

The 8th International Symposium on the Plant Hormone Ethylene

21st to 25th June 2009

Cornell University

Ithaca, New York, USA.

Web Site: <http://www.hort.cornell.edu/ethylene/index.html>

E-Mail: ethylene@cornell.edu

Local Organizing Committee:

- Peter Davies, Cornell University, Convener
- James Giovannoni, USDA-ARS/Boyce Thompson Institute, Cornell University
- William Miller, Cornell University
- Chris Watkins, Cornell University

Symposium Committee:

- Peter Davies, Cornell University, Chair
- David Clark, University of Florida
- Mark Dahmer, AgroFresh Inc.
- James Giovannoni, USDA-ARS/Boyce Thompson Institute, Cornell University
- Harry Klee, University of Florida
- William Miller, Cornell University
- Angelo Ramina, Università di Padova, Italy
- Sara Patterson, University of Wisconsin, Madison
- Chris Watkins, Cornell University

Registrar:

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Web Master:

- Craig Cramer, Department of Horticulture, Cornell University

Abstract booklet assembled by Caroline von Dahl, Boyce Thompson Institute, Cornell University

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**Cornell University
Ithaca, New York, USA.**

Program

Session Locations:

All talks will be delivered in **Room 233 Plant Science Building**.

In the event of construction in the Plant Science building talks will be held in room B45 Warren Hall (across the quadrangle).

Poster sessions will be held in **rooms 143 and 141** Plant Science Building.

Sunday, June 21st

PLENARY SESSION

Moderator

Peter Davies, Cornell University, USA

5:00 - 5:15 **Welcome and announcements**

5:15 - 6:15 **Donald Grierson**, University of Nottingham, UK
Ethylene, a simple molecule with a complex lifestyle

The Shang Fa Yang Memorial Lecture

6:15 - 6:45 **Christopher Watkins**, Cornell University, USA
Overview of applied ethylene biology

Evening reception with buffet dinner: 7pm hors d'oeuvres; dinner at 7:30
Biotech Building lower level (across road from Plant Science Building)

Monday, June 22nd

ETHYLENE SIGNALING AND HORMONE INTERACTIONS

Moderator

Jim Giovannoni, USDA-ARS/Boyce Thompson Institute, Cornell University, USA

8.30 - 9.00 **Jose M. Alonso**, North Carolina State University, USA

The ethylene-auxin connection: a model for signal interaction and integration

9.00 - 9.15 **Georg Groth**, Heinrich-Heine University, Germany

Molecular characterization of EIN2, a central element in plant hormone signaling

9.15 - 9.30 **Julien Pirrello**, Université de Toulouse, France

Structural features and distinctive expression patterns of tomato ERFs are the main components underlying specificity and diversity of ethylene responses.

9.30 - 9.45 **Yusuke Kamiyoshihara**, Nagoya University, Japan

Analysis of Protein Phosphatase Involved in the Post-translational Regulatory Mechanism of ACC Synthase

9.45 - 10.00 **Nigel Gapper**, Boyce Thompson Institute for Plant Research, USA

Functional characterization of SIFBOX1, a tomato FBOX protein: A novel regulator of ethylene signaling?

10.00 - 10.30 *Break*

Note: All mid-morning and mid afternoon breaks will offer coffee, tea and other beverages and light snacks will be served in a tent on the Agricultural College quadrangle, catered by Mandible café.

