VIB IPBO/PSB Booster Online Café

Date: 10th December 2024

Time: 13:00 CET

Topic: Genomic and Transcriptomic Insights into Drought Responses to Enhance Crop Productivity

Speakers: Dr. Hilde Nelissen and Dr. Damaris Odeny

Zoom link: Click here to join

Chair of the Session: Marc Heijde

Programme

13:00 – 13:05: Introduction

Marc Heijde (5 minutes).

13:05 – 13:45: Presentation 1: Dr. Damaris Odeny

Lecture (30 minutes).

Question and Answer session (10 minutes).

13:45 – 14:25: Presentation 2: Dr. Hilde Nelissen

Lecture (30 minutes).

Question and Answer session (10 minutes).

14:25 – 14:30: Discussion and Wrap-Up

Closing remarks and final discussion Marc Heijde (5 minutes).

Speakers

Damaris Achieng Odeny (PhD) is a plant molecular breeder currently leading a global research cluster called "Genomics, Pre-breeding and Bioinformatics" within the Accelerated Crop Improvement program at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT). She has led and implemented genomics projects in both cereals and legumes, including the development of genomic resources in several underutilized crops. Damaris works closely with other disciplines from national, private and international institutes to develop cutting edge genomic resources for all ICRISAT mandate crops (sorghum, pearl and finger millet, groundnut, chickpea and pigeon pea) in her current role. Prior to this, she worked as a senior researcher at the Agricultural Research Council (ARC), South Africa, where she implemented molecular breeding for several indigenous crops including sorghum, cassava,

sweet potato, African eggplant and amaranths. Damaris is also passionate about mentoring of young upcoming scientists and has successfully mentored more than fifty scientists in her career to date. She leads the Science and Publication Sub-committee of the African Plant Breeders Association.

Areas of expertise: Qualitative and quantitative genetics; Genetic mapping; Germplasm characterization; Pre-breeding; Computational Biology; High throughput genotyping and marker development; Next Generation Sequencing and data analysis; Transcriptome and Metagenomics analysis

Editorial Board Memberships:

1. Theoretical and Applied Genetics
2. The Plant Genome
3. Plants, People, Planet
4. Euphytica

Hilde Nelissen is group leader at the VIB-Center for Plant Systems Biology. Her research career has focused on the central biological question: How do growth processes determine final plant organ size? Initially, she approached this using molecular biology studying Arabidopsis leaf development. As her interest shifted towards applied research, her focus redirected to maize. What started as translational research to bring knowledge from Arabidopsis to crops and from the lab to the field, gradually developed into a research line with the goal to decipher the instructor networks that govern leaf size, organ growth and ultimately yield in maize. Because plant organ size control is an important yield component that is also impacted by adverse conditions, the ultimate goal of the team is to deepen our understanding of the growth regulatory networks to achieve climate resilient crops. To address these biological questions, the team implements a range of molecular and phenotyping technologies, including multiplex genome editing, single cell and spatial transcriptomics.

Hilde is co-chair of the Plant Cell Atlas committee for Spatial Omics, adjunct Director Technology Transfer of the VIB-Center for Plant Systems Biology and Professor at Ghent University where she teaches Plant Yield, Plant Research Technologies and Academic storytelling.

Affiliation

VIB – UGent Center for Plant Systems Biology