

11th International Conference “Plant Functioning Under Environmental Stress” has been supported by the Ministry of Science and Higher Education, no. 1017/P-DUN/2018

PROGRAMME COMMITTEE

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GENERAL INFORMATION

The Conference Sessions, will be held in the main building of the Cracow Pedagogical University, at Podchorążych street no. 2 (near from junction of Królewska and Piastowska street).

The Conference Office will be open for the duration of the conference in the hall in front of the conference rooms from September 12th at 8:00 am.

Conference Badge. For security reasons all participants will receive identification badge from the Registration Desk. Please always have with you identification badge.

Technical equipment. Overhead projector and “Power point” IBM-PC projectors will be available in the Conference rooms. Speakers who wish to do computer presentation are asked to visit the “Speaker service room” (Mr Jakub Adamski) **1 h before their presentation time.**

The posters (max. width x height: 100 x 150 cm) will be displayed for the whole duration of the conference. Each display panel will bear the number of the poster and you will find the respective number of your poster in the conference programs (Poster sessions).

As we have already announced, a **competition for young scientists** is planned for the best (oral or poster) presented at the Conference. To this end you will receive a **voting card**, which should be returned to the Conference Office (until 1:00 pm, September 13th). Information about the results of the competition and the awards granted will be given in a conference communiqué.

Coffee or tea are free and available during morning and afternoon breaks. **Lunch** will be served at the cafeteria located near from the conference rooms.

Conference General Schedule

Hours	WEDNESDAY September 12 th 2018	THURSDAY September 13 th 2018	FRIDAY September 14 th 2018
8:00	REGISTRATION	POSTER SESSION „B” (8:00 – 9:45) (Posters no. 44 – 74, see pages:12-14)	POSTER SESSION „C” (8:00 – 9:45) (Posters no 75 to 104, see page 12-14)
9:00		SESSION 4 (10:00 – 13:35)	SESSION 6 (9:45 – 13:20) Plenary lecture (no. 10) Speaker: Balazs Barna Plenary lecture (no. 11) Speaker: Maria Müller Plenary lecture (no.12) Speaker: Wojciech Bąba Plenary lecture (no.13) Speaker: Kenji Yamada Plenary lecture (no.14) Speaker: Shino Goto-Yamada
10:00	SESSION 1 “Edward A. Gwózdź –nestor of research plant stress biology of Poznań” Joanna Deckert Plenary lecture (no.1). Speaker: Edward A. Gwózdź	Plenary lecture (no. 5) Speaker: Hanna Bandurska Plenary lecture (no. 6) Speaker: Janusz J. Zwiasek	
11:00	SESSION 2 Plenary lecture (no. 2) Speaker: Ulrich Lüttge	Plenary lecture (no. 7) Speaker: Peter Hedden	
12:00	Plenary lecture (no. 3) Speaker: Pawel Sowiński	Plenary lecture (no. 8) Speaker: Fulai Liu	
13:00	Plenary lecture (no. 4) Speaker: Joanna Deckert	Plenary lecture (no. 9) Speaker: Xiangnan Li	
	LUNCH	LUNCH	SESSION 7 General Discussion Young Scientists Awards
14:00	SESSION 3 (14:00 – 17:45) Young Scientists Competition (Oral presentation)	Sponsors presentations SESSION 5A and 5B (15:15-17:30) Oral presentations	LUNCH
15:00	Presentations no. 1 to 13 (see page 7)	Aula Danek Aud. Presentations Presentation 5A/1-8 5B/1-8 (see page 8) (see page 8)	
16:00			
17:00			
18:00	POSTER SESSION “A” Young Scientists Competition (Posters no from 1 to 43 see pages: 9-11)		
19:00			
20:00		CONFERECE DINNER	

