



VI SPANISH SYMPOSIUM ON PHYSIOLOGY AND BREEDING OF CEREALS

16-17 OCTOBER · SALAMANCA 2024

SUMMARY OF IMPORTANT INFORMATION

FOCUS Knowledge and resources (genetic and technological) for the improvement of yield and quality (end-use and nutritional) of cereals in the current context of climate change and population growth. The goal of this symposium is to create a fertile space for scientific exchange and to facilitate synergies between scientists working on issues of physiology, genetics, and breeding of cereals.

PROGRAM There will be four sessions focused on i) Genetic and technological resources for yield improvement, ii) Adaptation to abiotic stresses, iii) Adaptation to biotic stresses, and iv) Improvement of cereal quality. In each of these sessions, there will be an invited keynote talk, oral communications, and poster/flash talk presentations.

KEYNOTES There will be four invited speakers to open each of the four sessions.

DEADLINES **Abstracts:** 15 September 2024 (Final deadline).
15 July 2024 (to be considered for oral communications).
Registration: *Early Bird:* until 30 June 2024.
Regular: from 1 July to 31 August 2024.
Late: from 1 to 30 September 2024.

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INTRODUCTION

The series of Symposia on Cereal Physiology and Breeding has been aiming to create a fertile space for scientific exchange and to facilitate synergies among scientific groups working on issues of physiology, genetics, and breeding of cereals. These symposia have become an ideal space for presentation of scientific and technical progresses in an environment combining rigorous but constructive discussions with a friendly atmosphere.

The symposium is organized within the context of the Excellence Research Network FIRCME “*Physiology of Yield and Quality for the Improvement of Cereals*” funded by the Spanish Research Agency (2018-2020) and led by Dr. Slafer (UdL, Agrotecnio), which currently continues in the frame of the Research Network CERES “*Resilient Quality Cereals for Spanish Food Security*” funded by the Spanish Research Agency (2023-2025) and led by Dr. Igartua (EEAD-CSIC). This network gathers some of the Spanish groups with international recognition on physiology and genetics of cereals.

An outcome of previous Symposia on Cereal Physiology and Breeding has been the strengthened collaborations and synergies between Spanish groups and with groups from other countries that have participated, improving the level of multidisciplinary, impact and internationalization of research activities in the search for solutions to global agriculture, and particularly the Mediterranean areas.

This Sixth Symposium on Physiology and Cereal Breeding will focus on knowledge and resources (genetic and technological) for the improvement of yield and quality (end-use and nutritional) of cereals in the current context of climate change and population growth.



PROGRAM

There will be four sessions focused on i) Genetic and technological resources for yield improvement, ii) Adaptation to abiotic stresses, iii) Adaptation to biotic stresses, and iv) Improvement of cereal quality. Each session will be opened by a keynote presentation delivered by an invited speaker, followed by a series of oral communications selected by the scientific committee of the symposium from the abstracts submitted before 15 July 2024 and an open discussion, and closed by a poster/flash talk presentations of 2 minutes per poster summarized in only two slides.

A preliminary outline of the SEFIMEC VI program is shown below.

Wednesday, 16 October 2024	
8:30 - 9:30	Registration.
9:30 - 9:45	Welcome.
9:45 - 10:15	SESSION I. GENETIC AND TECHNOLOGICAL RESOURCES FOR YIELD IMPROVEMENT Invited keynote speaker: Dr Gustavo A. Slafer , Professor of ICREA, University of Lleida (Spain).
10:15 - 11:15	Oral communications.
11:15 - 11:45	Coffee break.
11:45 - 12:00	Open discussion on genetic and technological resources for yield improvement.
12:00 - 12:30	Carrousel of two-minutes poster presentation. Session I.
12:30 - 13:00	SESSION II. ADAPTATION TO ABIOTIC STRESSES Invited keynote speaker: Dr Elizabete Carmo-Silva , Professor of Crop Physiology, Lancaster University (UK).
13:00 - 14:30	Lunch.

