

Curriculum Vitae

1- Personal data

Name : Fayza Sayed Mohamed Hashem.

Scientific Name: *F.S.Hashem* or *Fayza S Hashem*

Date of Birth: 16/1/1977

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Affiliation: Professor of physical chemistry and Building Materials, Chemistry
Department, Faculty of Science, Ain Shams University.



2-Education gradient

- 1- B.SC. in Chemistry – Faculty of Science- Ain Shams University, 1996.
- 2- M.SC in Physical Chemistry –Faculty of Science- Ain Shams University, 1998.
- 3- Ph.D. in physical Chemistry – Faculty of science- Ain Shams University, 2002.
- 4-Assistant professor in physical chemistry, Faculty of Science- Ain Shams University,2012.
- 5- Professor of physical chemistry, Faculty of Science , Ain Shams university, 2017

3-Experiences

- 1-Demonstrator in chemistry department- Faculty of science, Ain Shams University, Egypt from 24/12/1994 to19/ 11/1997.
- 2- Assistant-lecturer from 20/11/1997 to 24/2002.
- 3- Lecturer from 25/3/2002 to 26/9/2012.
- 4- Assistant professor in physical chemistry, Faculty of Science, Ain Shams University, from 26/9/2012 to 25/12/2017.
- 5- Professor of physical chemistry, Faculty of Science , Ain Shams university from 25/12/2017 till now.
- 6- Assistant professor in Tibba University, KSA, from 1/8/2003 to 24/9/2008.
- 7-Supervisor for 20 M.Sc thesis and 30 PhD thesis.

8- I reviewed and judged **five** promotions in Om El-Qraa University for Associated professor degree , **four** promotions for petroleum center for research

9-I am a member in Technical Committee for Geopolymer Concrete (TC-GC)

10-I am author of (**46**) research papers that are published in international pre-review journals of high impact factors.

11- My h-index is (31) at Google scholar, (18) at Scopus and my index in Researchgate is 21.

12- Reviewer in many international journals as:

- Constructions and Building Materials.
- Journal of Hazardous, Toxic and Radioactive Waste Management.
- Journal of Thermal Analysis and Calorimetry.
- Synthesis and reactivity in inorganic, organic and nano-metal chemistry.
- Desalination and water treatment.
- Journal of environmental science and technology.
- Applied clay science.
- Journal of Building Engineering.
- Journal of materials, chemistry and physics.
- Materials and structure.
- Advances in Cement Research.

4-Attended Conferences and work shops

1-The international conference in Cement technology, Assuit 1997.

2-The international conference in solar energy, Solar 1997, Cairo 1997.

3-Ibn Sina international conference, Cairo, 2004.

4-7th Arab international conference on polymer science and technology, 3rd Arab conference on material science , Hurdagah Egypt, 2003.

5-8th international conference on polymer science and technology, Cairo-sharm El-Shiekh, Egypt, 2005.

6- Nano Technology in Building, Cairo 2011.

7- The 2nd international conference in petroleum research, center of petroleum researches, Cairo, February, 2016.

8- Workshop in uses of well- oil cement, faculty of engineering, Ain shams university, 2017.

9-4th Conference of nano-technology in Building Materials, 2014.

10-6th Conference of nanotechnology in Building Materials, 2017.

11-Workshop in geopolymers cement, faculty of engineering, Ain shams university, 2021.

12-11th annual Ain shams university international conference 9-11 May 2023.

