



Annual Arab Asian Biotechnology Conference (AABC 2025)

Desert Biotechnology and Sustaining Life in Arid Regions

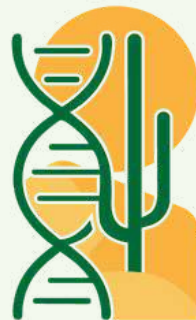
المؤتمر العربى الآسيوى السنوى للتقانات الحيوية:
التقانات الحيوية الصحراوية وإستدامة الحياة فى المناطق القاحلة

Partnership and Cross-Border Research Shaping the Future of Global Biotechnology

5-6 November 2025



Bibliotheca Alexandria, Egypt



AABC
2025

Conference Program



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CONFERENCE PROGRAM



WEDNESDAY- THURSDAY
5-6 NOVEMBER, 2025
BIBLIOTHECA ALEXANDRIA, EGYPT

9:00 – 11:00

Registration and Welcome Coffee

Day 1: Wednesday, 5 November 2025

Lecture room (Main)

11:00 – 12:00

Opening ceremony

Presenter of the opening ceremony: Dr. Nehal Sameh Ramadan

Addresses by

11:00 – 11:05

Prof. Ahmed Zayed

Director, Bibliotheca Alexandrina, Egypt

11:05 – 11:08

Prof. Nabila Abdel Maksoud,

Co-chairwoman and Secretary General of the ASGEB, Egypt

11:08 – 11:11

Prof. Rasha Al-Tarawneh,

Co-chairwoman and Dean of the Faculty of Agricultural Technology, Al Ahliya University, Jordan

11:11 – 11:15

Prof. Pallu Reddanna

Conference Honorary Chairman and Executive President, Federation of Asian Biotech Associations (FABA), India

11:15 – 11:20

Prof. Mahmoud M. Sakr

Conference Chair, Chairman of the BOD ASGEB, and Former President of ASRT, Egypt

11:20 – 11:25

Prof. Tamer Samir Mahmoud

President, Benha National University, Egypt

11:25 – 11:30

Prof. Adel Abdelazim

President, Agricultural Research Centre (ARC), Egypt

11:30 – 11:35

Prof. Hossam Shawky

President, Desert Research Center (DRC), Egypt

11:35 – 11:40

Prof. Mamdouh Moawad Ali

President, National Research Centre (NRC), Egypt

11:40 – 11:45

Prof. AbdulHakim Elwaer

Assistan Director General of FAO for the Near East and North Africa Region and OIC for FAO Representative in Egypt

11:45 – 11:50

Prof. Hesham Azmy

President, Egyptian Intellectual Property Authority (EGIPA), Egypt

11:50 – 11:55

Counsellor Ms. Amal Ammar

President, National Council for Women, Egypt

11:55 – 12:00

H.E. Prof. Manal Awad

Minister of Local Development and Acting Minister of Environment, Egypt

Day 1: Wednesday, 5 November 2025

Lecture room (Main)

12:00 – 14:00

Plenary Session I

Desert Biotechnology and Arid Zone Innovations

Chairpersons

Prof. Adel El-Beltagy

Prof. Ismail Abdel Galil

Prof. Megahed Ammar

12:00 – 12:25

Prof. Andreas Börner (Germany) Online

Plant Genetic Resources for Food and Agriculture – An Important Basis for Breeding and Research

12:25 – 12:50

Prof. Nigel G. Halford (England) Online

Field trials of low asparagine, low acrylamide wheat, produced using CRISPR or chemical mutagenesis: Europe's first field trials of genome-edited wheat

12:50 – 13:15

Prof. Adel El-Beltagy (Egypt)

Navigation through Uncertainties: The Role of Science in Improving the Livelihood of the Dry Areas Inhabitants

13:15 – 13:40

Prof. Hanan Issa Malkawi (Jordan)

Space Biotechnology: Microorganisms' Adaptation and Resilience in Outer Space and Extreme Environments