September 12 th	WEDNESDAY
8:00-9:45	Registration desk is open (Cracow - Podchorążych st. no. 2)
9:45-10:00 AULA	Conference opening: Zbigniew Miszalski and Maciej T. Grzesiak
10:00-11:00	PLENARY SESSION 1 - Chair: Joanna Deckert (AULA)
10:00- 10:10	Joanna DECKERT "Professor Edward A. Gwózdź - a nestor of research on plant stress biology of Poznań"
10:10- 10:50	Edward A. GWÓZDŹ "Plant Responses to the Environment: perception, communication, memory"
10:50- 11:00	Comments and discussion
11:00 – 14:45	PLENARY SESSION 2 - Chair: Janusz Zwiazek (DANEK AUD.)
11:00- 11:40	Ulrich LÜTTGE "Environmental Stress: Avoidance, Adaptation and Acclimation by Plants in the Dynamics of Vegetation Islands on Sand Plains"
11:40-12:20	Paweł SOWINSKI "Molecular mechanisms of maize response to cold"
12:20-12:30	COFFEE BREAK
12:30-13:10	Joanna DECKERT "The impact of cadmium on soybean - signaling, response and recovery" J. Deckert., J. Chmielowska-Bąk
13:10- 14:00	LUNCH
14:00 – 19:00 DANKA AUD.	PLENARY SESSION 3 Chair: Hanna Bandurska; Balazs Barna; Wladyslaw Filek Young Scientists Competition - Oral presentations
14:00-14:15	N. Hordyńska. "Morphological and molecular response of wheat (<i>Triticum aestivum</i>) to drought stress at different temperature". Natalia Hordyńska, Maciej T. Grzesiak, Stanisław Grzesiak, Magdalena Szechyńska-Hebda
14:15-14:30	A.A.Egorova. "Genetic control of resistance to golden potato cyst nematode <i>Globodera rostochiensis</i> in potato plants <i>Solanum phureja</i> " A.A. Egorova, N.A. Shmakov, S.V. Gerasimova, G.V. Vasilyev, N.V. Shatskaya, K.V. Strygina, D.A. Afonnikov, A.V. Kochetov
14:30-14:45	M. Hornyák. Influence of environmental factors on seed yield of common buckwheat (<i>Fagopyrum esculentum</i> Moench). M. Hornyák, A. Słomka, P. Kopeć, M. Dziurka, K. Sychta, F. Dubert, J. Pastuszak, A. Płazek
14:45-15:00	M. Kovalenko. The chitinase and 1,3-β-glucanase activity of wheat (<i>Triticum aestivum</i> L.) and emmer (<i>Triticum dicoccum</i> Schrank ex Schübl.) under osmotic stress. M. Kovalenko, Z. Gregorová, I. Matušiková
