The XI International Symposium on the Plant Hormone
Ethylene
June 2-6, 2018, C$_2$H$_4$ANIA, Crete, GREECE

PROGRAM

Conveners of ETHYLENE2018
Angelos K. Kanellis, Mondher Bouzayen, Panagiotis Kalaitzis

Conference Center of the Mediterranean Agronomic Institute
of Chania, Crete, GREECE
The XI International Symposium on the Plant Hormone Ethylene
June 2-6, 2018, C2H4ANIA, Crete, GREECE
PROGRAM

June 2, 2018

16:00-18:30 Registration

18:30-18:40: Angelos K. Kanellis, Mondher Bouzayen, Panagiotis Kalaitzis
Introduction to the Symposium

Opening Talk

18:40-19:20 Caren Chang (invited talk)
(University of Maryland, College Park, USA)

Past, Present and Future: New signaling roles for EIN2 and ACC

TOPICS, CHAIRPERSONS AND INVITED SPEAKERS

I. History and important steps in ethylene biology and biotechnology
   (Don Grierson, Mark Tucker)

19:20-19:30 Introduction by Chairs

19:30-19:55 Don Grierson (invited talk)
(Zhejiang University, Hangzhou, PR China
University of Nottingham, Sutton Bonington, UK)

Ethylene: Old & New- What’s left to discover & where should we look?

19:55-20:20 Jean Claude Pech (invited talk)
(University of Toulouse, Toulouse, France)

The pantheon of ethylene biologists

THE WINE OF CRETE

20:20-20:40 Stefanos Koundouras (invited talk)
Aristotle University of Thessaloniki, Thessaloniki, Greece

The vineyards and wines of Crete

20:40-23:00 Wine Tasting and Welcome Reception
June 3, 2018

II. Ethylene Biosynthesis, Signal Transduction and Responses
(Julien Pirrello, Caren Chang)

08:30-08:35  Introduction by Chairs

08:35-09:00  Brad Binder (invited talk)
(University of Tennessee, Knoxville, USA)

Unconventional Ethylene Receptor Signaling

09:00-09:25  Julien Pirrello (invited talk)
(Université de Toulouse, INRA, Castanet-Tolosan, France)

Ethylene Response Factors: key regulators of ethylene-related ripening process

09:25-09:50  Hong Qiao (invited talk)
(University of Texas, Austin, USA)

Transcriptional repression in ethylene response

09:50-10:05  Ranran Zhang (selected talk)
(Chinese Academy of Sciences, Shanghai, China)

A Conserved role of Arabidopsis ECR1 and human tumor suppressor HsECR1 in translational control of ctr1-10

10:05-10:20  Wangshu Mou (selected talk)
(Zhejiang University, University of Maryland, College Park, USA)

The ethylene precursor, ACC, is an extracellular cue in the guidance of pollen tubes toward ovules in Arabidopsis thaliana

10:20-10:50  Coffee Break

II. Ethylene Biosynthesis, Signal Transduction and Responses
(Julien Pirrello, Caren Chang) continued

10:50-11:05  Christian Chervin (selected talk)
(Toulouse INP/ENSAT/INRA, Castanet-Tolosan, France)

Study of the seven ethylene receptor proteins over the tomato fruit ripening by targeted mass spectrometry, in wild type and Never Ripe backgrounds
A systematic approach for dissecting the mechanisms of EIN3-dependent regulation of ethylene response in *Arabidopsis thaliana*.

### III. Ethylene in Reproductive Growth-Development and Fruit Ripening (James Giovannoni, Mondher Bouzayen)

**11:20-11:25** Introduction by Chairs

**11:25-11:50** James Giovannoni (invited talk)  
(USDA-ARS, Boyce Thompson Institute for Plant Research, Cornell University, Ithaca, USA)  
Ethylene and the cascade of ripening control

**11:50-12:15** Mondher Bouzayen (invited talk)  
(Ecole Nationale Supérieure Agronomique, UMR, INRA-INP/ENSAT Castanet-Tolosan, France)  
The network of hormone signaling underlying fruit ripening: allies and opponents

**12:15-12:40** Silin Zhong (invited talk)  
(The Chinese University of Hong Kong, Hong Kong, China)  
Lesson from the fruitENCODE project: is tomato the right model to study ethylene dependent fruit ripening?