Workshop I	Recent Advances in Biotechnology for Health Care and Medicine I Coordinators: Prof. Nabila Abdel Maksoud, Prof. Doaa Ghareeb ChairpersonsProf. Ghada El-KamahProf. Osama AzmyProf. Nabila Abdel Maksoud
12:00 – 12:15	Prof. Khaled Amer (Egypt) Egypt Genome Review and Update
12:15 – 12:30	Prof. Sameh Saad Ali (Egypt) Genotype-to-Phenotype Transitions in Neuromuscular Diseases: NGS Meets Mitochondria
12:30 – 12:45	Prof. Osama Azmy (Egypt) Molecular Aspects of Fertility Boosters
12:45 – 13:00	Prof. Mohamed Aly Mokhles (Egypt) Genetic Polymorphisms in Metabolically Associated Steatotic Liver Disease MASLD
13:00 – 13:15	Prof. Hussein Sabit (Egypt) Cross-Kingdom Epigenetics: Mining Desert Adaptation for Cancer Biomarkers, Therapeutics and Sustainable Biotechnology
13:15 – 13:30	Prof. Sondos Salem (Egypt) Epigenetic Signatures of Maternal Iron Stores on Offspring Health Outcomes
13:30 – 13:45	Ass. Prof. Ahmed I. AboAhmed (Egypt) Inter-Tissue Crosstalk in the Pancreas Through CCL5–GPR75 Axis Promotes Endocrine β-Cell Expansion

Workshop II	Ancient DNA: Evolution and Unlocking Secrets Coordinators: Dr. Nehal Sameh Ramadan, Mr. Mohammad Abdel-Sattar ChairpersonsProf. Yehia GadProf. Abdel Fattah BadrProf. Mats Hansson
15:00 – 15:20	Prof. Yehia Gad (Egypt) Ancient DNA analysis of Egyptian biological remains
15:20 – 15:40	Prof. Mats Hansson (Sweden) Exploring a historic barley mutant collection for gene identification
15:40 – 16:00	Prof. Medhat A. Ibrahim (Egypt) Technologies Applied for Cultural Heritage: Molecular Modeling and Spectroscopy for Coptic Icons as a Case Study
16:00 – 16:20	Prof. Mahmoud Bahgat (Egypt) Bio-molecular Characterization of Mummification Ingredients: Lessons Learnt for Our Contemporary Life
16:20 – 16:30	Dr. Nehal Sameh Ramadan (Egypt)/ Flash Talk Understanding Ancient Dietary Habits through Multi-Omics Approaches in Archaeological and Archaeobotanical Remains Analyses
16:30 – 16:40	Mr. Essam Ahmed Soliman Aly (Egypt)/ Flash Talk Archaeobotanical Plants: A Bridge Between Ancient Life and Modern Biotechnological Applications

Day 1: Wednesday, 5 November 2025

Multipurpose room

15:00 – 17:00

Workshop III

Nanobiotechnology

Coordinators: Prof. Magdy El Sayed, Dr. Nihal Ahmed El-Mehalawy

Chairpersons

Prof. Moataza Omran

Prof. Manal Ramadan

Prof. Murad Al-Maaitah

15:00 – 15:15

Prof. Manal Ramadan (Egypt)

Nano/Microencapsulation for Sustainable Food Systems

15:15 – 15:30

Dr. Azza Mohamed Marei (Egypt)

Oxidative Stress and Antioxidant Biotechnologies in Desert Life Sustainability

15:30 – 15:45

Dr. Nihal Ahmed El-Mehalawy (Egypt)

Fabrication of Bioceramic Composites based on Anorthite and β -TCP from Natural Resources for Biomedical Applications

15:45 – 16:00

Dr. Hanan Hassan Khalil Shaat (Egypt)

Microfluidic-Based Fluorescence Enhancement of Silica-Embedded Carbon Dots for Direct Detection and Quantification of Unamplified HCV RNA In Clinical Samples

16:00 – 16:15

Ass. Prof. Eman Mahmoud Mohammed (Egypt)

A Comparison of Silica and Natural Alginate Additives in A Nano Biogenic Hydroxyapatite Injectable Hydrogel for Repairing Bone Defects

16:15 – 16:30

Ass. Prof. Mona Sayed Ahmed Mohamed (Egypt)

Development of Bioceramic Composites from Natural Hydroxyapatite and Silicate Materials for Bone Regeneration

Day 1: Wednesday, 5 November 2025

Lecture room (main)

Public Keynote Lecture

Moderator: Dr. Marwa El Wakeel (Bibliotheca Alexandrina)

17:30–18:30

Prof. Nabil Abdel Maksoud (Egypt)

