



**COST-Action FA0906**

**Final Network Meeting,**

Bled, Slovenia, 30 March – 2 April 2014

## Meeting programme

### **Sunday, March 30, 2014**

17:00 – 21:00 *Registration*

17:00 – Poster mounting and viewing

17:00 – Informal meetings WG/TG

18:00 – Get-Together Party

### **Monday, March 31, 2014**

8:00 – 16:00 *Registration*

9:00 – 9:10 Opening (Jansen, M.A.K., Gaberščik, A.)

#### Morning session I

Chair: Marie-Theres Hauser

9:10 – 9:40 Björn, L.O.: Historic perspective on plant UV-B research. (*invited lecture*)

9:40 – 10:10 Barnes, P. W., Tobler, M. A., Flint, S.D., Ryel, R.J., Keefover-Ring, K., Lindroth, R.L.: Rapid changes in UV-shielding in plants: mechanisms, species patterns and physiological significance. (*invited lecture*)

#### WG1

10:10 – 10:40 Strid, Å.: Molecular aspects of regulation by UV-B radiation in plants: Zooming out from UVR8. (*invited lecture*)

10:40 – 10:55 Jenkins, G.I.: What does UVR8 do and how does it do it?

10:55 – 11:10 Viczián, A., Terecskei, K., Ulm, R., Nagy, F.: Tissue-dependent aspects of UV-B-specific responses controlled by the UVR8 photoreceptor in *Arabidopsis thaliana*.

11:10 – 11:40 *Coffee/Tea break*

#### Morning session II

Chair: Åke Strid

#### WG1

- 11:40 – 11:55 Llabata Babiano, P., Faus, I., Gadea, J., Hauser, M.-T.: Involvement of the eIF2a kinase GCN2 in UV-B responses.
- 11:55 – 12:10 Piofczyk, T., Willing, E.M., Albert, A., Schneeberger, K., Pecinka, A.: Genome-wide analysis of the mutagenic effects of UV-B in *Arabidopsis thaliana*.
- 12:10 – 12:25 Vandenbussche, F., Tilbrook, K., Fierro, A.C., Marchal, K., Poelma, D., Van Der Straeten, D., Ulm, U.: Photoreceptor control of bending towards UV.
- 12:25 – 12:40 Hayes, S., Velanis, C., Jenkins, G. and Franklin, K.: UV-B mediated inhibition of plant shade-avoidance.
- 12:40 – 12:55 Castagna, A., Catola, S., Mazzucato, A., Ranieri, A.: UV-B post-harvest irradiation induces fruit anthocyanin accumulation in an anthocyanin-rich tomato line.

*Poster session*

- 12:55 – 13:05P\* Kanagarajan, S and Strid, Å.: Progress towards the identification of alternative ultraviolet-B signaling pathways in *Arabidopsis*.  
Farkas, D., Strid, Å.: The recombinant production and characterization of UVR8 c-terminal peptides 397-423 and 397-440.

13:05 – 14:20 *Lunch break*

Afternoon session I

Chair: Éva Hideg

WG2

- 14:20 – 14:50 Schreiner, M., Hanschen, F., Hauser, M. T., Hideg, É., Kocsis, M. , Martinez-Abaigar, J., Mewis, I., Neugart, S., O'Brien, N., Ranieri, A., Rohn, S., Schoedl-Hummel, K., Winkler, J.B., Zrenner, R., Jansen, M.A.K.: UV-B – an essential regulator of the secondary plant metabolism. (*invited lecture*)
- 14:50 – 15:05 Topcu, Y., Erkan, M., Polat, E., Nadeem, H.S.: The effects of different UV-B irradianations on plant growth, antioxidant compounds and postharvest quality of broccoli floret.s
- 15:05 – 15:20 Soriano, G., Del Castillo, M.A., Monforte, L., Diago, M.P., Carbonell-Bejerano, P., Martínez-Abaigar, J., Tomás, R., Martínez-Zapater, J.M., Tardáguila, J., Núñez-Olivera, E.: Ambient UV exclusion influences phenolic composition and gene expression in berry skins of Tempranillo grapevines.
- 15:20 – 15:35 Gankema, P., Timkovsky, J., Holzinger, R., Pierik, R.: UV-B alters plant volatile emissions.
- 15:35 – 15:50 Oravec, M., Kubásek, J., Novotná, K., Rajsnerové, P., Veselá, B.: Effects of enhanced ultraviolet radiation and C:N stoichiometry on changes in metabolic profiles of different barley varieties.
- 15:50 – 16:05 Nenadis, N., Koufogianni, A., Llorens, L. , Díaz L. , Font J. , Gonzalez J.A., Verdaguer, D.,Tsimidou, M.Z.: Seasonal UV radiation and low water availability effects on the phenolic content and antioxidant activity of polar extracts from leaves of the Mediterranean species *Arbutus unedo* (*Ericaceae*).

