

PERSONAL INFORFATION

Family Name: Al-Hwaiti Full Name: Mohammad Salem Abdullah Al-Hwaiti **Date Of Birth** : 24/11/1965 **Place Of Birth** : Zarqa-Jordan **Nationality** : Jordanian Martial Status: Married, one boy Place of Residence: Amman-Khalda Address: Phone: 00962-3-2179000; Ext. 7565 Cell Phone: 00962795082009 Fax: 00962-3-2179050 E-mail: mohhwaiti@ahu.edu.jo; mohhwaiti@gmail.com P. O. Box: 4899 Amman- Khalda Former Position: Dean of Faculty of Engineering Former Position: Director of the Research and Business Development/ JPMC **Former Position:** Exploration Manager/ Jordan Phosphate Mines Company (JPMC) Permanent Place of Work: Al-Hussein Bin Talal University, Faculty of Engineering, **Environmental Engineering Department** Current Academic Rank: Full Professor.

QUALIFICATIONS

Degree	<u>e</u>	<u>Specialist</u>	<u>University</u>	<u>Year</u>
Resear	ch Fellow	Civil Engineering, IN	NTI University, Nilai, Malaysia	2023-2025
Ph.D. (Chemical E	ngineering, Cu-SiO ₂ N	anocatalyst, USM-Malaysia	2023
Ph.D.	Environme	ntal Engineering	University of Jordan/TU-Berlin	2000
Visitin	g Professor	Phosphate Mine wast	ewater treatment, Oldenburg University, Germa	ny 2012
Visitin	g Professor	Cu ore exploring TU	J-Clausthal, Germany	2011
Post-D	octoral U	ranium and REE extra	action, RMIT-Melbourne, Australia	2010
Visitin	g Professor	Gold ore exploring	TU-Clausthal, Germany	2008
Post-Doctoral Phosphogypsium Utilization, Colorado School of Mines, USA2004-20				2004-2005
M.Sc.	Spatial var	iability & geostatistics	s of metal exploration, University of Jordan	1993
B.Sc.	Environme	ental Earth Science	University of Jordan	1988

EXPERINCE

Jordan Phosphate Mines Company (JPMC): 20/9/2020-19/9/2022

20/9/2020: Director of the Research and Business Development

ESSENTIAL DUTIES AND RESPONSIBILITIES

- Building and maintaining relationships with both internal and external sales and marketing departments, vendors, distributors, and customers.
- Identifying and developing new business opportunities for the company.
- Researching new markets and emerging market trends.
- Developing new partnerships.
- Formulating and implementing an account management plan to ensure that business relations are properly maintained.
- Presenting market research to the marketing department and recommending strategies to improve market research.
- Collecting information in order to prepare proposals in response to requests for proposals (RFPs).
- Continually learning about the company's products.
- Implementing strategies designed to increase revenue and acquire new business opportunities.
- Ensuring that research projects are carried out in accordance with ethical standards
- Evaluating the progress of research projects to ensure that they are meeting deadlines and milestones
- Compiling data about research topics that are popular among consumers, which can then be used to create new products or services that meet consumers' needs

- Coordinating the activities of scientists, engineers, and other researchers involved in projects
- Establishing relationships with universities, research labs, and other organizations that conduct research in areas related to the organization's interests
- Developing budgets for research projects based on estimates of costs and potential returns
- Reviewing proposals from researchers to determine whether they are suitable for funding
- Hiring research staff and overseeing their work responsibilities throughout the duration of a project
- Conducting research on emerging trends in the industry to identify new opportunities for growth

Al-Hussein Bin Talal University (AHU): 11/2/2007-19/9/2020

11/11/2018 Dean Faculty of Engineering

- Committee Member in the Dean council at AHU
- > Committee Member in the appointment and promotion committee at AHU
- Committee Member Sector in the Energy at Ministry of Higher Education (Scientific Research Fund & Innovation)
- Committee Member Sector in the Science and Engineering Technology and Communication and Information Technology and Technology at Ministry of Higher Education (Scientific Research Fund & Innovation)

