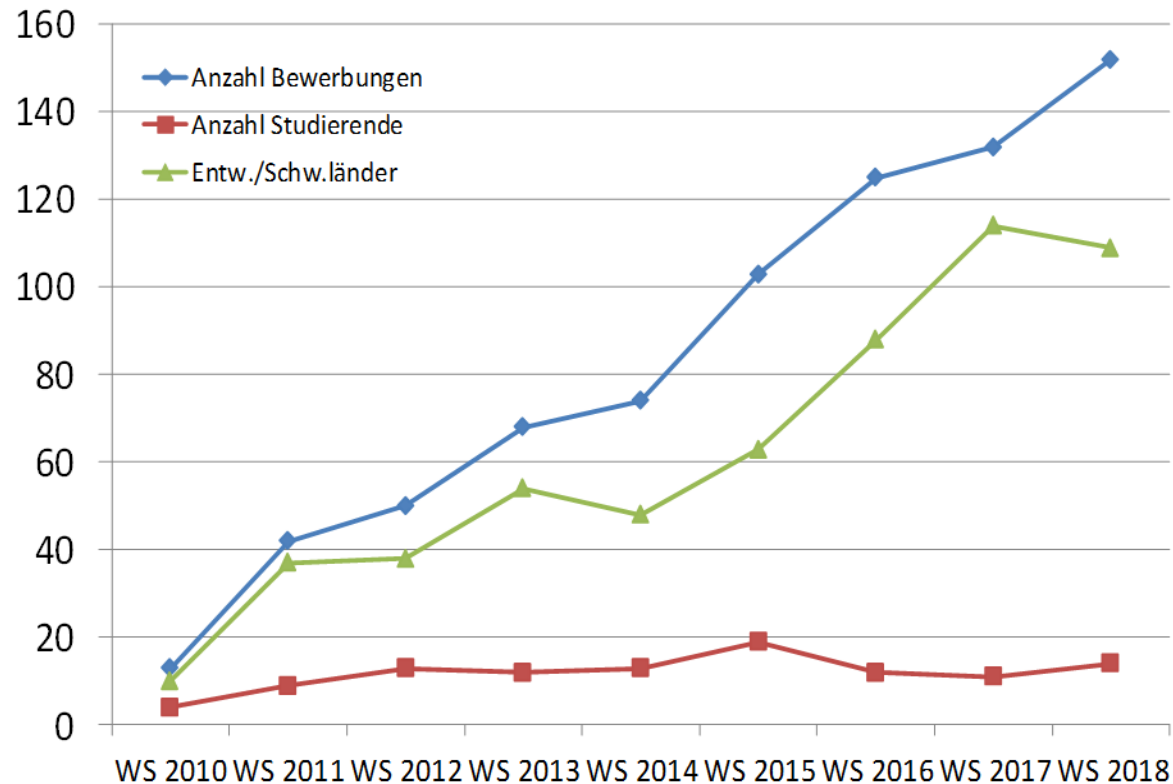
International Master Programme at the University of Göttingen

MSc Crop Protection Launched in 2010

Basic & applied courses

Plant pathology & mycology
Entomology & nematology
Virology & bacteriology
Weed science
Pesticide science & legislation
Pesticide toxicology & ecotoxicology
Molecular phytopathology
Integrated control & biocontrol
Plant biotechnology

Number of applications Master Crop Protection 2010 to 2018



PlantHealth in sustainable cropping systems Erasmus Mundus Joint Master Degree (EMJMD) funded by the European commission