14:30 - 15:30	Oral communications.
15:30 - 15:45	Open discussion on adaptation to abiotic stresses.
15:45 - 16:15	Carrousel of two-minutes poster presentation. Session II.
16:15 - 16:45	Coffee break.
16:45 - 18:00	Viewing/Discussing posters (sessions I and II).
19:30 - 20:30	Touristic visit.
21:00	Symposium dinner.
Thursday, 17 October 2024	
9:00 - 9:30	SESSION III. ADAPTATION TO BIOTIC STRESSES Invited keynote speaker: Dr Ana Butrón , Group Leader, Misión Biológica de Galicia (Spain).
9:30 - 10:30	Oral communications.
10:30 - 11:00	Open discussion on adaptation to biotic stresses.
11:00 - 11:30	Coffee break.
11:30 - 12:00	Carrousel of two-minutes poster presentation. Session III.
12:00 - 12.30	SESSION IV. IMPROVEMENT OF CEREAL QUALITY Invited keynote speaker: Dr Philippa Borrill , Group Leader, John Innes Centre (UK).
12:30 - 13:00	Oral communications.
13:00 - 13:15	Open discussion on improvement of cereal quality.
13:15 - 14:45	Lunch.

14:45 - 15:15	Carrousel of two-minutes poster presentation. Session IV.
15:15 - 16:30	Viewing/Discussing posters (sessions III and IV).
16:30 - 16:45	Conclusions and closing symposium.

INVITED KEYNOTE SPEAKERS

SESSION I: GENETIC AND TECHNOLOGICAL RESOURCES FOR YIELD IMPROVEMENT



Dr Gustavo A. Slafer, Professor of ICREA, University of Lleida (Spain)

Gustavo A. Slafer (PhD University of Melbourne) is a Research Professor of ICREA at AGROTECNIO-CERCA Center, and the University of Lleida (Catalonia-Spain). His research has focused on studying the mechanisms underlying the responses of grain crops (mainly but not only wheat and barley) to environmental and genetic factors, with lines of research focused on understanding traits determining yield physiology and their plasticity.

He published more than 200 papers, more than 40 chapters and 7 books by International Publishers. His h-index is 67 (Web of Science, Core Collection) or 90 (Google Scholar). He is Honorary Professor of the Universities of Nottingham (UK, since 2005) and Buenos Aires (Argentina, since 2018); Editor/Associate Editor of several journals; and “Fellow” of the Crop Science Society of America

SESSION II: ADAPTATION TO ABIOTIC STRESSES



Dr Elizabete Carmo-Silva, Professor of Crop Physiology, Lancaster University (UK)

Elizabete is an expert on the regulation of carbon assimilation by Rubisco in crop plants, especially wheat and cowpea. She leads a research team that aims to understand and improve the efficiency of photosynthesis to optimise the sustainability and climate resilience of crop production.

She received her undergraduate degree in applied plant biology at the University of Lisbon, where she went on to earn her PhD researching photosynthesis and photorespiration in C4 grasses. She specialized on the regulation of Rubisco by its molecular chaperone Rubisco activase as a postdoctoral researcher with the USDA-ARS, then started exploring this knowledge for crop improvement as a research scientist at Rothamsted Research. She joined Lancaster University in 2015 to start a research group that focuses on Rubisco regulation in crops.

SESSION III: ADAPTATION TO BIOTIC STRESSES



Dr Ana Butrón, Group Leader, Misión Biológica de Galicia (Spain)

Ana Butrón belongs to the Maize genetics and breeding research group of the Misión Biológica de Galicia (CSIC) in Pontevedra. For approximately 30 years, her research activity has been focused on the genetics and improvement of maize resistance to various biotic stresses caused by insect attack and fungal infections, especially, on genomics of resistance to maize stem borers and kernel contamination with mycotoxins, maize response induced by biotic attack and maize metabolites involved in resistance.

These studies have allowed them to generate new knowledge about the plant-parasite interaction and the development of resistant varieties to biotic stresses and have contributed to a more general goal, the increase of the sustainability of agriculture by reducing inputs, limiting the environmental impact of agriculture and enlarging crop genetic variability. She has contributed with more than 120 SCI papers and participated in 27 research projects, being principal researcher in five of them.

SESSION IV: IMPROVEMENT OF CEREAL QUALITY



Dr Philippa Borrill, Group Leader, John Innes Centre (UK)

Dr Philippa Borrill is a Group Leader in the Department of Crop Genetics at the John Innes Centre. Philippa's research investigates the genetics controlling the nutritional value of wheat grain. Her research also explores how the multiple gene copies in wheat interact to influence agronomically important traits. Her lab uses diverse approaches including transcriptomics, map-based cloning and molecular biology to identify and characterise genes within the large, complex wheat genome. Her lab works across scales from single cells to field-scale experiments.