ESSENTIAL DUTIES AND RESPONSIBILITIES

- 1. Provide academic and administrative leadership to ensure that goals related to student success, research and community service are met by the Faculty of Engineering,
- 2. Create an environment that supports and enhances the development, implementation, growth and expansion of disciplinary and interdisciplinary educational opportunities.
- 3. Maximize use of faculty and physical resources to effectively and efficiently serve students.
- 4. Lead and coordinate efforts to establish clear goals related to scholarly and research output for the benefit of the Faculty and the University.
- 5. Oversee direct hiring of all full and part time faculty consistent with the mission of AHU and the requirements for both Jordanian and American accreditation.
- 6. Provide sound and effective fiscal management of resources allocated to Faculty of Engineering. Lead efforts to establish external financial support through partnerships with external public and private organizations or by establishing auxiliary operations.

- 7. Lead efforts of faculty and staff within Faculty of Engineering to improve student retention and success in collaboration with Academic Affairs and Student Affairs.
- 8. Leads planning efforts within Faculty of Engineering and ensures alignment with the AHU Strategic Plan, the Facilities Plan and other related long-term planning documents.
- 9. Other tasks and duties as assigned.

11/2/2016 Full Professor rank

Environmental Engineering Department, Faculty of Engineering

2016-Present Member committee for higher education scientific research

2016 Advisor and leadership Master programs (Engineering Project Management)

2016 Representative of Al-Hussein University for:

- > The Higher Council of Science and Technology
- The Jordan Atomic Energy Commission
- > The Agency regulations for Minerals and Energy Sector
- The SESAME SYNCHROTRON IR SPECTROSCOPY AND IMAGING FOR LIFE-SCIENCES APPLICATIONS

King Saud University: 18/1/2014-12/6/2016

Associate Professor

Vice Dean for development and Scientific research affairs

Faculty of Engineering, Applied Mechanical Engineering Department, Al-Muzahimiyah Branch

Responsibilities and duties:

1. Teaching undergraduate courses assist in department, college committees, supervise undergraduate students, and manage laboratory work. Also I am engaging in service activities, committee, and duties and with professional organizations and at the university.

- 2. Advisor, administrative and leadership experience in curriculum development
- 3. Advisor, administrative and leadership experience in an scientific setting

4. Advisor, administrative and leadership committee in delivery tender for engineering laboratory (equipment's and devices)

5. Advisor and leadership experience in a development and quality and laboratory work setting

6. Advisor and leadership undergraduate courses and programs (Renewable Energy Program)

7. Advisor and leadership NCAAA and ABET experiences and professional registration

8. Committee Member of "Studies and Development" for Al-Muzahimiyah Colleges

International Atomic Energy Agency "IAEA" in Vienna-Austria: 2009-Present Consultant "Solid waste management"

The general duties plan and direct investigation leading to safe reuse the hazardous solid waste materials "**Phosphogypsum**" in Agriculture and Soil Amendment in arid regions, Cement Industry and building materials.

Al-Hussein Bin Talal University: 11/2/2007-Present

15/10/2011 Associate Professor at Environmental Engineering Department 2013 Advisor and leadership teams in order to conduct a tenders for (PV-Solar Systems) Renewable Energy, which included terms and conditions, and specifications at AHU Advisor and leadership Master programs (Engineering Management) 2012 2009 Member of Engineering Faculty Council 2008-2009 Deputy health insurance for committee members Conducted the Private and General Jordanian accreditation Based on 2008-2009 (ABET accreditation) for the Environmental Engineering Department. 2007-2008 Member Faculty Council of Mining, Chemical and Environmental and Engineering 2007-2008 Chairman of Environmental Engineering Department 11/2/2007 Assistant Professor at Environmental Engineering Department: 2002-2004 Temporary council of the Faculty of Mining and Environmental Engineering: Established the College of Mining and Environmental Engineering (Infrastructure, study plan, courses outlines, courses descriptions and objectives, and laboratories).

Jordan Phosphate Mines Company:

Exploration Manager: 20/11/2001- 10/2/2007

The general duties plan and direct investigation leading to the promotion discovery of new mineral reserves in an assigned area or region. Evaluation ore resaves and its environmental impact during different process steps. Responsibilities include co-ordinating support activities required for field operations, providing technical support for team members in field operations using either internal resources or external resources as required.