At all other times refreshments can be obtained on a cash basis from Mandible café, located on the ground floor of Mann Library at the east end of the quadrangle. There is a pleasant terrace with seats, level with the second floor in the SE corner of the quadrangle, accessible from both the quad and the second floor of the Plant Science Building

10.30 - 11.00 **Jim Giovannoni**, USDA-ARS/BTI, Cornell University, USA

Genetic regulation of fruit ripening and ethylene response in tomato

11.00 - 11.15 **Mondher Bouzayen**, Université de Toulouse, France

Visiting ethylene/auxin cross-talk through uncovering the role of tomato Aux/IAA3 and HOOKLESS genes in differential growth

11.15 - 11.30 **Gyeong Mee Yoon**, University of North Carolina, USA

Arabidopsis HSP40 regulates ethylene biosynthesis by altering ACS protein stability

11.30 - 11.45 **Valeriano Dal Cin**, University of Florida, USA

Identification of Solanum habrochaites QTL that affect ethylene emissions in tomato fruit

11.45 - 12.00 **Claudio Bonghi**, University of Padova, Italy

Ethylene and auxin cross-talk at veraison in grape

12.00 - 2.00 *Lunch: All lunches are at Northstar dining room, Apel commons, North Campus*

Moderator

Chris Watkins, Cornell University, USA

2.00 - 2.30 **Gloria K. Muday**, Wake Forest University, USA

Ethylene modulates auxin transport and root development in Arabidopsis and tomato

2.30 - 2.45 **Simona Cristescu**, Radboud University, The Netherlands

RPN10-silenced tomatoes have prolonged flower longevity and reduced C₂H₄ production

2.45 - 3.00 **Elizabeth Fox**, USDA-ARS and Boyce Thompson Institute, USA

nei (nonripe ethylene insensitive), a novel ripening mutant in tomato

3.00 - 3.15 **Je Min Lee**, Boyce Thompson Institute for Plant Research, USA

Integrated analysis of transcriptome and metabolite profiles in tomato wild species introgression lines to identify candidate regulatory genes.

3.15 - 3.45 *Break*

3.45 - 4.15 **Cornelius Barry**, Michigan State University, USA

Control of ethylene responses by the GREEN-RIPE gene family

4.15 - 4.30 **Chi-Kuang Wen**, Chinese Academy of Science, Shanghai, China

A Study of ETR1 and ERS1 signaling reveals functional divergence and cooperativity of Arabidopsis ethylene receptors

4.30 - 4.45 **Sacco te Lintel Hekkert**, Sensor Sense BV, The Netherlands

Highly sensitive ethylene detector for online measurements on biological samples

4.45 - 5.00 **Hitoshi Mori**, Nagoya University, Japan

The ethylene response factors Snorkel1 and Snorkel2 allow rice to adapt to deep water.

5.00 - 6.45

Poster Session

Free Evening

Tuesday, June 23rd

ABSCISSION, SENESCENCE, FRUIT RIPENING

Moderator

Sara Patterson, University of Wisconsin, USA

8.30 - 9.00 **Sara Patterson**, University of Wisconsin, Madison, USA
Molecular analysis of ethylene responses and recovery in Dianthus floral senescence

9.00 - 9.15 **Cai-Zhong Jiang**, USDA-ARS, USA
Molecular analysis of the interaction of ethylene and auxin during flower abscission

9.15 - 9.30 **Catharina Merchante**, Universidad de Málaga, Spain
Investigating the role of ethylene in strawberry fruits

9.30 - 9.45 **Vera HersHKovitz**, The Volcani Center, Israel
Seed Involvement in Ethylene Perception during Avocado Ripening and Senescence

9.45 - 10.00 **Bram van de Poel**, Katholieke Universiteit Leuven, Belgium
The role of s-adenosyl-L-methionine during climacteric ripening of tomato

10.00 - 10.30 *Break*

10.30 - 11.00 **Kenichi Shibuya**, NARO, Japan
Programmed cell death during flower senescence

11.00 - 11.15 **Robert Schaffer**, Institute of Plant and Food Research, New Zealand
Taking ethylene out of the fruit ripening equation

11.15 - 11.30 **Jun Song**, Atlantic Food and Horticulture Research Centre, Canada
Proteomic analysis of differentially expressed proteins in apple fruit during ripening and senescence

11.30 - 11.45 **Wendy C. Schotsmans**, IRTA, Spain
Temperature dependent ethylene metabolism during storage of 'Rich Lady' peach

