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January 2020

KEYNOTE SPEAKERS: 2020 BGRI Technical Workshop



Dr. Theo De Jager President of the World Farmers' Organization



Dr. Sarah Gurr Chair in Food Security Exeter University



Dr. Hale Ann Tufan Winner of the 2019 Norman E. Borlaug Field Award

The BGRI is thrilled to announce the keynote speakers for the 2020 BGRI Technical Workshop in the UK.

- Dr. Theo De Jager is President of the World Farmers' Organization, and a champion for modernizing, mechanizing and commercializing small-scale agriculture in Africa. In his Keynote, De Jager will address climate change and how small-scale farmers can lead climate change mitigation. As moderator of the BGRI's Farmer Panel, he will talk about <u>Climakers</u> - farmers and stakeholders in the Farmers Driven Climate Change Alliance committed to providing solutions to climate change.
- Dr. Sarah Gurr is a world-recognized expert on crop diseases with an emphasis on fungal infestations, their global movement and control. In her Keynote, Gurr will address how fungal diseases, which play a key role in natural and agricultural ecosystems, will change in a warming world, the impacts of climate change on plant pathogen movement, and what happens when crops encounter pathogens they have never seen before.
- Dr. Hale Ann Tufan is the 2019 recipient of the Norman E. Borlaug Field Award, a 2010 WIT Early Career awardee, and co-leader of Gender-responsive Researchers Equipped for Agricultural Transformation (<u>GREAT</u>). In her talk, Tufan will address the need to take gender and other social aspects into account in developing the product profiles of future varieties, and the impact of creating agricultural systems that more equitably share the benefits of agricultural research among women and men.

Join over 250 participants who have already registered, June 1-4, 2020, in Norwich, UK at the John Innes Centre. NOTE: Training sessions are May 30-31.



Connect with the BGRI community. Engage with your peers. Learn from cutting-edge presenters. Tour the research fields of the John Innes Centre, and take part in training sessions led by global experts on May 30-31.

We will be honoring the recipients of the 2020 Gene Stewardship Award and the 2019 and 2020 Jeanie Borlaug Laube Women in Triticum Early Career and Mentor awardees. Join us in Norwich!

Check out our video!

Register now for BGRI 2020

Ug99 and Somatic Hybridisation: The BGRI Interviews Melania Figueroa



(I-r) Dr. Peter Dodds, Dr. Melania Figueroa, Dr. Narayana Upadhyaya and Dr. Rohit Mago, are four of the authors from CSIRO responsible for the "Emergence of the Ug99 lineage of the wheat stem rust pathogen through somatic hybridisation."

Ug99 was first characterized in Uganda in 1999, but the origin of this particularly devastating race of stem rust has always been a mystery. For 20 years, scientists have wondered: How did it happen? Was barberry involved? Was sexual reproduction involved? Or was it a mutation caused by radiation at high elevations?

The answer couldn't be more tantalizing - and the cause of excitement and consternation in the global wheat community.

Using comparative genomics, Melania Figueroa and her collaborators, led by Peter Dodds, at the Commonwealth Scientific and Industrial Research Organisation (CSIRO) in Australia, discovered that novel truth that two donor nuclei came together to create Ug99. The BGRI's Chris Knight interviewed Melania recently about the work.

Read the BGRI blog about Melania here

Watch the BGRI video interview with Melania

Read the Nov 2019 paper in Nature Communications here



The Seed Program for Improved Seed Production in Nepal documented in new video

From our friends at Sathguru comes a video documenting the Delivering Genetic Gain in Wheat project's work since 2016 to generate high-quality seeds to increase yield in Nepal in cooperation with the Agriculture & Forestry

University.

Watch it here



New international partnership to fight Fusarium head blight

The CGIAR Research Program on Wheat, led by CIMMYT and ICARDA, recently announced a partnership with the Jiangsu Academy of Agricultural Sciences (JAAS) near Beijing, China, to open a new screening facility for the deadly and fast-spreading fungal wheat disease Fusarium head blight. FSB can cause up to 50% yield loss and

produce severe mycotoxin contamination in food and feed.

The new facility will capitalize on CIMMYT's world class-collection of disease-resistance wheat materials and the diversity of the more than 150,000 wheat germplasm accessions in its Wheat Germplasm Bank.

Read more here

In the News

Grants have been awarded for the ND Bioscience Industry, including \$56K for enhancement of wheat rust surveillance. Jan 15, 2020

Recent Publications

Endemic and panglobal genetic groups, and divergence of host-associated forms in worldwide collections of the wheat leaf rust fungus *Puccinia triticina* as determined by genotyping by sequencing, by J.A. Kolmer, A. Herman, M.E. Ordoñez, S. German, A. Morgounov, Z. Pretorius, B. Visser, Y. Anikster, M. Acevedo. <u>Nature</u>, <u>Heredity</u>, <u>December 2019</u>

Genotyping-by-Sequencing for the Study of Genetic Diversity in *Puccinia triticina*, M. Aoun, J.A. Kolmer, M. Breiland, J. Richards, R.S. Brueggeman, L.J. Szabo, M. Acevedo. <u>APS, Plant Disease, January 2020.</u>

Opportunities

Postdoctoral Research Position at John Innes Centre:

Dr. Diane Saunders' group seeks a postdoctoral researcher for 24 months in the Department of Crop Genetics. The Saunders group focuses on studying (re-)emerging plant pathogens that pose significant threats to UK agriculture using an array of different approaches, integrating molecular genetics, microbiology, plant pathology, population genetics, genomics and data mining to improve our understanding of how pathogens cause disease. The appointee will functionally characterise a series of putative wheat rust susceptibility genes and determine their role in relation to the obligate biotrophic pathogen *Puccinia striiformis* f. sp. *tritici*, the causal agent of yellow rust disease. Applications close 23 February 2020.

Events

2020 CIMMYT Visitors' Week

March 16-20, 2020: Obrégon, Mexico March 16, 2020: Field Day

2020 Borlaug Global Rust Initiative Technical Workshop May 31 and June 1, 2020: Training opportunities prior to the workshop June 1-4, 2020 (Norwich, UK): Technical Workshop Registration is now open

International Conference on Septoria and Cereal Leaf Blights April 19-21, 2020: Hammamet, Tunisia

Contribute to the BGRI newsletter and social media

If you have any news of interest to the BGRI community, please send us a message and we will try to include it in subsequent BGRI newsletters! We also publish and share stories on our <u>Twitter</u> and <u>Facebook</u> accounts. Use **@globalrust** to tag any contributions.

Events, career and educational opportunities, photos, and new publications are especially welcome.

Contact BGRI newsletter editor Linda McCandless or the BGRI.

VISIT OUR WEBSITE

Borlaug Global Rust Initiative | bgri@cornell.edu |

The Borlaug Global Rust Initiative is supported through the Delivering Genetic Gain in Wheat (DGGW) project at International Programs at the College of Agriculture and Life Sciences at Cornell University. DGGW is funded by the Bill & Melinda Gates Foundation and UK aid from the UK government.