**12:40-12:55** Robert Schaffer (selected talk)  
(Plant & Food Research Ltd, Motueka, New Zealand)  
Dissecting the ethylene ripening response in apples

**12:55-13:10** Yanwei Hao (selected talk)  
(South China Agriculture University, Guangzhou, China,)  
Transcriptional co-repressor SlTPL3 regulates tomato fruit development and ripening

**13:10-14:30** Lunch
IV. Ethylene in Vegetative Growth-Development  
(George Eric Schaller, Jose Alonso)

14:30-14:35 Introduction by Chairs

14:35-15:00 George Eric Schaller (invited talk)  
(Dartmouth College, Hanover, USA)

Ethylene signal transduction and the regulation of cell proliferation

15:00-15:25 Jose Alonso (invited talk)  
(North Carolina State University, Raleigh, USA)

From ethylene signaling to translation regulation

15:25-15:50 Gloria Muday (invited talk)  
(Wake Forest University, Winston Salem, USA)

ETR1-dependent root development and transcriptional responses in light grown Arabidopsis seedlings

15:50-16:05 Carolin Seyfferth (selected talk)  
(Umeå Plant Science Centre, Umeå, Sweden)

PttERF85 affects cell division and growth in tree stems potentially through an effect on ribosome biogenesis

16:05-16:20 Shangwei Zhong (selected talk)  
(Peking University, China, Beijing, China)

Plant seedling soil emergence: regulation of EIN3 protein stability

16:20-16:35 Andria Harkey (selected talk) NSF Travel Awardee  
(Wake Forest University, Winston-Salem, USA)

Computational and genetic approaches to uncover ethylene transcriptional networks that regulate root development

16:35-17:00 Coffee Break

V. Cross-talk between Ethylene and other Hormones  
(Hongwei Guo, Dominique Van Der Straeten)

17:00-17:05 Introduction by Chairs

17:05-17:30 Hongwei Guo (invited talk)  
(Southern University of Science and Technology, Shenzhen, Guangdong, China)

Coordinated regulation of apical hook formation by ethylene and other signals
17:30-17:55 Dominique Van Der Straeten (invited talk)  
(Ghent University, Ghent, Belgium)

Ethylene restricts Arabidopsis growth via the epidermis

17:55-18:10 Rongfeng Huang (selected talk)  
(Chinese Academy of Agricultural Sciences, Beijing, China)

The regulation of ethylene in rice primary root elongation and salt response

18:10-18:25 Yuying Chen (selected talk)  
(Chinese Academy of Sciences, Shanghai, China)

Overexpression of an Arabidopsis histidine kinase-like protein leads to cytokinin-induced ethylene responses

18:25-18:40 Gyeong Mee Yoon (selected talk) NSF Travel Awardee  
(Purdue University, West Lafayette, USA)

Maintenance of ethylene homeostasis by brassinosteroid-mediated mutual degradation of E3 ubiquitin ligases in Arabidopsis

18:40-18:55 Livio Trainotti (selected talk)  
(University of Padova, Padova, Italy)

Peach secreted peptide hormones interact with auxin and ethylene to regulate plant development

18:55-19:10 Thomas Depaepe (selected talk)  
(Ghent University, Gent, Belgium)

The small molecule ACCERBATIN mimics the triple response phenotype and acts through disruption of auxin and ROS metabolism

19:10-20:10 Poster session

Dinner at your own
June 4, 2018

VI. Ethylene on Cell and Organ Identity Specification
(Teva Vernoux, Keith Lindsey)

08:30-08:35 Introduction by Chairs

08:35-09:00 Teva Vernoux (invited talk)
(INRA, CNRS, ENS, Universite de Lyon, Lyon, France)
Shaping a flower with hormonal signals

