

# Curriculum Vitae

## Ehab AlShamaileh

Professor of Physical Chemistry (since 2016)

[h-index: 16](#), [i10-index: 31](#), [Citations: 805](#) (April 2024)



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## ACADEMIC QUALIFICATIONS

**PhD** in Physical Chemistry/Surface Science (Jan. 2002), **Dublin City University**, Ireland Title: Structural Studies of Metal Adsorption on Cu{100} by Low Energy Electron Diffraction.

## ACADEMIC

Professor of Physical Chemistry (since 2016)  
Associate Professor of Physical Chemistry (2011-2016)  
Assistant Professor of Physical Chemistry (2004-2011)

## COURSES TAUGHT

- 1- General Chemistry, 101
- 2- General Chemistry, 102
- 3- Practical General Chemistry
- 4- Physical Chemistry 1
- 5- Physical Chemistry 2
- 6- Practical Physical Chemistry (1 and 2 levels)
- 7- Quantum Chemistry (Undergraduate)
- 8- Electrochemistry (Undergraduate)
- 9- Practical Analytical Chemistry
- 10- Corrosion Chemistry
- 11- Research Techniques/ Seminar
- 12- Environmental Chemistry
- 13- Instrumental Analysis.
- 14- Graduation Project Supervision
- 15- Quantum Chemistry (**Graduate, MSc level**)
- 16- Research Methods in Chemistry (**Graduate, MSc level**)
- 17- Nano Chemistry (**Graduate, PhD level**)
- 18- Surface Chemistry (**Graduate, PhD level**)
- 19- Advanced Physical Chemistry (**Graduate, PhD level**)
- 20- Seminars (**Graduate, PhD level**)