Six European Universities



UNIVERSITAT
POLITÀCNICA
DE VALÈNCIA

Universidad Politecnica de Valencia



Georg August Universität Göttingen



Università di Padova

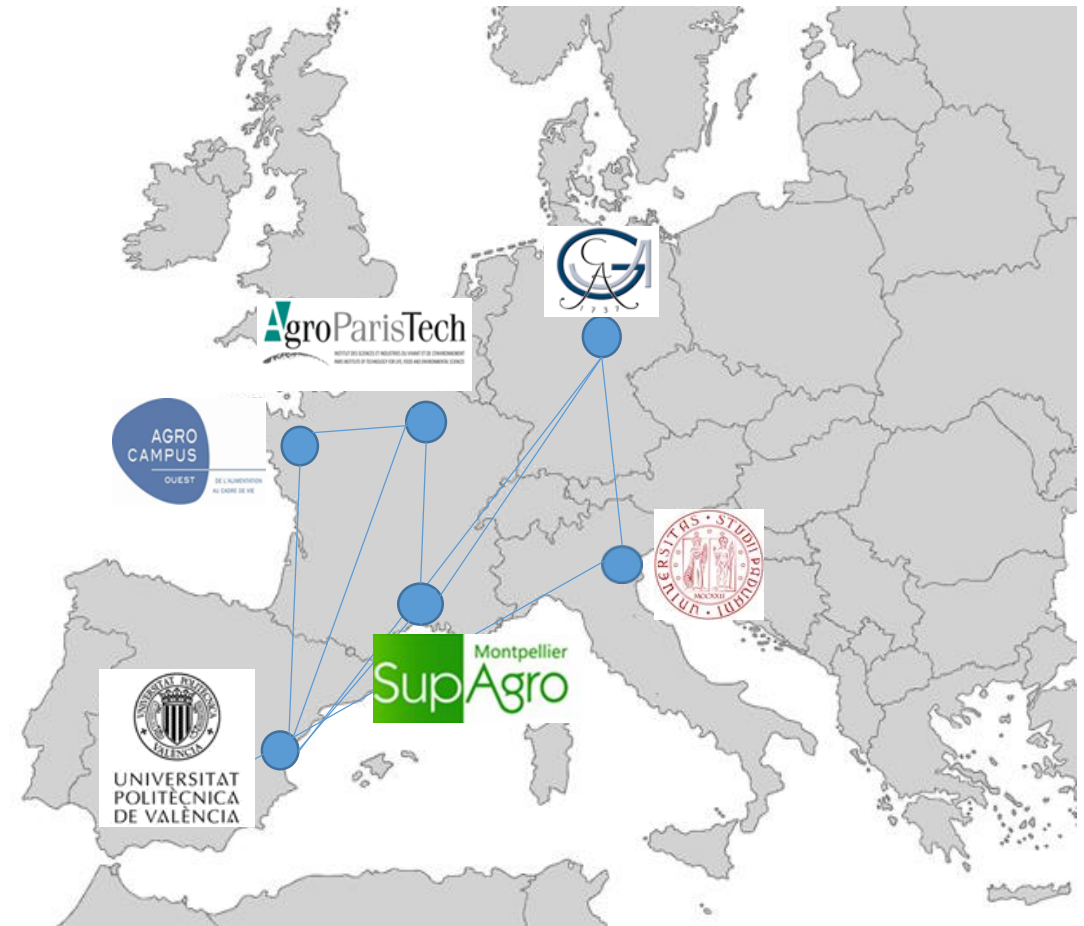


Montpellier SupAgro

AgroParisTech



Agro Campus Ovest



EMJMD PlantHealth in sustainable cropping systems

“The proposal is timely and relevant to an important problem for today’s Europe- to train a new generation of European and Third Countries specialists with competencies in contemporary and future plant health management related to global food safety and security issues and to be able to work in diverse sectors of plant health management.” (Citation evaluation report 2015)



UNIVERSITAT
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DE VALÈNCIA



Montpellier
SupAgro

AGRO
CAMPUS
OUEST

AgroParisTech



European
Commission

PlantHealth in sustainable cropping systems

Erasmus Mundus Joint Master Degree (EMJMD)

- General structure -

M1 Universidad Politecnica de Valencia



M1 Universität Göttingen, Germany

Common basis for the two M1 :

- basic knowledge on farming systems and agronomy
- ecology, population genetics and dynamics
- statistics and experimental design
- molecular biology
- basics in crop protection

M2 Universität Göttingen

Advanced tools in sustainable plant health management

M2 Universidad Politécnica de Valencia

IPM for mediterranean crops

M2 Università di Padova

IPM of fruit crops in temperate climates
Management of forest pests

M2 France (Agrocampus Ouest, Montpellier SupAgro, AgroParisTech)

General IPM with 2 options:

- tropical IPM
- IPM for temperate and mediterranean field crops





PlantHealth Project
Plant Health in Sustainable Cropping Systems
Erasmus+ Programme
Key Action 1 - Erasmus Mundus Joint Master Degrees
Email: planthealth@upv.es

English | [Français](#)

Central European Time (CET)
16:15:27

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Joint Master Degree

The European Master degree in Plant Health in Sustainable Cropping Systems (**PlantHealth**) is a fully integrated and globally competitive Erasmus Mundus Joint Master Degree, designed by leading European universities in the field of Crop Protection, that provides top-level and up-to-date education, qualifying graduates to cope with the challenges in contemporary and future plant health management related to global food safety issues.

