











Lleida Biographies 2024

	<p>Joana Amaral Lancaster University– WP1</p> <p>Joana is a Senior Research Associate in the DSW project in the Photosynthesis team at the Lancaster Environment Centre, Lancaster University. She is currently studying strategies to improve photosynthesis for higher yielding crops based on the regulation and abundance of the carbon-fixing enzyme Rubisco. Joana’s research aims to understand plant responses to environmental stress and enhance plant performance under different scenarios.</p>
	<p>Anna Backhaus ICARDA – Cereal pre-breeding</p> <p>Anna’s work focuses on accelerating the identification and introgression of useful gene bank material, specifically landraces and crop wild relatives. Working for farmers in developing countries of North Africa and West Asia, her aim is to find new diversity to biotic and abiotic stresses in this region, especially heat, drought and salinity stress. Furthermore, she is keen to advance the application and use of next-generation genomic tools in breeding and pre-breeding.</p>
	<p>Roshani Badgami John Innes Centre</p> <p>Rosh is a postgraduate researcher in the Nicholson lab at the John Innes Centre in Norwich, UK. Her PhD, in collaboration with RAGT, focussed on identifying novel sources of resistance and susceptibility to FHB. This involved screening several wheat genetic resources for their FHB response and using chromosome-specific markers to define intervals conferring resistance/susceptibility. She then used gene expression and annotation data to identify candidate genes. She is interested in characterising these genes and understanding how they function to confer FHB resistance.</p>
	<p>Sarah Bailey John Innes Centre</p> <p>Sarah is a PhD student at the John Innes Centre in Norwich, UK, with industrial partner Limagrain. She works in Dr Diane Saunders’ group, which focusses on wheat rust diseases. She enjoys working with wheat and has a general interest in crop genetics and pathogens. Her project centres on evaluating the potential of disrupting wheat rust disease susceptibility factors for controlling wheat rust pathogens.</p>
	<p>Rahul Bhosale University of Nottingham – WP1</p> <p>Rahul’s research focuses on investigating the intricate molecular mechanisms that govern root adaptive responses to abiotic stresses and the underlying mechanism that are responsible for variations in the protein content of grains. Knowledge of root and grain quality traits will help to advance plant productivity, nutritional quality and agricultural sustainability.</p>

	<p>Philippa Borrill John Innes Centre – WP1 and 3</p> <p>Philippa's research group focuses on improving the nutritional value of wheat grain by harnessing the genetic potential of the crop. The group is interested in understanding the wheat genome to discover which genes are responsible for wheat grain nutrient content and to determine how physical characteristics are determined in crops with polyploid genomes.</p>
	<p>Lawrence Bramham Rothamsted Research</p> <p>Lawrence leads the Wheat-Insect-Virus Interactions subgroup (within the BBSRC-funded 5-year project Delivering Sustainable Wheat (2023-2028) and the Defra-funded WGIN project (phase 5, 2024-2034). As an experienced plant virologist/entomologist, he has established and refined various phenotyping methodologies and disease diagnostic assays and is experienced in trait/QTL mapping in polyploid species, working with the data outputs from high-throughput wheat genotyping/phenotyping projects and the development of KASP genotyping markers and Taqman probes. He is focussing on aphid resistance(s), cereal virology and associated interactions within this pathosystem and has evaluated UK-wide barley yellow dwarf virus (BYDV) variation in PAV, PAS and MAV strains and generated bespoke variant-specific diagnostics. Commitment to robust and sustainable strategies for assisting with the control of major plant pests/diseases, ensuring resilient crop production systems.</p>
	<p>Miles Curl John Innes Centre</p> <p>Miles' PhD project focusses on the genetic regulation of drought tolerance in wheat. His research is exploring if known senescence-regulating transcription factors are also involved in the transcriptional processes involved in drought tolerance. He is interested in the 'stay-green' trait which aims to improve wheat productivity under drought stress through modulation of senescence. The project is part of a consortium, in collaboration with Limagrain, RAGT and KWS.</p>
	<p>Cara Griffiths Rothamsted Research</p> <p>Cara is interested in the source/sink balance in plants and how this is regulated by changes in carbon allocation and nutrient use through sugar signalling pathways. She looks at the genetic and biochemical basis of this dynamic in crop species, and how enhancing these pathways can unlock yield potential and quality in arable cropping species in a changing climate.</p>
	<p>Simon Griffiths John Innes Centre – WP1, 3 AND 4</p> <p>Simon leads the Delivering Sustainable Wheat Institute Strategic Programme. His research programme is focused on the genetic control of height and flowering time in bread wheat and the influence on yield. This involves large scale screening of wheat lines, mapping techniques to identify markers for traits of interest and field phenomics in real time under agricultural conditions to identify markers targeted to specific environments.</p>