**GRADUATE STUDENTS: Supervised and graduated many MSc and PhD students.**

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## **PUBLICATIONS:**

	YEAR	Publication
70	2024	MP paper (under preparation).
69	2024	Ola paper (under preparation).
68	2024	Heterogeneous Photocatalysis of Fe <sub>2</sub> O <sub>3</sub> Nanoparticles: Synthesis, Characterization and Applications (Submitted).
67	2024	Study of Galena Ore Powder Sintering and Its Microstructure (Accepted 8/4/2024).
66	2024	The potential of some functional group compounds substituted 8-Manzamine A as RSK1 inhibitors: molecular docking and molecular dynamics simulations Ala' Omar Hasan Zayed, Mousa Altarabeen, Ehab AlShamaileh & Sharifuddin Md Zain (2024) , Journal of Biomolecular Structure and Dynamics, DOI: <a href="https://doi.org/10.1080/07391102.2024.2310792">10.1080/07391102.2024.2310792</a>
65	2023	The Corrosion Inhibition of Montmorillonite Nanoclay for Steel in Acidic Solution. AlShamaileh, E.; Altwaiq, A.M.; Al-Mobydeen, A.; Hamadneh, I.; Al-Saqarat, B.S.; Hamaideh, A.; Moosa, I.S. <i>Materials</i> 2023, 16, 6291. <a href="https://doi.org/10.3390/ma16186291">https://doi.org/10.3390/ma16186291</a>
64	2023	Synthesis of Nanostructured Alumina from Byproduct Aluminum Filings: Production and Characterization. Esaifan, M.; Al-Mobydeen, A.; Al-Masri, A.N.; Altwaiq, A.M.; Al-Saqarat, B.S.; Mahmoud, W.; Hamaideh, A.; Moosa, I.S.; Hamadneh, I.; AlShamaileh, E. <i>Inorganics</i> 2023, 11, 355. <a href="https://doi.org/10.3390/inorganics11090355">https://doi.org/10.3390/inorganics11090355</a>
63	2023	Mechanochemically Based Solid-State Diels-Alder reaction: A Mini Review. Submitted
62	2023	Facile Production Method of PbS Nanoparticles via Mechanical Milling of Galena Ore Bety S Al-Saqarat, Ahmed Al-Mobydeen, Ahmed N Al-Masri, Muayad Esaifan, Imad Hamadneh, Iessa Sabbe Moosa, Ehab AlShamaileh <i>Micromachines</i> 14 (3), 564
61	2022	Mechanochemical Preparation of a Novel Slow-Release Fertilizer Based on K <sub>2</sub> SO <sub>4</sub> -kaolinite E AlShamaileh, M Alrbaihat, I Moosa, Q Abu-Afifeh, H Al-Fayyad, ... <i>Agronomy</i> 12 (12), 3016
60	2022	Physio-Chemical Preparation of Slow-Release Potassium Fertilizers MR Alrbaihat, E AlShamaileh, AE Al-Rawajfeh <i>Journal of Biotechnology Research Center</i> 16 (02), 31-38
59	2022	Performance comparison and light reflectance of Al, Cu, and Fe metals in direct contact of flat solar heating systems Ehab AlShamaileh*, Iessa Sabbe Moosa, Heba Al-Fayyad, Bashar Lahlouh, Hussein A Kazem <i>Energies</i> 15 (23), 8888
58	2022	Study of the Microstructure, Corrosion and Optical Properties of Anodized Aluminum for Solar Heating Applications E AlShamaileh, AM Altwaiq, M Esaifan, H Al-Fayyad, Z Shraideh, ... <i>Metals</i> 12 (10), 1635
57	2022	Sodium dodecyl benzene sulfonate (SDBS) and N, N-dimethyldodecan-1-amine oxide (DDAO) in single and mixed systems as corrosion inhibitors of zinc in hydrochloric acid RA Abdel-Rahem, S Niaz, AM Altwaiq, M Esaifan, E AlShamaileh, ... <i>Tenside Surfactants Detergents</i> 59 (3), 240-253
56	2022	Alrbaihat, M., & AlShamaileh, E. (2022). Mechanochemistry's Role in Nonsteroidal Anti-inflammatory Drugs Development: A Review. <i>BOHR International Journal of General and Internal Medicine</i> , 1(1), 17–24. <a href="https://doi.org/10.54646/bijgim.2022.05">https://doi.org/10.54646/bijgim.2022.05</a>
55	2022	Polypyrrole-Metal Oxide-Carbon Nanocomposite Films Corrosion Enhancement on Industrial Steel I Jum'h, Y Al-Abdallat, EM AlShamaileh, MD AL-Tahat, A Telfah <i>2nd International Conference on Industry 4.0 and Artificial Intelligence ...</i>
54	2021	Experimental evaluation of new organic compounds as corrosion inhibitors for mild steel in hydrochloric acid MA Almomani, M Al-Noaimi, MT Hayajneh, HH AlShurafat, ... <i>International journal of corrosion and scale inhibition</i> 10 (3), 1141-1156
53	2021	A mechanochemical preparation, properties and kinetic study of kaolin-N, P fertilizers for agricultural applications MR Alrbaihat, AE Al-Rawajfeh, E AlShamaileh <i>Journal of the Mechanical Behavior of Materials</i> 30 (1), 265-271
52	2021	Synthesis of nanomaterials by mechanochemistry GA Al Bazed, AE Al-Rawajfeh, MA Abdel-Fatah, MR Alrbaihat, ... <i>Handbook of Greener Synthesis of Nanomaterials and Compounds</i> , 405-418
51	2021	Characteristics and types of slow-and controlled-release fertilizers AE Al-Rawajfeh, MR Alrbaihat, EM AlShamaileh <i>Controlled Release Fertilizers for Sustainable Agriculture</i> , 57-78

