



Plant Autophagy: Improving Crop and Energy Production

TRANSAUTOPHAGY COST-CA 15138
Second Meeting of Working Group 3



23th-24th March, 2017, CIB-CSIC, Madrid, Spain

SCIENTIFIC PROGRAM



ORGANIZING COMMITTEE

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MEETING WEBSITE:

<http://cost-transautophagy.eu/2016/11/08/second-meeting-of-wg3-plant-autophagy-improving-crop-and-energy-production>

PROGRAM AT A GLANCE

Thursday, March 23		Friday, March 24	
9:00	Welcome	9:00	Session 4: <i>Autophagy in development</i>
9:15	Keynote Lecture: <u>Richard Vierstra</u>		
10:00	Session 1: <i>The molecular machinery of autophagy (Part A)</i>	10:00	Session 5: <i>Autophagy in metabolism and abiotic stress (Part A)</i>
10:30	COFFEE BREAK and POSTERS	10:30	COFFEE BREAK and POSTERS
11:15	Session 1: <i>The molecular machinery of autophagy (Part B)</i>	11:00	Invited Lecture: <u>José-Pío Beltrán</u>
12:15	Session 2: <i>Autophagy and plant-pathogen interactions (Part A)</i>	11:45	Session 5: <i>Autophagy in metabolism and abiotic stress (Part B)</i>
12:45	LUNCH	12:30	Closing remarks
14:15	Invited Lecture: <u>Peter Bozhkov</u>	13:00	LUNCH
15:00	Session 3: <i>Biotechnological applications: nanotechnology, biofuel and bioproducts from plants and algae</i>		
16:15	COFFEE BREAK and POSTERS		
17:00	Session 2: <i>Autophagy and plant-pathogen interactions (Part B)</i>		
17:30	Open Discussion: WG3 Agenda		

DETAILED PROGRAM

THURSDAY, MARCH 23	
9:00-9:15	Welcome
9:15-10:00	Keynote Lecture <u>Richard D. Vierstra</u> (Washington, USA) <i>Autophagy, the Master of Selective Recycling</i>
10:00-10:30	SESSION 1: The molecular machinery of autophagy (Part A) Chairpersons: Agnieszka Sirko and José L. Crespo
10:00-10:15	José L. Crespo (Sevilla, Spain) <i>A current view of autophagy in the model unicellular green alga Chlamydomonas reinhardtii</i>
10:15-10:30	Yasin F. Dagdas (Vienna, Austria) <i>Quantitative proteomics and structure guided domain shuffling reveals functional specialization of ATG8 gene family in plants</i>
10:30-11:15	COFFEE BREAK and POSTERS
11:15-12:15	SESSION 1: The molecular machinery of autophagy (Part B) Chairpersons: Agnieszka Sirko and José L. Crespo
11:15-11:30	Erika Isono (Konstanz, Germany) <i>Regulation of autophagic- and endocytic protein degradation by ESCRT and ESCRT-related proteins</i>
11:30-11:45	Vedrana Markovic (Prague, Czech Republic) <i>Autophagy related import of phytochemicals to the vacuole</i>
11:45-12:00	Agnieszka Sirko (Warsaw, Poland) <i>Ectopic expression of AtNBR1, a gene encoding selective autophagy cargo receptor results in significant changes of Arabidopsis transcriptome</i>
12:00-12:15	Hadas Peled- Zehavi (Rehovot, Israel) <i>On the road to the vacuole: studying the autophagy-related delivery of the AT11 cargo receptor to the vacuole</i>
12:15-12:45	SESSION 2: Autophagy in plant-pathogen interactions (Part A) Chairpersons: Núria S. Coll and Daniel Hofius
12:15-12:30	Tolga O. Bozkurt (London, UK) <i>Dissecting the molecular mechanisms of defence-related selective autophagy</i>
12:30-12:45	Anders Hafren (Uppsala, Sweden) <i>Selective autophagy restricts potyvirus infection and is antagonized by a viral protein</i>
12:45-14:15	LUNCH
14:15-15:00	Invited Lecture <u>Peter Bozhkov</u> (Uppsala, Sweden) <i>Plants with Enhanced Autophagy: Methods and Phenotypes</i>

