Nour El Ghouch, Ph.D.

Beirut Arab University
Department of Chemistry
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Dr. El Ghouch earned her Ph.D. in Inorganic Chemistry under the supervision of Prof. R. Awad and Dr. R. Al-Oweini (2020), supported by a CNRS-L/BAU fellowship and full scholarship from Beirut Arab University (BAU, Lebanon). She received an M.Sc. in Inorganic Chemistry under the supervision of Dr. R. Al-Oweini (2017) and a B.Sc. in Chemistry (2014) from BAU. Dr. El Ghouch research interests focus on the synthesis and structural characterization of Inorganic nano-materials and their use in materials science applications. Since 2020, she is a Part-time Lecturer at the Chemistry Department at BAU. Currently, Dr. El Ghouch is an Assistant Professor in Inorganic Chemistry at BAU, Debbieh Campus, Beirut, Lebanon.

EDUCATION

JUN 2020
Ph.D. in Inorganic Chemistry / "CGPA: 3.56/4", Beirut Arab University (BAU), Lebanon

FEB 2017
M.Sc. in Inorganic Chemistry / "CGPA: 3.67/4", BAU, Lebanon

JUN 2014
B.Sc. in Chemistry / "CGPA: 3.28/4", BAU, Lebanon

AWARDS

OCT 2018 - NOV 2020
Doctoral Fellowship / the National Council for Scientific Research of Lebanon (CNRS-L)

FEB 2017 - MAY 2020
Doctoral Scholarship / BAU, Lebanon

OCT 2018
Best Teaching Assistant for the academic year 2017-2018 / Department of Chemistry, BAU, Lebanon

SEP 2012 - FEB 2014
Dean's Honor List / Department of Chemistry, BAU, Lebanon

TEACHING EXPERIENCE

SEP 2022 - present
Assistant professor / Beirut Arab University

- Principles of Chemistry - **CHEM 241**
- Inorganic Chemistry I - **CHEM 345**
- Introduction to Chemistry - **CHEM 110**
- Special Topics in Inorganic Chemistry - **CHEM 665**
- Analytical Chemistry - **CHEM 242**
- Physical Chemistry I - **CHEM 248**
- Topics in Chemistry - **CHEM 454**
- Inorganic Chemistry II - **CHEM 348**
- General Chemistry - **CHEM 213**
- Advanced Inorganic Chemistry - **CHEM 653**
- Individual Studies - **CHEM 680**

SEP 2020 - JUN 2022
Lecturer / Beirut Arab University

- Principles of Chemistry - **CHEM 241**
- Introduction to Chemistry - **CHEM 110**
- Advanced Inorganic Chemistry - **CHEM 653**
- Special Topics in Inorganic Chemistry - **CHEM 665**

- Selected Topics in Inorganic Chemistry - **CHEM 727**

FEB 2015 - JUN 2020

Teaching Assistant / Beirut Arab University

- General Chemistry Laboratory - **CHEM 213**
- Organic Chemistry Laboratory - **CHEM 215**
- Food Chemistry Laboratory - **NUTR 313**
- Organic Chemistry Laboratory - **CHEM 331**
- Inorganic Chemistry Laboratory - **CHEM 348L**
- Principles of Chemistry Laboratory - **CHEM 241L**
- Analytical Chemistry Laboratory - **CHEM 242L**
- Organic Chemistry Laboratory - **CHEM 234L**

RESEARCH EXPERIENCE

JUNE 2024 - JULY 2024
JUNE 2025 - JULY 2025

Guest Scientist

Dr. El Ghouch visited Constructor University (CU) as a Guest Scientist in Bremen, Germany during Summer 2024 and Summer 2025. Dr. El Ghouch underwent a comprehensive training on various machines, including powder X-ray diffraction (XRD), Fourier transform infrared spectroscopy (FTIR), Thermogravimetric analysis (TGA), Nuclear magnetic resonance spectroscopy (NMR), Brunauer-Emmett-Teller surface area analysis (BET) and Single crystal X-ray diffraction. She had the opportunity to work on a collaborative project with Professor Ulrich Kortz from the Chemistry Department and Professor Matthias Ullrich from the Biology Department.

Department of Chemistry, Faculty of Science, CU, Germany
Department of Biology, Faculty of Science, CU, Germany

FEB 2017 - MAY 2020

Ph.D. Thesis

Title: Synthesis and Characterization of Polyoxotungstate-Superconductor Composite Materials

Department of Chemistry, Faculty of Science, BAU, Lebanon

SEP 2014 - FEB 2017

M.Sc. Thesis

Title: Polyoxometalate Nanostructures: A Comparative Spectrophotometric Study

Department of Chemistry, Faculty of Science, BAU, Lebanon

JAN 2015 - present

Syntheses and Research Techniques

Polyoxometalates, Superconductors, Nanoparticles, Nanocomposites, Polymers, Antibacterial Applications (MIC and Well Diffusion protocols), Spectrophotometric analysis (FT-IR, UV-VIS and PL), TGA, powder XRD, NMR, SEM, XPS, VSM, Brunauer-Emmett-Teller surface area analysis, Vickers Microhardness and dielectric.