[General information](#)

Downloads

Check out the latest documents of the **PlantHealth** Project:

- [Selected Candidates and Reserve Lists - EMJMD PlantHealth - 1st INTAKE -2nd Call \(2016-2018\) NEW](#)
- [Selected Candidates and Reserve Lists - EMJMD PlantHealth - 1st INTAKE \(2016-2018\)](#)

Sign in

Easy access to your personal account.

Please authenticate with your username and password.

Username

Password

[Forgot your password?](#)



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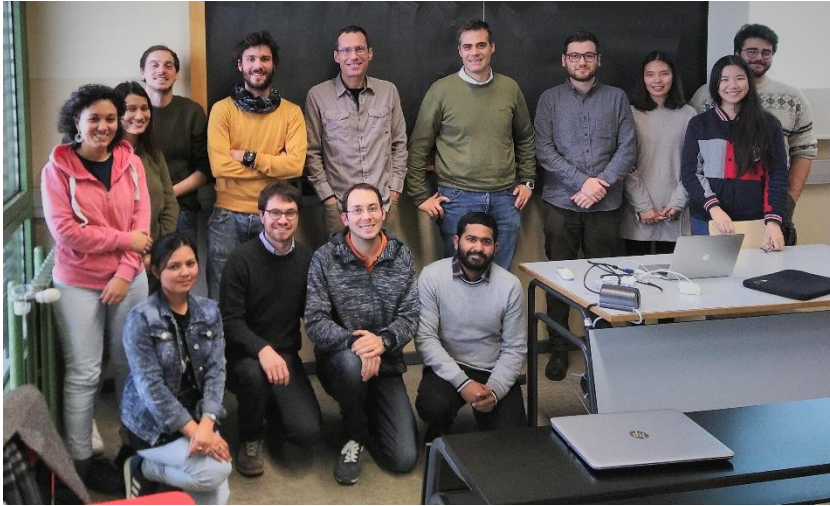
Website designed and implemented by [Universidade do Porto](#)



PlantHealth Orientation Week, Valencia, September 2016



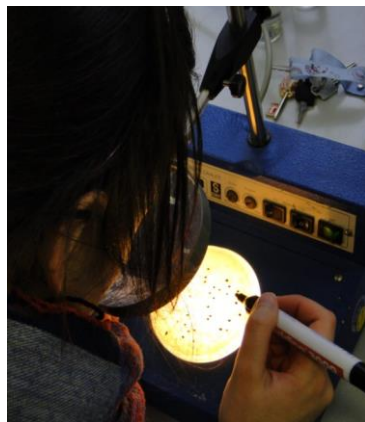
Lectures, seminars, journal club





Lab courses

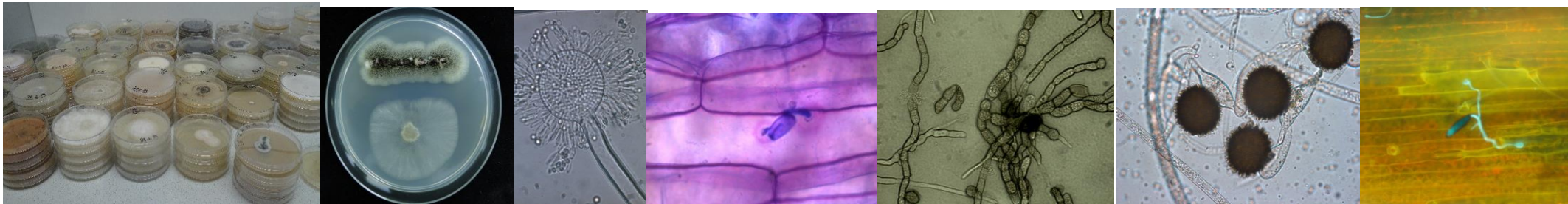
→ counting,
sampling,
recording,
analysing ...





Lab courses –

→ microscopy, qPCR,
taxonomy ...