15:00-16:15	SESSION 3: Biotechnological applications: nanotechnology, biofuel and bioproducts from plants and algae Chairperson: Richard D. Vierstra and Ricardo Ibarra
15:00-15:20	Alicia Prieto (Madrid, Spain) <i>From plants to biofuels and bioproducts: the role of biocatalysis in the sustainable exploitation of plant biomass</i>
15:20-15:40	Federico Witt (Algaenergy , Alcobendas, Spain) <i>CO₂ biofixation from industrial flue gases into microalgal biomass and its transformation into commercial products</i>
15:40-16:00	Clara Marquina (Zaragoza, Spain) <i>Magnetic nanoparticles for life-sciences applications</i>
16:00-16:15	Gonzaga Ruiz de Gauna (Madrid, Spain) <i>BIOVEGEN – Spanish Technological Platform for Plant Biology</i>
16:15-17:00	COFFEE BREAK and POSTERS
17:00-17:30	SESSION 2: Autophagy in plant-pathogen interactions (Part B) Chairpersons: Núria S. Coll and Daniel Hofius
17:00-17:15	Suayib Üstün (Uppsala, Sweden) <i>How plant pathogenic bacteria co-opt proteolytic degradation pathways</i>
17:15-17:30	Alex Y. Leary (London, UK) <i>Functional and structural analyses of plant ATG8-RabGAP interactions</i>
17:30-19:00	OPEN DISCUSSION: WG3 AGENDA Henri Batoko and Agnieszka Sirko (WG3 Chair and Vice-chair)

FRIDAY, MARCH 24

9:00-10:00	SESSION 4: Autophagy in development Chairperson: Peter Bozhkov
9:00-9:15	Celine Masclaux-Daubresse (Versailles, France) <i>Autophagy machinery controls nitrogen remobilization to the seeds</i>
9:15-9:30	María-Carmen Risueño (Madrid, Spain) <i>Activation of autophagy and cathepsins associated with cell death during stress-induced microspore embryogenesis in barley</i>
9:30-9:45	Pernilla Elander (Uppsala, Sweden) <i>Autophagy in plant oil deposition and catabolism</i>
9:45-10:00	Victoria Sánchez-Vera (Uppsala, Sweden) <i>Autophagy is required for gamete differentiation in the moss Physcomitrella patens</i>
10:00-10:30	SESSION 5: Autophagy in metabolism and abiotic stress (Part A) Chairpersons: Cecilia Gotor and Yasin F. Dagdas
10:00-10:15	Ana M. Laureano-Marín (Sevilla, Spain) <i>Negative regulation of autophagy by sulfide is independent of reactive oxygen species in Arabidopsis</i>
10:15-10:30	Tamar Avin-Wittenberg (Jerusalem, Israel) <i>Studying the Role of Autophagy in Plant Central Metabolism</i>

10:30-11:00	COFFEE BREAK and POSTERS
11:00-11:45	Invited Lecture <u>José-Pío Beltrán</u> (Brussels, Belgium) <i>EPSO and the Promotion of Plant Science in Europe</i>
11:45-12:30	SESSION 5: Autophagy in metabolism and abiotic stress (Part B) Chairpersons: Cecilia Gotor and Yasin F. Dagdas
11:45-12:00	Salma Balazadeh (Potsdam-Golm, Germany) <i>Autophagy is critical for resetting the memory of heat stress</i>
12:00-12:15	Luisa M. Sandalio (Granada, Spain) <i>Pexophagy is an important component of cell responses to Cd on Arabidopsis plants</i>
12:15-12:30	Kamilya Kokabi (Midreshet Ben-Gurion, Israel) <i>Elucidating the role of autophagy in nutrient stress response of the microalga Lobosphaera incisa</i>
12:30-13:00	CLOSING REMARKS
13:00	LUNCH

