

EPSO: What and how can plant science contribute to society today and in future? How can YOU get involved?

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European Plant Science Organisation
www.epsoweb.org
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EPSO aims to advance plant science in Europe

Independent academic organisation

Mission:

- Promote plant science and support plant scientists
- Discuss future plant science programmes across Europe
- Provide authoritative source of independent information on plant science → [science advice to policy](#)
- Promote training of plant scientists to meet the 21st century challenges in breeding, agriculture, horticulture, forestry, plant ecology and sectors related to plant science

CREATING A FUTURE FOR PLANT RESEARCH IN EUROPE



EPSO members: Academia

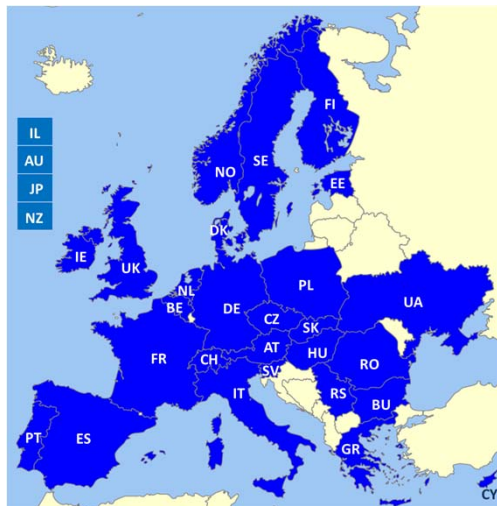
Academic Institutional members:

227 research institutes, universities, research departments - and you

with over **28 000 researchers and staff** in plant science

from **31 countries – 28 in Europe and 3 beyond**

+ over 3.300 Personal members - and you



EPSO partners:

NGOs, industry, science organisations

Observers are from industry, NGOs, linked to ministries

- ELO (European Landowners' Organization)
- EuropaBio, Bayer, BASF, BIOGEMMA, DLF Trifolium, Dow AgroScience, Keygene, KWS, SunGene, Syngenta, Strube-Dieckmann, Agritec Plant Research, AgriSera, SES VanDer Have N.V, [FoodDrinkEurope](#); & collaborate in Plant ETP
- [German Society for International Cooperation](#) (GIZ)

Links with academic and governmental organisations:

- [ISE](#), [ELSF](#) & their members; [EUCARPIA](#), [ISHS](#), [FESPB](#)
- [Global Plant Council](#) (Plant science organisations worldwide)
- [13 National learned societies](#) collaborate with EPSO on policy issues ([2xDE](#), [2xUK](#), [CZ](#), [Scand](#), [FR](#), [2xPL](#), [ES](#), [PT](#), [IT](#), [CH](#))
- [COST](#), [ERA-PG/CAPS](#), Joint Programming [FACCE](#), [D&H](#), [W](#)
- [FAO](#) (Division plant production and protection)



1. What can plant science
contribute to society
today and in future?



1 - Plant science can help to **address societal challenges**

❖ Tackling **food security, climate change,
energy security, sustainability:**

1. Improve resource use efficiency and stewardship (land, soil, nutrients, cyclic economy concepts)
2. Enhance yield and yield stability for increased resilience in dynamic environments (combining abiotic stresses)
3. Improve plant health for resilient production (ongoing diseases with major economic impact in Europe; emerging diseases)



G. Neumann



1 - Plant science can help to address societal challenges

❖ Addressing **nutritional security and human health**:

- 4a. Develop plants with improved composition for human nutrition and health
- 4b. Improving and promoting diverse crops for diverse diets
Improve economic performance and value of under-utilised fruit and vegetable crops in Europe and globally (WHO, FAO support)
- 4c. Develop plants with improve composition for animal nutrition and lowering environmental footprint
- 4d. Outreach activities promoting health benefits of fruits and vegetables in our diet



1 - Plant science can help to address societal challenges

❖ Sustainably use **resources** to **mitigate climate change** and **improve human health** and **pharmaceuticals**

- 5. Green bioactive molecules and proteins



→ **Study on the economic, social and environmental value of plant breeding in the European Union, 15.3.2016, commissioned by Plant ETP**



1 - Plant science can help to address societal challenges

❖ **Strategic** improvements needed for success:

1. Equal need & support for: Farms (agriculture/horticulture); Fisheries, Forests; Food/feed/ nutrition/health; Chemicals/pharma/energy
2. Balanced support for the 4 components of the Research and Innovation Cycle addressing societal challenges (**basic and applied research**, demonstration, innovation actions)
3. Strengthen Innovative research that equally utilises **all technologies** and cross-disciplinary approaches
4. Incentivise **outreach activities of scientists**
5. Facilitate advancement of / access to state of the art research infrastructure
6. Enable preferred (public-private) partnerships at European level
7. Strengthen Europe as a strong contributor to **global actions** and lead some of these (UFV; DSB)



2 - Curiosity driven plant science fosters **knowledge generation** about living organisms and the world we live in

1. FP6 / FP7, national: collaborative basic research projects - e.g. on
 - Gene regulation – Transcription factors, Epigenetics ..
 - Tree genomics & gene-mining to identify key genes controlling wood formation, growth and wood properties
2. H20: ERC – e.g. on
 - Developmental biology **flowering** & annual / perennial plants
 - Landscape genomics
 - Transcriptional regulatory framework
 - Cluster root development; Plant microbiome
 - Domestication in crop plants; Plant immune receptor complex...

Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research and the Bioeconomy



3 - Plant scientists support the next the generation of scientists and entrepreneurs

1. FP6 / FP7, H20: - e.g. in
 - o Marie-Curie training networks
 - o Collaborative research and innovation projects
2. Education Action Plan - foster qualified skilled future workforce:
 - o Build a sustainable workforce for the plant sector
 - o Foster the future of the plant sector through research, education and training
 - o Increase public appreciation of the plant sector

For you to use at National / regional levels
3. EPSO Conference support grants – every EPSO conference
4. EPSO Young Plant Scientist Award – 1st time 2016
40 submissions – 2 awards announced 18.1.2016,
Plenary talks at this conference: Ruie Liu (Tu am),
Malaïke Ebert (We pm)



2. How can plant scientists engage with policy and society to contribute?



1 – EPSO supports science and scientists

❖ with EPSO Working Groups

- **Agricultural Technologies**
Meetings 2014-16; Publications 2015-16
Lead **J Schiemann**, JJ, PP (DE internship)
- **Crops, Food and Health**; Lead **C Martin**, CT
Workshop 2011; White paper, H2020, HDHL JPI
- **Horticulture**; Lead: **B Thomas**, EG
Workshop 2013; H2020, White paper
- **Tree biology and biotechnology**
Meeting 2014; H2020; Lead: ON, **E MacRae**
- **Molecular Farming** ; Lead: KMOC, RF, **JS**
Workshop 2006; Horizon 2020



1 – EPSO supports science and scientists

❖ with EPSO events

- **EPSO policy events**
 - EC-EPSO conference on crop improvement @EXPO, 2015
 - FoPD exhibition @ EXPO, 2015
 - EP-Plant ETP Workshop series on sustainable growth
2015 – 18: Climate, FNS ..
- **Conferences, General Meetings**
 - EPSO GM: Prague (CZ), 25-26.6.2016
 - **EPSO / FESPB: Prague** (CZ), 27-30.6.2016
- **Workshops & Working Group Meetings**
 - New ideas, collaborations, R&I&E strategies
 - **Agric. Technologies** (22.11.2016)
 - **Horticulture** (2016), **Tree biol/biotech** (2016)



1 – EPSO supports science and scientists

❖ with EPSO information tailored to plant scientists

Briefings, *NEWS*, www.epsoweb.org, t, f, Fact / policy collection

- Insider info for you (H20, LIFE, ERASMUS+ ...; Present your institute / activities,
- Attract top students and scientists via **job adverts**
- Enlarge your **network** & build project consortia



2 – EPSO provides science advice to policy

Mainly at European level (to EC, EP, MSs), as well at national and global levels

- Strategic input towards **Horizon 2020 / H20+**
 - Own input; Responses to public consultations; Experts at workshops



- **ERA-Networks** (ERA-CAPS, ERA-Forest based bioeconomy ..), Joint Programming Initiatives



- **Developing countries** (FAO, EC RTD / AGRI / DEVCO)



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**Mainly at European level (to EC, EP, MSs),
as well at national and global levels**

o **Crop Genetic Improvement Technologies:**

- o Statement on CGITs, 15.12.2015
- o Fact sheets on NBTs, 21.3.2016
- o EC-EPSO Conference on Crop genetic improvement technologies, Milano EXPO, 14.7.2015



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**Mainly at European level (to EC, EP, MSs),
as well at national and global levels**

o **Series of workshops with the European Parliament – Plant ETP 2015-18:**

- o Sustainable growth: unlocking the potential of plants
- o Climate Change, 1.12.2015
- o Food and nutritional security, 2.6.2016

Initiated by Swedish
EPSO members
J Sundstrom



3 – EPSO fosters science with society approaches

Fascination of Plants Day

- Initiated and coordinated by EPSO
- 2012, 2013, 2015, 2017
- Success FoPD 2015:
 - **589 institutions** hold over **965 events** in **56 countries**
 - incl. 31 events in CZ**
 - 126.888 unique visitors online
 - 3.404 tweets, 1.213 postings on facebook
- Thanks to the over 56 national & 4 global coordinators
 - incl. Przemowojtaszek / PL,
 - Trine Hvoslef-Eide / NO
 - Calum MacKichan & Karin M / EPSO



Discuss with us at the
science communication session
this afternoon



3. How can YOU
get involved?



**This is our future
we have to engage in it**

**Scientists can help to
build an inclusive
collaborating Europe /
world**

▶ [link](#) ◀



Thank you
for your attention

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