Previously, as a BBSRC Anniversary Future Leader Fellow, Philippa developed a series of key resources for wheat genomics including a gene expression atlas which has been used by over 45,000 people globally. Philippa's work on wheat genomics and transcriptomics has been recognised by awards such as the New Phytologist 2019 Tansley Medal for Excellence in Plant Science and the Society for Experimental Biology 2022 Plant President's Medal.

Philippa is committed to making wheat research accessible to other scientists, industry and the general public. She has organised multiple training workshops in wheat bioinformatics and co-developed a wheat training website. Philippa was elected from 2021-2024 to Chair the Monogram (UK small grain cereals) network which connects UK academics and breeders through an annual conference.

CALL FOR ABSTRACTS

Abstracts, written in English (the language of the Symposium) and consisting of 300 words or less, must be submitted before the deadline. At least one of the authors must be registered in the Symposium. Each registered author will be allowed to submit a maximum of 2 abstracts as a first author (no limits for being co-author in other positions). Accepted abstracts will be included in the symposium abstract book and should be presented in the form of either ORAL COMMUNICATION or POSTER/FLASH TALK (the author responsible for submitting the work must indicate the preferred modality of presentation). The Scientific Committee of the symposium will select the works to be presented as oral communications.

The **deadline** for sending abstracts will be 15 September 2024, but only abstracts submitted until 15 July 2024 would be considered for oral communication. All abstracts submitted between 16 June and 15 September 2024 will exclusively be considered to be presented as poster/flash talk.

A template for the abstract submission will be provided at its due time at the symposium web site.



REGISTRATION

Registration for the VI Symposium on Cereal Physiology and Breeding will be carried out through the symposium website: <https://sefimec.org/>

The registration fee will cover participation in the symposium, and meals included in the symposium program.

Regular registration: 300 € for Researchers and Professionals.

Reduced registration: 225 € for Students (who will need to certify that condition).

These fees will be decreased for those who register before the early-bird deadline of 30 June 2024.

	Early bird Registration (until 30/06/24)	Regular Registration (30/06/2024 to 31/08/2024)	Late Registration (01/09/2024 to 30/09/2024)
Researchers and professionals	250 €	300 €	350 €
Students	200 €	225 €	250 €

VENUE AND ACCOMODATION

The organization of the symposium will not make hotel reservations. Each participant is responsible for organizing their travel and accommodation. The accommodation offer in Salamanca is varied including hotels and serviced-apartments. In the website we will provide links, but likely the best way to proceed is through booking.



ABOUT SALAMANCA

Salamanca is one of the most beautiful cities in Spain. Its main square is one of the best examples of Baroque architecture in the Peninsula. Visit the Cathedrals, and don't forget to climb the cathedral's medieval towers via the Ieronimus exhibition: You can walk around the exterior terraces, the lookout points and balustrades that look over the interior of the church, amidst gargoyles, pinnacles and cathedral bells.

The University's Historic Building, the oldest in Spain, is also worth a visit, and it is traditional for tourists to try to find the frog on its façade. Inside, visitors can discover other wonders such as the Fray Luis lecture hall, where time appears to have stood still, or the Old Library. No rush, but make sure to see the Casa de las Conchas, renowned for its main façade which is covered with hundreds of shells, and la Clerecía Church and the Pontifical University, located just opposite. And don't forget to climb the La Clerecía Towers and enjoy some spectacular views over the city from the tower balconies, a breathtaking vantage point.

After this pleasant walk, time for a quick break to get our strength back. There are some excellent restaurants with top-quality dining. Traditional and avant-garde cuisine with locally-grown products, featuring mouth-watering dishes such as Guijuelo cured ham, "morucha" beef, lentils from Armuña, chanfaina (rice with a chorizo and pork stew), roasts... locally-produced Salamanca cheeses, olive oils and wines. How about fine dining with views over the city (Parador de Turismo) or in the Plaza Mayor, or even in a contemporary art centre or how about in a traditional Castilian tavern.

Source: Salamanca Tourism.