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50	2020	Formation of metal oxide-based hydroxysodalite by alkali-activation of kaolinite E AlShamaileh, M Esaifan, Q Abu-Afifeh Chemija 31 (3)
49	2020	Effects of Milling Time and Speed on Nutrient Availability of KH <sub>2</sub> PO <sub>4</sub> with Kaolinite as Physical Type Slow/Controlled Release Fertilizers AAE Al-Rawajfeh, M Alrbaihat, E AlShamaileh Jordan Journal of Chemistry (JJC) 15 (2), 51-59
48	2019	<b>EM AlShamaileh, AE Al-Rawajfeh, MR Alrbaihat (2019). Solid-State Mechanochemical Synthesis of Kaolinite-Urea Complexes for Application as Slow Release Fertilizer.</b> Journal of Ecological Engineering 20 (9)
47	2019	Beatrix Udvardi, Mohammad R. Al-rbaihat, <b>Ehab M AlShamaileh</b> and Aiman Eid Al-Rawajfeh (2019). <b>An FTIR Spectroscopic Study of a Novel Kaolinite-NPK Mixture.</b> The Journal of Engineering, Science and Computing Issue I, Volume I, April, 2019
46	2019	Aiman E Al-Rawajfeh, <b>Ehab M AlShamaileh</b> , Mohammad R Alrbaihat (2019). <b>Clean and efficient synthesis using mechanochemistry: Preparation of kaolinite-KH<sub>2</sub>PO<sub>4</sub> and kaolinite-(NH<sub>4</sub>)<sub>2</sub>HPO<sub>4</sub> complexes as slow released fertilizer.</b> Journal of Industrial and Engineering Chemistry, Volume 73, 2019, Pages 336-343
45	2019	AM Al-Maabreh, AE Al-Rawajfeh, <b>E Alshamaileh</b> , GA Al-Bazedi, (2019). <b>Mitigation of scale problem in the pumped Disi water to Amman, Jordan,</b> Environmental Protection Engineering 45 (1)
44	2018	Aiman Eid Al-Rawajfeh, Betty Al-Saqarat, Alaa Al-Ma'abreh, Hossam Al-Itawi, Albara Alrawashdeh, <b>Ehab AlShamaileh</b> , Mika Sillanpaa (2018). <b>Utilization of Calcined Gypsum in Water and Wastewater Treatment: Removal of Ibuprofen,</b> Jordanian Journal of Engineering and Chemical Industries (JJECI) Vol. 1 No. 2
43	2018	<b>Ehab AlShamaileh</b> , Aiman Al-Rawajfeh and Mohammad Al-Rbaihat, (2018) <b>Mechanochemical Synthesis of Slow-Release Fertilizers: A Review,</b> The Open Agriculture Journal 12(1).
42	2017	Aiman Eid Al-Rawajfeh, <b>Ehab Alshamaileh</b> and Alaa M. Al-Ma'abreh, (2017) <b>Influence of flow rate variations on chemistry change of pumped Disi water to Amman/Jordan: a laboratory simulation approach.</b> Desalination and Water Treatment 92, 80–89.
41	2017	M. Almatarneh, <b>E. AlShamaileh</b> , Z.M. Ahmad, A.A. Abu-Saleh and I. Elayan, (2017) <b>A Computational Study of Ozonolysis of Phenanthrene,</b> Acta Physica Polonica Series a 132(3):1149-1156
40	2017	<b>Ehab Alshamaileh</b> , Aiman Al-Rawajfeh, Beatrix Udvardi and Mohammad R. Al-Rbaihat, <b>FTIR study of mechanochemical slow-release kaolinite/NPK-fertilizers: Influence of milling parameters and weight ratio.</b> Interciencia Journal, 2017 42(10), ISSN: 0378-1844.
39	2017	Alaa Al-Ma'abreh, Aiman Al-Rawajfeh and <b>Ehab AlShamaileh</b> , <b>Investigation of Encrustation, Corrosivity and Carbon dioxide Exchange: In Pumping Systems,</b> Lambert Academic Publishing, (2017),
