

Launching the applied phase of the project:

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



UNIVERSITAT DE
BARCELONA

Date: 28 - 30 June 2021
Venue: Jewel Sport City, 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 the principals of agri-preneurship for food security.
2. Understand the role of artificial Intelligence in crop management and protection from diseases and insects infections.
3. Differentiate between data management protocols.
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

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

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

Dr. Khaled Zaki, Desert Research Center, Egypt

Coordinator

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

Agenda

Monday 28 June 2021

- 08:30-09:00 Registration
- 09:00-10:30 **Inaugural of the applied phase of the Project “Developing a user-friendly application for smallholder farmers for detection of plant disorders”**
- *Welcome note of host country, Dr. Shirine Mansour*, Desert Research Center, Egypt
 - *Welcome address of Project coordinator, Dr. Henda Mahmoudi*
 - *Speech of ICBA, Dr. Tarifa Alzaabi*, Acting Director General, ICBA
 - *Speech of **Guest of Honor***, Egypt—TBC
 - 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
- 11:00-11:40 Introduction to ICBA—YES
- 11:40-12:00 *Project Overview: UB/ICBA Collaborative Research*, **Henda Mahmoudi and Jose Luis Araus**
- 12:00-12:30 *Artificial Intelligence Overview and Workflow, ODK and ODK Downloader App*, **Shawn C. Kefauver**
- 12:30-13:00 *Field Data Collection Protocols and Pre-Processing*, **Ma. Luisa Buchailot**
- 13:00-13:30 *AI Software for Disease Detection*, **Shawn C. Kefauver/José Armando Fernandez-Gallego**
- 13:30-14:00 *AI Applications for Crop Management*, **Jose Luis Araus**
- 14:00-15:00 Lunch break
- 15:00-15:30 *Crop Monitoring: Affordable, User Friendly Tools and Sensors*, **Jose Luis Araus**
- 15:30-16:00 *Image Analyses for Crop Breeding and Crop Management*, **Shawn C. Kefauver**
- 16:00-16:30 *RGB, Thermal and Multispectral Analysis of Salt Stress in Quinoa*, **Luisa Buchailot**
- 16:30-17:00 *Quinoa pests and diseases in Egypt*, **Dr. Khaled Zaki**
- 17:00-17:45 *Farmers’ Field Schools in the MENA region*, **Ghazi Al-Jabri**
- 17:45-18:00 *Closing Remarks and groups distribution*, **Henda Mahmoudi**

Tuesday 29 June 2021

- 08:30-14:30 Field practice on the applications - Group 1, **All trainers**
- 14:30-15:30 Course evaluation - Group 1, **Ghazi Al-Jabri**

Wednesday 30 June 2021

- 08:30-14:30 Field practice on the applications - Group 2, **All trainers**
- 14:30-15:30 Course evaluation - Group 2, **Ghazi Al-Jabri**