15:00-15:15	J. Nawrocka. Involvement of reactive oxygen species (ROS), reactive nitrogen species (RNS) and volatile organic compounds (VOC) in induction of cucumber resistance by <i>Trichoderma atroviride</i> TRS25 against disease caused by <i>Rhizoctonia solani</i> . J. Nawrocka, K. Szymczak, A. Gromek, M. Szczech, U. Małolepsza
15:15-15:30	J. Patel. Biofortification of sprouts with zinc and iron often lacking in human diets. J. Patel, A. Baran
15:30-15:45	N.S. Repkina. Wheat response to cadmium under normal, low and high temperatures. N.S. Repkina, A.A. Ignatenko, V.V. Talanova
15:45-16:00	M.Skwarek. Involvement of reactive nitrogen species (RNS) and volatile organic compounds (VOC) emission in <i>Quercus robur</i> L. leaves against biotrophic pathogen (<i>Erysiphe alphitoides</i>) infection M.Skwarek, K. Szymczak, A. Witczak, J. Patykowski
16:00-16:15	K. Sychta. Zinc and lead accumulation in suspended cells of metallicolous and non-metallicolous <i>Viola</i> species and metal distribution in cell structures. Klaudia Sychta, Aneta Słomka, Szymon Suski, Elżbieta Kuta
16:15-16:30	O.S. Sinenko Acclimation reactions of barley mesophyll cells to short-term temperature stress: ontogenetic aspect O.S. Sinenko, M.G. Maleva, D. Latowski, I.S. Kiseleva, K. Strzałka
16:30-16:45	A. Woźniak. The influence of lead on generation of signaling molecules and accumulation of flavonoids in pea seedlings in response to pea aphid infestation. A. Woźniak, K. Drzewiecka, J. Kęsy, Ł. Marczak, Waldemar Bednarsk, Renata Rucińska-Sobkowiak, I. Morkunas.
16:45-17:00	K. Zieliński. Programmed cell death (PCD) and androgenesis induction in rye (<i>Secale cereale</i> L.). K. Zieliński, M. Krzewska, A. Nowicka, K. Juzoń, I. Żur, E. Dubas
17:00-17:15	M. Vaziriyeganeh Aquaporins contribute to salt tolerance of halophytic grasses. J.J. Zwiazek
17:15-17:30	N. Klajn The effect of drought on the expression of genes regulating the seed filling phase (PKL, ABI3) in yellow lupine (<i>Lupinus luteus</i>). W. Wojciechowski, P. Glazińska, J. Kęsy
17:30-17:45	P. Staszek Induction of oxidative stress as canavanine indirect mode of action. U. Krasuska, A. Gniazdowska
17:45 – 19:00 AULA	POSTER SESSION „A” Poster number from 1 to 43 Young Scientists Competition - Poster presentations