38	2017	<b>Ehab Alshamaileh</b> , Aiman Al-Rawajfeh and Ala'a AlMa'abrah, <b>Assessment of Quality and the Potential of Scale Formation and Corrosivity of Drinking Water Supplied from Disi to Amman, Jordan.</b> Fresenius Environmental Bulletin 26(1a):634-645 - January 2017
37	2016	<b>Alshamaileh E., Al-Sulaibi M., Al-Khawaldeh A., Almatarneh M., El-Sabawi D, Al-Rawajfeh A., Current status of nanotechnology in Jordan,</b> World Journal of Science, Technology and Sustainable Development, (2016), Vol. 13 Iss 2 pp
36	2015	M.H. Almatarneh, L. Barhoumi, B. Tayyem, A.A-A. Abu-Saleh, M.M. AL- A'qarbeh, F. Abuorabi, <b>E. AlShamaileh</b> , M. Altarawneh, A. Marashdeh, <b>Computational Study for the Second-Stage Cracking of the Pyrolysis of Ethylamine: Decomposition of Methanimine, Ethenamine, and Ethanamine,</b> Computational & Theoretical Chemistry (2015)
35	2015	Al-Rawajfeh A.E., Alrawashdeh A.I., Al-Shabatat M., Itiwi Z.I. , Aldawdeyah A., Benykhafal H., Zeino A., <b>AlShamaileh E., Inhibitory effect of Hydrex anti-scalant on calcium scale deposition from seawater under multiple- effect distillers' conditions.</b> Water Resources and Industry 11(2015)58–63
34	2014	Hamid M. Younis and <b>Ehab Alshamaileh</b> , <b>The Adsorption and Decomposition of Formic Acid on Cu{100} and Cu{100}Pt Surfaces using Temperature Programmed Reaction Spectroscopy</b> Indian Journal of Science and Technology (2014), 7(12), 1916-1924.
33	2014	<b>Ehab AlShamaileh*</b> , Mohammad H. Kailani, Sharif Arar, Aiman E. Al- Rawajfeh, <b>Corrosion Inhibition of Aluminium by Cyclohexylamine Dithiocarbamate in Acidic Solution.</b> Studia Ubb Chemia (2014), 59(3), 61- 69
32	2014	<b>Ehab AlShamaileh, DFT Study of Monochlorinated Pyrene Compounds,</b> Computational Chemistry (2014) 2(3), 43-49
31	2014	Albara I Alrawashdeh, Aiman Eid, Al -Rawajfeh, Areej A Al-Bedoor, <b>Ehab M AlShamaileh</b> , Mahmood Najj, Al -Hanaktah, <b>Production of Plaster From Gypsum Deposits in South Jordan: Improvement of The Setting Time.</b> Journal of Chemical Technology and Metallurgy (2014), 49(3), 293-302
30	2013	Sa'ib J. Khouri, Ibrahim A. Abdel Rahim, <b>Ehab M. Alshamaileh</b> , Abdelmnim Altweiq, <b>Equilibrium and Structural Study of m-Methyl Red in Aqueous Solutions: Distribution Diagram Construction.</b> Journal of Solution Chemistry 04/2013
29	2013	Aiman Al-Rawajfeh, <b>Ehab Al-Shamaileh</b> et al. , <b>Adsorption desalination of chloride ions on composite natural-synthetic materials: An approach for the reduction of chlorine corrosion in electrodeionization units,</b> Journal of Industrial and Engineering Chemistry, Volume 19, Issue 6,1895–1902 (2013).
28	2013	<b>Ehab AlShamaileh</b> , Arwa Hamaideh and Alaa Zayed. <b>Theoretical Study of the Structure of 2,6-Dibromopyridinium Halide Salts.</b> Asian Journal of Chemistry, Vol 25, No14, pp. 8050-8056
27	2012	<b>Ehab AlShamaileh</b> , Haytham Saadeh, and Valerie Favry, <b>Modification of Gold Surface with Gold Nanoparticles and Cyclohexyl Dithiocarbamate as a Selective Sensor for Cysteine,</b> Journal of Chemistry Volume 2013 (2013), Article ID 383921, 5 pages. <a href="http://dx.doi.org/10.1155/2013/383921">http://dx.doi.org/10.1155/2013/383921</a>