Marketing and Sales Department: 31/3/2000- 20/11/2001

Followed up and developed excellent relationships with our customers and adopts a marketing and production policy to assist customers in securing their needs, participated of solving the claims of customers regarding the quality of Jordan phosphate rock and their down stream industry (e.g. phosphoric acid and DAP) as well as issued letter of credit (L/C) and bill of lading for our client.

Research and Development Department: 1/10/1996-30/3/2000

Conduct studies and researches (lab scale and pilot plant) of phosphate mining industry include crushing & screening, benficiation and flotation; phosphate fertilizer such as sulfuric acid, phosphoric acid and DAP. My activities cover the tests and studies carried out to establish the feasibility studies of phosphate ore deposits for new mines as well as e environmental prediction and evaluation, and environmental law and policy. These will include an infrastructure study, physical and chemical assessments (heavy metals and redionuclides), economic evaluation (ore reserve calculation), QA/QC of the phosphate rock processing and product and their fertilizer, and environmental impact assessment (EIA) (scoping, prediction, evaluation, avoidance, monitoring, risk analysis, and recommendation).

Al-Abied Mines: 27/9/1988-30/9/1996

Geological Division: exploration, ore reserve calculation, economic ore evaluation, quality control, and environmental assessment; Mining Division: Plan and direct mining activity includes, open cast mining (Hydraulics & Dragline), Crusher and Screening Plant, and Beneficiation process.

COURSES TEACHING

Master Degree- Graduate courses:

- 1. Bio-Energy Technology
- 2. Healthy Occupational Environment
- 3. Safety and Maintenance management
- 4. Health Systems Analysis
- 5. Environmental Risk Assessment

Bachelor's degree- Undergraduate courses:

- 1. Engineering Geology
- 2. Introduction to Environmental Engineering
- 3. Environmental effects of Mining
- 4. Mine Reclamation
- 5. Environmental chemistry
- 6. Environmental geochemistry
- 7. Environmental Impact Assessment
- 8. Environmental toxicology
- 9. Environmental legislations
- 10. Water resources and supplies
- 11. Water and Wastewater treatment
- 12. Solid waste management
- 13. Radioactive pollution and Safety
- 14. Special subject: Environmental Economics
- 15. Geotechnical engineering and site investigation
- 16. Lab Geotechnical engineering
- 17. Industrial safety Engineering
- 18. Communication skills
- 19. Physics for Engineering
- 20. Probability and statistics for Engineering
- 21. Technical writing
- 22. Management Skills
- 23. Graduation Projects I
- 24. Graduation Projects II

<u>RESEARCH OF INTEREST</u>

1. Solid waste and wastewater treatment: developed nano-catalyst for mine wastewater treatment, develop industrial hazardous solid waste materials of "phosphogypsum". Sophisticated application practices are utilized in agriculture and soil amendment in dry land, cement industry, and building. Improper disposal of industrial waste can create unsanitary conditions, and these conditions in turn can lead to pollution of the environment. Finding simplicity of waste management presents complex technical challenges. They also pose a wide variety of administrative, economic, and social problems that must be managed and solved.

2. Renewable Energy: Biogas production, biodiesel production, and phosphoric acid fuel cell.

3. Non-Renewable Energy: Speciation, extraction, and recovery of Uranium and REE from phosphate rocks and their downstream industry.

4. Environmental Risk Analysis and Management System: develop a Grid-based system for analyzing and managing pollutant-related environmental risks. Sophisticated simulation programs (e.g. *statistical and geostatistical modeling, spatial variability, geospatial variability*) are used to forecast and evaluate the dispersion of toxic heavy metals, radionuclides, carcinogenic and chemically toxic substances in the atmosphere, the soil and the surface water and groundwater, plant, and sediments, and to calculate the health risk they pose to humans.

5. Environmental Modelling: Finding simplicity in complexity, modelling and model building, the state of the art in environmental modelling, models for management, current and future developments.

6. Environmental Economics: Estimating the cost of environmental degradations: measuring cost benefits and damages; valuing changes in productivity approach in soil erosion; measuring damages from pollution.

