



FASEB

"Quality Life through Research"

**SUMMER RESEARCH
CONFERENCES**

**2010 FASEB Summer Research Conferences
Mechanisms in Plant Development
August 15-19, 2010
Saxtons River, Vermont**

Sunday, August 15, 2010

2:00PM – 12:00AM	Conference Registration
6:00PM – 7:00PM	FASEB Opening Reception
7:00PM – 8:30PM	Dinner
8:45PM – 9:30PM	<i>"Modeling patterning mechanisms in leaves and flowers"</i>

Monday, August 16, 2010

7:30AM – 9:00AM	Breakfast
Session 1: 9:00AM – 12:15PM	Patterning in Developing Tissues
9:00AM – 9:15AM	Welcome
9:15AM – 9:45AM	<i>"Patterning of petal number in Brassica relatives"</i>
9:45AM – 10:15AM	<i>"Systems biology of root cell differentiation"</i>
10:15AM – 10:30AM	One Short Talk Selected From Submitted Abstracts
10:30AM – 11:00AM	Coffee Break

11:00AM – 11:30AM	<i>“LATERAL ORGAN BOUNDARIES modulates brassinosteroid signaling to regulate organ boundary formation”</i>
11:30AM – 12:15PM	Three Short Talks Selected From Submitted Abstracts
12:15PM – 1:15PM	Lunch
Session 2: 3:00PM –5:00PM	Short and long distance signaling
3:00PM –3:30PM	<i>“Roles of strigolactones and auxins in controlling shoot branching”</i>
3:30PM –4:00PM	<i>“Mechanisms and evolution of auxin signaling”</i>
4:00PM –4:30PM	<i>“Auxin signaling to specify cell identity in early embryo development of <i>Arabidopsis</i>”</i>
4:30PM –5:00PM	<i>“Transcriptional regulation in brassinosteroid signaling in <i>Arabidopsis</i>”</i>
5:00PM –6:00PM	Poster viewing
6:00PM – 7:00PM	Dinner
Session 3: 7:00PM – 9:00PM	Short and long distance signaling
7:00PM – 7:30PM	<i>“Induction of flowering by low winter temperatures”</i>
7:30PM – 8:00PM	<i>“Photoperiodic control of bud dormancy in poplar”</i>
8:00PM – 8:30PM	<i>“Protein degradation in circadian regulation of developmental processes in <i>Arabidopsis</i>”</i>
8:30PM – 9:00PM	<i>“Gibberellin signaling during light responses and tuberization of potato”</i>

Tuesday, August 17, 2010

7:30AM – 9:00AM	Breakfast
Session 4: 9:00AM – 12:30AM	Patterning in Developing Tissues
9:00AM – 9:30AM	<i>“Little Zippers control morphology and growth of lateral organs”</i>
9:30AM – 10:00AM	<i>“Stem cell development in the <i>Arabidopsis</i> embryo”</i>
10:00AM – 10:30AM	Two Short Talks Selected From Submitted Abstracts
10:30AM – 11:00AM	Coffee break
11:00AM – 11:30AM	<i>“Contribution of the master regulator AGAMOUS to multiple stages of carpel development”</i>
11:30AM—12:00PM	<i>“Regulation of meristem function by the small RNA pathway in rice”</i>
12:00PM – 12:15PM	One Short Talk Selected From Submitted Abstracts
12:30PM – 1:30PM	Lunch
4:00PM—6:00PM	Poster Session
6:00PM – 7:00PM	Dinner
Session 5: 7:00PM – 9:00PM	Differentiation of cell types
7:00PM—7:30PM	<i>“Endosperm development of <i>Arabidopsis</i>”</i>
7:30PM—8:00PM	<i>“Trichome patterning on <i>Arabidopsis</i> leaves”</i>
8:00PM—8:30PM	<i>“Root hair development in <i>Arabidopsis</i>”</i>
8:30PM—9:00PM	<i>“Stomatal differentiation in Angiosperms and mosses”</i>

Wednesday, August 18, 2010

7:30AM – 9:00AM	Breakfast
Session 6: 9:00AM – 11:45AM	The role of epigenetics in development
9:00AM—9:30AM	<i>“Regulation of gene expression by histone modifications and DNA methylation”</i>
9:30AM—10:00AM	<i>“Transposable elements, small interfering RNA and adaptive Lamarckian evolution”</i>
10:00AM—10:30AM	Two Short Talks Selected From Submitted Abstracts
10:30AM—11:00AM	Coffee break
11:00AM—11:30AM	<i>“Chromatin regulation of paramutation and development in the maize plant”</i>
11:30AM—12:15AM	Three Short Talks Selected From Submitted Abstracts
12:15AM—1:30PM	Lunch
Session 7: 4:00PM – 5:00PM	The role of epigenetics in development cont.
4:00PM – 4:30PM	<i>“Parental genomic imprinting in plants: significance for reproduction”</i>
4:30PM—5:00PM	<i>“Chromatin remodeling and the switch from juvenile to adult states”</i>
5:00PM—6:00PM	Poster viewing
6:00PM—7:00PM	Dinner
Session 8: 7:00PM – 9:00PM	Evolution
7:00PM—7:30PM	

