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## **EDUCATION**

**PhD in Analytical and Inorganic, Chemistry October 2021**

*(Synthesis and Characterization of Carbon-polymer Nano Composites and Their Applications in Waste Water Treatment)*

AIN SHAMS UNIVERSITY, CAIRO, EGYPT

**M.S. in Chemistry, December 2013**

*(The Preparation of Photo Analytical Techniques for Assessment of Important Pharmaceutical Products)* AIN SHAMS UNIVERSITY, CAIRO, EGYPT.

**Diploma. in Analytical Chemistry, October 2008**

**B.S. in Chemistry/Physics, June 2004**

**Ain Shams University**

## **EXPERIENCE**

**General purchasing supervisor, 2004-2007**

FACULTY OF DENSITY, MISR INT. UNIVERSITY (MIU), Cairo, Egypt

**Chemistry Teaching Assistant, 2007-2011**

FACULTY OF DENSITY, MISR INT. UNIVERSITY (MIU), Cairo, Egypt

**Medical and water analysis chemistry specialist, 2011 up till now**

CENTRAL HEALTH LABORATORIES - MINISTRY OF HEALTH AND POPULATION, Cairo, Egypt

- Three years in Mycotoxin-Food analysis (UPLC) **ISO/IEC 17025:2005**
- Two years in Water Analysis lab (ICP- Total water analysis) **ISO/IEC 17025:2005**
- Five years in Atomic Absorption Spectroscopy. **ISO/IEC 17025:2005**

## OFFICIAL DUTIES AND RESPONSIBILITIES

- Analysis of wheat in the country of origin under the tripartite committee comprising the Ministry of Health (Central Health laboratories), Ministry of Trade and industry (General Organization for Exports-Imports), and Ministry of Agriculture (quarantine) in USA, April, 2013.
- Analysis of wheat in the country of origin under the tripartite committee comprising Ministry of Health (Central Health laboratories), Ministry of Trade and Industry (General Organization for Exports-Imports), and Ministry of Agriculture (quarantine) in Russia, November 2013.
- Analysis of wheat in the country of origin under the tripartite committee comprising the Ministry of Health (Central Health laboratories), Ministry of Trade and Industry (General Organization for Exports-Imports), and Ministry of Agriculture (quarantine) in Romania-April, 2014.
- Analysis of wheat in the country of origin under the tripartite committee comprising Ministry of Health (Central Health laboratories), Ministry of trade and Industry (General Organization for Exports-Imports), and Ministry of Agriculture (quarantine) in France, December 2015.

Analysis of wheat in the country of origin under the tripartite committee comprising Ministry of Health (Central Health laboratories), Ministry of Trade and Industry (General Organization For Exports-Imports), and Ministry of Agriculture (quarantine) in Ukraine, October 2016.

## RESEARCH ACTIVITIES

- Inorganic chemistry; water analysis, assessment, and treatment.
- Prepare different types of nanomaterials and nanostructure hybrid composites with different morphologies and characterization techniques.
- Working on method validations for different instruments such as UV-visible spectrophotometer, HPLC, and Ion chromatography (Dionex Dx-600, DX 1100) for analysis of cations anions and organic acids in aqueous solutions
- Water and wastewater analysis, evaluation, management, and treatment techniques using biological, physical, and chemical methods
- Photo-electro chemistry (Photocatalysis, Supercapacitors)

## PUBLICATIONS

1. Toward advanced analytical procedures for detecting Fumonisin in contaminated food and feed using molecularly imprinted polymers: A mini-review

[M.A. Diab](#), Heba A. El-Sabban, Kwang-Hyun Baik

**Microchemical Journal**, Volume 207, December 2024, 111858

2. A novel S-scheme photocatalyst  $\text{Fe}_2\text{O}_3/\text{Bi}_2\text{O}_3/\text{g-C}_3\text{N}_4$  with enhanced visible-light photocatalytic performance for antibiotic degradation and  $\text{CO}_2$  reduction: RSM-based optimization

Abdelfattah Amari, Hakim SSultan Aljibori, Zaina Algarni, Nouredine Elboughdiri,

[M.A. Diab](#), Kwang-Hyun Baik, Ibrahim Mahariq

**Journal of Industrial and Engineering Chemistry**, in press.

3. Novel S-scheme WO<sub>3</sub>/ZnO-modified g-C<sub>3</sub>N<sub>4</sub> heterojunction for optimizing norfloxacin photodegradation condition via DoE: Synthesis, characterization, and mechanism evaluation

Norah Salem Alsaier, Hakim S. Sultan Aljibori, Abdelfattah Amari, Nouredine Elboughdi

Heba A. El-Sabban, [M.A. Diab](#), Y.G. Ko, Farruh Atamurotov, Ibrahim Mahariq

**Journal of Water Process Engineering**, Volume 67, November 2024, 106276

4. Charge separation by switching heterojunction system from Type-II to S-scheme for enhanced photocatalytic activity: Environmental detoxification and H<sub>2</sub> production

Zaina Algarni, Hakim S. Sultan Aljibori, Abdelfattah Amari, Dheyaa J. Jasim, [M.A. Diab](#), Heba A. ElSabban, Nouredine Elboughdiri, Iroda Abdullayeva, Abdul Amir H. Kadhum

**Separation and Purification Technology**, Volume 357, Part A, 1 May 2025, 130069

5. Designed construction of boosted visible-light Z-scheme TiO<sub>2</sub>/PANI/Cu<sub>2</sub>O heterojunction with elaborated photocatalytic degradation of organic dyes

Borik, M.A.A., [Diab, M.A.](#), El-Sabban, H.A., El-Adasy, A.-B.A., El-Gaby, M.S.A.

