

COST Action CA18111 "Genome Editing in Plants"

3rd WG1 PlantEd Training School

Date: 5 – 8 June 2023

Place: The John Innes Centre, Norwich Research Park, Norwich, UK

Objectives

The WG1 Training School will focus on targeted mutagenesis using CRISPR/Cas technology of cereal and Brassica crops. Participants will get hands-on-experience in the transformation of wheat, barley and Brassica to deliver editing components. The main objective is to equip participants with the full set of skills such that they can set up the relevant transformation / editing systems in their own labs. This will include construct design and assembly, working with *Agrobacterium*, media preparation, isolation of explants, transformation, selection, regeneration, rooting and transfer to soil. It will also include initial molecular analysis of transgenic / edited plants.

Expected outputs

Participants will gain practical experience of the entire workflow from designing the constructs, the transformation process and the identification of respective mutant plants. They will also hear from expert invited speakers, describing technology developments in transformation and genome editing, as well as examples of applications of the technologies.

Venue and dates

The Training School will take place at The John Innes Centre, Norwich Research Park, Norwich, UK.

Call launch: 19 January 2023

Application deadline: 28 February 2023

Expected decision: 15 March 2023

Training School: 5-8 June 2023

Eligibility

This call is open to all Action participants, but priority will be given to Young Investigators. A young investigator is, according to the COST rules, a researcher who is less than 40 years old.

The number of trainees attending the Training School is limited to 12. The same number of trainees is eligible for reimbursement.

Note: Only PlantEd participants are eligible for reimbursement for a PlantEd activity. Therefore, if you are not a PlantEd participant already but would like to apply for this Training School, you will first have to log in at e-COST and register as a PlantEd participant.

Financial support

The financial support to the attendees will cover travel costs, including flight tickets, accommodation, local transport and meals. The daily allowance will cover accommodation, local transportation, meals and other expenses and is a fixed rate per day. The long-distance travel will be reimbursed against receipt. Please follow the travel reimbursement instructions as per COST rules carefully (see [Annotated rules for COST Actions – level C](#)), as failure to comply with the instructions will lead to cancellation of the reimbursement claim.

There is no course fee applied to this Training School.

Following the COST rules, the grant is paid after the Training School has been completed and the participant has submitted a Travel Reimbursement Request (TRR) via e-COST. The grant will be paid directly to the bank account entered in the e-Cost system.

How to apply

Applications are submitted via e-mail to the Organizer Prof Wendy Harwood Wendy.Harwood@jic.ac.uk and PlantEd WG1 Leader Dr Götz Hensel goetz.hensel@hhu.de.

The application should contain the following parts:

- CV including relevant publications (maximum two pages)

- Short description of the applicant's field of work, the motivation for participating in this Training School, and how the knowledge learned will be of future use to the applicant (maximum one page in total).

Evaluation of applications

The evaluation of the applications is performed jointly by the Training School organizer, the WG1 leaders, and the Action Chair. The following evaluation criteria will be considered, in order of importance: 1) how the Training School will contribute to the professional development of the applicant, 2) young investigator status, 3) geographical balance, and 4) gender balance. The WG1 leader will inform every applicant of the evaluation outcome by email. Selected trainees will receive further information on programme and logistical arrangements.

Accommodation

The University of East Anglia (UEA) will reserve rooms for the participants at Broadview Lodge ([Broadview Lodge Visitor Accommodation - About \(uea.ac.uk\)](http://www.uea.ac.uk/broadview)), which is a 20 minutes walk to the John Innes Centre campus.

Contact

For more information and enquiries, please do not hesitate to contact Prof Wendy Harwood (Wendy.Harwood@jic.ac.uk) and Dr Götz Hensel (goetz.hensel@hhu.de).

Tentative program

Sunday, 4 June 2023

Arrival at University of East Anglia (UEA)

Monday, 5 June 2023

Welcome and introductions at JIC

Introductory lecture

General CRISPR/Cas experimental design considerations

Construct design and cloning - Exercise on in silico cloning and vector construction

Split into subgroups:

1. Media preparation
2. Working with *Agrobacterium*, preparation of standard inocula for transformation.
3. Construct checks following transformation into *Agrobacterium*.

Tuesday, 6 June 2023

Lecture from invited trainer

Construct design / assembly continued

Work in subgroups:

1. Explant choice, sterilization and isolation
2. Transformation and co-cultivation with *Agrobacterium*

Evening social event

Wednesday, 7 June 2023

Lecture from invited trainer

Work in subgroups:

1. Use of the gene gun
2. Transformation - selection of transgenic tissue
3. Regeneration and rooting stages
4. Transfer to soil

Thursday, 8 June 2023

Lecture from invited trainer

Work in subgroups:

1. Confirmation of transformation and copy number determination

2. Analysis and screening methods to detect edits and identify mutants

Training school ends at 17.00