POSTERS

Poster #	SESSION 1: The molecular machinery of autophagy
S1-P1	<u>Catarina CARDOSO</u> , Elena MININA, Stina LINDBERG, Stephanie ROBERT, Peter BOZHKO <i>Chemical Genetics of Plant Autophagy</i>
S1-P2	<u>Inmaculada COUSO</u> , M. Esther PÉREZ-PÉREZ, Yonghua HE, James G. UMEN, HeeSik KIM, José L. CRESPO <i>Ribosomal proteins are part of the autophagosome cargo under nutritional stress in the green alga Chlamydomonas reinhardtii</i>
S1-P3	<u>Ammar HASSAN</u> , František BALUŠKA <i>Arabidopsis γ-Secretase Complex is Involved in Autophagy</i>
S1-P4	Jessica MARION, Nicolas VALENTIN, Romain LE BARS, <u>Béatrice SATIAT-JEUNEMAITRE</u> <i>ATG9 roadmap in Arabidopsis cells</i>
S1-P5	<u>Marie-Kristin NAGEL</u> , Erika ISONO <i>Function of an Arabidopsis SH3 domain containing protein in intracellular trafficking</i>
S1-P6	<u>Anna NIEMIRO</u> , Anna WAWRZYŃSKA, Agnieszka SIRKO <i>Possible role of AtNBR1 in pexophagy in plants</i>
S1-P7	<u>M. Esther PÉREZ-PÉREZ</u> , Stéphane LEMAIRE, José L. CRESPO <i>Control of autophagy in Chlamydomonas is mediated through redox-dependent Inactivation of the ATG4 Protease</i>
S1-P8	<u>Leszek TARNOWSKI</u> , Milagros COLLADOS-RODRIGUEZ, Agnieszka SIRKO <i>Relations Between AtNBR1 and TOR Kinase in Sulfur or Nitrogen Starvation</i>
S1-P9	<u>Anna WAWRZYŃSKA</u> , Agnieszka SIRKO <i>Transcript profiles of selected genes encoding proteins of the ubiquitination pathway during sulfur deficiency stress in Arabidopsis</i>
S1-P10	<u>Jian WU</u> , Hadas PELED-ZEHAVI, Wenyi WANG and Gad GALILI <i>Identification of AT12 Protein Interactors Suggest Additional Functions for ATI Family Proteins</i>
Poster #	SESSION 2: Autophagy in plant-pathogen interactions
S2-P1	Crina POPA, Liang LI, Sergio GIL, Laura TATJER, M. TABUCHI, Joaquín ARIÑO, Marc VALLS, <u>Núria S. COLL</u> <i>The effector AWR5 from the plant pathogen Ralstonia solanacearum is an inhibitor of the TOR signalling pathway</i>
S2-P2	<u>Pooja PANDEY</u> , Margot GONTHIER-MAURIN, Nattapong SANGUANKIATTICHAJ, Yasin DAGDAS, Cian DUGGAN, S. KAMOUN, T. BOZKURT <i>RXLR effector PexRD54 couples host cellular transport components to autophagic compartments to stimulate autophagosome biogenesis and haustorial transport</i>
S2-P3	<u>Serena TESTI</u> , Marie-Line KUHN, Pascaline AUROY, Fantao KONG, Gilles PELTIER, Nathalie ZUCCINI-PASCAL, Harald KELLER, Franck PANABIÈRES <i>Secreted Avh195 from the oomycete plant pathogen Phytophthora parasitica deregulates autophagy in distant eukaryotic lineages</i>
S2-P4	<u>Yasin TUMTAS</u> , Yasin DAGDAS, Sophien KAMOUN, Tolga BOZKURT <i>Autophagy Cargo Receptor Joka2 associates with Defense and Signaling Components During Pathogen Attack</i>
S2-P5	<u>Erin ZESS</u> , Yasin DAGDAS, Abbas MAQBOOL, Tolga O BOZKURT, Ronny KELLNER, Mark BANFIELD, Sophien KAMOUN <i>The evolution of selective autophagy subversion in closely related species of the plant pathogen Phytophthora</i>