Prof. Clinical Toxicology and
Addiction Medicine, Faculty of
Medicine, Cairo University, EgyptTrend Trap: The New Wave of Drugs and Its Impact
on Youth Healthفخ الترند: الموجة الجديدة من المخدرات وتأثيرها على
صحة الشباب

Day 2: Thursday, 6 November 2025

Lecture room (Main)

9:30 – 11:30

Workshop IV

CRISPR and Beyond: Advances in Genome Editing

Coordinators: Ass. Prof. Elsayed Nishawy, Dr. Doaa Hasan Ali

Chairpersons

Prof. Goetz Hensel

Prof. Gao Maofang

Prof. Moemen Hanafy

09:30–09:45

Prof. Jie Luo (China) Online

Variations of plant metabolome determined by gene clusters

09:45–10:00

Prof. Wang Li (China) Online

Biosynthetic Pathways of Bioactive Compounds and Evolutionary History of Apiaceous Medicinal Plants

10:00–10:15

Prof. Wenwu Guo (China) Online

Molecular Tools Assisted Cell Engineering for Citrus Genetic Improvement

10:15–10:30

Prof. Pallu Reddanna (India) Online

Oxylipid Signaling in Plants and Animals: Role in Physiological and Pathological Processes

10:30–10:45

Prof. Gao Maofang (China)

Sustainable Agriculture Solutions in Arid Regions with the Support of Remote Sensing and Artificial Intelligence

10:45–11:00

Prof. Götz Hensel (Germany)

Precision Mutagenesis in Crops for Functional Genomics and Agronomic Trait Enhancement

11:00–11:15

Ass. Prof. Elsayed Nishawy (Egypt)

CRISPR BOOST: Cutting-Edge Technologies and Advances in Plant Traits Improvement

Day 2: Thursday, 6 November 2025

Multipurpose room

09:30 – 11:30

Workshop VII

Bioeconomy: Microbial, Environmental, and Industrial Biotechnologies

Coordinators: Prof. Mohamed Matter, Ass. Prof. Rasha Sabry

Chairpersons

Prof. Hanan Issa Malkawi

Prof. Moustafa El-Sheekh

Prof. Ashraf Samy

09:30–09:50

Prof. Hesham A. El Enshasy (Malaysia)

Translational Research and Innovation in Biotechnology Industries

09:50–10:10

Prof. Mostafa El-Sheekh (Egypt)

Bioenergy from Algae and Agricultural Wastes as Sustainable and Renewable Energy

10:10–10:20

Ass. Prof. Amira Mohammed-Roshdy Ibrahim (Egypt) /Flash Talk

Recycling of Chrome-Treated Leather Industry Waste

10:20–10:30

Dr. Amira Taha Mohammed Hussien (Egypt) /Flash Talk

Solid State Fermentation as a Biotechnological Tool to Achieve Sustainable Development

10:30–10:40

Dr. Hadeer Abd. El-khalek Mahmoud (Egypt) /Flash Talk

From Orange Waste to Wellness: A Sustainable Bioeconomic Strategy for Producing Therapeutic Xylooligosaccharides

10:40–10:50

Ass. Prof. Mohamed Ewas El-Metwaly Hamad (Egypt) /Flash Talk

Next-Generation Sequencing (NGS) RNA-Seq: A Three-Sided Story to the Biosystematic Revision of Genus Datura Reveals Novel Tropane Alkaloids for the First Time in Certain Species

10:50–11:00

Ass. Prof. Naiera Mohamed Helmy Mohamed (Egypt) /Flash Talk

Antifungal Cyclic Peptides: Sources and Future Prospects.

11:30 – 12:30

Coffee break

Day 2: Thursday, 6 November 2025

Lecture room (Main)

12:00 – 14:00

Workshop VI

Plant Molecular Farming and Biotechnology of Medicinal Plants

Coordinators: Ass. Prof. Mai M. Farid, Ms. Eman Omar

Chairpersons

Prof. Nahla Abdel Azeim

Prof. Mohamed Matter

Ass. Prof. Elsayed Nishawy

12:00–12:15

Prof. Kalina Danova (Bulgaria) Online

Modeling Secondary Metabolites Production and Biological Activity in Conventional Plant Cell Tissue and Organ Culture of Medicinal and Aromatic Plants of The Balkans

12:15–12:30

Ass. Prof. Samia Dabbou (Tunisia)

Medicinal Plants of Arid Regions: Chemical Profiling and AI Insights from Research