September 13 th	THURSDAY	
8:00-9:45 AULA	POSTER SESSION "B" Poster number from 44 to 74	
DANEK AUD.	PLENARY SESSION 4 Chair: (Maria Müller/Ulrich Luttge)	
10:00-10:40	<u>Hanna BANDURSKA</u> . Plant resistance to abiotic stress factors. What does it mean today? <i>H. Bandurska, M. Kozłowska</i>	
10:40- 11:20	<u>Janusz J. ZWIAZEK</u> . Role of aquaporins in plant responses to root hypoxia <i>J.J. Zwiazek, X. Tan, H. Xu, S. Khan, M.A. Equiza, S.H. Lee, M. Vaziriyeganeh</i>	
11:20:11:35	COFFEE BREAK	
11:35- 12:15	<u>Peter. HEDDEN</u> . The role of hormone signaling in plant responses to soil drying: focus on gibberellin. <i>E. Colebrook, M. Coelho Filho, Y. Li, D. Lloyd, S. Thomas, A. Phillips, W. R. Whalley, P. Hedden</i>	
12:15- 12:55	<u>Fulai LIU</u> . Modulation of stomatal response by elevated atmospheric CO ₂ concentration in plants under drought stress. <i>Fulai Liu</i>	
12:55 – 13:35	<u>Xiangnan LI</u> . Induction of cold tolerance by priming and stress memory in crops. <i>Xiangnan Li, Fengbin Song, Fulai Liu, Xingyuan He</i>	
13:35- 14:35	LUNCH	
14:45-15:15	TIME FOR SPONSORS	
	SESSION 5A (AULA) Chair: Marian Saniewski	SESSION 5B (Danek Aud.) Chair: Fulai Liu
15:15- 15:30	<i>C. M. Correia et al.</i> Salicylic acid increases drought adaptability of olive trees by changes on redox status and ionome	<i>A. Nosalewicz et al.</i> . Plant response to drought and accompanied abiotic stresses
15:30-15:45	<i>M.Dziurka et al.</i> Hormonal control of thermal induction of flowering in winter wheat: Can one catch them all?	<i>A. Nowicka et al.</i> Chemically-induced DNA de-methylation modify the effectiveness of androgenesis in isolated microspore cultures of winter triticale (<i>×Triticosecale</i> Wittm.).
15:45-16:00	<i>E. Niewiadomska</i> . Effects of tocopherol deficiency on photosynthetic electron transport under low light	<i>M.Paterska et al.</i> . The profile of volatile compounds in leaves of <i>Aesculus</i> individuals differing in susceptibility to <i>Cameraria ohridella</i> Deschka&Dimić
16:00-16:15	<i>P. Kopeć et al.</i> Changes in the barley leaf proteome during drought stress	<i>E. Pers-Kamczyc</i> . Transcriptome analysis of female and male <i>Taxus baccata</i> L. under different nutritional regimes
16:15-16:30	COFFEE BREAK	
16:30-16:45	<i>P. Kaszycki et al.</i> . The response of selected macrophytes to chromate stress: proteomic studies	<i>P. Robakowski et al.</i> . Regulated water deficit in forest nurseries.
16:45-17:00	<i>A. Kostecka-Gugala</i> . Electrophoretic protein profiling of <i>Mesembryanthemum crystallinum</i> under environmental stress	<i>M.D.H.J. Senavirathna</i> . The electric potential of <i>Nicotiana Benthamiana</i> affected by microwave exposure
17:00-17:15	<i>H.Malinska et al.</i> <i>Miscanthus x giganteus</i> in marginal soils, stress response and biomass production in context of genetic features	<i>Ł.Wojtyła et al.</i> Seed priming as a strategy to overcome abiotic stresses during germination
17:15- 17:30	<i>N.A.Mansour et al.</i> Ultrastructural Changes of <i>In Vitro</i> Regenerated Salt-Stressed Potato Calli and Antioxidant Roles of Rosmarinic Acid in Stress Tolerance Mechanisms	<i>K.M. Tokarz et al.</i> Response of <i>Plumbago zeylanica</i> L. to Pb in <i>in-vitro</i> : physiological study
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September 14 th	FRIDAY
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DANEK AUD.	PLENARY SESSION 6 Chair: Maciej T. Grzesiak /Peter Hedden
9:45-10:25	<i>Balazs BARNA</i> . The effect of senescence or juvenility of plants on their resistance/tolerance to pathogens.
10:25- 11:05	<i>Maria MÜLLER</i> . Compartment specific distribution of glutathione and ascorbate and their dynamic changes in plants under different environmental conditions. G. Zellnig, B. Zechmann
11:05- 11:45	<i>Wojciech BĄBA</i> . Chlorophyll <i>a</i> Fluorescence: Past–Present–Future. H.M. Kalaji, A. Kampała –Bąba
11:45- 12:00	COFFEE BREAK
12:00- 12:40	<i>Kenji YAMADA</i> . Brassicaceae plants specifically developed chemical defense system based on ER bodies.
12:40-13:20	<i>Shino GOTO-YAMADA</i> . The quality control mechanisms on plant peroxisomes. K. Oikawa, K. Sieńko, S. Mano, M. Nishimura, K. Yamada
13:20- 14:00	PLENARY SESSION 7 Chairs: Zbigniew Miszalski & Maciej T. Grzesiak Closing of the conference General discussion and comments Young Scientist Awards
14:00 – 15:00	LUNCH

