

International Wheat Genome Sequencing Consortium

# IWGSC – From Structural to Functional Wheat Genomics



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## The International Wheat Genome Sequencing Consortium







## Why Join the IWGSC? How to join the IWGSC?

- Join global community and network of wheat scientists
- Newsletter: announcements, news, events
- Webinar Series
- Data & Tool Resources



#### Website wheatgenome.org



## **IWGSC Webinar Series**

#### Latest Webinars Play all



#### Wheat Spike and Grain Development by Learning...

International Wheat Genome Seq... 252 views • 1 month ago Wheat genomics facilitates the discovery of kinase...

International Wheat Genome Seq... 230 views • 3 months ago

- Live, interactive Webinar since 2020
- Topics on all aspects of Wheat Science
- Past Webinars available on YouTube IWGCS Channel with >1000 subscribers



Want to become a Webinar Speaker or nominate a colleague? Contact Rolanda Young (young[at]eversoleassociates.com)



#### **IWGSC 2.0 Vision**

Enhance breeding through an increased understanding of the molecular basis of traits and their allelic diversity



# **IWGSC Wheat Diversity Project**

#### The project addresses the critical need to preserve, discover, and mobilize genetic resources by sequencing landrace genomes that encompass the worldwide diversity of bread wheat.

**Principal Investigator** Exec. Director, IWGSC INRAE: UMR Genetics Diversity et Ecophysiology of Cereals (GDEC)



**Kellye Eversole** 





Biological resources, genome production, annotation



Michael Alaux INRAQ

**IWGSC Data Repository** 

**INRAE: URGI** 

Moussa Benhamed universite PARIS-SACLAY

**Transcriptome** 

**U.** Paris, Saclay

C. Robin Buell

**GEORGIA** 

Practical Haplotype Graph

**U.** Georgia, Athens

Poster 415



- Platinum assemblies for 12 maximally diverse bread wheat landrace accessions and the community reference cv. Chinese Spring.
- Transcriptome data and gene annotations and update the IWGSC CS RefSeq annotation in a manner that sustains its role as a communitycurated resource.
- Construct a Practical Haplotype Graph (PHG) to catalog all genetic diversity within bread wheat and enable community-driven discoveries across the species.

A project supported by the National Science Foundation under grant #2322957, the European Research Council ERC (project 3Dwheat #101044399), INRAE Plant Biology and Breeding department, and the International Wheat Genome Sequencing Consortium

**IWGSC-Catherine Feuillet Early Career Award** 

Awarded to talented early career scientists working on wheat genomics

Carolyn Mukiri Kambona, University of Bonn, Germany



IWGSC and Catherine Feuillet Early Career Award – 2024



**Carolyn Mukiri** University of Bonn, Germany

IWGSC Workshop (Saturday):

"Memory of Past Drought Stress Exposure Effects Plant Responses in Subsequent Generations in Winter Wheat (Triticum aestivum L.)"

Read her profile here: https://www.wheatgenome.org/people/ea rly-career-award/carolyn-mukiri





# Thank you for your participation!

#### www.wheatgenome.org





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# Today's Speakers

Adam William Schoen	U. Maryland	Elucidation of the Genetic Components behind a Novel Gene Controlling Grains per Spike
Jyoti S. Sharma	U. Minnesota	Understanding the Interaction between Suppressors and Rust Resistance Genes
James Milson	John Innes Centre	Hybrid Wheat: Which Alleles Are in Your Bread?
Xianran Li	Washington State U.	BRIDGEcereal: A Webapp Streamlines Unsupervised Machine Learning to Survey and Graph Indel-Based Haplotypes from Pan- Genomes for Functional Characterization
Meriem Aoun	Oklahoma State U.	Genomics to Boost Durable Leaf Rust and Stripe Rust Resistance in the U.S. Great Plains Wheat
Dominique Hirsz	U. Leeds	VRNturing into the Unknown: Dissecting the Role of VERNALIZATION2 (VRN2) in Climate Adaptation