

Training Workshop

Developing a user-friendly application for smallholder farmers for detection of plant disorders



UNIVERSITAT DE
BARCELONA

Date: 7-8 December 2021
Venue: ICBA Headquarters, Dubai, UAE

Highlights

Annual crop losses due to pests and diseases range between 20% and 40%, undermining rural livelihoods, national economies, and food security. Intelligent systems can help farmers make prompt *in-situ* diagnoses and facilitate effective response to plant diseases and pest attacks in their early stages.

The International Center for Biosaline Agriculture (ICBA), in partnership with the University of Barcelona (UB), are developing a user-friendly application for smartphones that smallholder farmers can use to identify and address diseases and nutritional disorders in their crops, and thus minimize losses in their yields. The project targets farmers in four countries of the Middle East and North Africa (MENA) region where ICBA has ongoing projects, including Egypt, Morocco, Tunisia, and the United Arab Emirates (UAE). Subsequently, the application will be rolled out in other countries where ICBA operates and beyond.

This training workshop will give insights and hands-on training on the application targeting farmers, experts and extension staff in the United Arab Emirates.

By the end of the training workshop, participants will be able to:

1. Learn about the role of innovation & technology in achieving global food security.
2. Understand the role of artificial intelligence in crop management and protection from diseases and insects infections.
3. Learn about the best control of diseases and pests under different farming systems.
4. Practice the use of a prototype of the application in the field.

Organizer

International Center for Biosaline Agriculture (ICBA),
Dubai, United Arab Emirates

Partner

Faculty of Biology, Barcelona University (UB),
Barcelona, Spain

Trainers

Dr. Henda Mahmoudi, Plant Physiologist, ICBA, UAE

Prof. Dr. Jose Luis Araus, Plant Physiology, Section of Plant Physiology, Faculty of Biology, UB, Spain

Dr. Zied Hammami, Halophyte Agronomist, ICBA, UAE

Prof. Dr. Shawn C. Kefauver, Co-Chair IEEE GRSS IDEA Committee, UB, Faculty of Biology, Dept. BEECA, Plant Physiology Section, Spain

Dr. Jose Armando Fernández G., Plant Physiology, Section of Plant Physiology, Faculty of Biology, UB, Spain

Ms. Ma. Luisa Buchailot, Plant Physiology, Section of Plant Physiology, Faculty of Biology, UB, Spain

Dr. Sumitha Thushar, Post-Doctoral Fellow - Plant Genetic Resources Scientist, ICBA, UAE

Coordinator

Mr. Ghazi Al-Jabri, Capacity Development Specialist, ICBA, UAE

Agenda

Tuesday 7 December 2021

- 08:30-09:00 Registration
- 09:00-10:00 **Inaugural Session**
Welcome address, Dr. Tarifa Alzaabi, Acting Director General, ICBA
Speech of ICBA Project coordinator, Dr. Henda Mahmoudi
Speech of Prof. Jose Luis Araus, Project team lead, UB
Introduction of trainers and participants
Keynote presentation: *The Role of Innovation & Technology in Achieving Global Food Security, Dr. Tarifa Alzaabi, Acting Director General, ICBA*
- 10:00-10:30 Group photo and coffee break
- 10:30-11:00 *Introduction of the project and the related activities, Henda Mahmoudi*
- 11:00-11:30 *Best control of diseases and pests under different farming systems: Relationship good farming, irrigation management and diseases control for each cropping system, Zied Hammami*
- 11:30-12:00 *Artificial Intelligence Overview and Workflow, ODK and ODK Downloader App, Shawn C. Kefauver*
- 12:00-12:30 *Common plant disorders and importance of mobile application, Sumitha Thushar*
- 12:30-13:00 *AI Applications for Crop Management, Jose Luis Araus*
- 13:00-13:30 *Introduction to use of the App, Ma. Luisa Buchailot*
- 13:30-14:30 Lunch and prayer break
- 14:30-16:00 *World Café seminars*
Importance of the App for Farmers, Facilitators: Ghazi Al-Jabri, Sumitha Thushar, Shawn C. Kefauver
Importance of the App for Extension service and researchers, Facilitators: Jose Luis Araus, Zied Hammami, Ma. Luisa Buchailot

Wednesday 8 December 2021

- 09:00-13:00 Field practice on the applications, **All trainers**
- 13:00-14:00 Lunch and prayer break
- 14:00-15:00 Course Evaluation
- 15:00-15:30 *Distribution of certificates and closing Remarks*