The Egyptian Society of Electron Microscopy

INTERNATIONAL CONFERENCE 2025

In Collaboration with
Theodor Bilharz Research Institute
Tanta University & Assiut University

Enlightening the Invisible

15 October 2025

8:00 a.m. -9:45 a.m.	**Registration**	
10:00 a.m.- 10.05 a.a.m.	***Overview of the day sessions***	***Emeritus Prof.Soheir Mansy***
Session IX ***From imaging to Immunolabeling***		
Chairpersons ***Emeritus Prof. Hoda Yehia*** — ***Prof. of Pathology &EM Former Head of Electron Microscopy Research Dept. TBRI*** ***Prof. Basma Hamdy Farag*** — ***Prof. of Microbiology Head of TEM unit at the Regional Center for Mycology and Biotechnology (RCMB), Al Azhar University***		
10:10 a.m. - 10: 30 a.m.	***From Preparation to Imaging: Artifacts in TEM and SEM***	***Assist. Prof.Shaimaa Mostafa Kashef Assist. Prof. of Histochemistry and cell Biology Histology Dept. Faculty of Medicine, Tanta University .***
10:30 a.m. – 11:00 a.m.	***Immunohistochemistry and Immunogold Techniques***	***Emeritus Prof. Mona Abdel-Hamed Yehia Prof. of Histochemistry and cell Biology Former Head of Histochemistry and cell Biology dept. Medical Research Institute Alexandria University***

Session X

***Technical Session* with Demonstration**

The Multidisciplinary Research Center of Excellence

Waste to Worth – Nanotechnology in Water Remediation

Moderator

Emeritus prof. Nagwa Abo El-Maali — ***Prof. of Analytical Chemistry. Executive Manager of The Multidisciplinary Research Center of Excellence (MRCE Assiut University.***

Chairpersons

Prof. Ghada Adel Mahmoud — ***Prof. of Radiation Chemistry, Dean of Industrial Irradiation Division, National Center for Radiation Research & Technology Egyptian Atomic Energy Authority***

Prof.Ahmed Azzam — ***Prof. of Environmental Nanotechnology Head of the Environmental Research Depart. & the Nano environmental Unit (NEU) TBRI***

Waste to Worth – Nanotechnology in Water Remediation

Organized by

The Multidisciplinary Research Center of Excellence

Faculty of Science- Assiut University

Introduction

Converting waste materials into nanomaterials for water remediation is a sustainable, cost-effective approach that aligns with the circular economy and green nanotechnology principles.

The main objectives of this technical session is to:

1. ***Introduce the concept of nanotechnology in water treatment.***
2. ***Explore how waste materials can be converted into nanomaterials for water remediation.***
3. ***Applications and case studies.***
4. ***Encourage innovation in sustainable and scalable water purification technologies.***

11:00 a.m. -1:00 p.m.	**-Welcome note and technical session overview** **-Keynote lecture:** ***"Future of Clean Water The Role of Nanotechnology***	***Emeritus prof. Nagwa Abo El-Maali*** ***Prof. of Analytical Chemistry .Executive Manager, Multidisciplinary Research center of Excellence (MRCE).*** ***Assiut University***
	Fundamentals of Nanotechnology **-Types of nanomaterials: metal oxides, carbon-based, polymeric, etc.** **-Synthesis methods (top-down vs bottom-up)**	***Asmaa Wahman*** ***Lecturer of Applied Analytical Chemistry*** ***Faculty of Science, New Valley University, New Valley***
	Water Contamination and Challenges **-Types of water pollutants (organic, inorganic, biological)** **-Global and local water crisis statistics** **-Conventional vs nano-enabled treatment technologies**	***Emeritus prof. Nagwa Abo El-Maali*** ***Prof. of Analytical Chemistry Executive Manager, Multidisciplinary Research center of Excellence (MRCE).*** ***Assiut University***
	Waste-Derived Nanomaterials and their Applications in Water Remediation **-Converting agricultural/industrial waste into nanomaterials** **-Green synthesis techniques** **-Lifecycle analysis and environmental safety**	***Dr. Kawthar Abdel Hamed*** ***Technical Manager*** ***Analytical Chemistry Unit*** ***Faculty of Science, Assiut University***

	Hands-on Demo: **Lab video on the application of electron-microscopy for the synthesized nanoparticles** **Lab Activity: Test of pollutant removal using the prepared nanomaterials prepared from different wastes.**	***Dr.Azza Abdel-Moniem Mohamed*** ***Operator on the Transmission Electron Microscope*** ***The Multidisciplinary Research Centre of Excellence, Assiut University***
	Safety, Regulation & Ethics **-Toxicity and risk assessment of nanomaterials** **-Regulatory frameworks (e.g., EPA, REACH)** **-Ethical considerations in nanotechnology deployment**	***Emeritus prof. Nagwa Abo El-Maali*** ***Prof. of Analytical Chemistry.Executive Manager, Multidisciplinary Research center of Excellence (MRCE).Assiut University*** ***Asmaa Wahman*** ***Lecturer of Applied Analytical Chemistry*** ***Faculty of Science, New Valley University, New Valley***
1:00 p.m. - 1:10 p.m.	**Wrap- up & conference recommendation**	***Prof. Soheir Mansy***
1:30 p.m.	**Meeting point at the bus for the participants who booked the social activity visit**	