12:30–12:45

Prof. Mohamed Hamdy Amar (Egypt)

Comparative Genomic Analyses Highlight Genomic Structural Variation, Diversity, and Evolution Across Threatened Wild Egyptian Species: A Case Study in the Egyptian Capparis taxa

12:45–13:00

Ass. Prof. Mona Osama El Shabrawy (Egypt)

Ensuring Taxonomic Fidelity for Data Integrity in Applied Phytochemistry via Identity Vouchering

13:00–13:15

Ass. Prof. Mai Farid (Egypt)

Effects Of Trigonella Foenum-Graecum Seeds Extract on Alzheimer's Disease Transgenic Model Mouse and Its Potential Active Compound Transferred to The Brain.

13:15–13:30

Ass. Prof. Alia Y. Ragheb (Egypt)

In Vitro Enzymes Inhibitory assessment tracking the LC/MS phenolic profiling of Brachiaria eruciformis (JE Smith) Griseb

13:30–13:45

Prof. Azza Dawoud (Sudan)

Medicinal plants as a source of innovative biotechnological solutions for healthcare and sustainable development in Aird Regions

Day 2: Thursday, 6 November 2025**Multipurpose room****12:00 – 14:00****Workshop V****Better Plant Molecular Breeding for Better Food Security****Coordinators: Ass. Prof. Helmy Youssef, Dr. Radwa Youssef****Chairpersons****Prof. Jutta Papenbrock****Prof. Maher Maghraby****Prof. Reda Gaafar****12:00–12:15****Prof. Jutta Papenbrock (Germany)**

Combining Basic and Applied Research, Focusing on Glucosinolate Metabolism and Salt-Tolerant Plants for More Resilient Plant Cultivation

12:15–12:30**Ass. Prof. Helmy M. Youssef (Germany)**

Discovery and Molecular Characterization of Novel Loci Controlling Salinity Tolerance in Two Highly Diverse Barley Populations

12:30–12:45**Prof. Abdel Fattah Badr (Egypt)**

Genes of Plant Genetic Resources for Adapting Crop Plants to Climate Change

12:45–13:00**Ass. Prof. Olivier van Aken (Sweden)**

The Molecular Basis and Potential Applications of Mechanical Signaling in Plants

13:00–13:15**Ass. Prof. Rasha Al-Tarawneh (Jordan)**

Introgression of Wild Barley Alleles Improves Seedlings' Salinity Tolerance in the HEB-400 Population

13:15–13:30**Dr. Hend Mandour (Egypt)**

Genetic Variation in Transpiration Response to Evaporative Demand: Integrating Agronomic, Physiological, and Molecular Traits in Egyptian Faba Bean Cultivars

Day 2: Thursday, 6 November 2025**Small Theater****12:00–14:00****Workshop VIII:****Recent Advances in Biotechnology for Health Care and Medicine II****Coordinators: Prof. Ayman Samir, Ass. Prof. Mahmoud Shehata****Chairpersons****Prof. Hussein Sabit****Prof. Doaa Ghareeb****Prof. Ayman S. Farid****12:00–12:15****Prof. Soha M. Abd El Dayem (Egypt)**

Intestinal Microbiota in Type 1 Diabetic Patients and Its Relation to Microvascular Complications

12:15–12:30**Prof. Inas A. Ahmed (Egypt)**

Comparative Study of the Therapeutic Effect of Thyroid Tissue-Mesenchymal Stem Cells Conjugates and Tissue-Engineered Thyroid Cell Sheets in Hypothyroidism

12:30–12:45**Prof. Mona Abdelfattah M. ABOZEID (Egypt)**

Antagonizing Cancer Cell Proliferation and Migration by Silencing Chemotactic Gene Markers

12:45–13:00**Prof. Doaa Ahmad Ghareeb (Egypt)**

From Wounds to Cancer: Mechanistic Insights into Insulin Regulation and Cell Fate Decisions

13:00–13:15**Ass. Prof. Hassan Elsayed (Egypt)**

Understanding Natural Infection and Disease Severity in Egypt: A Blueprint for Innovative, Safe & Efficacious SARS-Cov-2 Vaccination Strategy

13:15–13:30**Dr. Mervat Iskandar (Egypt)**

RAS Oncogene in Cancer Detection, Prognosis, and Therapy

13:30–13:45**Dr. Nashwa M. Shalapy (Egypt)**Hepato-Therapeutic and Protective Actions of Genistein on Liver Fibrosis of Male Kunming Mice Induced by CCl₄