16:05 – 16:35 *Coffee/Tea break*

Afternoon session II

Chair: Monika Schreiner

WG2

- 16:35 – 16:45 Schödl-Hummel, K., Hideg, É.: Development of trans-European wine-leaf experiment (Grapevine Ultraviolet Network Meeting Report)
- 16:45 – 17:00 Neugart, S., Csepregi, K., Jansen, M.A.K., Jakab, G., Jug, T., Llorens, L., Martínez - Lüscher, J., Martínez -Abaigar, J., Núñez-Olivera, E., Ranieri, A., Schödl-Hummel, K., Schreiner, M., Teszlák, P., Tittmann, S., Urban, O., Zipoli, G., Hideg É.: An essential

UV-B threshold for the formation of phenolic acids and flavonoid glycosides in *Vitis vinifera*.

- 17:00 – 17:15 Jug, T., Rusjan, D.: “Double Maturation Raisonné” (DMR) – opportunity to use advantages, but not disadvantages of UV-B irradiation in wine production.
- 17:15 – 17:30 Winkler, J.B., Stich, S., Pecinka, A., Piofczyk, T., Albert, A.: Dynamics in epidermal flavonoid accumulation in different *A. thaliana* genotypes under UV-B exposure – feasibility of non-invasive measurements using Multiplex®.
- 17:30 – 17:45 Czégény, Gy., Majer, P., Csepregi, K., Teszlák, P., Jakab, G., Dér, A., Strid, Å., Hideg, É.: ROS specific antioxidant responses to UV. (*STSM 10262 (year2) and STSM 12296 (year3)*, hosted by Åke Strid at the Örebro University, School of Science and Technology, Örebro, Sweden)
- 17:45 – 18:00 Dáder, B., Winters, A., Moreno, A., Fereres, A., Gwynn-Jones, D.: Differences in plant chemistry and crop growth under specific wavelengths of the UV region. (*STSM 12318 (year3)* hosted by Dylan Gwynn-Jones at the Institute of Biological, Environmental and Rural Sciences, Aberystwyth, UK)

*Poster session*

18:00 – 18:15P\*

Núñez-Olivera, E., Csepregi, K., Del Castillo, M.A., Hartman, B., Hideg, É., Jansen, M.A.K., Jakab, G., Jug, T., Llorens, L., Martínez-Lüscher, J., Monforte, L., Neugart, S., Ranieri, A., Schödl-Hummel, K., Schreiner, M., Soriano, G., Soukupova, J., Teszlák, P., Tittmann, S., Urban, O., Zipoli, G., Martínez-Abaigar, J.: Pinot Noir grapevine skins along a latitudinal gradient in Europe: the other side of Grapevine Ultraviolet Network (GUN).

Végh B. É., Mátaí A., Csepregi K., Czégény Gy., Teszlák, P., Hideg É., Jakab G.: Coordinated regulation of the flavonoid biosynthesis by UV-B radiation in an autochthonous grapevine cultivar.

Csepregi, K., Czégény, Gy., Hideg, É.: Changes in grapevine leaf phenolics and antioxidants in response to a decrease in solar UV – *in situ* experiments with UV filters in the vineyard.

18:30 – 20:00 MC Meeting / free evening for non-MC members

20:15 – Dinner for MC only

**Tuesday, April 1, 2014**

*Morning session I*

Chair: Alan Jones

9:00 – 9:15 Jansen, M.A.K.: Submission of the reimbursement claims.

TG1

9:15 – 9:45 Aphalo, P.: What's in a name? That which we call UV-B may be something else. (*invited lecture*)

WG3

9:45 – 10:15 Martínez Abaigar, J.: UV-B organismal effects in a context of global change: facts and faces. (*invited lecture*)

10:15 – 10:30 Jansen, M.A.K., Klem, K., Urban, O., Robson, T.M.: Effects of UV-B radiation on plant morphology; from generic stress to specific regulation.

10:30 – 10:45 Nezval, J., Kalina, J., Materová, Z., Robson, T.M.: Messages go against the flow: Ramets use UV-B to signal pre-emptive activation of photoprotection in their parents.