7. Mineral Exploration and evaluation of phosphate ores: ore characterization in terms of mineralogy, chemistry, geochemistry, pre-feasibility and feasibility studies; ore reserve

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calculation; geological and mining modeling using statistical and geostatistical method; developing dry beneficiation process using a rotary trielectrostatic separation of ore.

8. Mining technology: Phosphate mine processes (i.e. benficiation and flotation), uranium and REE speciation and extraction; fate and transport of uranium and other heavy metals from phosphate rocks and their fertilizer.

9. Environmental Impact Assessment: scoping and identifying issues; impacts prediction; evaluation of impact significance; plans to avoidance, mitigation, monitoring, and fellow-up; risk assessment and risk analysis; and making recommendations.

10. Environmental Health risk assessment: Health risk assessment of toxic heavy metals and radionuclides contamination humans (children and adults).

11. Geotechnical Engineering: Developing Self Compacted Concrete using solid industrial waste materials (e.g. phosphogypsum, limestone powder and iron slag powder).

HONORS AND AWARD

2022 King Abdullah the Second, for my efforts in the Vision of economic modernization in the mining sector in Jordan

2012 German Research Foundation (Deutsche Forschungsgemeinschaft, DFG). A visiting Scholar, grant research, Oldenburg University, Germany.

2011 German Research Foundation (Deutsche Forschungsgemeinschaft, DFG). A visiting Scholar, grant research, Technical University of Clausthal, Germany.

2010 Endeavour Executive Award, Post-Doctoral research, RMIT University, Melbourne, Australia.

2008 German Research Foundation (Deutsche Forschungsgemeinschaft, DFG). A visiting Scholar, grant research, Technical University of Clausthal, Germany.

2004/2005 The Fulbright Award; Post-Doctoral Research for 9 months at the Environmental science and Engineering Division, Colorado School of Mines, Golden, CO, USA.

1999 The Deutscher Akademischer Austauschdienst (DAAD), Technical University of Berlin, Germany through my Ph.D.

1988 The Higher Council for Scientific and Technology Award (HCST), Industrial Funded Project, Amman, Jordan.

PhD Dissertation:

1. Al-Hwaiti, M. (2000): "Geostatistical and Geochemical Investigation on Eshidiya Phosphorites, Western Orebody, South Jordan: Variation in Ore Composition and Its Content of Toxic Heavy Metals Available for Plant Absorption". Advisors Prof. Dr. Ghazi Saffarini, University of Jordan, and Prof. Dr. Matheis, G., TU-Berlin.

2. Al-Hwaiti, M. (2023): A novel Cu-SiO₂ nano-catalyst electrode for the treatment of chloride ion from Eshidiya mine wastewater, Jordan. Doctor of Philosophy, School of Civil Engineering, Universiti Sains Malaysia (USM), Penang-Malaysia. Advisor Prof. Dr. Hamidi Bin AbdulAziz.

<u>Master Thesis:</u>

Al-Hwaiti, M. (1993): "Spatial and Geochemical Variability in Wadi Khalid Stream Sediment, Feinan District- South Jordan". Advisors Prof. Dr. Ghazi Saffarini, University of Jordan.

LIST OF PUBLICATIONS

<u>Al-Hwaiti, M</u>., Hamidi, A., Mohd Azmier, A. Al-Shawabkeh, R. (**2024**). An innovative Cu-SiO₂ nano-catalyst electrode for chloride ion treatment in Eshidiya mine wastewater, Jordan. Frontiers of Chemical Science and Engineering (Under review)

<u>Al-Hwaiti, M.</u>, Hala G. Al-Deenb, Ali Sawalmihc, Md. Munir Hayet Khand, Wong Ling Shinge (2024). Exploring the potential of calcium methoxide as a catalyst for transesterification in marine microalgae biodiesel production: A novel approach. Materials Science for Energy Technologies (Under review).

