

Mahmoud Rabie Salah Hussien, M.Sc.

Personal Information:

- **Place and date of birth:** Assiut, Egypt
- **Address:** Chemistry Department, Faculty of Science, Assiut University, Assiut, Egypt, 71516.
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Education:

2019-2021	M.Sc. degree in Physical Chemistry, Assiut University Advisor: Prof. Dr. Saddique M. Ahmed Thesis Title: Enhancement of Photocatalyst Nanoparticles Performance via Some Conducting Polymers for Renewable Energy Applications
2019	Master courses in physical chemistry (GPA: 3.63 /4)
2012-2016	B.Sc. (Chemistry), Assiut University (GPA: 3.77 /4)

Professional Experience:

Assistant Lecturer of Physical Chemistry, Assiut University 2021- until now
Teaching Assistant of Physical Chemistry, Assiut University 2019-2021

- Managed undergraduate students in physical laboratory courses. Assisted students in conducting common chemical kinetics and thermodynamic experiments.
- The teaching of practical physical courses related to the sugar industry for postgraduate students at Sugar Technology Research Institute (STRI), Assiut University.
- Mentored five undergraduate researchers (2019–2020). I taught them synthesis of some nanoparticle materials and their application in photocatalytic hydrogen production reaction.

Graduate Research Assistant of Physical Chemistry, Assiut University 2019-2021

- Sufficient experience in Synthesis and characterization of some conducting polymers and the investigation of photocatalytic activities of these compounds on modification semiconductor for hydrogen evolution reaction.
 - Working many photoelectrochemical measurements (CA, CV, ESI, and LSV) in the studying of photoelectric properties of the synthesized composites and assist in understanding the photocatalytic mechanism.
 - Recently, I have engaged in a new research work related to development and fabrication of efficient solar catalytic reactor for removal of organic pollutants from petroleum refinery wastewater.
 - Also, I am participating in an another project about developing visible light-responsive photocatalyst for hydrogen generation reaction.
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Publication:

- Haitham M El-Bery, **Mahmoud R Salah**, Seddique M Ahmed, Soliman A Soliman, Efficient non-metal based conducting polymers for photocatalytic hydrogen production: comparative study between polyaniline, polypyrrole and PEDOT, *RSC Advances* 11 (22), 13229-13244.
- **Mahmoud R. Salah**, Haitham M. El-Bery, Seddique M. Ahmed, and Soliman A. Soliman, a robust photocatalytic performance toward the hydrogen generation on Cu@PANI/TiO₂ via tuning the transfer pathways of photogenerated electrons, *Manuscript under review*.
- **Mahmoud R. Salah**, Haitham M. El-Bery, Seddique M. Ahmed, and Soliman A. Soliman, In-situ derived of Cu@Cu_xP nanoparticles embedded in N-doped carbon from polyaniline as an efficient and durable noble-metal-free cocatalyst for photocatalytic hydrogen evolution, *Manuscript under review*.
- Haitham M. El-Bery, **Mahmoud R. Salah**, Moushira S. Ismail, Highly efficient activated carbon for removal phenol derived from carbonization of bagasse: water vapor-activation vs KOH and K₂CO₃-activation, *Manuscript under submission*.

Seminars and Presentations:

- Mahmoud R. Salah, (2019). Enhancement of Photocatalyst Nanoparticles Performance via Some Conducting Polymers for Renewable Energy Applications. Thesis Seminar at Assiut University, Faculty of Science, 2021.

Skills:

• Instrumentation/Equipment:

- Characterization Techniques including (XRD, FTIR, SEM, TEM, EDX, N₂-physisorption, DRS, and PL spectra)
- Chromatographic Techniques including (GC/MS, GCL, and HPLC)
- Thermal Analysis including (TGA, DTG, and DTA)
- Photoelectrochemical measurements (CV, CA, EIS, and LSV)
- Photolytic H₂-evolution Reactor

• Computer skills:

- Microsoft office (MS Word, PowerPoint, MS Excel)
- Origin, Endnote, Mendeley, Gaussian, and Photoshop
- Chemdraw, Chem 3D, and chem sketch for drawing chemical structures

• Language skills:

- Arabic: Mother Tongue
- English: Very good command in written and spoken British English

• Certificates and Courses:

- Course in Research Ethics
- Course in Conference Organization
- Course in Advanced E-Learning
- Quality Standards in The Teaching
- Course in Drug-Drug Interaction
- Application of Information Technology in Teaching

- Certificate of attendance in ASORC for petroleum production
- Certificate of attendance in CEMEX for cement production

Interests and Hobbies:

- Advanced Polymer Synthesis
- Synthesis of Covalent organic frameworks (COFs)
- Synthesis of Metal–organic frameworks (MOFs)
- Synthesis of Applicable Nanoparticle Materials in Energy
- Electrocatalytic and Photocatalytic reactions in Hydrogen Production
- Energy Storage
- Thermolysis reactions
- Reading Stories and Novels
- Playing sports (Football and Karate)
- Volunteering at local organizations and some events in my village

Referees:

- Dr. Haitham M. El-Bery
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- Dr. Hani N. Abdelhamid
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