11.45 - 12.00 **Haya Friedman**, The Volcani Center, Israel
Expression of MaMADS2 and its interactions with ethylene suggest that it acts upstream to ethylene production

12.00 - 2.00 *Lunch*

Moderator

Angelo Ramina, Università di Padova, Italy

2.00 - 2.30 **Coralie C. Lashbrook**, Iowa State University, USA
Modeling cell wall structural dynamics in Arabidopsis abscission zones

2.30 - 2.45 **Sofia G. Foukaraki**, Cranfield University, UK
Effect of transition between ethylene and air storage on two potato varieties

2.45 - 3.00 **Manuela Donetti**, Cranfield University, UK
Influence of season and origin on ripening of imported avocado cv. Hass fruit.

3.00 - 3.15 **Livio Trainotti**, Università di Padova, Italy
Interactions between ethylene and auxin during peach fruit ripening.

3.15 - 3.45 *Break*

3.45 - 4.15 **Pietro Tonutti**, Scuola Superiore Sant'Anna, Italy
Ethylene and postharvest physiology in climacteric and nonclimacteric fruit in the genomics era

4.15 - 4.30 **Nurit Katzir**, Newe Ya'ar Research Center, Israel
Melon fruit development and quality: climacteric vs. non-climacteric ripening

4.30 - 4.45 **Giovanni Giuliano**, Casaccia Research Center, Italy
Altered ripening characteristics of "Golden" tomato fruits

4.45 - 5.00 **Max Villalobos**, University of California, USA
Modulating 1-MCP effect in 'Bartlett' pears with maturity, ethylene exposure, and cold storage

5.00 - 6.00 **Poster Session**

Evening: Conference Banquet at Statler Hotel

6.30 - 7.30 Predinner drinks, Statler Hotel ballroom foyer, first floor.

7.30 - 9.30 Banquet: Statler Hotel ballroom, first floor.

Speaker: Professor James Reveal

The Lewis and Clark expedition to the American West

Jim Reveal is a Professor Emeritus in the department of Plant Biology. He is a national expert on the botanical discoveries made by Lewis and Clark during the first American overland expedition to the Pacific coast (1803-1806), and also on the life of Meriwether Lewis.

Wednesday, June 24th

ETHYLENE RECEPTORS – FROM THE RECEPTOR TO APPLICATIONS

Moderator

Mark Dahmer, AgroFresh Inc, Centennial, Colorado

8.00 - 8.30 **Raphael Goren**, The Hebrew University of Jerusalem, Israel

The effect of both (i) volatile and (ii) water soluble cyclopropene as antagonists of ethylene action

8.30 - 9.00 **James Mattheis**, USDA-ARS, USA

Processes of Temperate Fruit Development Regulated by Ethylene Action

9.00 - 9.15 **Maria Angeles Chiriboga**, IRTA, Spain

Ethylene metabolism does not entirely explain softening during storage of 1-MCP treated 'Conference' pears

9.15 - 9.30 **Jennifer R. DeEll**, OMAFRA, Canada

Ethylene Inhibition Influences Physiological Disorders in Apples

9.30 - 10.00 **Eric Schaller**, Dartmouth College, USA

Regulation of Ethylene Receptor Signal Output

10.00 - 10.30 *Break*

10.30 - 11.00 **Donald Huber**, University of Florida, USA

Factors Influencing the Responsiveness of Climacteric Fruits to 1-MCP.

11.00 - 11.15 **Brad M. Binder**, University of Tennessee, USA

ETR1 Receptor Domains Involved in Ethylene-Stimulated Nutational Bending

11.15 - 11.30 **John K. Fellman**, Washington State University, USA

Employment of a marker-based technique to detect MCP use and effects in apple

Optional tour to wineries and Taughannock State Park, with lunch at Wagner Winery.

