TWAS-AREP Young Scientists Training Program

"Shaping the Future of Science and Research in the Arab Region: AI, Emerging Technologies, and Open Science"

Hybrid Workshop*

27-29 October 2026

Day 1: Tuesday 27 October 2026	
9:30–10:00 am	**Registration + Welcome**
10:00 – 10:30 am	**Opening Session** • **Dr. Marwa Elwakil,** Acting Head, Academic Research Sector, Bibliotheca Alexandrina
Group Photo	
10:30 – 11:30 am	**Workshop Orientation Session and Participants Introduction** • **Ms. Yousra Sobeih,** Acting Director, Center for Special Studies and Programs, Bibliotheca Alexandrina (Egypt) • **Ms. Heba El-Gamal,** Researchers' Support and Development Unit, Center for Special Studies and Programs, Bibliotheca Alexandrina (Egypt)
11:30 am – 1:00 pm	**Session 1: Foundations of AI & Data Literacy for Interdisciplinary Research (Set the scene)** *An introductory baseline on machine learning, deep learning, and data pipelines tailored for non-computer science majors (researchers from natural and life sciences disciplines). Explaining AI and demonstrating how core machine learning workflows apply directly to different disciplines in natural and life sciences, by providing examples from current applied research. This introductory session clarifies essential data science concepts, enabling researchers from diverse background to engage meaningfully with modern computational tools.* **Moderator: H.E. Prof. Yousry El-Gamal,** Former Minister of Education, Egypt • **Prof. Mohamed Abdelaziz,** Professor of Artificial Intelligence, College of Engineering and Information Technology, Ajman University, UAE **(Online)** **Presentation Title: Agentic AI for Education and Research: A Strategic Roadmap for the Arab Region: Applications, Impact and Responsible Adoption** • **Prof. Salah Obayya,** Executive Vice-President for Research, Zewail City of Science, Technology and Innovation, Egypt **(Online)** **Presentation Title: Can We Leverage AI to Engineer Light at the Nanoscale?**

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1:00 – 1:30 pm	**Coffee Break**
1:30 – 3:00 pm	**Session 2: Research Ethics & the future of Open Science in the Area of AI** *The unprecedented integration of artificial intelligence (AI) into scientific research presents immense potential as well as significant ethical challenges. This session will explore the intersection of research ethics and Open Science principles in the AI era, the responsible use of Generative AI in research, and the environmental impact of using AI, by discussing*: • *How Open Science practices can safeguard research integrity in an automated ecosystem.* • *Ethical boundaries around data privacy, intellectual property, and AI-assisted authorship.* • **Prof. Maha Ghanem,** Consultant of Medical Ethics Committee; and Professor, Forensic Medicine and Clinical Toxicology Department, Faculty of Medicine, Alexandria University, Egypt **Presentation Title: Responsible Use of Artificial Intelligence in Health Research Scientific integrity, research governance, and human accountability in the AI era** • **Prof. Amal Amin,** Professor of Nanotechnology and Polymer Technology, National Research Centre, Egypt **Presentation Title: Open science in the era of Artificial Intelligence**
3:00 – 4:30 pm	**Session 3: Emerging Technologies: Solving domain specific problems for Climate, Water, and Energy Research** *Emerging technologies—including Artificial Intelligence, Machine Learning, Digital Twins, and Quantum Computing—are transforming how complex environmental data is processed into real-world impact.* *This session will explore:* • *How AI and emerging technologies address climate, water, and energy challenges differently from the traditional models, that struggle with scale, resolution, and real-time adaptability.* • *Real case studies demonstrating AI applications in water resources management, Climate and Energy research.*

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	• **Prof. Mohamed Abrabo,** Head, Alexandria Research Center for Climate Change Adaptation, Institute of Graduate Studies and Research, Alexandria University, Egypt **Presentation Title: AI, the environment and climate change paradox** • **Prof. Abdin Salih,** Director, Arab Water Academy, The Arab Water Council, Egypt **Presentation Title: Application of AI and Modern Technologies for Smart Water Resources Management in the Arab Region**
4:30 – 5:30 pm	**Lunch**

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Day 2: Wednesday, 28 October 2026	
10:00 am – 12:00 pm	**Session 4: Research Integrity and Responsible Publishing: Identifying and Avoiding Predatory Journals** **In collaboration with TWAS-SAREP** *This session in collaboration with **TWAS-SAREP** will help Arab and African researchers understand research integrity and responsible publishing, with practical guidance on how to identify and avoid predatory journals. Participants will learn how to check journal credibility, recognize warning signs, and make informed and ethical choices when selecting journals for publication* **Facilitator: Mrs. Susan Veldsman,** Director of the Scholarly Publication Unit, the Academy of Sciences in South Africa **(Online)** • **Mrs. Susan Veldsman,** Director of the Scholarly Publication Unit, the Academy of Sciences of South Africa (ASSAf), South Africa **(Online)** • **Ms. Ina Smith,** Planning Manager at the Academy of Science of South Africa (ASSAf), South Africa **(Online)** • **Prof. Ramy Aziz,** Head, MARC Biosciences Research Laboratories, Egypt • **Prof. Rana Dajani,** Professor Molecular Cell Biology, Hashemite University, Jordan **(Online)**
12:00 – 12:30 pm	**Coffee Break**
12:30 – 2:00 pm	**Session 5: From Innovation to Impact: AI in Drug Discovery** *This session will explore how **AI and computer-based tools** are transforming **drug discovery and design**, helping researchers identify promising drug, predict molecular interactions, and **accelerate the development of new medicines**.* • **Prof. Mohamed Helal,** Professor, Drug Design and Development, Zewail City, Egypt. **Presentation Title: AI-Driven Pipelines for Accelerating Lead Compounds Discovery** • **Assoc. Prof. Alya Arabi,** Associate Professor in the Department of Biochemistry and Molecular Biology at the College of Medicine and Health Sciences, UAEU **(Online)** **Presentation Title: AI and Computational Methods for Multitarget Design in Anticancer Drug Discovery**
2:00 – 3:00 pm	**BA Tour**
3:00 – 4:00 pm	**Lunch**

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Day 3: Thursday, 29 October 2026	
10:00 – 11:30 am	**Session 6: Crafting Better Science: Essential Writing Skills for Academics in the post AI Era (Part 1)** *Through real-world examples, this session will show how **AI can support academic writing** while maintaining integrity, and how **poor writing, plagiarism, fabricated references, AI misuse, and other unethical practices** can undermine **research integrity, scientific credibility, and collaboration**. It will also highlight the important role of **editors and reviewers** in protecting the quality of science.* • **Prof. Mohamed Farag,** Professor, Faculty of Pharmacy, Cairo University, Egypt • **Prof. Ramy Aziz,** Head, MARC Biosciences Research Laboratories, Egypt
11:30 am - 12:00 pm	**Coffee break**
12:00 – 2:30 pm	**Session 6: Crafting Better Science: Essential Writing Skills for Academics in the post AI Era (Part 2)** • **Prof. Mohamed Farag,** Professor, Faculty of Pharmacy, Cairo University, Egypt • **Prof. Ramy Aziz,** Head, MARC Biosciences Research Laboratories, Egypt
2:30-3:00 pm	**Closing Session: Feedback and Closing**
3:00 – 4:00 pm	Lunch

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