“Evolution of land plant morphology”

7:30PM—8:00PM	<i>“Evolution of flower development”</i>
8:00PM—8:30PM	<i>“Comparative analysis of inflorescence development in Petunia and Arabidopsis”</i>
8:30PM—9:00PM	<i>“The regulation of inflorescence development in the grasses”</i>

Thursday, August 19, 2010

7:30AM – 9:00AM	Breakfast
Session 9: 9:00AM – 12:00AM	Growth
9:00AM—9:30AM	<i>“Regulation of plant growth by DELLA proteins”</i>
9:30AM—10:00AM	<i>“Regulation of organ size and shape in maize”</i>
10:00AM—10:30AM	<i>“The regulation of tomato fruit and leaves by microRNAs”</i>
10:30AM—11:00AM	Coffee break
11:00AM—11:30AM	Regulation of division planes in embryo development
11:30AM—12:00AM	<i>“Mechanisms determining the size of leaves and flowers”</i>
12:00AM	Departure.

END OF CONFERENCE

For additional information contact:

FASEB Summer Research Conferences
9650 Rockville Pike
Bethesda, MD 20814

vermont@faseb.org

<http://src.faseb.org>

FINAL REPORT
FASEB SUMMER CONFERENCE, VERMONT ACADEMY, SAXTONS RIVER, VERMONT
Developmental Mechanisms in Plant Development
August 10-15, 2010

The FASEB summer conference, held at the Vermont Academy in August, was by all accounts a great success. This meeting has been held every other year for the past twenty-two years and is the only regularly held meeting focused specifically on plant development. As such, it continues to be an important forum for exchange of information and ideas in this field, and has played a significant role in moving the field forward. The meeting was attended by 110 participants comprising students, post docs and faculty. All participants had a chance to speak or show a poster. There was ample time for discussion at the poster sessions, after talks, in the evening and during coffee breaks.

Everyone invited to speak at the 2010 meeting agreed to come. Only two speakers cancelled, and health reasons were an issue. Of the 33 invited speakers, 29 did not speak at either of the previous two FASEB meetings, thus diversifying the attendees. Thirteen of the 33 invited speakers were young investigators. The short talks were all from young investigators. Half the invited speakers were women. The meeting was very international with eighteen of the invited speakers coming from overseas, including Australia, Singapore, Japan and several European countries.

We reorganized the meeting structure based on comments from the previous meeting. We introduced two afternoons with talks, thus giving a free evening. The evening talks did not go later than 9:30 pm, allowing plenty of time to discuss science at the bar. The invited speakers had 25 minutes to talk with 5 minutes for questions. From the pool of abstracts we chose 15 for short talks. The short talks were 12 minutes with 3 minutes for questions. The short talks were mainly excellent and we would recommend giving them 15 minutes with 5 minutes for questions at future meetings. Invited speakers who had not previously attended the meeting were impressed by the venue and quality of talks and discussions and will either return or send members of their laboratories. It is likely that attendance at this meeting will continue to grow. We circulated a poster to many laboratories 6 months before the meeting, and that helped to stimulate interest and boost attendance.

The meeting began with a Keynote address, who spoke of modeling growth. He provided an inspiring view of the power of computational approaches once molecular mechanisms are deciphered. He chaired the first session on Monday morning, patterning in developing tissues. The topic of patterning in developing tissues continued into Session 2 in the evening. Four invited talks were given and mostly focused on *Arabidopsis* as a model system, but also included embryo patterning in rice. Session 3, concerned responses to the environment. The talks concerned the effects of vernalization, light and circadian rhythms. Session 4, focused on short and long range signaling. This session was held in the afternoon, which is a departure from previous organizational structures. The signals included brassinosteroids, auxin, strigolactones, and stress. Session 5, spanning Wednesday morning and afternoon, covered epigenetics, which has become an increasingly important component of development. Session 6 focused on evolution, although this was a theme throughout the meeting. Session 7 was titled growth. Organisms under discussion included maize, rice, *Arabidopsis* and tomato. Session 8, was titled differentiation of cell types. The talks ended at 5p.m. Thursday evening and we departed Friday morning after a pleasant last evening of informal discussion.

Funding was contributed by three grants from NSF, DOE and AFRI. We had additional funding from a number of industries including Agrisera, Pioneer Hi-Bred, Plant Biosciences Limited, BASF, Monsanto, Cotton Inc. Funding was also appreciated from the *New Phytologist* journal and from the Gatsby

Charitable Foundation. We were able to support all the costs of most invited speakers and almost all the costs of the others. We funded all the graduate students (6) who asked for support.

At the business meeting we agreed to meet again in two years.