Tickets required

11.30 - 11.45 *Load busses for tour in front of the Plant Science building*

Return at 6pm

Dinner: on your own

Evening Moderator

David Clark, University of Florida, USA

7.30 - 8.00 **Caren Chang**, University of Maryland, USA

Analyses in Ethylene Signal Transduction using Molecular Genetics and Proteomics

8.00 - 8.15 **Qian Liu**, Chinese Academy of Science, China

Functional analysis of plant RTH genes in the regulation of ethylene response and possible roles of ethylene in the rice growth and development

8.15 - 8.30 **Jin-Song Zhang**, Chinese Academy of Sciences, China

Rice ethylene receptor OsETR2 delays floral transition and affects starch accumulation

8.30 - 8.45 **David Clark**, University of Florida, USA

Ethylene regulation of a specialized CHORISMATE MUTASE in petunia flowers

8:45 - 10.00 **Poster Session**

Drinks in tent

Thursday, June 25th

STRESS BIOLOGY

Moderator

Bill Miller, Cornell University, USA

8.30 - 9.00 **Fred E. Below**, University of Illinois, USA

Ethylene control for achieving high crop yields

9.00 - 9.15 **Etti Or**, Volcani Center ARO, Israel

Indications for Ethylene:ABA interplay in response to bud dormancy release stimuli

9.15 - 9.30 **W. Roland Leatherwood**, Cornell University, USA

Long term low concentration ethylene exposure affects growth and development of 28 ornamental taxa

9.30 - 9.45 **Michelle L. Jones**, Ohio State University, USA

Ethylene regulation of phosphorus remobilization during leaf and petal senescence

9.45 - 10.00 **P.V. Vara Prasad**, Kansas State University, USA

Effect of 1-methylcyclopropene on soybean flower and pod abortion under heat stress

10.00 - 10.30 *Break*

10.30 - 11.00 **Bruce Bugbee**, Utah State University, USA

Ethylene synthesis and sensitivity: whole plant studies in controlled environments

11.00 - 11.15 **Imene Rajhi**, University of Tokyo, Japan

Identification of genes involved in aerenchyma formation induced by ethylene in maize

11.15 - 11.30 **Rashmi Sasidharan**, Institute of Environmental Biology, The Netherlands

The role of group VII ethylene response factor (ERF) genes in the contrasting flooding responses of two Rumex species.

11.30 - 11.45 **Pascal Montoro**, UMR DAP, CIRAD, France

Regulation of the expression of ethylene biosynthesis genes in Hevea brasiliensis

11.45 - 12.00 **Francisco J. Romera**, Córdoba University, Spain

Iron deficiency up-regulates genes involved in both ethylene synthesis and signaling

12.00 - 2.00 *Lunch*

Moderator

Peter Davies, Cornell University, USA

2.00 - 2.30 **Ian T. Baldwin**, Max Planck Institute for Chemical Ecology, Germany
Asking the plant about “stress”

2.30 - 2.45 **F. Paul Silverman**, Valent Biosciences Corporation, USA
Ethylene biosynthesis inhibition by strobilurin fungicides

2.45 - 3.00 **Daniel R. Gallie**, University of California, USA
Ethylene regulates photosynthesis through alterations in non-photochemical quenching

3.00 - 3.15 **Michael T. McManus**, Massey University, New Zealand
Ethylene interacts with auxin in response to phosphate deficiency in white clover

3.15 – 3.45 *Break*

3.45 - 4.15 **Ronald Pierik**, Utrecht University, The Netherlands
Struggling for light: Regulation of plant-plant interactions

4.15 - 4.30 **Caroline C. von Dahl**, Boyce Thompson Institute, USA
Herbivore-induced ethylene primes a direct defense in ethylene-deficient neighbors.

4.30 – 5.00 *Business meeting*

5pm: *Departing reception in tent on Agriculture quadrangle, with snacks and drinks.*

Dinner on your own.

Farewell ‘til we met again!