Department of Chemistry, Faculty of Science, BAU, Lebanon

JAN 2015 - present

Laboratory Supervisor

Advanced Materials Preparations Laboratory

Department of Chemistry, Faculty of Science, BAU, Lebanon

LANGUAGES

English Excellent

Arabic Native

TECHNICAL SKILLS

- **OMNIC Spectra Software** for FT-IR
- **JOEL Software** for NMR
- **Microsoft Office** (Word, Powerpoint, and Excel)
- **OriginLab**
- **Endnote program**
- **Fityk software**
- **ImageJ**

CONFERENCES PARTICIPATING

Oral Contributions:

- 8th International Conference on Superconductivity and Magnetism (ICSM), Liberty Lykia Hotel, Oludeniz, Fethiye/Turkey, 4-11 May, 2023

Poster Contributions:

- First Italian Lebanese Science Day, April 12th 2019, AUB, Lebanon
- Workshop on Materials Technology, March 16th and 17th 2017, BAU, Lebanon
- Research and Publication Training, 30 May-1 June 2023, Holy Spirit University of Kaslik, Lebanon

LIST OF PUBLICATIONS

1. Synthesis and Magnetic Properties of PVP Capped $Ni_{0.6}Zn_{0.2}Sb_{0.2}Fe_2O_4$ Nanoferrites.
Khatib, L.W.; Abdallah, A. M.; Noun, M.; El Ghouch, N.; Younes, G.O.; Awad, R. *Applied Physics A*, **2025**, **–Q2. IF = 2.8.** https://doi.org/10.1007/s00339-025-08613-9

2. Effect of Dextrose Monohydrate Capping Agent on the Magnetic Properties of Nickel-Zinc Antimony Nanoferrite.
Khatib, L.W.; Abdallah, A. M.; Noun, M.; El Ghouch, N.; Younes, G.O.; Awad, R. *Journal of Materials Science: Materials in Electronics*, **2025**, **–Q2. IF = 2.8.** https://doi.org/10.1007/s10854-025-14763-6

3. Tailoring the Structural, Optical and Anti-corrosion Effect of Synthesized Sn-Doped CuO Nanoparticles on Mild Steel in 0.5 M HCl Solution.
El Sayed, M. Y.; El Ghouch, N.; Younes, G.O. Noun, M.; Awad, R.; *Journal of Materials Engineering and Performance*, **2025**. **–Q2. IF = 2.3.** https://doi.org/10.1007/s11665-024-09205-z

4. Structural and Magnetic Investigation of Novel Oxide/Ferrite (1-x)$MgFe_2O_4$/(x)$Mn_{1.95}Sn_{0.05}O_3$ Nanocomposites.
Noureddine, S.; El Ghouch, N.; Awad, R.; *Physica B: Condensed Matter*, **2024**, 672. **–Q2. IF = 2.884.** https://doi.org/10.1016/j.physb.2023.415412

5. Steel Anti-Corrosion Behavior for Pure and Mg-doped CuO Nanoparticles in Different Media: Raman, Potentiodynamic Polarization and Electrochemical Impedance Analysis.
El Sayed, M. Y.; Abdallah, A. M.; Adnan, R.; Noun, M.; El Ghouch, N.; Awad, R.; *Journal of Bio- and Tribo- Corrosion*, **2024,** 10, 4, **–Q2. IF = 3.12.** https://doi.org/10.1007/s40735-023-00807-z

6. The alteration of mechanical behavior of $Ba_{0.5}Sr_{0.5}Fe_{12}O_{19}$/($Ni_{0.5}Zn_{0.5}$)$Fe_2O_4$ nanocomposites.
Yassine, M.; El Ghouch, N.; Abdallah, A. M.; Habanjar, K.; Awad, R.; *Journal of Engineering Science and Technology,* **2023**, 18. **–Q2. IF = 0.963.**

7. Synthesis, Characterization and Vickers microhardness for $(YIG)_x/(Bi,Pb)$-2223 superconducting phase.

El Makdah, M. H.; El Ghouch, N.; El-Dakdouki, M. H.; Awad, R.; Matar, M.; *Ceramics* International, **2023**, 49. **–Q1. IF = 5.2.** https://doi.org/10.1016/j.ceramint.2023.04.070