	<p>Anthony Hall Earlham Institute</p> <p>Anthony leads the Decoding Biodiversity Institute Strategic Programme. His research group is interested in understanding how genetic variation, genes, and genetic architecture underpin many key adaptive traits. His is also the cofounder a AI/ML company, Trait-seq Ltd.</p>
	<p>Sadiye Hayta. John Innes Centre</p> <p>Sadiye leads the transformation and gene editing of wheat at the John Innes Centre, providing these services across a wide range of wheat varieties, including elite strains, for internal teams, external institutes, and universities. Her work is dedicated to advancing transformation and gene editing technologies to achieve specific research objectives in wheat. This includes improving the efficiency of wheat transformation, broadening the range of transformable genotypes, and developing cutting-edge gene editing technologies tailored specifically for wheat.</p>
	<p>Malcolm Hawkesford Rothamsted Research – WP1, 3 and 4</p> <p>Malcolm is interested in the biochemistry and molecular biology of plant nutrition, particularly with regard to nitrogen and micronutrients, with a focus on nutrient transport. Malcolm uses genomic approaches, like transcriptome and metabolome profiling, with field scale experiments to understand more about nutrient acquisition and remobilisation. He also coordinates high-throughput field phenotyping approaches.</p>
	<p>Viktor Korzun KWS</p> <p>Viktor Korzun has been Head of Cereal Breeding Technologies at KWS since 1999 and is Global Lead Scientific Affairs since 2018. He focuses on national and international collaboration, relationships with world-leading universities and institutions and the promotion of young talented scientists in plant breeding research. Viktor Korzun has more than 30 years of experience in the development and application of molecular markers and novel breeding technologies in cereals.</p>
	<p>Alison Lovegrove Rothamsted Research – WP3</p> <p>Alison's main research focus is in exploiting cereal grains for improved human health and processing. She is investigating the synthesis and feruloylation of wheat cell walls to deliver novel wheat germplasm with enhanced health benefits. Alison's group are delivering high fibre wheats for short and longer-term clinical intervention studies and investigating the mechanisms underpinning the health benefits of higher fibre intake using invitro digestion and fermentation models.</p>



**Farrukh Makhamadjonov – EDESIA Rotation PhD student
John Innes Centre – WP3**

Farrukh's project revolves around starch granule biosynthesis in wheat and the role of starch granule morphology in human nutrition. He is investigating the structure and function of a protein involved in starch granule initiation in wheat to understand how granule morphology is controlled in wheat; and he is using a panel of wheat lines with different starch granule morphologies to understand how the granule morphology affects digestibility of starch in food. His research will help understand how different starches could impact human health and how to make targeted modifications of wheat starch to improve its physicochemical and nutritional properties.



**Clare Moscrop
DSV-UK**

Clare is a breeding assistant for DSV-UK, she has an interest in bringing new genetics into the program and is in the process of setting up a pre-breeding pipeline to incorporate more academic material. She has experience in wheat pathology and a background in biotechnology.



**Paul Nicholson - WP Lead
John Innes Centre – WP2**

Paul's research group works on the genetic basis for fungal disease resistance in wheat and barley. Paul uses natural and induced variation to identify areas of the genome which confer resistance to fungal disease, including eyespot, FHB and wheat blast. Paul uses QTL analysis to map the regions of the genome which are responsible for disease resistance and establish whether these genes have other unexpected consequences for crop health and performance.







**Katie Noel
NPZ**

Katie is a breeder at NPZ UK and manages the UK winter wheat programme based in Impington near Cambridge. She works with colleagues in Europe to develop wheat varieties for the UK market. She has a background in plant pathology.



**Stephen Pearce
Rothamsted Research WP1**

Stephen researches the ways in which hormone signals regulate wheat growth and development. His group uses molecular tools such as biosensors, transcriptomics, and reverse genetics to identify and characterise genetic variation in hormone biosynthesis and signalling pathways. The impact of this variation on agronomic traits such as stature, spike development and root system architecture are evaluated in field trials with the long-term goal to identify untapped genetic variation that can be exploited for wheat improvement.

	<p>Peter Shewry Rothamsted Research – WP1 and 3</p> <p>Peter is interested in understanding the mechanisms that determine grain structure, composition and properties, to improve grain quality both for processing and health. His research currently focuses on improving the composition and content of dietary fibre in wheat grain and reducing the nitrogen requirement for producing wheat grain for breadmaking.</p>
	<p>Petros Sigalas Rothamsted Research</p> <p>Petros is a post-doctoral researcher specializing in plant nutrition, focusing on improving nutrient use efficiency and the micronutrient content of wheat grain. His research aims to explore the genetic basis and identify the genes controlling nutrient uptake and transport within plants by utilizing genomic analysis, transcriptome profiling, and other molecular techniques. Additionally, he is interested in the role of strigolactones as signalling molecules under nutrient stress</p>
	<p>Isabel Torro Limagrain</p> <p>Isabel did her PhD in rice breeding at IVIA (Valencia, Spain), and joined Limagrain as a cereal breeder in 2011. Since 2023 she has been Head of Wheat Research Europe South/Mediterranean leading a team dedicated to obtaining new varieties of cereal which are adapted to this wide area in which climatic changes are being shown dramatically with drought and heat. To learn about how the plants are adapted to these stressful situations is a key factor to keep the agriculture in some mediterranean areas.</p>
	<p>Cristobal Uauy - WP LEAD John Innes Centre – WP1 AND 4</p> <p>Cristobal's research is focused on using genetics and genomics to improve both yield and quality components in wheat. He is using natural and induced variation to identify genes which affect cell division and expansion within the seed to improve grain weight. He is also investigating disease resistance and ways of improving wheat quality, for example nutrient and protein content in the grain.</p>