5-Projects

- 1- Project funded by the princess Nora Abdel Rahman University in 5/2014 entitle "**Removal of some heavy metals and organic dyes pollutants using activated carbon derivatives from fruits husks**". From which the paper number **(24)** was driven.
- 2- Project funded by STDF in 2021 , project number (45547) entitle : "**Incorporation of industrial solid wastes in the production of high performance geopolymers cement admixed with micro- and nano particles**".from which papers numbers **(51,52)** were driven
- 3- Project funded by STDF in 2023 , project number (46896) entitle" **About a complete system for treatment the water agricultural drainage"** I am from the project team of this project

List of Publications

- 1- Hekal; E.E., Abd El-Khalik; M., El-Shafei; G.M. and **Hashem; F.S.**, Mechanical and Physicochemical Properties of Hardened Portland Cement Pastes Containing Hydrophobic Admixtures Part I: Compressive strength and Hydration kinetics, ZKG International, 1999, 52, 697-7000.
- 2- Hekal; E.E., Abd El-Khalik; M., El-Shafei; G.M. and **HashemF.S.**, Mechanical and Physicochemical Properties of Hardened Portland Cement Pastes Containing Hydrophobic Admixtures Part II: Physical Properties and Microstructure, ZKG International, 2000, 53, 152-158.
- 3- Hekal; E.E., Abd El-Khalik; M., and **Hashem; F.S.**, Influence of Heating and Rehydration on Compressive Strength of some Blended Cement Pastes, La italiana del Cemento, 2000, 6, 518-525.
- 4- Hekal; E.E., Abd El-Khalik; M., and **Hashem; F.S.**, Phase Composition and Microstructure Changes due to Heating and Rehydration of some Hardened Blended Cement Pastes, L'industria italiana del Cemento, 2000, 9, 689-705.
- 5- E.E.Hekal, E.A.Kishar, M.Nor Eldean, F.S Hashem, Effect of some water reducing admixture on hydration characteristics of Portland cement "", 7th Arab international conference on polymer science and technology, 3rd Arab conference on material science , Hurdagah Egypt, (2003).

- 6- E.E.Hekal, E.A.Kishar, A.A. Ibrahim, F. M. Mobarak, **F.S.Hashem**, A. H. Abd-El-Khader, "Physicochemical properties of hardened cement -cellulosic fibers composites," the 8th Arab international conference on Polymer science and technology, Cairo-Sharm El-Shiekh, (2005).
- 7- E.E.Hekal, E.A.Kishar, M.Nor Eldean, **F.S.Hashem** " Effect of water -reducing admixture on the resistance of hardened cement pastes to sulfate attack", 9th arab international conference on polymer science and technology, Hurdagah Egypt, (2007).
- 8- **Hashem F.S.**, Sulfate Attack on Hardened Cement Pastes with different Porosities in the Presence of Water-repelling Admixtures, *Advances in Cement Research*, 2009,21(2) 75-82.
- 9- Amin; M.S., **Hashem; F.S.**, Hydration Characteristics of Autoclaved Cement Kiln Dust-Sludge- Silica Fume Pastes, *Journal of American science*, 2010;6(8).
- 10- Hekal; Eisa E., **Hashem; F.S.** and Amin; M.S., Chromium (III) Immobilization and its influence on C₃S hydration, *Journal of Hazardous, Toxic, and Radioactive Waste Management*, 2010,14(4), 246-249.
- 11- Amin; M.S., **Hashem; F.S.**, Hydration Characteristics of hydrothermal Cement Kiln Dust-Sludge- Silica Fume Pastes, *Construction and Building Materials*, 2011, 25, 1870-1876.
- 12- **Hashem; F.S.**, Amin; M.S and Hekal; E. E., Stabilization of Cu (II) wastes by C₃S hydrated matrix, *Construction and Building Materials*, 2011, 25, 3278-3282.
- 13- **Hashem F.S.**, Amin; M.S and Hekal; E. E., Kinetics of leaching of Cr³⁺ and Cu²⁺ ions from doped hydrated C3A-gypsum matrix, *HBRC Journal*,7 (3) 2011.
- 14- Amin M.S, **Hashem F.S.** and Maha R. Mohamed, Solidification /Stabilization of Zn⁺² ions in metakaolin and homra blended cement, *Advances in Cement Research*, 2012, 24(1) 1-10.
- 15- **Hashem F.S.**, Adsorption of Methylene Blue from Aqueous Solutions using Fe₃O₄/Bentonite Nanocomposite, *Hydrology current research*, 3(5) 1-6 2012.
- 16- El-Gamal; S.M.A., **Hashem; F.S.**, Amin; M.S., Thermal Resistance of Hardened Cement Pastes Containing Vermiculite and Expanded Vermiculite, *Journal of Thermal Analysis and Calorimetry*, 109, 217–226 (2012) <https://doi.org/10.1007/s10973-011-1680-9>.
- 17- **Hashem F.S.**, Amin; M.S and El-Gamal; S.M.A., Improvement the acid resistance of Portland cement pastes using rice husk ash and cement kiln dust as additives, *Journal of Thermal Analysis and Calorimetry*,111,1391–1398 (2013), <https://doi.org/10.1007/s10973-012-2458-4>
- 18- M. S. Amin , S. M. A. El-Gamal, **F. S. Hashem**, Effect of addition of nano-magnetite on the hydration characteristics of hardened Portland cement and high slag cement pastes,