6. Construction of novel dual Z-scheme heterojunction of ternary CdS/g-C<sub>3</sub>N<sub>4</sub>/NiFe<sub>2</sub>O<sub>4</sub> magnetically retrievable nanocomposite for boosted photocatalytic and energy storage applications.

El-Sabban, H. A., Mady, A. H., [M. A. Diab \\*](#), Attia, S. Y., & Mohamed, S. G.

**Surfaces and Interfaces**, 103798, 2024

7. Design of multifunctional 1D/2D polypyrrole nanotubes@ pg-C<sub>3</sub>N<sub>4</sub> binary nanocomposite for removal of mercury (Hg<sup>2+</sup>) from wastewater and supercapacitor applications

[M. A. Diab](#), HA El-Sabban, SY Attia, Y Moustafa, SG Mohamed

**Journal of Industrial and Engineering Chemistry** 130, 494-509, 20248. Facile one-pot synthesis of template-free porous sulfur-doped g-C<sub>3</sub>N<sub>4</sub>/Bi<sub>2</sub>S<sub>3</sub> nanocomposite as efficient supercapacitor electrode materials

HA El-Sabban, SY Attia, [M. A. Diab](#), SG Mohamed

**Journal of Energy Storage** 60, 106593, 2023

**9.** PPy-NTs/C/TiO<sub>2</sub>/poly (ether sulfone) porous composite membrane: Efficient ultrafiltration of Evans blue dye from industrial wastewater

HA El-Sabban, MF Mubarak, [M. A. Diab](#)

**Synthetic Metals 297, 117383, 2023**

**10.** Greener approach for fabrication of antibacterial graphene-polypyrrole nanoparticle adsorbent for removal of Mn<sup>2+</sup> from aqueous solution

NF Attia, [M. A. Diab](#), AS Attia, MF El-Shahat

**Synthetic Metals 282, 116951, 2021**

**11.** Green synthesis of cost-effective and efficient nano adsorbents based on zero and two-dimensional nanomaterials for Zn<sup>2+</sup> and Cr<sup>3+</sup> removal from aqueous solutions

[M. A. Diab](#), NF Attia, AS Attia, MF El-Shahat

**Synthetic Metals 265, 116411, 2020**

**12.** Ultra-high-pressure liquid chromatography–solid-phase clean-up for determining aflatoxins in Egyptian food commodities

SM Abdel-Azeem, [M. A. Diab](#), MF El-Shahat

**Journal of Food Composition and Analysis 44, 18-24, 2015**

**13.** Diagnosis of some diseases related to the histidine level in human serum by using the Nano-optical sensor Eu–Norfloxacin complex

MS Attia, [M. A. Diab](#), MF El-Shahat

**Sensors and Actuators B: Chemical 207, 756-763, 2015**

**14.** pH Assist for Highly selective determination of Xipamide by the enhancement of the green emission of Tb<sup>3+</sup> optical sensor

MS Attia, AO Yuossef, [M. A. Diab](#), MF El-Shahat

**Journal: Journal of Advances in Chemistry, 10, 5, 2014**

## **CONFERENCES**

- 4<sup>th</sup> Annual Hybrid Conference of CPHL (ONE HEALTH APPROACH 2021)  
10-13 December 2021, Cairo, Egypt.
- 3<sup>rd</sup> Annual Hybrid Conference of CPHL (ONE HEALTH APPROACH 2021)  
13-14 November 2021, Cairo, Egypt.
- 5<sup>th</sup> International Conference On New Horizons in Basic and Applied Science  
(ICNBHAS, 2021) 26-29 September 2021, Hurghada, Egypt.
- 4<sup>th</sup> International Conference On New Horizons in Basic and Applied Science  
(ICNBHAS, 2019) 26-29 July 2019, Hurghada, Egypt.
- The 22<sup>th</sup>. International Conference On Petroleum Mineral Resources and  
Development 18-20 February 2019, Cairo, Egypt.
- The 21<sup>th</sup>. International Conference On Petroleum Mineral Resources and  
Development 20-22 February 2018, Cairo, Egypt.
- The International Conference of Nanotechnology, Biotechnology and Spectroscopy  
(ICNBHAS, 2017)) 24-26 March 2017, Cairo, Egypt.

## **ADDITIONAL SKILLS**

- Using a range of software, techniques, and equipment to carry out research and analysis
- Excellent computer skills particularly with MS Office, Chem Station and Aqua hem
- Theoretical knowledge of analytical techniques
- Knowledge of safe lab practices, lab techniques, and quality management principles
- Good organization skills, Friendly and positive attitude, verbal/written communication skills and
- Attention to detail, teamwork, responsibility, communication, and presentation skills
- General knowledge of all aspects of maintenance repair and service.
- Data collection, Analytical Skills, study data, and study Protocols (SOP) and (GMP).
- Strong command of quality control processes/systems.