



GREEN ECONOMY ACADEMY 2023

1st International Spring School

Biophotonic Applications in Plant Biotechnology and Food Security

Galala University, Suez, Egypt.

14-16 March 2023

Background: The agroindustrial system is a major industrial driver worldwide. Yet the system is also extremely fragile, being challenged by increasing demand of the consumers, land exploitation and all the challenges derived by urbanization, pollution, and climate change. All those aspects together are affecting the agricultural system, and determine a pressure for update and adaptation of the production, transformation and distribution processes.

A three days spring school will approach how understanding of plant physiology and development of technology is reshaping the way to make agriculture for the next generation of farmers,

The school will cover the following aspects

- New agriculture practices
- Water and soil management
- Agrofood analytics
- Agriculture and energy nexus

The school is designed to have multiple approaches including a part of traditional teaching, a workshop opens to the target audience from young researchers, senior researchers and students and finally sessions with the industrial field. The instructors of the school is intended to be mainly Africa and Europe.

Description of the event: The Italian Embassy in Cairo in collaboration with Galala University will organize a three days school, aimed at discussing the agriculture of the future and to reinforce the dialogue among the scientific community in the area. A three days interactive teaching with lectures and representative of the industry in the precision agriculture field. The event in presence will be in English and will be also streamed online. Presentations and photos of the events will be available at the end of the works and findings of the workshop will be collected on a dedicated webpage.

The event is part of the GREEN ECONOMY ACADEMY series, an annual event that addresses the issues of the Green Economy, from renewable energy, to the circular economy, water management and food security. Training courses are dedicated to young career actors; undergraduate students, at the end of their University career to young professionals and



intermediate figures (early graduates, Master students, PhD Candidates) in the area of STEM (Science, technology, engineering, and mathematics) will be ideal figures to attend the course

The course will be tailored for 50 students max.

Agenda (in progress,subject to changes)

Day 0 arrival to Galala University

Day 1:

9:30 AM -10:30 Registration

10:30 - 11:30

- **Outline of the course**

Prof. Ahmed El-Hussein, Director of Molecular Biotechnology Program.

11:30 AM- 12:00 PM: Coffee Break.

12:00 PM- 1:00 PM: *Prospects and technological advancements in plant Biotechnology: A futuristic preview for addressing climate changes and attaining food security* Prof. Naglaa Abdallah, Faculty of Agriculture, Cairo University.

1:00 -2:30 School Photo and Lunch break

2:30-3:30: *Desert plants in the security of Bedouins' livelihood* Prof. Irina Vasilevna Springuel, Flora advisor at the Nature Conservation Egypt (NCE) society.

3:30 PM - 4:30 PM: *Sustainable development and food security* Prof. Dr. Fericean Mihaela Liana, Department of Biology, Faculty of Agriculture, University of Life Sciences, "King Michael I" Timisoara, Romania.

4:30 PM-6:00: University Tour and Free time

6:00 PM-8:00 PM: School Dinner



Day 2:

10:00 AM -11:00 AM: *Role of protected areas in solving food problems: potentialities and developmental challenges* Prof. Ahmed Hegazy, Faculty of Science, Cairo University, Egypt

11:00 - 11:30: Coffee Break

11:30 AM-12:30 PM: *Laser driven gene delivery technology for improved plant stability*
Dr. Masixole Lugongolo, CSIR, South Africa

12:30 PM - 1:30 PM: *Rapid and innovative food testing technologies to ensure safety and quality along the food production value chain in developing countries: Improving food safety and security* Prof. Nomusa Dlamini, CSIR and South Africa

1:30 PM-2:30 PM: Lunch

2:30 PM - 3:30 PM: *Biofortification of Staple Crops: An Agricultural Investment for Malnutrition in Developing Countries* Prof. Dr. EL Tayeb, Sudan National Council for Research, Sudan

3:30 PM - 4:30 PM: *Applications of Photonics in Agriculture Sector: A Review* Dr. Patience Mthunzi-Kufa, CSIR, South Africa

Day 3

10:00 AM- 11:00 AM: *Agriculture in extreme environments* Dr. Luca Nardi ENEA, Italy

11:00 - 11:30: Coffee Break

11:30 AM - 12:30 PM: *The role of biotechnology in food security* Prof. Reda E.A. Moghaieb, Faculty of Agriculture, Cairo University, Egypt

12:30 - 1:30: *Sustainable agrivoltaic systems* Alessandra Scognamiglio, ENEA, [IT-web streaming](#)

1:30 PM - 2:30 PM: Lunch



2:30 PM - 3:00 PM: Closing Remarks

Prof. Mohamed Elshinawi, GU President

-[web streaming](#) Dr. Yazan Al Momany Scientific Attache' at the Italian Embassy to the UAE.

-[web streaming](#) Dr. Eugenio Cavallo, Scientific Attache' at the Italian Embassy to Senegal.

Dr. Domenico De Martinis, Scientific Attache' at the Italian Embassy to Egypt.

3:00 PM **Certificates distribution** and end of the course.