Journal of Thermal Analysis and Calorimetry, **112**, 1253–1259 (2013), <https://doi.org/10.1007/s10973-012-2663-1>.

- 19-Hashem F.S.**, Removal of Methylene Blue by magnetite covered bentonite nanocomposites , European chemical bulletin, 4, 514-521 2013.
- 20-Hashem F.S.**, M. S. Amin, Kinetics and thermodynamic studies of removal of chromate ions by ettringite, Journal of Thermal Analysis and Calorimetry, 116(2)2014 <https://doi.org/10.1007/s10973-013-3592-3>
- 21-** Abo-El-Enein S.A.,Eglal R.Sawaya, S.M.A.El-Gamal, **Hashem F.S.**, Amin M.S, , Mohamed S.M.H., Hydrothermal characteristics of OPC clinker granulated slag pastes made with and without silica sand, Egyptian journal of applied sciences,29(7), 278-297 (**2014**).
- 22-Hashem F.S.**, Removal of Co^{2+} and Ni^{2+} ions from aqueous solutions by low-cost synthetics Na-4-mica, American Chemical Science Journal 6(2): 96-104, 2015.
- 23-Hashem F.S.**, Amin M.S., El-Gamal S.M.A, Chemical activation of vermiculite to produce highly efficient material for Pb^{2+} and Cd^{2+} removal, Applied Clay Science 115: 189–200(**2015**).
- 24-** Amin M.S , El-Gamal S.M.A., **Hashem; F.S.**, Fire resistance and mechanical properties of carbon nanotubes – clay, bricks wastes (Homra) composites cement, Construction and Building Materials, 98 237–249, (**2015**).
- 25-** Abo-El-Enein S.A., **Hashem F.S.**, Amin M.S., Sayed D.M, Physicochemical characteristics of cementitious building materials derived from industrial solid wastes, Construction and Building Materials 126, 983–990, (**2016**).
- 26-Hashem F.S.**, M.S. Amin, Adsorption of methylene blue by activated carbon derived from various fruit peels, Desalination and water treatment,57:22573–22584. (**2016**)
- 27-F. S. Hashem**, K. M. Al-qahtani, F. F. Al-Fawzan¹, M. Alshabanat, Comparative Study on Activated Carbon Prepared from Various Fruit Peels, International Journal of Innovative Research in Science, Engineering and Technology , 5,3, **2016**.
- 28-** El-Gamal S. M. A, **Hashem, F. S.**, M.S.Amin, Influence of Carbon nanotubes, nanosilica and nanometakaolin on some morphological-mechanical properties of oil well cement pastes subjected to elevated water curing temperature and regular room air curing temperature, Construction and Building Materials, 146, 531-546, (**2017**). <https://doi.org/10.1016/j.conbuildmat.2017.04.124>.
- 29-** El-Gamal S. M. A, **Hashem; F. S.**, Enhancing the thermal resistance and mechanical properties of hardened Portland cement pastes by using pumice and Al_2O_3 , Journal of Thermal Analysis and Calorimetry, 128:15–27(**2017**).