*Poster session*

10:45 – 11:00 P\* Siipola, S., Sipari N., Lindfors A., Robson M., Kotilainen T., Aphalo P.: Epidermal UV screening outdoors is regulated by solar blue light.

Fereres, A., Dáder, B., Moreno, A., Gwynn-Jones, D., Winters, A.: Aphid and whitefly performance is directly affected by UV radiation on horticultural crops.  
Kalbina, I., Jansen, M., Rosenquist, E., Strid, Å.: UV4quality: UV radiation as a tool for improving crop quality.

11.00 – 11:30 *Coffee/Tea break*

### Morning session II

Chair: Javier Martínez Abaigar

#### WG3

- 11:30 – 11:45 Alten, S.F., Roro, A.G., Nybakken, L., Solhaug, K.A., Torre, S., Olsen, J.E.: Involvement of gibberellin in UV-B-induced responses and control of flavonoid content in pea.
- 11:45 – 12:00 Golob, A., Turk, J., Kreft, I., Stibilj, V., Germ, M.: Response of two species of buckwheat to combination of UV radiation and selenium.
- 12:00 – 12:15 Klančnik, K., Vogel-Mikuš, K., Kump, P., Vavpetič, P., Pelicon, P., Gianoncelli, A., Jezeršek, D., Gaberščik, A.: Prickle hairs enhance reflectance of UV radiation in graminoids.
- 12:15 – 12:30 Špunda, V., Nezval, J., Materová, Z., Semer, J., Vrábl, D., Štroch, M.: Response of phenolic compounds and xanthophylls in barley leaves to different spectral composition of photosynthetically active radiation and its relation to efficiency of photoprotective processes.
- 12:30 – 12:45 Martínez-Lüscher, J., Sánchez-Díaz, M., Delrot, S., Aguirreolea, J., Pascual, I., Gomès, E.: UV-B and water availability interact to shape flavonoid profiles through transcriptional regulation. (*STSM 11256 and STSM 13350 (year3), hosted by Eric Gomes at the Institute des Sciences de la Vigne et du Vin, Villenave d'Ornon, France*)
- 12:45 – 13:00 Lidon, F.C., Ramalho, J. C. , Leitão, A. E., Abreu da Silva, M. M. , Pais, I. P., Pessoa, M. F. , Reboredo, F. H.: Targets of UV-B irradiation on the photosynthetic performance in *Oryza sativa* L.

13.00 – 14:20 *Lunch break*

### Afternoon session I

Chair: Otmar Urban

#### WG3

- 14:20 – 14:35 Findlay, K.M.W., Jenkins, G. I.: The UVR8 Response to Daylight.
- 14:35 – 14:50 Elfadly, E., Sobeih, W., Moore, J., Paul, N.: Response of pepper plants (*Capsicum annuum* L.) to step-changes in their UV environment.
- 14:50 – 15:05 Mewis, I., Winkler, J. B., Albert, A., Hauser, M. T., Baldermann, S., Zrenner, R., Jansen, M.A.K., Ulrichs, C., Schreiner, M.: Ecophysiological consequences of UV-B radiation and ozone on Brassicaceae – Role of UV-B reception on plant resistance traits.
- 15:05 – 15:20 Robson, T. M., Hartikainen, S., Israel, D., Salonen, P., Nezval, J.: A foot in both camps: how does ivy optimise foraging when faced with contrasting UV-environments?
- 15:20 – 15:35 Regier, N., Slaveykova, V., Cosio, C.: Transcriptomic response of the aquatic plant *Elodea nuttallii* to mercury and ultraviolet radiation.
- 15:35 - 15:50 Ben-Yakir, D., Fereres, A.: The effects of UV radiation on arthropod pests: A review of publications from 2009 to 2013.

### *Poster session*

- 15:50 – 16:10\* Milić, S., Kolarž, P., Vidović, M., Jovanović, Lj., Morina, F., Veljović Jovanović, S.: Effects of covering materials differing in UV-transparency on the nutritional value of tomato grown in high tunnels.

Monforte, L., Hespanhol, H., Soriano, G., Del Castillo, M.A., Núñez-Olivera, E., Martínez-Abaigar, J.: Among- and within-genus variability of the UV-absorption capacity in saxicolous mosses. (*STSM 15226 (year4) hosted by Ales Pecinka, Max Planck Institute for Plant Breeding Research (MPIPZ), Cologne, Germany*)

Holá, M., Angelis, K.J.: Molecular basis of plant response to UV-B radiation.