PLENARY LECTURE

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2	<i>Joanna Deckert</i>	The impact of cadmium on soybean - signaling, response and recovery. <i>J. Deckert</i> , J. Chmielowska-Bąk	14
4	<i>Hanna Bandurska</i>	Plant resistance to abiotic stress factors. What does it mean today? <i>Hanna Bandurska</i> , Monika Kozłowska	11
4	<i>Janusz J. Zwiazek</i>	Role of aquaporins in plant responses to root hypoxia <i>J.J. Zwiazek</i> ; X. Tan, H. Xu, S. Khan, M.A. Equiza, S.H. Lee, M. Vaziriyeganeh	24
4	<i>Peter Hedden</i>	The role of hormone signaling in plant responses to soil drying: focus on gibberellin. E. Colebrook, M. Coelho Filho, Y. Li, D. Lloyd, S. Thomas, A. Phillips, W. R. Whalley, <i>P. Hedden</i>	17
4	<i>Fulai Liu</i>	Modulation of stomatal response by elevated atmospheric CO₂ concentration in plants under drought stress.	18
4	<i>Xiangnan Li,</i>	Induction of cold tolerance by priming and stress memory in crops. <i>Xiangnan Li</i> , Fengbin Song, Fulai Liu, Xingyuan He	22
6	<i>Balazs Barna</i>	The effect of senescence or juvenility of plants on their resistance/tolerance to pathogens.	12
6	<i>Maria Müller</i>	Compartment specific distribution of glutathione and ascorbate and their dynamic changes in plants under different environmental conditions. <i>M. Müller</i> , G. Zellnig, B.Zechmann	20
6	<i>Wojciech Bąba,</i>	Chlorophyll <i>a</i> Fluorescence: Past–Present–Future. Hazem M. Kalaji, Agnieszka Kompała-Bąba	13
6	<i>Kenji Yamada</i>	Brassicaceae plants specifically developed chemical defense system based on ER bodies	23
6	<i>Shino Goto-Yamada</i>	The quality control mechanisms on plant peroxisomes. Kazusato Oikawa, Katarzyna Sieńko, <i>Shino Goto-Yamada</i> , Shoji Mano, Mikio Nishimura, Kenji Yamada	15

YOUNG SCIENTISTS COMPETITION

ORAL PRESENTATION

SESSION 2 (14:00 -17:00, September 12th. DANEK AUDYTORIUM)

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2	<i>A.A.Egorova</i>	Genetic control of resistance to golden potato cyst nematode <i>Globodera rostochiensis</i> in potato plants <i>Solanum phureja</i>	25
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6	<i>J. Nawrocka</i>	Involvement of reactive oxygen species (ROS), reactive nitrogen species (RNS) and volatile organic compounds (VOC) in induction of cucumber resistance by <i>Trichoderma atroviride</i> TRS25 against disease caused by <i>Rhizoctonia solani</i>.	29
7	<i>N.S. Repkina</i>	Wheat response to cadmium under normal, low and high temperatures.	31
8	<i>M.Skwarek</i>	Involvement of reactive nitrogen species (RNS) and volatile organic compounds (VOC) emission in <i>Quercus robur</i> L. leaves against biotrophic pathogen (<i>Erysiphe alphitoides</i>) infection	32
9	<i>K.Sychta</i>	Zinc and lead accumulation in suspended cells of metallicolous and non-metallicolous <i>Viola</i> species and metal distribution in cell structures	33
10	<i>M. Vaziriyeganeh</i>	Aquaporins contribute to salt tolerance of halophytic grasses.	34
11	<i>A. Woźniak</i>	The influence of lead on generation of signaling molecules and accumulation of flavonoids in pea seedlings in response to pea aphid infestation	35
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13	<i>O.S. Sinenko</i>	Acclimation reactions of barley mesophyll cells to short-term temperature stress: ontogenetic aspect	37
14	<i>N. Klajn</i>	The effect of drought on the expression of genes regulating the seed filling phase (<i>PKL</i>, <i>ABI3</i>) in yellow lupine (<i>Lupinus luteus</i>).	74
15	<i>P. Staszek</i>	Induction of oxidative stress as canavanine indirect mode of action. U. Krasuska, A. Gniazdowska	92

ORAL PRESENTATION

SESSION 5A (AULA) and SESSION 5B (DANKA AUDYTORIUM)

