

Training Workshop

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



UNIVERSITAT DE
BARCELONA

Date: 04-06 October 2021
Venue: Concorde El Salam Hotel, Cairo, Egypt

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 and extension staff in Egypt.

Targeted participants include extension officers from local research and extension institutes, academia and pioneer farmers in Egypt

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 smart application in the field.

Organizer

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

Partner

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

Guest of Honor

Dr. Tarifa Alzaabi, Acting Director General, ICBA

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

Coordinator

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

Dr. Sherine Mansoor, Associate professor of
Agricultural Economic, Desert Research Center, Egypt

Agenda

Monday 4 October 2021

08:30—09:00 Registration

09:00—10:30 **Inaugural Session**

MC: Dr. Henda Mahmoudi, Plant Physiologist, ICBA

- *Welcome note of host country, Prof. Dr. Abdullah Zaghloul, President, Desert Research Center (DRC), Egypt*
- *Speech of ICBA, Dr. Tarifa Alzaabi, Acting Director General, ICBA*
- *Speech of Pr. 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*

10:30—11:00 Group photo and coffee break

11:00—11:30 *Introduction of the project and the related activities, Henda Mahmoudi & Jose Luis Araus*

11:30—12:00 *Best control of diseases and pests under different farming systems: Relationship good farming, irrigation management and diseases control for each cropping system, Zied Hammami*

12:00—12:30 *Artificial Intelligence Overview and Workflow, ODK and ODK Downloader App, Shawn C. Kefauver*

12:30—13:00 *AI Software for Disease Detection, José Armando Fernandez-Gallego*

13:00—13:30 *AI Applications for Crop Management, Jose Luis Araus*

13:30—14:00 *Introduction to the use of the App, Ma. Luisa Buchailot*

14:00—15:00 Lunch and prayer break

15:00—16:30 **World Café seminars**

- *Importance of the App for Farmers, Facilitators: Ghazi Al-Jabri, Sherine Mansoor, Shawn C. Kefauver*
- *Importance of the App for Extension service and researchers, Facilitators: Jose Luis Araus, Jose Armando Fernández, Zied Hammami, Ma. Luisa Buchailot*

16:30—17:00 *Closing Remarks and groups distribution, Henda Mahmoudi*

Tuesday 5 October 2021

08:30—14:30 Field practice on the applications - Group 1, **All trainers**

Course evaluation - Group 1, **Ghazi Al-Jabri**

Wednesday 6 October 2021

08:30—14:30 Field practice on the applications - Group 2, **All trainers**

Course evaluation - Group 1, **Ghazi Al-Jabri**