8. Structural, electrical and mechanical properties of the $(NdFeO_3)_x/(CuTl)$-1223 superconductor phase.

El Makdah, M. H.; El Ghouch, N.; El-Dakdouki, M. H.; Awad, R.; Matar, M.; *Applied Physics A*, **2023**, 129:265. **–Q2. IF = 2.7.** https://doi.org/10.1007/s00339-023-06547-8

9. Structural, morphological, and magneto-optical investigation of pure and (Sn,Zn) co-doped CuO nanoparticles.

El Sayed, M. Y.; El Ghouch, N.; Younes, G. O.; Awad, R.; *Materials Today Communications*, **2023**, 105490, **–Q2. IF = 3.8.** https://doi.org/10.1016/j.mtcomm.2023.105490

10. Influence of Zn Doping on the Structural, Optical, and Magnetic Properties of CuO Nanoparticles and Evaluation of its Anti-corrosive Behavior of Mild Steel in Acidic Medium.

El Sayed, M. Y.; El Ghouch, N.; Younes, G. O.; Awad, R.; *Journal of Bio- and Tribo-Corrosion*, **2022,** 8:95. **–Q2. IF = 3.12.** https://doi.org/10.1007/s40735-022-00696-8

11. Structure and magnetic investigation of hard/soft $Ba_{0.5}Sr_{0.5}Fe_{12}O_{19}/x(Ni_{0.5}Zn_{0.5})Fe_2O_4$ nanocomposite.

Yassin, M.; El Ghouch, N.; Abdallah, A. M.; Habanjar, K.; Awad, R.; *Journal of Alloys and Compounds*, **2022**, 907, 164501. **–Q1. IF = 6.2** https://doi.org/10.1016/j.jallcom.2022.164501

12. A Comprehensive Study on the Effect of ZnO and $ZnAl_2O_4$ Nanoparticles on the Mechanical Properties of Epoxy coating: Tensile and Hardness.

Shmait, A.; El Ghouch, N.; Al Boukhari, J.; Abdel-Gaber, M. A.; Awad, R.; *Journal of Modern Applied Science*, **2021**, 15 (5), 45. **–Q2.** https://doi.org/10.5539/mas.v15n5p45

13. Comparative Study on the Effect of Adding Two Transition-Metal-Substituted Polyoxometalates on the Mechanical Properties of (Bi,Pb)-2223 Superconducting Phase.

El Ghouch, N.; Al-Oweini, R.; Habanjar K.; Awad, R.; *Journal of Physics and Chemistry of Solids*, **2021**, 151, 109807. **–Q2. IF = 4.** https://doi.org/10.1016/j.jpcs.2020.109807

14. Investigation of the Physical Properties of $(Cu_{0.5}Tl_{0.5})Ba_2Ca_2Cu_3O_{10-\delta}$ Impregnated with Mono Cobalt(II)-substituted Undecatungstosilicate Nanoparticles.

Nasser, A.; Srour, A.; El Ghouch, N.; Malaeb, W.; Al-Oweini, R.; Awad, R.; *Applied Physics A*, **2020**, 126:951. **–Q2. IF = 2.7.** https://doi.org/10.1007/s00339-020-04083-3

15. Effects of Adding Transition Metal-Substituted Polyoxotungstate on the Frequency and Temperature-Dependent Dielectric Properties of $(Bi_{1.8}Pb_{0.4})Sr_2Ca_2Cu_3O_{10+\delta}$ Superconducting phase.
El Ghouch, N.; Al-Oweini, R.; Awad, R.; *Journal of Low Temperature Physics*, **2020**. – **Q2. IF = 2.0.** https://doi.org/10.1007/s10909-020-02462-x

16. Preparation and Physical Properties of $(Bi_{1.8}Pb_{0.4})Sr_2Ca_2Cu_3O_{10+\delta}$ Superconductors Impregnated with Mangano(II)undecatungstosilicate Nanomaterials.
El Ghouch, N.; Al-Oweini, R.; Awad, R.; *Applied physics A*, **2019**, 125:854. **–Q2. IF = 2.0.** https://doi.org/10.1007/s00339-019-3076-9

17. Synthesis, Characterization and Electrical Properties of Hybrid Mono-Iron- Substituted Undecatungstosilicate/(Bi,Pb)-2223 Phase Superconductors.
El Ghouch, N.; Al-Oweini, R.; Awad, R.; *Materials Research Express*, **2019**, 6, 116001. **–Q2. IF = 2.3.** https://doi.org/10.1088/2053-1591/ab46e2

COLLABORATORS

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REFERENCES

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