

Starting an IPPN Working Group

1. Proposing an IPPN Working Group

1.1 Title of the Working Group

International Controlled Environment Plant Phenotyping Group

1.2 Short Title for the website

l_{CE}PPG

1.3 Proposed by

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1.4 Goals of the Working Group

The proposed IPPN WG on the assessment of plant performance traits expressed under well defined experimental conditions simulating diverse present and future climate scenarios aims at bringing together researchers that run plant phenotyping facilities (platforms) in controlled environments which are able to simulate different climatic conditions among themselves and with scientists from other related fields (plant geneticists, (eco)physiologists, developmental biologists, agronomists, climate researchers, soil scientists, bioinformaticians, and biologists concerned with modeling of plant developmental and physiological processes and climate scenarios, sensor technology developers etc.) that are either interested in using facilities or in contributing to concept, technology and/or method development. In particular, links shall be established between the members of the plant phenotyping community (especially those running phenotyping platforms) and the International Controlled Environment User Groups (including NCERA-101, NCR-101, UK CEUG, GCEU, etc.). Furthermore, the interaction with researchers developing and running intensive field experimentation sites for plant phenotyping shall be supported and fostered.

The goals of this workgroup are:

- to monitor the development/establishment of new (controlled environment) facilities and experimental procedures
- to support and strengthen the interaction with meteorologists / climate researchers to define expected future climate scenarios (taking regional differences into account)
- to develop novel concepts of how to treat plants in order to simulate within closed facilities what happens in field (in current and future climates) and to elicit and detect corresponding responses and to enhance corresponding technology development; among other aspects, the transfer from controlled to field phenotyping, the dynamics of environmental conditions, and the combination of environmental effectors shall be addressed

- to write statements on how these concepts can be implemented and fostered (> as input especially for funding agencies)
- to inform interested users on the specialities of the various accessible platforms and the experimental and analytical opportunities offered

Finally, the aim of the novel concepts and procedures focusses on the screening and evaluation of plant genetic diversity (Genbank stocks / diversity collections; sets of specifically modified lines) in order to associate agronomically relevant phenotypes (including the acclimation ability to future climate scenarios) with the underlying genetic determinants for trait expression (e.g. map corresponding QTLs, verify effects of genetic modifications). This builds the basis for the development of improved idiotypes with optimized performance under future climate scenarios.

1.5 Operational / Business plan of the Working Group for next 2-3 years

- As a satellite event to the EPPN2020 KickOff meeting on May 30th/31st in Nice, a round table discussion will be held with interested colleagues who may form a core group of I_{CE}PPG members; this event will be used to share information about the launch of I_{CE}PPG and to (potentially) revise or amend the WG description

- In June-July 2017 the WG description will be distributed throughout the wider IPPN community via e-mail (supported by the IPPN managing office) with an invitation to participate in the WG and to become a member of the I_{CE}PPG community and to become actively involved in the discussion of the goals of the WG and the next steps to be taken (via phone/video conferencing) in

- The aforementioned consultations will be followed by election of the chair and vice chair persons of this WG (through e-mail or anonymous web voting poll supported/handled by the IPPN managing office) and the setup of a webpage with essential information about I_{CE}PPG (with the help of the IPPN managing office)

- I_{CE}PPG will organize a series of on-site symposia at controlled environment facilities for I_{CE}PPG members and interested parties of related communities:

The first I_{CE}PPG symposium will be held in late fall 2018 at IPK gathering members of the I_{CE}PPG community and invited guest speakers from related (already established) groups such as NCERA-101, NCR-101, UK CEUG, GCEUG (5-7K€ for speaker invitations, travel grants, etc.), intended to occur in conjunction with the inauguration of novel phenotyping platforms in the Plant Cultivation Hall. This will be followed by a series of further on-site workshops (approx. one per year, 3-4 K€ p.a. for speaker invitations, travel grants, etc.) at various other controlled environment facility sites including demonstrations of operation and hands on experience/training for attendees (where appropriate/possible) - I_{CE}PPG will run workshops as conference satellite events (e.g. at International Plant Phenotyping Symposia, International Botanical Congresses, PAG Meetings, International Conferences on Plant Biology, EPSO/FESPB Meetings, ASPB Meetings, Climate Change / Agriculture

Meetings, EUCARPIA Meetings, etc.) to inform the wider plant phenotyping and plant biology communities about I_{CE}PPG and its activities and to reach out to further communities

- I_{CE}PPG will write and publish (in 2019) a white paper as follow-up of the initial on-site symposium at IPK on the current concepts and uses of controlled environment plant phenotyping platforms and procedures (including an overview of currently existing and planned facilities and their capabilities) and on options and demands of further developments. An executive summary of this paper as well as flyers with information about I_{CE}PPG and announcements of particular I_{CE}PPG activities (workshops) will be printed and used to inform funding agencies and the addressed research communities through distribution at international conferences (approx. 500 € p.a. printing costs)

2 General summary about the role and operation of an IPPN Working group

Role of a IPPN Working Group (WG)

- IPPN establishes WG in priority topics for plant phenotyping as identified by its members
- IPPN-WG shall provide discussion fora to develop the topic and to prepare a shareable input to IPPN or the wider phenotyping community/ stakeholders
- IPPN WG shall be active groups established for the period of time until they finalized their task

Establishment and operation of a Working Groups

- WGs are established to bring together experts on a topic of interest as a platform for discussion, knowledge sharing and interaction to consider and address specific challenges and opportunities.
- WGs are suggested by IPPN member/s who develop a description of the topic/ task and an action plan with WG activities, which are presented to and approved by the General Assembly. WG are pre-approved by the Executive Board.
- WGs are supported and assisted by the IPPN office
- The approved WG elects a chair, optionally a vice chair. Chair and Vice Chair should be IPPN members and are elected for two years.
- The chair is responsible for the establishment and implementation of the operational/business plan for the next 2-3 years. The plan is revised and updated on regular basis (e.g. annually) and the WG activities are presented at IPPN General Assemblies, usually once a year.

Call for members of a Working Groups (WG)

- The approved WG can launch a call for experts to support the WG activities.
- The call should be open and remain open – WG membership is not limited to IPPN members.

Operational/business plan of a Working Group

- The operational/business plan for the next 2-3 years should include open and inclusive activities in accordance of the purpose of the statutes of the association (§ 2). The activities may include workshops, meetings, training activities, white papers, opinion papers etc.
- The budget required for these activities has to be included in the action plan that has to be presented to and approved by the annual meeting of the General Assembly and the.

At the General Assembly the WG chair (or his/her representative) reports about the WG activities of the past year and proposes a plan for the upcoming year.



International Plant Phenotyping Network e.V.