09:00-09:25 Keith Lindsey (invited talk)
(University of Durham, Durham, UK)
Ethylene in root growth in Arabidopsis

09:25-09:50 Abdel Bendahmane (invited talk)
(IPS2-INRA, Gif-Sur-Yvette, France)
Ethylene is a master regulator of sex determination in cucurbits

09:50-10:05 Sonia Philosoph-Hadas (selected talk)
(Agricultural Research Organization, Rishon LeZion, Israel)
Ethylene plays opposite or dual roles in various physiological processes operating in cut flowers

10:05-10:35 Coffee Break

VII. Ethylene in abiotic stresses
(Autar Mattoo, Angelos Kanellis)

10:35-10:40 Introduction by Chairs

10:40-11:05 Autar Mattoo (invited talk)
(USDA-ARS, Beltsville, USA)
Multiple interactors regulate plant response to abiotic stresses - the story of ethylene and polyamine dynamics in tomato

11:05-11:20 Bram Van de Poel (selected talk)
(KU Leuven, Leuven, Belgium)
Root hypoxia-induced epinasty is ontogenetically regulated by ethylene in tomato

11:20-11:35 Zeguang Liu (selected talk)
(Utrecht University, Utrecht, Netherlands)
The early flooding signal ethylene prepares Arabidopsis for hypoxia tolerance: mechanism and significance
VIII. Ethylene in Pathogenesis and Disease Resistance
   (Dov Prusky, Abdel Bendahmane)

11:35-11:40 Introduction by Chairs

11:40-12:05 Dov Prusky (invited talk)  
   (Agricultural Research Organization, Rishon LeTzion, Israel)
   Carbon regulation of environmental pH by secreted small molecules that modulate pathogenicity in phytopathogenic fungi

12:05-12:20 Carlew Scott (selected talk) NSF Travel Awardee  
   (University of Tennessee, Knoxville, USA)
   Elucidating the role of a newly discovered ethylene receptor in the plant growth-promoting rhizobacterium Azospirillum brasilense

12:20-12:35 Thomas Svoboda (selected talk)  
   (University of Natural Resources and Life Sciences, Tulln, Austria)
   Fusarium graminearum is able to produce ethylene, and to degrade its precursor ACC

12:35-12:50 Songkui Cui (selected talk)  
   (Nara Institute of Science and Technology, Ikoma, Japan)
   Ethylene is involved in in plant parasitism by modulating development and function of the haustorium, an invasive organ in parasitic plants

12:50-13:05 Peter Marhavy (selected talk)  
   (University of Lausanne, Lausanne, Switzerland)
   Single cell damage elicits local, nematode-restricting ethylene responses in roots

13:05-13:20 Anna Stepanova (selected talk) NSF Travel Awardee  
   (North Carolina State University, Raleigh, USA)
   A single-locus biosensor for simultaneous monitoring of multiple plant hormones

13:20-15:00 Lunch
### IX. Ethylene in Senescence and Abscission of Plant Organs
(Panagiotis Kalaitzis, Shimon Meir)