Poster #	SESSION 4: Autophagy in development
S4-P1	<u>Ivett BÁRÁNY</u> , María-Teresa SOLÍS, Eduardo BERENGUER, Elena MININA, Estrella SANTAMARÍA, José-Luis CRESPO, Isabel DÍAZ. María C. RISUEÑO, Peter BOZHKOV, Pilar S. TESTILLANO <i>Induction of autophagy, metacaspase and cathepsin activities during developmental PCD of tapetum</i>
S4-P2	<u>Eduardo BERENGUER</u> , María-Teresa SOLÍS, Yolanda PÉREZ-PÉREZ, Elena MININA, María C. RISUEÑO, Peter BOZHKOV, Pilar S. TESTILLANO <i>Metacaspases and autophagy are induced in microspore embryogenesis of Brassica napus</i>
S4-P3	<u>Qinwu CHEN</u> , Fabienne SOULAY, Marien HAVÉ, Anne MARMAGNE, Céline MASCLAUX-DAUBRESSE <i>Role of autophagy in nitrogen remobilization and adaptation to environment in plants</i>
S4-P4	Omar LÓPEZ-VIDAL, Nieves CALERO, Ana ORTIZ-ESPÍN, Adela OLMEDILLA, Luisa María SANDALIO, Francisca SEVILLA, <u>Ana JIMÉNEZ</u> <i>Is autophagy involved in pepper fruit ripening regulating mitochondrial and peroxisomal population?</i>
S4-P5	Julien DI BERARDINO, <u>Anne MARMAGNE</u> , Céline MASCLAUX-DAUBRESSE, Michèle REISDORF-CREN <i>Study of autophagy during seed development in Arabidopsis thaliana</i>
S4-P6	Justyna J. OLAS, Hoda TAHERI SEDEH, Mastoureh SEDAGHATMEHR, Salma BALAZADEH, <u>Bernd MUELLER-ROEBER</u> <i>Role of autophagy in the maintenance of the SAM upon heat stress</i>
Poster #	SESSION 5: Autophagy in metabolism and abiotic stress
S5-P1	<u>Guillermo BAENA</u> , Clara DE LA OSA, Ana Belén FERIA, Cristina ECHEVARRÍA, José Antonio MONREAL, Sofía GARCÍA-MAURIÑO <i>Expression markers of autophagy in sorghum</i>
S5-P2	Patricia CORRAL-MARTINEZ, Carolina CAMACHO-FERNANDEZ, Verónica PARRA-VEGA, Jose Maria SEGUÍ-SIMARRO, <u>Kim BOUTILIER</u> <i>A Role for Autophagy in Microspore Embryogenesis</i>
S5-P3	<u>Carolina CAMACHO-FERNÁNDEZ</u> , Patricia CORRAL-MARTÍNEZ, Verónica PARRA-VEGA, Kim BOUTILIER, Jose M. SEGUÍ-SIMARRO <i>Induction of autophagy by tunicamycin and trichostatin A in S. melongena L. and B. napus L. microspore cultures</i>
S5-P4	<u>Flor MARTINEZ</u> , Ángel BARON-SOLA, Raul PASTOR, Ana PÚA, Elena GONZÁLEZ, David BAUTISTA, Claudia HOLGUERAS, María ARANA, Carlos M. CONESA, Cristina ORTEGA-VILLASANTE, Luis E. HERNANDEZ <i>Low concentrations of heavy metal(oid)s activate autophagy traits in Chlamydomonas reinhardtii</i>
S5-P5	<u>Jose M. SEGUÍ-SIMARRO</u> , Patricia CORRAL-MARTÍNEZ, Verónica PARRA-VEGA, Alba RIVAS-SENDRA <i>Ultrastructural evidences of autophagy during induction of microspore embryogenesis</i>