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26	2012	Sa'ib J. Khouri • Ibrahim A. Abdel-Rahim and Ehab M. Shamaileh, <b>A thermodynamic study of a-, b-, and c-cyclodextrin-complexed m-methyl red in alkaline solutions.</b> J. Inc.1 Phenom. Macrocy. Chem. DOI 10.1007/s10847-012-0221-x July 2012
25	2011	Ehab AlShamaileh, Rawhi Al-Far, Muath Atmeh, <b>Synthesis, Crystal Structure, and Quantum Mechanics Studies of Tetrapyridinecopper(I) iodide,</b> DIRASAT, PURE SCIENCE, VOL 38, NO. 1 (2011)
24	2010	Ehab AlShamaileh, "Testing of a new solar coating for solar water heating applications", Solar Energy, Volume 84, Issue 9, September 2010, pp. 1637- 1643 .(5-Year Impact Factor: 2.807)
23	2009	U. Al-Qawabeha, A. E. Al-Rawaifeh and E. AlShamaileh. "Influence of roller burnishing on surface properties and corrosion resistance in steel", Anti-Corrosion Methods and Materials (2009), 56(5), 261-265.
22	2009	Ehab AlShamaileh, "Adsorption of thiols on polycrystalline gold surface" Fresenius Environmental Bulletin (2009), 18(3), 320-326.
21	2008	E. AlShamaileh, M. A. Alawi, Y. Dehdal, H. Saada, <b>Kinetic Stability Study of Selected Hydroxamic Acids Using HPLC/UV.</b> Jordanian Journal of Pharmaceutical Science (2008), 1(1), 57-65.
20	2008	Aiman Eid Al-Rawajfeh, Hasan A. Al-Salah, Ehab AlShamaileh, Danail Donchev. <b>Polyamide-based composite membranes: Part 2. Interaction, crystallization and morphology.</b> Desalination (2008), 227(1-3), 120-131.
19	2007	Ehab Al Shamaileh and Aiman Al-Rawajfeh. "Co-adsorption of formic acid and potassium on Cu{100}: a temperature programmed desorption study" Jordan Journal of Chemistry (2007), 2(1), 89-95.
18	2007	Ehab AlShamaileh and Aiman Al-Rawajfeh. "Assessment of tap water resources quality and its potential of scale formation and corrosivity in Tafila Province, South Jordan". Desalination (2007), 206(1-3), 322-332.
17	2007	Aiman Al-Rawajfeh and Ehab AlShamaileh. "Inhibition of corrosion in steel water pipes by ammonium pyrrolidine dithiocarbamate (APDTC)" Desalination (2007), 206(1-3), 169-178.
16	2005	Pussi, K.; AlShamaileh, E.; Cafolla, A. A.; Lindroos, M. <b>A tensor LEED study of the c(2x2)-Sb adsorption structure on Cu{110}.</b> Surface Science (2005), 583(2-3), 151-156.
15	2004	AlShamaileh, Ehab; Pussi, Katariina; Younis, Hamid; Barnes, Colin; Lindroos, Matti. <b>The structure of oxygen-induced reconstruction on Cu{1 0 0}-c(2 x 2)-Pt surface alloy. The Pt/Cu{1 0 0}-(2 x 2)-O.</b> Surface Science (2004), 548(1-3), 231-238.
14	2004	AlShamaileh, Ehab; Pussi, Katariina; McEvoy, Thomas; Lindroos, Matti; Hughes, Greg; Cafolla, Attilio A. <b>Structural study of the Cu{1 0 0}-p(2 x 2)- Sb surface alloy using low energy electron diffraction.</b> Surface Science (2004), 566-568(Pt. 1), 52-57.
