

Saad Gomaa Mohamed

Associate Professor of [Inorganic and Materials Chemistry] — Mining and Metallurgy Engineering Department, Tabbin Institute for Metallurgical Studies (TIMS), Tabbin, Helwan 109, Cairo, 11421, Egypt

A. Personal Details



Date of Birth: [Dec.14, 1981]

Marital Status: [Married]

Nationality: [Egyptian]

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B. Academic Qualifications

Ph.D.: Chemistry Department, National Taiwan University, 2015 — Nanostructured Ternary Metal Oxides as Electrode Materials for High-Performance Energy-Storage Systems

M.Sc.: Faculty of Science, Helwan University, 2009 — Deposition of Hydroxyapatite on Titanium by Electrophoretic Technique for Biomedical Application

B.Sc.: Faculty of Science, Cairo University, Fayoum Branch, 2003

C. Employment History

[From] – [To]: [Position] — [Employer] — [Location]

1. Sep. 2021 – To date Associate Professor, Mining and Metallurgy Engineering Department, Tabbin Institute for Metallurgical Studies, (TIMS). Tabbin, Cairo, Egypt.
2. Oct. 2015 – Sep. 2021 Researcher and Lecturer, Mining and Metallurgy Engineering Department, Tabbin Institute for Metallurgical Studies, (TIMS). Tabbin, Cairo, Egypt.

3. Sept. 2016 – Aug. 2017 Research Professor, Nano Energy Materials and Processes Laboratory. School of Chemical Engineering, Yeungnam University, Gyeongsan, South Korea.
4. Sept. 2015 – Aug. 2016 Research Assistant, Energy Materials Lab “EML”, The American University in Cairo, New Cairo, Egypt.
5. Sept. 2011 – May, 2015 PhD Candidate, Chemistry Department, National Taiwan University. Academia Sinica (TIGP nano Program). Taipei, Taiwan.
6. April, 2006 –Oct., 2015 Assistant Lecturer, Chemical Engineering Dept. Tabbin Institute for Metallurgical Studies, (TIMS). Tabbin, Cairo, Egypt.

D. Research Interests

- Synthesis and application of nanostructured materials in Li-ion batteries, Li-air batteries, Supercapacitors, and metal-aqueous batteries.
- Synthesis of solid-state electrolyte of high conductivity and fabrication of flexible all-solid-state Li-ion battery and Supercapacitors.

E. Selected Publications

1. Sh. E. Shaker, A. A. EL Amin, **S. G. Mohamed**, High electrochemical energy-storage performance promoted by iron vanadium oxide (FeVO_3) nanocomposite anchored on rGO nanosheets, **Diamond and Related Materials**, 2025, 160, 113020.
- 2 R. Kh Abuelela, S. S. Mahmoud, M. M. Ahmed, Y. F. Barakat, **S. G Mohamed**, MoS₂-modified activated carbon from beet molasses for high-performance supercapacitors, **Fuel**, 2025, 401, 135925
3. Sh. E. Shaker, A. A.EL. Amin, **S. G. Mohamed**, Waste-derived carbon-enhanced iron sulfide microflowers for high-performance energy storage applications. **Journal of Power Sources**, 2025, 645, 237206
4. A. M. Abuelftooh, S. S. Mahmoud, S. Y. Ahmed, S. Y. Attia, **S. G. Mohamed**, Spent zinc batteries: a pathway to Sustainable $\text{ZnMn}_2\text{O}_4/\text{C}$ supercapacitors electrode. **Carbon Letter**, 2025, 35, 1363–1377
5. M. G. Fayed, A. E. Abdel Ghany, R. S. El-Tawil, A. M. Hashem, E. Hamzawy, G. T. El Bassyouni, **S. G. Mohamed**, Devitrified silica minerals glass of tanohataite ($\text{LiMn}_2\text{Si}_3\text{O}_8\text{F}$) mineral as anode material for lithium-ion batteries, **Ceramics International**, 2025, 51, 401–410
6. R. M. Nageib, **S. G. Mohamed**, M. Gaber, R. M. Salm, A. A. EL Amin, X. Li, Unveiling the Aqueous Battery-Type Energy Storage Systems Through UiO-66/Se/PANI Composite, **Journal of Inorganic and Organometallic Polymers and Materials**, 2024, 35, 2792–2813

7. Reham Ehab Mostafa, S.S. Mahmoud, N.S. Tantawy, **S. G. Mohamed**, Polyethyleneimine-assisted growth of $\text{NiCo}_2\text{S}_4/\text{Co}_2\text{C}$ on carbon matrix towards a high-performance supercapacitor electrode, **Chemical Engineering Journal**, 2024, 481, 148434.

F. Teaching and Supervision

Postgraduate supervision:

1. Energy storage materials and systems for postgraduate Students, Spring 2017, School of Chemical Engineering, Youngman University, South Korea. This course provides an overview of energy storage materials/devices, with a major focus on electrochemical storage, including ionic batteries, metal–air rechargeable batteries, fuel cells, and supercapacitors.
2. Electrochemistry and Corrosion science classes (tutorial & laboratory) for postgraduates during the Master's program at Mining and Metallurgy Engineering Department, Tabbin Institute for Metallurgical Studies (TIMS), Tabbin, Helwan, Egypt.

G. Awards, Grants and Memberships

1. Short Term Applied Research & Technology Transfer- Academy of Scientific Research and Technology, Egypt (STARS-ASRT, national short-term research fellowship and technology transfer program), cycle 1, 2023-2024.
2. Outstanding Contribution in Reviewing awarded by Microporous and Mesoporous Materials Journal, Elsevier, (Feb. 2018).
3. Outstanding Contribution in Reviewing, awarded by Journal of Power Sources, Elsevier, (Dec. 2017)
4. Taiwan International Graduate Program (TIGP)-Nano Technology Program Scholarship (07/2011-05/2015).
5. International Student Supporting Fund from National Taiwan University (7/2014- 6/2015)
6. Excellent Graduation Poster Award, Department of Chemistry, National Taiwan University, (08/05/2015)
7. Dean Award, College of Science, National Taiwan University, (14/05/2015)
8. Yan best-thesis Award, Department of Chemistry, National Taiwan University, (02/07/2015)

H. Skills & Technical Competencies

- Programming & software: ...
- Lab/field skills:

1. Synthesis of nanostructured materials (metal oxides, chalcogenides, carbides, phosphides, metal-organic frameworks, and carbonaceous materials) and their composites using different synthetic methods.
2. Applications of metal oxide nanostructures in energy-related fields such as Li-ion batteries, Li-air batteries, and supercapacitor electrodes.
3. Deposition of metals, metal oxides, ceramic materials, and carbonaceous materials using electrochemical, electroless, and electrophoretic deposition techniques.
4. Electrochemical characterization techniques include Cyclic Voltammetry, chronoamperometry, Corrosion Testing Techniques, Pulsed Electrodeposition, and Electrochemical Impedance Spectroscopy (EIS).
5. The structural characterization by TEM, EDS, SEM, XPS, XRD, XAS, FTIR, Raman, and BET.

I. References

Available on request/list referees with contact details

1. Professor Ru-Shi Liu,

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2. Professor Nageh K. Allam,

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3. Professor Tai-Feng Hung,

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4- Professor Wail Al Zoubi,

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5- Professor Jae-Jin Shim,

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Template notes: Use Times New Roman, 11 pt. Headings 12 pt bold blue. Candidate name: 20 pt bold. Max length: 2–4 pages.