Workshop-Training course

Hannover, November 8-10 2017

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Program

Wednesday 8th November:
08:45 Registration and Welcome
09:00 EPG recording, an introduction
09:45 The EPG system, electronic design & backgrounds
10:30 coffee break
11:00 Computerized EPG recording (data acquisition)
11:45 *Torsten Will*
"Electrophysiological reactions in barley yellow dwarf virus infected barley genotypes"
12:30 participant presentations (10 min. each), Anh, Gaafar, Görg, and Grotmann
13:10 lunch break

14:30 Afternoon 'Hands-on'
(ca. 15:30 break)
17:30 Plenary discussion
18:00 End

Thursday 9th November:
09:00 Other EPG systems, more electronic design
09:45 Waveform analysis & EPG variables
10:30 coffee break
11:00 Data processing
11:45 Host plant resistance (FT)
12:30 participant presentations (10 min. each): Gerard, Seyed, Kirfel, and Kloth
13:00 lunch break

14:30 Afternoon 'Hands-on'
(15:30 break)
17:30 Plenary discussion
18:00 End

Friday 10th November:
09:00 Designing EPG experiments
09:45 Virus transmission (FT & AF)
10:30 coffee break
11:00 *Karen Kloth "Sieve element-lining, heath-inducible protein affecting aphid feeding"*
11:45 Plant generated potentials in the EPG
12:30 participant presentations (10 min. each): Mulla, Rogge, Skajac, and Ziebel
13:00 lunch break

14:30 Afternoon 'Hands-on'
(16:00 break)
17:30 Plenary discussion
18:00 Workshop closing; Certificates

19:00 Farewell diner

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[1] EPG Systems, Wageningen NL (organiser)
[2] Julius Kuhn Institute, Quedlinburg DE (assistance)
[3] Leibniz University (local organiser)

Hands-On Afternoon Program

Day 1

Beginners Program

EPG recording (data acquisition)

DEMO EPG set up:
- Equipment parts
- Noise and Faraday cage
- Amplifier test*

Aphid wiring
- Making an insect electrode (done)
- Proper electrode attachment
- Aphid and plant mounting*

Making a first EPG recording
- PROBE/Stylet+ acquisition software*
- Start: name, comments & adjustments
- starting*: 1) Giga ON
  2) 'insects ON'
- Optimal voltage adjustment*
- 8 hour EPG recording

Day 2

PROBE software practice

File conversion
- Automatic and comment lines
- Manual conversion (separate conversion)
- comment line changes

Analysis software PROBE/Stylet+
- Use of day 1 data files or sample files
- Moving, zooming and .ppt signal pictures
- exporting signal samples
- Making a 'Book of reference signals'

Retrieving EPG data
- Cursor use and data grid
- Saving the data grid
- *frequency & smooth* tools

More EPG recording
- Special plant voltage adjustments*
- Use of the calibration button

Day 3

Data processing

Use of Excel macros
- BAZ & CSIC macros for data processing

"Help desk" activities:

Installation of hard- & software 'hints and help'
- Downloading and installation Stylet+
- Bring in any questions or problems !

Alternative EPG recording
- Other insects
- Leaf surface electrodes
- emf switch operation

Technical demonstrations (if any)

*** Program items that can be extended for more advanced users:**

- Special plant voltage adjustments
- Life establishing of R- and emf-components
- Event marks in unused channels
- Use of the calibration button and emf mode probes (innovation)

NOTE : Participants should bring their own laptop to the workshop and download and install the EPG installation software in advance, if possible.