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5A/3	<i>H. Eskandari</i>	Ultrastructural Changes of <i>In Vitro</i> Regenerated Salt-Stressed Potato Calli and Antioxidant Roles of Rosmarinic Acid in Stress Tolerance Mechanisms.	41
5A/5	<i>P. Kaszycki</i>	The response of selected macrophytes to chromate stress: proteomic studies.	42
5A/4	<i>P. Kopeć</i>	Changes in the barley leaf proteome during drought stress.	43
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5A/7	<i>H. Malinská</i>	<i>Miscanthus x giganteus</i> in marginal soils, stress response and biomass production in context of genetic features.	47
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5B/3	<i>M. Paterska</i>	The profile of volatile compounds in leaves of <i>Aesculus</i> individuals differing in susceptibility to <i>Cameraria ohridella</i> Deschka & Dimić.	51
5B/4	<i>E. Pers-Kamczyc</i>	Transcriptome analysis of female and male <i>Taxus baccata</i> L. under different nutritional regimes.	52
5B/5	<i>P. Robakowski</i>	Regulated water deficit in forest nurseries.	53
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POSTER SESSION A – YOUNG SCIENTISTS COMPETITION

AULA (September 12th 17:00-19:00)

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1	Glutathione metabolism in roots of tomato seedlings exposed to phytotoxic action of <i>meta</i>-tyrosine <u>O. Andrzejczak</u> , P. Staszek, U. Krasuska, K. Ciacka, A. Gniazdowska	57
2	Alteration of redox potential in the roots of <i>Arabidopsis glutathione peroxidase-like</i> mutants under salt stress. <u>K. Bela</u> , R. Riyazuddin, E. Horváth, Á. Gallé, Á. Hurton, S.A.K. Bangash, F. Ayaydin, J. Csiszár	58
3	Metabolite profile changes in pea seedlings during the reaction to short-term cold stress <u>M. Ciak</u> , J. Szablińska, L.B. Lahuta	59
4	The role of reactive oxygen species and cyclic nucleotides in plant defence responses against mechanical wounding of <i>Brachypodium distachyon</i> <u>M.Duszyn</u> , B.Świeżawska, K. Jaworski, A. Szmidt-Jaworska	60
5	Cell selection of copper tolerant white clover for phytoremediation. <u>Ermoshin A.A.</u> , I.S.Kiseleva	61
6	Physiological and biochemical grounds of sweet briar rose (<i>Rosa rubiginosa</i> L.) expansion into drylands <u>J. Gadzinowska</u> , B. Pawłowska, A. Ostrowska, K. Hura, T Hura	62
7	The endo- and exogenous regulation of somatic embryogenesis in the tree fern <i>Cyathea delgadii</i> Sternb. - the influence of sucrose <u>M. Grzyb</u> , W.Tomaszewicz, J.Rybczyński, A. Mikuła	63
8	Selection of wheat (<i>Triticum easativum</i> L.) genotypes for biomass, grain yield and physiological traits to improve drought tolerance. N.Hordyńska, A. Noga A., P.Szczyrek, MT.Grzesiak,,S. Grzesiak S., M. Szechyńska-Hebda M.	64
9	Hormonal changes related to the induction of microspore embryogenesis in winter triticale (<i>×Triticosecale</i> Wittm.) <u>K. Juzoń</u> , A. Nowicka, L. Plačková, K. Doležal, P. Kopeć, M. Krzewska, E. Dubas, E. Surówka, I. Žur.	65
10	The role of osmotic adjustment in chilling temperature tolerance of sorghum seedlings <u>K. Kaczanowska</u> , F. Janowiak, B. Saman, R. Snowdon	66
11	Effect of jasmonic acid on <i>Taraxacum pienenicum</i> cold tolerance after synseeds slow-growth storage <u>M. Kamińska</u> , A. Trejgell	67
12	The mutation disrupting the wax layer formation impact on rye near-isogenic lines subjected to drought stress <u>K. Kapłoniak</u> , A. Noga, M.Dziurka, B.Myśków, I. Czyczyło-Mysza	68
13	Effect of selenium on the resistance of lettuce (<i>Lactuca sativa</i>) to biotic stress <u>P. Kejna</u> , M. Olszewska, E. Kuźniak	69

14	Expression analysis of genes involved in ethylene synthesis induced by oxygen deprivation stress in tomato (<i>Solanum lycopersicum</i> L.) <u>K. Keška</u> , M. Czernicka, M. Dziurka	70
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