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<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker</th>
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<th>Topic</th>
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<td>15:00-15:05</td>
<td>Introduction by Chairs</td>
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<tr>
<td>15:05-15:30</td>
<td>Reidunn B. Aalen (invited talk)</td>
<td>University of Oslo, Oslo, Norway</td>
<td>Orthologues of Arabidopsis INFLORESCENCE DEFICIENT IN ABSCISSION (IDA) and its receptors promote cell separation in mature abscission zones of leaves, fruits and seeds of diverse species</td>
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<td>15:30-15:55</td>
<td>Shimon Meir (invited talk)</td>
<td>Agricultural Research Organization, Rishon LeZion, Israel</td>
<td>Ethylene is the initial inducer of organ abscission in plants</td>
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<td>15:55-16:15</td>
<td>Panagiotis Kalaitzis (invited talk)</td>
<td>Mediterranean Agronomic Institute at Chania, Greece</td>
<td>Suppression and over-expression of a prolyl 4 hydroxylase results in alterations in tomato abscission program</td>
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<td>16:15-16:35</td>
<td>Mark Tucker (invited talk)</td>
<td>USDA-ARS, Beltsville, USA</td>
<td>A study of the role of IDA-like gene expression in soybean and tomato abscission – IDA is expressed in abscission but may not be essential</td>
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<td>16:35-17:05</td>
<td>Coffee break</td>
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<tr>
<td>17:00-17:20</td>
<td>Amnon Lers (selected talk)</td>
<td>Agricultural Research Organization, Rishon LeZion, Israel</td>
<td>T2-type Ribonuclease function in ethylene associated processes</td>
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<td>17:20-17:35</td>
<td>Sara Patterson (selected talk) NSF Travel Awardee</td>
<td>University of Wisconsin, Madison, USA</td>
<td>Characterization of morphology, biochemistry and ethylene associated gene expression during fruit development in cold hardy grapes</td>
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<td>17:35-17:50</td>
<td>Zora Singh (selected talk)</td>
<td>Curtin University, Perth, Australia</td>
<td>1-Hexylcyclopropene fumigation inhibits ethylene induced abscission of floral organs in cut waxflower (Chameliaucium spp.)</td>
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<td>17:50-18:50</td>
<td>Poster session</td>
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Dinner at your own
June 5, 2018

X. Postharvest Physiology and Quality  
   (Antonio Granell, Bo Zhang)

08:30-08:35 Introduction by Chairs

08:35-09:00 Antonio Granell (invited talk)  
   (CSIC, Universitat Politècnica de València, Valencia, Spain)
   Postharvest fruit ripening and quality within the European Traditional 
   Pool of Tomato Varieties: Effect of temperature and 1-MCP

09:00-09:25 Bo Zhang (invited talk)  
   (Zhejiang University, Hangzhou, China)
   Regulation of fruit flavor during postharvest cold storage

09:25-09:40 Fabrizio Costa (selected talk)  
   (Fondazione Edmund Mach, San Michele all'Adige, Italy)
   The interference of the ethylene perception system leads to a 
   transcriptional re-programming involved in hormonal cross-talk and 
   protection to superficial scald in apples

09:40-09:55 Me-Hea Park (selected talk)  
   (National Institute of Horticultural and Herbal Science, Wanju, Korea)
   Deciphering the role of CO₂ treatment on chilling injury in tomato: 
   Effect on transcriptome profiling

09:55-10:10 Clara Mata (selected talk)  
   (KU Leuven, Leuven, Belgium)
   Transcriptomic and targeted MS proteomic quantification of the first 
   ethylene signaling elements: ethylene receptors, CTRs and EIN2 in 
   tomato fruit ripening

10:10-10:40 Coffee break

XI. Ethylene and Storage of Perishable Produce  
    (Chris B. Watkins, Jean-Claude Pech)

10:40-10:45 Introduction by Chairs

10:45-11:10 Chris B Watkins (invited talk)  
   (Cornell University, Ithaca, USA)
   To infinity (1-methylcyclopropene) and beyond!
11:10-11:35  Ron Porat (invited talk)  
(Agricultural Research Organization, Rishon LeTzion, Israel)  
Effects of the ethylene-action inhibitor 1-methylcyclopropene on postharvest quality of non-climacteric fruit

11:35-11:50  Yasutaka Kubo (selected talk)  
(Graduate School of Environmental and Life Science, Okayama University, Okayama, Japan)  
Comparative analysis of ethylene–induced and low temperature–modulated ripening in kiwifruit

11:50-12:05  Xiaoyang Zhu (selected talk)  
(South China Agricultural University, Guangzhou, China)  
Characterization of genes in ethylene signal transduction pathways in papaya fruit under various experimental conditions

12:05-12:20  Oscar W. Mitalo (selected talk)  
(Okayama University, Okayama, Japan)  
Probing the role of ethylene and low temperature in the modulation of flavedo colour change in Satsuma mandarins (Citrus unshiu Marc) fruit