Veselá B., Novotná K., Rajsnerová P., Kozáčíková M., Kubásek J., Oravec M., Holub P., Klem K., Urban O. Interactive effects of UV radiation and drought on the accumulation of phenolic compounds and photosynthesis in selected species of the mountain grassland ecosystem.

16:10 – 16:40 Coffee/Tea break

#### Afternoon session II

Chair: Mateja Germ

##### TG2

16:30 – 17:00 Rosenqvist, E.: UV in horticulture – how can our research be used? (*invited lecture*)

17:00 – 17:30 Wargent, J.: UV4Growth & agriculture: turning photobiology into commercial reality. (*invited lecture*)

17:30 – 17:45 Jones, A., Gaberšček, A., Jansen, M.: All you wanted to know about UV radiation and plants.

##### Poster session WG3

17:45 – 18:05 P\*Karlický, V., Nezval, J., Štroch, M., Špunda, V.: Parallel factor analysis of fluorescence of epidermis and leaf extracts soluble of phenolics.

Lidon, F.C., Ramalho, J. C. , Leitão, A. E., Abreu da Silva, M. M. , Pais, I. P. 4, Pessoa, M. F. , Reboredo, F. H.: UV-B irradiation impact on the chloroplast lamellae in *Oryza sativa* L.

Badenes-Pérez, F.R., Parrado Márquez, B., Plaza, M., Moreno, A., Fereres, A.: Effect of shading, plastic cover, and UV-block on plant phenology and insects visiting *Lobularia maritima* L. Desv. (Cruciferae).

Nissinen, K., Randriamanana, T. R., Julkunen-Tiitto, R., Nybakken, L., Beuker, E. Effects of enhanced UV-B and temperature in growth of different genders and genotypes of *Populus tremula*.

16:00 – 18:00 Parallel meeting UV4Growth evaluation group

20:00 – Dinner

### **Wednesday, April 2, 2014**

#### Morning session I

##### WG4

Chair: Laura Llorens

9:00 – 9:30 Ballaré C. L.: UV radiation as a modulator of plant defense and biogeochemical cycles. (*invited lecture*)

9:30 – 9:45 Hartikainen, S.M., Robson, T. M.: Changes in understorey plant phenology reflect the under-canopy light environment along a European forest gradient during bud burst.

9:45 – 10:00 Hyyryläinen, A., Huttunen, S., Núñez-Olivera, E., Soriano-Sancha, G., Del-Castillo-Alonso, M.A., Martz, F., Turunen, M.4, Martínez-Abaigar, J.: Effects of solar UVB, temperature and sample processing on phenolic content in *Sphagnum lindbergii* after 7 years of field experimentation. (*STSM 15487 (year4) hosted by Javier Martínez - Abaigar at the University of La Rioja, La Rioja, Spain*)

- 10:00 – 10:15 Randriamanana, T., Nissinen, K., Ruuhola, T., Nybakken, L., Julkunen-Tiitto, R.: Long-term field study with dark-leaved willows reveals that genders differ in their tolerance to UV- and temperature enhancements.
- 10:15 – 10:20P\* Díaz, L., Verdaguer, D. , Gispert, M. , Pardini, G. , Font, J. , Peruzzi, E. , González, J.A., Llorens, L.: Effects of ultraviolet radiation and rainfall reduction on carbon and nitrogen levels in the soil of a Mediterranean shrub community. (*STSM 16835 (year4) hosted by Riitta Julkunen-Tiitto, University of Eastern Finland, Joensuu, Finland*)
- 10:20 – 10:50 *Coffee/Tea break (Informal discussions – ongoing collaborations)*
- 10:50 – 11:05 Hauser, M.-T., Palmer, C., Neugart, S., Zrenner, R., Schreiner, M., Martínez -Lüscher, J., Strid, Å., Martínez Abaigar, J., Pascual, I., Yokawa, K., Verdaguer, D., Regier, N., Badenes-Perez, R., Zipoli, G., Julkunen-Tiitto, R., Jones, A., Jansen, M., Gwynn-Jones, D. Trans-European Arabidopsis Experiment 2013-2014.
- 11:05 – 11:20 Closing (Jansen, M.A.K.)
- 11:45– 13:15 *Lunch*
- 13:30 – 20:00 Afternoon excursion, Škocjanske jame

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P\*– the poster presentation is 5 minutes per poster and printed version will be displayed. The recommended size of poster is A0 format (841 × 1189 mm or smaller).