Field Trips

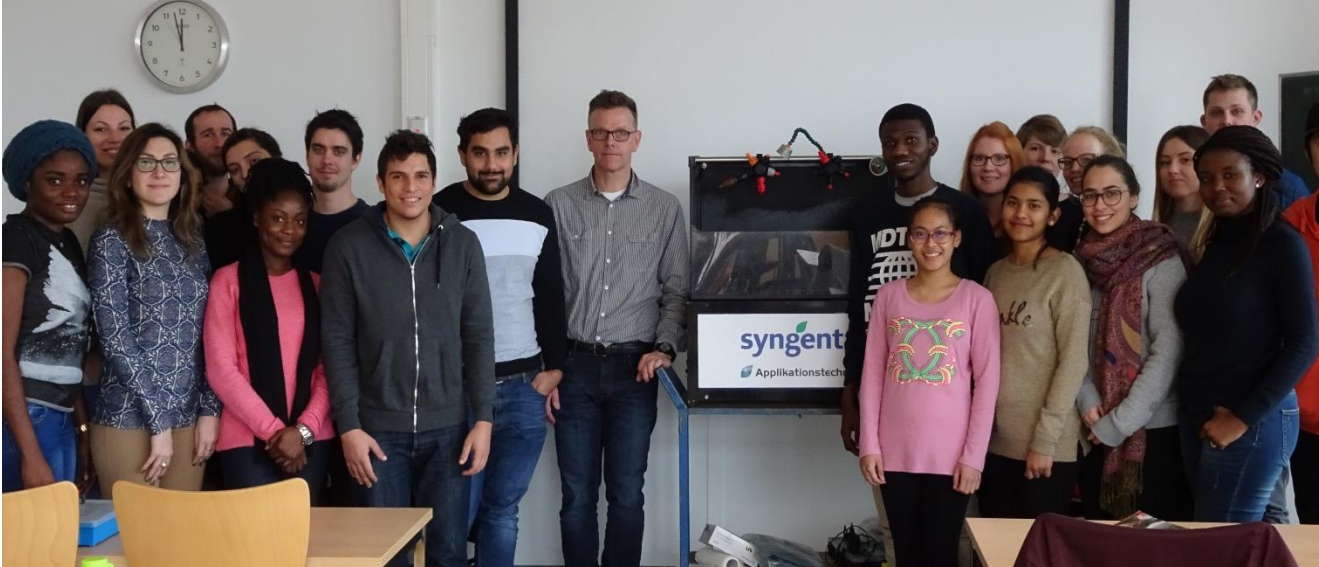


Excursions



PPP Public Private Partnership

Teaching Input: Application techniques
J.Luckhard, Syngenta



Block „Resistance Management“,
Bayer CS Monheim,
R. Nauen, A. Mehl



Internship

6 weeks project work in companies, federal research institutes

BCS Frankfurt: Multi-species phenotyping

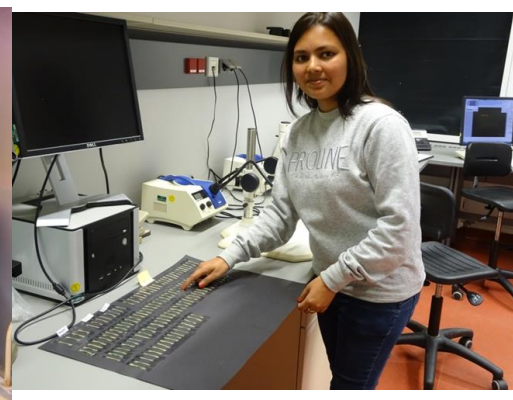
BCS Höfchen: Testing of Insecticides on beneficials

BCS Heidelberg: Control of corn earworm in corn

JKI: ALS herbicide target site resistance

JKI: Mechanisms of resistance and tolerance of different sugar beet genotypes against *Heterodera schachtii*

JKI Effect of extracted fungal metabolites on growth reduction of differential fungal pathogens in vitro



Graduation 2018

Final conference, Valencia



Graduation 2018, Valencia



Capacity Building - train the trainers

Module Basic laboratory techniques

- Visting Professor/scientists from University of Agriculture and Natural Resources, Gabarone, Botswana, und University of Ibadan, Nigeria
Flying classroom project, funded by DAAD

