



## *Transcriptional control of lifespan*



Enhanced plant productivity  
through control of lifespan



Kiel, Germany

8 - 17 May

**Tuesday 8 May 2012**

## Bildungszentrum Tannenfelde

- 15:00 **Diter von Wettstein**
- Recent research achievements in barley and wheat
1. Concerted action of two novel effectors activate the *Rpg1* mediated stem rust resistance in barley
  2. Engineering wheat for celiac patients
- 17:30 Sportive activities, e.g. walking in the forest, biking, golf
- 19:30 dinner

**Wednesday 9 May 2012**

## Bildungszentrum Tannenfelde

- 9:15-10:00 **Michael W. Christiansen**
- General introduction in plant transformation
- 10:15-11:00 **Diter von Wettstein**
1. Transformation of microspores by electroporation for production of doubled haploid, i.e. homozygous transformants in barley and wheat
  2. Transformation with activator-like effector nucleases – mutation, deletion, activation of specific nucleotides in any targeted gene of any genome
- 11:30-12:00 discussion
- 12:30 lunch break
- 14:00
- Transfer with Julien and Mirl to the University of Kiel for practical exercises on plant transformation**

**Wednesday 9 May 2012**

University of Kiel / Botanical Institute / Room 346/347

14:30 **Michael W Christiansen**

1. Practical introduction to plant transformation
2. Transient transformation with *Agrobacterium* of immature barley embryos.
3. Demonstration of transformed barley calli at different stages of development.

**Joanna Melonek**

Transient transformation of onion epidermal cells by biolistic bombardment

~ 18:00 **Return to Tannenfelde**

19:00 Barbecue

**Thursday 10 May 2012**

Departure after breakfast

9:00 **Visit of Norddeutsche Pflanzenzucht Hans-Georg Lembke KG (NPZ)**

Hohenlieth, D-24363 Holtsee

Lunch at NPZ

Return to CAU by Julien and Mirl

University of Kiel

Room E49

15:00 **Per Gregersen**

Gene expression and transcription factors involved in senescence regulation

Room 346/347

16:00 **Per Gregersen / Michael W Christiansen**

qPCR for studying gene expression patterns:

RNA isolation from senescing and non-senescing leaf samples.

18:00 **Joanna Melonek**

Microscopical analysis of transformed onion epidermal cells

Transfer of participants to their hotels in Kiel.  
Hotel InterCity or Hotel Ghotel

**Friday 11 May 2012**

University of Kiel

Room 346/347

9:00 qPCR experiment (continued)

1) cDNA synthesis

Overview: Controls, primer design etc (**Colette Matthewman**)

2) qPCR plate setup (including tests of gene expression from transgenic plants → running of PCR

Overview: Considerations on the analysis of qPCR data  
(**Per Gregersen**)

3) Data analysis of qPCR data: primer efficiency, reference gene analysis, ddCt estimation. Discussion of results (**Per Gregersen**)

**Monday 14 May 2012**

University of Kiel

Room E 49

9:15

**Steve Scofield**

Virus-induced gene silencing

13:30

Visit of the greenhouse

14:00

**Maria Mulisch**

Ultrastructural analysis of chloroplasts

Group 1 (40min): Visit of Central Microscopy

Group 2-4: Preparation of leaf sections (**Room E10**)

16:00

**Christine Desel** (**Room E10**)

Light Microscopy

(1) Basics

Senescent barley leaves

(2) Fluorescence microscopy

Transgenic barley plants overexpressing *PTP-RBCS-GFP*

**Tuesday 15 May 2012****Room E49**9:15-11:00 **Klaus Humbeck**

Epigenetics I

**Room 346/347**

14:00 Practical exercises in groups

**Bianka Janack / Klaus Humbeck**

Immunocytology of histone modifications I

**Christine Desel**Life cell imaging of chloroplast degradation (**ZM / CLSM**)  
using transgenic barley plants overexpressing *PTP-RBCS-GFP***Wednesday 16 May 2012****Room E49**9:15-11:00 Klaus Humbeck  
Epigenetics II**Room 346/347**

14:00 Practical exercises and demonstration in groups

**Bianka Janack / Klaus Humbeck**

Immunocytology of histone modifications II

**Maria Mulisch**Group 3-4 (each 40min):  
Demonstration of chloroplasts, gerontoplasts (**ZM / TEM**)

**Thursday 17 May 2012**

**Room E49**

Evaluation of data and protocol writing

Oral presentations

**Dagmara Podzimska**

qPCR for studying gene expression patterns

**Aditi Das**

Transient transformation of onion epidermal cells by biolistic bombardment

**Izabela Matyszczyk**

Transient transformation with *Agrobacterium* of immature barley embryos.

**Gloria Camadira**

Immunocytology of histone modifications II

**Meraluna Canunayon**

Ultrastructural analysis of chloroplasts and light microscopy