13	2004	AlShamaileh, Ehab; Barnes, Colin. <b>Coverage dependent bonding of potassium on Cu{100}.</b> Dirasat: Pure Sciences (2004), 31(2), 142-148.
12	2004	Pussi, K.; AlShamaileh, E.; McLoughlin, E.; Cafolla, A. A.; Lindroos, M. <b>Determination of the structure of Cu{1 0 0}-p(3,2x2)<sup>0</sup> -Sn by dynamical LEED.</b> Surface Science (2004), 549(1), 24-30.
11	2003	AlShamaileh, Ehab; Barnes, Colin J.; Wander, Adrian. <b>Cu-capped surface alloys of Pt/Cu{100}.</b> Journal of Physics: Condensed Matter (2003), 15(12), 1879-1887.
10	2003	Sainio, J.; Alshamaileh, E.; Lahtinen, J.; Barnes, C. J. <b>Initial growth of Co on Cu{001} studied with LEED I(V).</b> Surface Review and Letters (2003), 10(4), 641-648.
9	2003	Pussi, K.; McEvoy, T.; Barnes, C. J.; Cafolla, A. A.; AlShamaileh, E.; Lindroos, M. <b>Determination of the structure of Cu{1 0 0}-c(4x4)-In by TLEED.</b> Surface Science (2003), 526(1-2), 141-148.
8	2003	Cafolla, A. A.; McLoughlin, E.; AlShamaileh, E.; Guaino, Ph.; Sheerin, G.; Carty, D.; McEvoy, T.; Barnes, C.; Dhanak, V.; Santoni, A. <b>Observation of an anti-phase domain structure in the Cu{100}/Sn surface alloy system.</b> Surface Science (2003), 544(1), 121-133.
7	2002	Pussi, K.; Lindroos, M.; AlShamaileh, E.; Barnes, C. J. <b>A SATLEED study of the geometric structure of Cu{1 0 0}-Pd monolayer surface alloys.</b> Surface Science (2002), 513(3), 555-568.
6	2002	AlShamaileh, E.; Younis, H.; Barnes, C. J.; Pussi, K.; Lindroos, M. <b>A tensor LEED determination of the structure and compositional profile of a Cu{10 0}-c(2x 2)-Pt surface alloy.</b> Surface Science (2002), 515(1), 94-102.
5	2002	AlShamaileh, Ehab; Barnes, Colin. <b>LEED investigation of the alloying/de- alloying transition in the Cu{100}/Bi system.</b> Physical Chemistry Chemical Physics (2002), 4(20), 5148-5153.
4	2001	McLoughlin, E.; Cafolla, A. A.; AlShamaileh, E.; Barnes, C. J. <b>A re- interpretation of the Cu{1 0 0}/Sn surface phase diagram.</b> Surface Science (2001), 482-485(Pt. 2), 1431-1439.
3	2001	Barnes, C. J.; AlShamaileh, E.; Pitkanen, T.; Lindroos, M. <b>Early stages of surface alloy formation: a diffuse LEED I(V) study.</b> Surface Science (2001), 482-485(Pt. 2), 1425-1430.
2	2001	Barnes, C. J.; AlShamaileh, E.; Pitkanen, T.; Kaukasoina, P.; Lindroos, M. <b>The kinetics of formation and structure of an underlayer alloy. The Cu(1 0 0)-c(2x2)-Pd system.</b> Surface Science (2001), 492(1-2), 55-66.
1	1995	M. Hourani, E. Shamaileh, K. Ibrahim, <b>Electroanalysis of Ag<sup>+</sup>, Hg<sup>2+</sup> and Fe<sup>3+</sup> by voltammetry at an iodine-coated platinum electrode,</b> Arab. Gulf. J. Sci. Res. 1995, 13, 225.

## REFERENCES:

1. Prof. Dr. Mohamad Hourani, Department of Chemistry, Uni. Jordan.
2. Prof. Dr. Firas Awadi, Department of Chemistry, Uni. Jordan.
3. Prof. Dr. Imad Hamadneh, Department of Chemistry, Uni. Jordan.