- 30- Eisa E. Hekal, **Fayza S. Hashem**, M. Abdel Wahab, Propylene Glycol as a Quality Improver for Portland and Portland-Limestone Cements, *Journal of Scientific and Engineering Research*, 4(12):450-462, 2017.
- 31- H.A.Abdel-Gawwad, Eisa E. Heikal, H. El-Didamony, **F.S. Hashem**, Aya.H. Mohammed, Recycling of concrete waste to produce ready-mix alkali activated cement, *Ceramic international*, 2018, 44, 7300–7304.
- 32- H.A.Abdel-Gawwad, Eisa E. Heikal, H. El-Didamony, **F.S. Hashem**, Aya.H. Mohammed, A new method to create one-part non-Portland cement powder, *journal of thermal analysis and calorimetry* , 2018, 75, 52.
- 33- **Hashem F.S.**, Amin M.S., El-Gamal S.M.A, Utilization of OPC-Pumice Composites for efficient heavy metals removal, *Journal of Taibah University for Science*, 2018, 12(6) 765–773.
- 34- **Fayza S. Hashem** , Taha A. Razek , Hani A. Mashout, Rubber and plastic wastes as alternative refused fuel in cement industry, *Construction and Building Materials* 212 (2019) 275–282 .
- 35- **Fayza S. Hashem**, Abd.El- Razek, Taha. A. M.; Selim, Faten, Mashhout, H., Characterization of various kind of refused derived fuels and their effects on cement properties, *Journal of Environmental Science* · June 2018 <https://10.21608/jes.2018.22047>
- 36- **Fayza S. Hashem**, Mustafa K. Metwally, Sherif Mostafa , Alaa I. Mohamed· Utilization of Sludge Resulted From Chlorine Industry In Waste Water Treatment, *European chemical bulletin*, 8(4),(2019) 132-136.
- 37- Ahmed A. Elzain, **Fayza S. Hashem**, Mohamed El.Assar, Fathy Mohamed, Removal of Methylene Dye using Composites of Poly (Styrene-co-Acrylonitrile) Nanofibers Impregnated with Adsorbent Materials, *journal of molecular liquid*, 291(2019)111335. <https://doi.org/10.1016/j.molliq.2019.111335>
- 38- A. A.Elsaman, E. E. Hekal, **F. S. Hashem**, F. A. Selim, Hydration characteristics and durability of Ground Granulated Blast Furnace Slag - Homra geopolymer cement, *International Journal of Scientific & Engineering Research*, 10(5)(2019)1117-1128.
- 39- F.S.Hashem, E.E.Hekal, M.AbdelWahab, The influence of Triethanol amine and Ethylene glycol on the fineness and hydration characteristics of Portland cement and Portland limestone cement, *International Journal of Petrochemical Science & Engineering* ,4(3)(2019)81-88.
- 40- Ahmed S. M. Ali, M. R. El-Aassar, **F. S. Hashem**, N. A. Moussa, Surface Modified of Cellulose Acetate Electrospun Nanofibers by Polyaniline/ β -cyclodextrin Composite for Removal of Cationic Dye from Aqueous Medium, *Fibers and Polymers*, 20,10 (2019) 2057-2069.