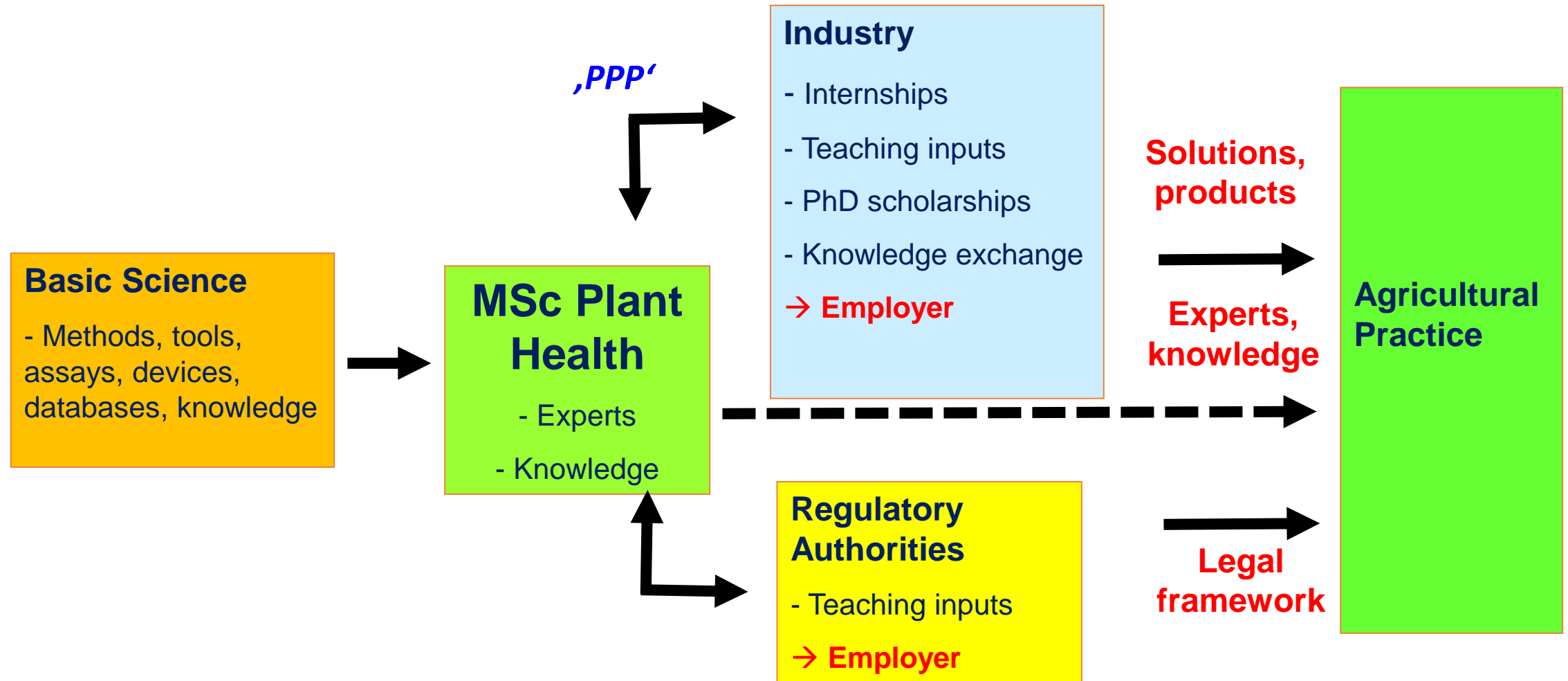


Thlolego



Saheed O. Adebisi

Position and links of the PlantHealth programme



Conclusion:

Crop protection/PlantHealth is a systems science: needs to be embedded in the broad scope of crop/agricultural sciences

CP/PH is sector-related: need for getting industry and regulatory institutions involved

CP/PH has a regional, national and global scope: need for a regional and international scope → networking of universities!! (exchange, double degrees etc.)

In 2018 EMJMD PlantHealth was approved by European Commission for 6 more years :

“The interaction of students with non-educational actors from different sectors is very well planned. Indeed, partners from the private sector and from public research institutes will be actively involved in the course implementation by offering internships and advanced lectures in specialized topics.”



IYPH 2020 Activities :

Göttingen: Congress German Society of Phytomedicine
Celebrate 10 years Master Crop Protection

Valencia: Congress Spanish Phytopathology
Montpellier: Congress French Plant Protection
Padua: Italian Society Entomology Meeting



raise awareness
of the importance
of plant health

Thank you for your attention!



Erasmus Mundus
JOINT MASTER DEGREE



Plant
Health

EUROPEAN MASTER DEGREE
IN PLANT HEALTH IN SUSTAINABLE
CROPPING SYSTEMS

Consortium Partners

