

## **Training School Programme**

### **Saturday 2<sup>nd</sup> July**

9:00-9:40 Introduction of the students and introduction to the themes of the training school - Matthew Robson (University of Helsinki)

9:40-10:40 Radiometry and optical components – Pawel Hermanowicz (Jagiellonian University)

10:40-11:00 break.

11:00-12:00 Flavonoids in plant leaves - Susanne Neugart (Georg-August-University Goettingen) .

12:00-12:30 The design of UV-plant experiments. Introducing the themes of the UV4Plants meeting, and how they fit with the students' research interests - Matthew Robson (University of Helsinki)

12:30-13:30 Lunch Break

13:30-14:10 Practical applications of UV radiation in horticulture and agriculture - Matthew Robson, Maxime Durand (University of Helsinki).

14:10-14:30 Discussion with students on practical applications of UV research - Susanne Neugart (Georg-August-University Goettingen), Matthew Robson (University of Helsinki).

14:30- 14:55 Leaf transmittance and reflectance - Pawel Hermanowicz (Jagiellonian University)

14:55-15:15 break

15:15-15:50 Discussion with students on changes in leaf transmittance and reflectance. Demonstration of an integrating sphere-based setup for measurement of diffuse transmittance of a leaf and a goniometric system for measurement of bidirectional reflectance - Pawel Hermanowicz (Jagiellonian University), Maxime Durand (University of Helsinki)

15:50-16:20 Fluctuations in solar radiation in canopies and in nature. Measuring and interpreting these fluctuations - Maxime Durand (University of Helsinki).

16:20-17:00 Small discussion groups, with each teachers. Students discuss the use of UV radiation and plant response to it in their own research projects, raising queries about experimental design and statistical analysis.

### **Sunday 3<sup>rd</sup> May**

9:00-9:15 Questions arising from yesterday's lectures and discussions.

9:15-10:00 Using chlorophyll fluorescence to measure epidermal UV screening and function of PS II - Wolfgang Bilger (Christian-Albrechts-University Kiel)

10:00-10:50 Effects of UV radiation on gene expression in plants – Luis Orlando Morales (Örebro University).

10:50-11:10 Break

11:10-12:00 UV-screening and PS II function. Discussion about application of the Dualex meter - Wolfgang Bilger (Christian-Albrechts-University Kiel), Susanne Neugart (Georg-August-University Goettingen).

12:00-12:45 lunch

12:45 -13:15 Measuring UV radiation – Luis Orlando Morales (Örebro University).

13:15-14:00 Practical measurements of UV radiation- Luis Orlando Morales, Maxime Durand, Pawel Hermanowicz.

14:00-14:50 Processing UV data with the Photobiology packages – avoiding misinterpretations (R practical) - Maxime Durand (University of Helsinki)

14:50-15:00 How to get the most out of the UV4Plants meeting? Student discussion of the topics and session in the upcoming meeting. Preparing to ask questions to the speakers and following the themes of the meeting. Closing thoughts and feedback on the training school - Matthew Robson (University of Helsinki)

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