- 41- M.Hazem, *Hashem F.S*, Amin M.S.,El-Gamal S.M.A, Mechanical and microstructure characteristics development of hardened oil well cement pastes incorporating fly ash and silica fume at elevated temperature, Journal of Taibah University for Science,4(1) (2020)155-167. <https://doi.org/10.1080/16583655.2020.1711998>
- 42- Selim FA, Hashem F.S, Amin M.S., Mechanical, micro-structural and acid resistance aspects of improved hardened Portland cement pastes incorporating marble dust and fine kaolinite sand, Construction and Building Materials, 251, (2020),118992.
- 43- Fadel O, Hehal E.E., Hashem F.S., Selim F.A, Mechanical Properties, Resistance to Fire and Durability for Sulfate Ions of Alkali activated Cement made from Blast furnace Slag- Fine Metakaolin, Egyptian journal of chemistry,12: 4821 - 4831 (2020). <https://10.21608/EJCHEM.2020.28427.2612>
- 44- M. El Gamal, F.M. Mohamed, M.A. Mekewi., F.S. Hashem, M.R. El-Aassar, R.E. Khalifa, Adsorptive removal of Methyl orange from aqueous solutions by polyvinylidene fluoride tri-fluoro ethylene/carbon nanotube/kaolin nanocomposite: kinetics, isotherm, and thermodynamics, Desalination and Water Treatment, 193 (2020) 142–151 <https://doi:10.5004/dwt.2020.25690> .
- 45- Mohamed R. El-Aassar, Fayza S. Hashem, Ahmed A. Elzain, Fathy Mohamed, Reduction of Non-point Source Pollution by Poly (Styrene-co-Acrylonitrile) Composites Nanofibers Inoculated with Sorbent Materials, International Journal of Environmental Science and Technology, 18, 3071–3082 (2021) <https://doi.org/ 10.1007/s13762-020-03051-x>
- 46- Mohamed R. El-Aassar, Ahmed A. Elzain, *Fayza S. Hashem*, Fathy M. Mohamed, Reusing and Characterization of the Used Reverse Osmosis Membrane and its Application in Surface Water Purification, Egyptian Journal of Aquatic Biology & Fisheries, 25(2): 509 – 522 (2021)
- 47- *F.S. Hashem*, E.E. Hekal, M.M. Abdel Naby, F.A. Selim, Mechanical properties and durability performance against fire, gamma ray and bio-fouling of hardened Portland cement pastes incorporating lead bearing wastes, Materials Chemistry and Physics 272 (2021) 124997.
- 48- *Fayza S Hashem*, E.E.Hekal, Osama Fade, characterization and performance of a geopolymer binder made from blast furnace slag and fine kaolin dust, new trend in polymer science,1(1) 2022.
- 49- *Fayza. S. Hashem*, Faten A Selim, Eisa. E. Hekal, Manar. M. Abdel Naby, Cement-Biofouling and Sulfate Resistivity of Hardened Blended Cement Pastes in Marin environments, a case study, Cement Based Composites, 1, 5625, 2022.
- 50- Mohamed R El-Aassar, Omar M Ibrahim, *Fayza S Hashem*, Ahmed SM Ali, Ahmed A, Elzain, Fathy M Mohamed, Fabrication of Polyaniline@ β -cyclodextrin Nanocomposite for

Adsorption of Carcinogenic Phenol from waste water, ACS Applied Bio Materials 5(9)(2022) 4504-4515 .

