Meet-a-Member:
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Why did you choose to work on plant UV-effects? In the 1990's I was working high light stress. A colleague in another department, Markus Veit, was interested in UV-dependent flavonoid biosynthesis. We started a collaboration, in which I initially contributed the assessment of UV-B-induced damage of PS II.

What is your research-specialisation? Acclimation of plants to high irradiance stress. We are using chlorophyll fluorescence to assess various reactions, among them epidermal UV transmittance or integrity of PS II.

Of which UV-related accomplishment are you most proud, and why? The development of the method to determine epidermal UV transmittance by a rapid chlorophyll fluorescence measurement (W. Bilger, M. Veit, L. Schreiber, and U. Schreiber (1997). Measurement of leaf epidermal transmittance of UV radiation by chlorophyll fluorescence. Physiol.Plant. 101:754-763). This method allows you to rapidly determine epidermal screening in the intact leaf, i.e. to see something which you otherwise could only assess by destroying the leaf. The method has given rise to commercially available apparatus such as the UV-A-PAM fluorometer or the Dualex (ForceA).

Can you tell a funny story relating to your work on UV-effects? The invention of the transmittance method was actually sparked by a seemingly unrelated question of a colleague, Lukas Schreiber. I had been thinking a lot about how to determine the irradiance reaching photosystem II in algae protected by a layer of stone (as in endolithic cyanobacteria) or by fungal hyphae (as in lichens). A similarly nagging unresolved question was how much of UV radiation was screened by epidermal flavonoids. Lukas Schreiber was

investigating epiphyllic bacteria and used UV-induced DAPI fluorescence to quantify them. One day, he came in my office and asked why he was not able to see the red chlorophyll fluorescence below the blue DAPI fluorescence. This brought my thoughts finally on the right track and within five minutes I had the method in my mind. The rest was hard work to select the proper filter combinations and, especially, to select the proper reference with 100% epidermal transmittance.

Have you got any hints, tips or other advice to share? From my perspective it is of utmost importance to know the epidermal transmittance of your experimental plants before assessing any UV-B-induced effects. Unfortunately, this transmittance is not only determined by the UV irradiance the plant is exposed to but by a lot of other external and internal factors. Therefore, it can vary a lot in greenhouse grown plants.

What made you join UV4Plants? I enjoy very much exchanging views and ideas with other colleagues.

How would you like UV4Plants to develop in the future? I would prefer to keep it as familiar as it is now.

Who would you like to appear in a future "Meet-a-Member"? Åke Strid.

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