12:20-13:20  Poster session

13:20-14:30  Lunch

EXCURSION in the afternoon

20:30 Gala dinner at MAICH
June 6, 2018

XII. Ethylene interplay with other hormones in controlling secondary metabolism
(Andrew Allan, Jin-Song Zhang)

08:30-08:35 Introduction by Chairs

08:35-09:00 Andrew C. Allan (invited talk)
(Plant and Food Research, Auckland, New Zealand)
An elevated anthocyanic response in apple upregulates ethylene

09:00-09:25 Avtar Handa (invited talk)
(Purdue University, West Lafayette, USA)
Transcriptional cross talk between ethylene and spermidine during tomato fruit ripening

09:25-09:50 Jin-Song Zhang (invited talk)
(Chinese Academy of Sciences, Beijing, China)
Ethylene signaling in rice - novel insights

09:50-10:15 Tahira Fatima (selected talk) NSF Travel Awardee
(Purdue University, West Lafayette, USA)
Ethylene interaction with higher-polyamines in regard to defense-related secondary metabolites demonstrated in field-grown transgenic tomato genotypes

10:15-10:30 Eleni Tsantili (selected talk)
(Agricultural University of Athens, Athens, Greece)
The ability of ethylene to regulate the concentration of phenolic compounds and textural changes in harvested olives

10:30-11:00 Coffee Break

XII. Ethylene interplay with other hormones in controlling secondary metabolism
(Andrew Allan, Jin-Song Zhang) continued

11:00-11:15 Juan Wang (selected talk)
(Chinese Academy of Agricultural Sciences, Beijing, China)
Ethylene promotes ascorbic acid biosynthesis via the regulation of \( EIN3 \) and \( ABI4 \) on \( VTC2 \) transcription
XIII. Biotechnological Control of Ethylene Action and Biosynthesis
(Hiroshi Ezura, Zhengguo Li)

11:15-11:20 Introduction by Chairs

11:20-11:45 Hiroshi Ezura (invited talk)
(University of Tsukuba, Tsukuba, Japan)

Engineering shelf life of tomato fruits via targeted mutagenesis of ethylene receptor genes by the Target-AID technology

11:45-12:10 Zhengguo Li (invited talk)
(Chongqing University, Chongqing, China)

Overexpression a single SIMYB75 could affect fruit ripening related process and flavor metabolism in transgenic purple tomato

12:10-12:35 Satoko Nonaka (invited talk)
(University of Tsukuba, Tsukuba, Japan)

Control of ethylene biosynthesis via genome editing technology in melon

12:35-12:50 Houben Maarten (selected talk)
(University of Leuven, Heverlee, Belgium)

Screening for novel regulators of ethylene biosynthesis: focusing on ACC-oxidase

12:50-13:05 Michal Karady (selected talk)
(Umeå Plant Science Centre, Umeå, Sweden)

1-aminocyclopropane-1-carboxylic acid (ACC) and other compounds profiling in plant tissues using ultra-performance liquid chromatography – tandem mass spectrometry

13:05-14:45 Lunch

XIV. Chemical Control of Ethylene Action (Bart Nicolai, Athanasios Molassiotis)

14:40-14:45 Introduction by Chairs

14:45-15:10 Bart Nicolai (invited talk)
(KU Leuven, Leuven, Belgium)

Chemical ethylene control during growth and postharvest storage of climacteric fruit: an engineering perspective
15:10-15:35  Athanasios Molasiotis (invited talk)  
(Aristotle University of Thessaloniki, Thessaloniki, Greece)  
Towards systemic view for superficial scald in apple fruit: an ethylene perspective

15:35-15:50  Namrata Pathak (selected talk)  
(Leibniz-Institut für Agrartechnik und Bioökonomie e.V., Potsdam, Germany)  
Investigation of ethylene removal in fresh produce storage using advanced oxidation methods

15:50-16:05  Marcelo Menossi (selected talk)  
(University of Campinas, Campinas, Campinas State University, Campinas, Brazil)  
Transcriptome analysis reveals hormonal regulation of Ethephon-induced ripening in field-grown sugarcane

16:10-16:40  Coffee break

16:40-17:40  GENERAL DISCUSSION AND CONCLUSION