



## Designing Future Wheat in Practice

John Innes Centre, Norwich, UK

DFW Training Course 14-18 November 2022

The BBSRC funded **Designing Future Wheat (DFW)** Institute Strategic Programme spans eight UK research institutes and universities and aims to develop new wheat germplasm containing the next generation of key traits. The aim of this DFW course is to offer training in important methodologies employed by different groups within DFW. The participants will gain the skills necessary to apply these methodologies in their own research.

### TARGET AUDIENCE

The course is aimed at anyone with an interest in cereals research and crop breeding. The course is an entry level introduction, giving a taste of crop development and phenotyping, wheat genetics and genomics, wheat pathology, sources of genetic diversity in wheat and genomics data resources. Applications are welcome from UK and international undergraduates, breeders, PhD students, and postdocs. A total of **16 places** are available for this course.

The course is a five-day-programme of classroom lectures and hands-on exercises. A guest speaker representing UK commercial breeding and a visit to a commercial breeding programme will expand the topics covered. There will also be opportunities for the whole group to enjoy social activities and discussions.

### PREREQUISITES

It is essential that participants are fluent English speakers, as this intensive course will be given in English. Successful applicants will be provided with bibliography to read in advance.

### PROGRAM COSTS

The registration fee is **£499**, payable in advance. This includes:

- Accommodation including breakfast for four nights: Mon 14 to Friday 18 November. The accommodation is situated on the Campus of the University of East Anglia (UEA), Norwich.
- Lunches and refreshments Monday to Friday and the workshop dinner on Thursday evening.
- Transport for the visit to the breeding station.

**Please note - participants are responsible for booking and paying for their own travel arrangements to and from Norwich, i.e. visas, flights, train, coach or taxi travel.**

Successful applicants will be notified shortly after the application deadline and will be sent an invoice for their registration fee to be paid by bank transfer within two weeks.

JIC will help with practicalities of visa arrangements, e.g. send invitation letters, as necessary.

### APPLICATION DEADLINE

The deadline for submission is **Friday 8 July 2022**.

Applicants are required to submit their completed application form, CV (maximum length two sides of A4) and a letter of recommendation from their Head of Department (or equivalent).

Applications should be sent by email to [dfw.course@jic.ac.uk](mailto:dfw.course@jic.ac.uk) quoting "DFW course 2022".

# Designing Future Wheat in Practice

## Training Course, 14-18 November 2022

### Preliminary Programme

#### Monday 14/11/2022 Wheat Evolution, Wild Relatives, Germplasm Development

**Topic**

Introduction  
Wheat Evolution and Grain Structure Composition  
Wheat Synthetics & Tetraploid x Hexaploid Wheats  
Diversity from Wild Relatives  
Threshing, Crossing of Wheat and Wild relatives  
Starch Traits for Healthier Wheat

**Tutor(s)**

JIC: Graham Moore, Simon Griffiths  
RRes: Peter Shewry  
NIAB: Fiona Leigh & Richard Horsnell  
NottU: Julie King  
NIAB and NottU (as above)  
QI: Brittany Hazard

#### Tuesday 15/11/2022 Genotyping, Phenotyping and Field Station

The Use of Molecular Markers in Wheat Breeding  
Wheat Recombination  
Wheat Inflorescence Development  
Tour of JIC Field-Experimental Station  
Digital Plant Phenotyping

BristolU: Amanda Burrige  
JIC: Azahara Martin  
Univ. Leeds: Laura Dixon  
JIC: Darryl Playford  
RRes: Andrew Riche, Nicolas Virlet

#### Wednesday 16/11/2022 Pre-breeding and Breeding

From QTL to Breeding Pipeline: Genetic Mapping,  
Marker Trait Associations, MAS and Pre-Breeding  
Commercial Wheat Breeding Station

JIC: Simon Griffiths, Sarah Collier,  
Luzie Wingen  
LG: Phil Tailby & others

#### Thursday 17/11/2022 Genomic Resources and Bioinformatics

Wheat Genomic Assemblies and Resources  
JIC Special Collection of Historic Books and Documents  
Grassroot Portal Including Field Trial Database  
Workshop Dinner

Cristobal Uauy, Philippa Borril, Guy  
Naamati & Ensembl Plants  
JIC: Sarah Wilmot  
EI: Rob Davey

#### Friday 18/11/2022 Gene editing, Transformation, Breeders' Perspective and GRU

Wheat Transformation and Genome Editing  
The Breeders' Perspective  
Wheat Pathology  
Visit of GRU, Ordering Germplasm

JIC: Sadiye Hayta & Mark Smedley  
Ruth Bryant (RAGT)  
RRes: Kim Hammond-Kosack  
GRU: Noam Chayut & team

This announcement and further details on the course, including feedback from previous courses, can be found at this link: <http://WISPLandracepillar.jic.ac.uk/training.htm>

Abbreviations: RRes Rothamsted Research, NIAB NottU University of Nottingham, QI, Quadram Institute, JIC John Innes Centre, EI Earlham Institute, BristolU University of Bristol

## Designing Future Wheat in Practice – Training Course 2022

John Innes Centre, Norwich, UK

14-18 November 2022

### APPLICATION FORM

Name	Address
Tel	
Email	
University or institution	Postcode
	Country
	Present Position
<p>Personal statement</p> <p><b>Your personal statement should not cover more than one side of A4.</b></p> <p><i>To help us in considering your application, please explain in your statement why you are applying for this school and how it will benefit you in your future career</i></p> <p>(Expand box as needed)</p>	
Please give the name, address, telephone and e-mail contact of your current Head of	

Department, or equivalent, and attach a letter of recommendation from them when returning this form.

Name

Address

Tel

Email

Signature:

Date:

Please complete this application form and return it as an e-mail attachment, along with your CV (maximum length two sides of A4) **and** a letter of recommendation from your Head of Department (or equivalent) to [dfw.course@jic.ac.uk](mailto:dfw.course@jic.ac.uk) quoting "**DFW course 2022**".

**Completed application forms, CVs and references must be received by**

**Friday 08 July 2022.**

**Please note that successful applicants will be expected to pay a £499 registration fee within two weeks after acceptance.**

