



III. International PP1530 Symposium: Genetic Variation of Flowering Time Genes and Applications for Crop Improvement

Venue: Wissenschaftszentrum Kiel, Fraunhoferstraße 13, 24118 Kiel, Germany

Wednesday, March 14th, 2018

13.00 **Welcome:**
 Christian Jung (Host and coordinator PP1530)
 Henning Kage (Vice dean, Christian Albrechts University Kiel, DE)
 Patricia Schmitz-Möller (Deutsche Forschungsgemeinschaft (DFG), Bonn, DE)

SESSION 1: Gene expression networks and signaling pathways, Chair: Ivo Grosse

13.20-14.00 **Opening Lecture:**
Seth J. Davis (Chair of Plant Biology, University of York, U.K.): Exploring plant responses to circadian-clock variation

14.00-14.20 **George Coupland** (MPIPZ, Cologne, DE): Convergence of flowering pathways that respond to vernalization and the age of the shoot meristem

14.20-14.40 **Dorothee Staiger** (Bielefeld University, DE): A role for *Arabidopsis thaliana* glycine-rich RNA binding protein 7 in flowering time control

14.40-15.10 Coffee break

15.10-15.30 **Thomas Schmülling** (Freie Universität Berlin, DE): Regulation of flowering time by cytokinin

15.30-15.50 **Alfred Batschauer** (Philipps University Marburg, DE): Metabolite binding boosts the biological activity of plant cryptochromes

15.50-16.10 **Artem Pankin/Maria von Korff Schmising** (Heinrich-Heine-University of Düsseldorf c/o MPIPZ, Cologne, DE): Exploring diversity of flowering genes in wild and cultivated barley: selection scans and domestication model

16.10-16.30 **Korbinian Schneeberger** (MPIPZ, Cologne, DE): Development and implementation of advanced methods for the identification of barley flowering time genes using next generation sequencing

16.30-17.00 Coffee break





17.00-18.00 **Evening Lecture:**
Elliot Meyerowitz (Division of Biology and Biological Engineering, California Institute of Technology, Pasadena, USA): Control of Flower Timing (not Flowering Time) at the *Arabidopsis* Shoot Apical Meristem

18.00-19.30 Poster Session and Fingerfood

Thursday, March 15th, 2018

SESSION 2: Flowering time regulation in perennials, Chair: Christian Jung

09.00 -09.40 **Invited Lecture:**
Rishikesh P. Bhalerao (Department of Forest Genetics and Plant Physiology, Umeå, Sweden): Elucidation of the photoperiodic control of phenology in trees

09.40-10.00 **Matthias Fladung** (Johann Heinrich von Thünen-Institut, Braunschweig, DE): Development of an early flowering system for poplar breeding and biosafety research

10.00-10.20 **Anna Werner/Reinhard Töpfer/Bernd Weisshaar/Detlef Weigel** (JKI Siebeldingen/ CeBiTec, Bielefeld University/MPI Tübingen, DE): Identification of genetic loci contributing to the flowering time phenotype of grapevine

10.20-10.40 **Maria Albani** (MPIPZ, Cologne, DE): „PRE-FORMATION“ – the role of floral repressors and implications in the perennial life strategy of *Arabis alpina*

10.40-11.20 **Group Picture** and Coffee break

SESSION 3: Integration of endogenous and environmental factors

Chair: Dorothee Staiger

11.20-12.00 **Invited Lecture:**
Ben Trevaskis (CSIRO, Canberra, Australia): The molecular basis for seasonal flowering behaviour of cereals: from gene sequences to crop improvement

12.00-12.20 **Markus Schmid/Vanessa Wahl** (Umeå University, Sweden/MPIIMP Golm, DE): Regulation of flowering by trehalose-6-phosphate signaling

12.20-12.40 **Vanessa Wahl/Christina Kühn** (MPIIMP Golm/Humboldt University of Berlin, DE): Sugar pathways controlling flowering and tuberization in *Solanum tuberosum*

12.40-14.00 Lunch Break





- 14.00-14.20 **Claus Schwechheimer** (Technical University of Munich – Weihenstephan, DE):
Natural haplotypes of *FLM* non-coding sequences fine-tune flowering time in ambient spring temperatures in *Arabidopsis thaliana*
- 14.20-14.40 **Mikael Johansson** (Bielefeld University, DE): Associated project: Timing of development - The role of SRR1 at the intersection between circadian timekeeping and flowering time control
- 14.40-15.00 **Invited Lecture:**
Hossein Emami (Christian Albrechts University Kiel, DE): A Mitochondrial PPR Protein Involved in *flc* Expression and Drought Tolerance in *Arabidopsis thaliana*

15.00-15.30 Coffee Break

SESSION 4: Flowering time genes and application for crop improvement

Chair: Maria von Korff Schmising

- 15.30-16.10 **Invited Lecture:**
Andrea L. Eveland (Donald Danforth Plant Science Center, St. Louis, USA): Defining regulatory variation underlying diverse inflorescence architectures in panicoid cereals
- 16.10-16.30 **Invited Lecture:**
Adam Gauley (John Innes Centre, Norwich Research Park, Norwich, UK): The Impact of PPD-1 on Wheat Inflorescence Development
- 16.30-16.50 **Klaus Pillen/Jochen Kumlehn** (Martin Luther University Halle Wittenberg/IPK Gatersleben, DE): Allele mining in wild barley: finding new exotic genes which control flowering time in the barley nested association mapping (NAM) population HEB-25

16.50-17.20 Coffee break

- 17.20-18.00 **Invited Lecture:**
Zachary Lippman (Watson School of Biological Science at Cold Spring Harbor, New York, USA): Fine-tuning flowering, flower production and crop productivity - lessons from tomato

19.00-open end **Conference Dinner at Hotel Maritim Bellevue, Bismarckallee 2, 24105 Kiel**





Friday, March 16th, 2018

SESSION 4: Flowering time genes and application for crop improvement

Chair: Klaus Pillen

09.00-09.40	<u>Invited Lecture:</u> Takeshi Izawa (Faculty of Agriculture, University of Tokyo, Japan): Field responses and synthetic control of rice flowering
09.40-10.00	Agim Ballvora/Jens Léon (Bonn University, DE): Genetic and molecular analysis of epistatic interactions in flowering time pathways identified in a barley multi-parent advanced generation intercross (MAGIC) population
10.00-10.20	Christian Jung (Christian Albrechts University Kiel, DE): Unravelling a genetic network for bolting time regulation in <i>Beta</i> species to breed winter sugar beet
10.20-10.40	Christian Möllers (Georg August University Göttingen, DE): Quantitative effects of vernalization requirement, day length and temperature on flowering time of oilseed rape (<i>Brassica napus</i> L.)
10.40-11.10	Coffee break
11.10-11.30	Sarah Schiessl, Rod Snowdon (Justus Liebig University, Gießen, DE): Flowering time, miRNA regulation and climatic adaptation - variation in <i>Brassica napus</i> idiotypes under drought stress
11.30-11.50	<u>Invited Lecture:</u> Smit Shah (Christian Albrechts University Kiel, DE): Identification and characterization of flowering time genes in oilseed rape through mutant and transcriptome analysis
11.50-12.10	Marcel Quint/Ivo Grosse/Bernd Weisshaar (Martin Luther University Halle Wittenberg/CeBiTec, Bielefeld University, DE): Evolutionary transcriptomics of floral transition
12.10-12.30	Ivo Grosse (Martin Luther University Halle Wittenberg, DE): Central data analysis platform for the PP1530 Consortium
12.30-12.45	Closing Remarks - Christian Jung
12.45	End of Meeting