- 51- Hani A. Mashout, Taha A Azim M A Razek, Mohamed S. Amin, **Fayza S hashem**, Faten A. Selim, Performance of nano titania-reinforced slag/basalt geopolymer composites, journal of engineering and applied science, **70**,106(2023).<https://doi.org/10.1186/s44147-023-00278-6> .
- 52- **Fayza S Hashem**, Taha A Azim M A Razek, Hani A. Mashout, Faten A. Selim, Fabrication of Slag/CKD One- mix Geopolymer Cement Reinforced by Low-Cost Nano-particles, Mechanical Behavior and Durability Performance, Scientific report journal (2024) 14:2549 | <https://doi.org/10.1038/s41598-024-53023-1>
- 53- El-Khalafawy A, **Hashem F**, Soliman H., Tracking the Adsorptive Properties of Modified Nano calcium silicate/CuO composite for Cs(I) and Co(II) Uptake from Waste Stream, Accepted for publishing in Microporous and Mesoporous Materials Journal , (2024).113074 <https://doi.org/10.1016/j.micromeso.2024.113074>.
- 54- Hassan S. Hassan, Caijun Shi, **Fayza S. Hashem**, Isabel Israde-Alcantara, Heriberto Pfeiffer, Exploring diatomite as a novel natural resource for ecofriendly-sustainable hybrid cements, Resources, Conservation & Recycling 202 (2024) 107402. <https://doi.org/10.1016/j.resconrec.2023.107402> .
- 55- M.S. Amin, Faten A. Selim, M. Ramadan, Alaa Mohsen, Ahmed M. Abu-Dief , Hoda, A. Ahmed, **Fayza S. Hashem**, Evaluation of mechanical performance, corrosion behavior, texture characterization and aggressive attack of OPC-FMK blended cement pastes modified with micro Titania, Construction and Building Materials 416 (2024) 135261 <https://doi.org/10.1016/j.conbuildmat.2024.135261>.
- 56- D.Monir, F.Selim. M. Hazem, **Fayza S. Hashem**, Geopolymer Cement Composite Containing Agriculture Solid Wastes; Mechanical and Durability Performance, HBRC, (2024) <https://10.1080/16874048.2024.2318503>.
- 57- H.Hegazy, **F.S.Hashem**, R.Maree, M.I.Hewhii, Geochemical characterization of heavy metals and environmental risk assessment of road dust in Cairo, Egypt, J.Enviromental science, 1 (4) 2024, [10.21608/JES.2024.266229.1720](https://doi.org/10.21608/JES.2024.266229.1720).
- 58- M. G. Kholief, Abd El-Latif Hesham, **F. S. Hashem**, F. M. Mohamed, Synthesis and utilization of titanium dioxide nano particle (TiO₂NPs) for photocatalytic degradation of organics, Scientific Reports, (2024) 14:11327. <https://doi.org/10.1038/s41598-024-53617-9>
- 59- Ahmed. Ghith, **Fayza S. Hashem**, and M. M. Ghobashy, Polymer-based soil stabilization for reduction of particulate matter emission in Egypt: A comparative

analysis of acrylate polymer, Journal of Environmental Science, 2024, [10.21608/jes.2024.311253.1839](https://doi.org/10.21608/jes.2024.311253.1839).

- 60- Fayza S. Hashem**, Ahmed T. Abdel Salam, Dalia Monir, Mechanical, Thermal Stability, and Shielding Properties of Slag/Granite Geopolymer Cement Modified by Nanoparticles, international journal of engineering research in Africa, 72 (2024) 117-134.
- 61- Aboulfotouh, Gamal; Al-Sagheer, Nabil Abdullah; Abdel Salam, Noura Fathy; and Hashem, Fayza S.** (2024) "Extraction Of Silicon Oxide From The Partially Dealuminated Metakaolin Residue Of The Kaolin-based Aluminum Sulfate Manufacturing Process," *Egyptian J. of Petroleum*: 33: 4 (2024). <https://doi.org/10.62593/2090-2468.1051>.
- 62- Fayza S. Hashem**, O. Fadel, F. A. Selim, H. S. Hassan, Examining the effect of hybrid activator on the strength and durability of slag-fine metakaolin based geopolymer cement, *Sustainable Chemistry and Pharmacy*, 43, (2025) 101890. <https://doi.org/10.1016/j.scp.2024.101890>.
- 63- Mohamed, F.M., Hashem, F.S., El-Aassar, M.R. et al.** Carbon nanotube/bentonite @ polyvinylidene fluoride tri-fluoro ethylene nanocomposite matrix for superior elimination of carcinogenic dye from wastewater. *Int. J. Environ. Sci. Technol.* (2025). <https://doi.org/10.1007/s13762-024-06286-0>.