14:00 – 15:00

Lunch break

Day 2: Thursday, 6 November 2025

Lecture room (Main)

15:00 – 17:30

Plenary Session II

Desert Biotechnology and Arid Zone Innovations

Chairpersons

Prof. Mahmoud Sakr

Ass. Prof. Oliver Van Aken

Ass. Prof. Ahmed Heikal

15:00–15:20

Prof. Yiping Qi (USA) Online

Versatile Plant Genome Engineering by CRISPR-Combo

15:20–15:40

Dr. Julian G.B. Northey (Canada) Online

Innovative Platform for Creating Climate-Resilient Wheat Cultivars: Enhancing Egypt's National Food Security and Yield Under Water-Limiting Conditions

15:40–16:00

Prof. Umesh K. Reddy (USA) Online

Targeting Negative Regulators with CRISPR: Unlocking New Pathways for Abiotic Stress Resilience in Crops

16:00–16:20

Prof. Ayman El Baz (USA) Online

Role of AI in Medicine, Higher Education, and the Knowledge-Based Economy

16:20–16:40

Dr. Mohamed Bedair, Bayer CropScience (USA) Online

Overview of the Safety Assessment of Biotech Crops

16:40–17:00

Prof. Moemen Hanafy (Egypt)

Transgenic Approaches for Legume Improvement: Progress and Prospects

Day 2: Thursday, 6 November 2025

Multipurpose room

15:00 – 17:00

Workshop IX

Desert Biotechnology and Arid Zone Innovations

Coordinators: Prof. Soliman Omran, Dr. Amira Hassan Soliman

Chairpersons

Prof. Hesham A. El Enshasy

Prof. Fagr Abdel Gawad

Prof. Rasha Al-Tarawneh

15:00 – 15:15

Prof. Malgorzata Jedryczka (Poland)

Decision Support Systems in Plant Protection for the Bioeconomy

15:15 – 15:30

Ass. Prof. Murad Al-Maaitah (Jordan)

Smart Wastewater Recycling and CO₂ Biofixation via Microalgae: A Sustainable Pathway for Climate-Resilient Agriculture

15:30 – 15:45

Prof. Taha Abd-Elkader (Egypt)

Outcomes of Biotechnology Research in Agriculture and the Protection of Plant Varieties.

15:45 – 16:00

Prof. Ahmed Rashed (USA)

Civilization Rights and Civilizology as a Gateway to Biotechnology and Sustainable Development: Chance – Challenges – Change.

16:00 – 16:15

Dr. Ibrahim Shawki Ramadan Abousoliman (Egypt)

Genome-Wide Association Study for Productive Traits in Egyptian Barki Sheep

16:15 – 16:30

Ass. Prof. Mohamed Abdelfattah Abdelhafez (Egypt)

Livestock Nano-Feed Addresses Arid Zone Challenges

16:30 – 16:45

Prof. Mai Ali (Sudan)

Microbial inoculants and water-use efficiency in Sudan's Drylands: A PRISMA-guided systematic review with pre-specified meta-analysis plan

Day 2: Thursday, 6 November 2025

Meeting room

09:00 – 14:00

Poster Session X

Young Scientists Innovations in Desert Biotechnology

Coordinators: Ass. Prof: Mai M. Farid Mr. Mohammed Abdel-Sattar

Chairpersons

Evaluation Committee

Prof. Wagdy Khalil

Prof. Soliman Omarn

Ass. Prof. Helmy Youssef

09:00 – 09:30

Poster setup and registration

09:30 – 11:00

Poster viewing and initial evaluation

11:00 – 12:30

Author discussions and interactive Q&A

11:00 – 12:30

Extended viewing and final judging

11:00 – 12:30

Group Photo

- The scientific committee will evaluate the posters based on:
- Originality and relevance
- Visual clarity and organization
- Presentation and communication skills

 Top posters will be recognized with Certificates of Excellence during the Closing Ceremony

Day 2: Thursday, 6 November 2025

Lecture room (Main)

17:00 – 18:00

Closing Ceremony and Announcement of the Winners of The Arab Biotechnology Scholar Award 2025 (ABS 2025)

Note: A collective time discussion will be held at the end of the sessions.



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