Al-Shaweesh, M. A., Awad, A., Al-Kabariti, D., <u>Al-Hwaiti, M. S.</u>, Al-Kashman1, O. A., Khafaga, A. F., Abd El-Hack, M. E., Adday, F. A. (2022). Dephenolization and discoloration of olive mill wastewater using coagulation, filtration, and hydrogen peroxide oxidation. International Journal of Environmental Science and Technology https://doi.org/10.1007/s13762-022-04578-x

<u>Al-Hwaiti, M.</u>, Hamidi, A., Mohd Azmier, A. Al-Shawabkeh, R. (**2022**). Application of multivariate methods and hydrochemical model to evaluate industrial mine water discharges from the phosphate beneficiation process, Eshidiya mine, Southeast Jordan. Arabian Journal of Geosciences 15(15)

DOI:10.1007/s12517-022-10655-9

Arwa Al-Da'asen, Adnan Al-Harahsheh., <u>Mohammad Al- Hwaiti</u>., Fawzi Irshaid Irshaid (2022). Biogas production via anaerobic digestion of chemically treated wheat straw with sewage sludge or cow manure. Journal Biomass Conversion and Biorefinery. https://doi.org/10.1007/s13399-022-02760-2

<u>Al-Hwaiti, M</u>., Hamidi, A., Mohd Azmier, A. Al-Shawabkeh, R. (**2021**). Chlorine and Chlorinated Compounds Removal from Industrial Wastewater Discharges: A Review. CMUJ. Nat. Sci. 20(3): e2021047.

Al-Rawashdeh H., <u>Al-Hwaiti, M</u>., Amani Y., Gomaa, M. (2021). Influence of Partial Replacement of Cement by Various Percentage of Scoria in Self-Compacting Concrete on Thermal Conductivity in the Jordan Building Construction for Energy Saving. International Review of Mechanical Engineering (I.RE.M.E.), Vol. 15, N. 7

<u>Al-Hwaiti, M.</u>, Alsbou, E.M., Abu Sheikha, G., Bakchiche, B., Pham, T.H., Raymond H.T., Bardaweel, S.K. (**2020**): Evaluation of the anticancer activity and fatty acids composition of "Handal" (Citrullus colocynthis L.) seed oil, a desert plant from south Jordan. Food Sci Nutr. 2020;00:1–8.

Al-Hwaiti, M., Eid M. A., Rawan, M. A., Ahmed, I. O., Ahmed, A., Ala'a, H. A., Ahmad O. H., Kevin, M., El-Sayed, M., El-Sayed, Ahmed, .S. A., Anis H. F., David W. R., Hani A. A. (2020). Spatio-temporal analyses of extracted citrullus colocynthis seeds (Handal seed oil) as biofuel in internal combustion engine November 2020Renewable Energy DOI:

10.1016/j.renene.2020.11.148. Lab: Eid Alsbou's Lab

<u>Al-Hwaiti, M.,</u> Araf, K, Harara, M. (**2019**). Removal of heavy metals from waste phosphogypsum materials using polyethylene glycol and polyvinyl alcohol methods. Elsevier: Arabian Journal of chemistry, 12, 3141-3150.

<u>Al-Hwaiti, M.</u>, Al-Shaweesh M., and Al-Muhtaseb, A. (**2019**): Improving the rheological properties and compressive strength of self-compacting concrete incorporating the finest limestone and quarry and finest iron slag, Jordan, 17th international waste management and landfill symposium, 30/9-4/10. 2019. Proceedings SARDINIA2019© 2019

<u>Al-Hwaiti, M.</u>, Al-Shaweesh M., and Al-Muhtaseb, A. (**2019**). Potentially utilization of Jordan phosphogypsum: A review. International Journal of Current Research, 11(04), 3258-

3262.

Al-Shaweesh, M., <u>Al-Hwaiti, M.</u>, Al-Khashman, O., Abu-Jrai, A. Almuhtaseb, A (**2019**). Health risk assessment through exposure to heavy metals in urban and suburban dust emitted from workplace in Aqaba Industrial Estate, Jordan. International Journal of GEOMATE, Dec., 2019 Vol.17, Issue 64, pp. 292- 306.

<u>Al-Hwaiti, M.</u>, Brumsack, H., Schnetger, B. (2018). Heavy metal contamination and health risk assessment in waste mine water dewatering using phosphate beneficiation processes in Jordan. Environmental Earth Sciences 77(19):1-14.

<u>Al-Hwaitia M.</u>, Hanan S., Makhaleh M., Masadeh M. (2018). Partitioning and health risk dose assessment of Polonium-210 in selected brands of cigarettes and types of tobacco consumed in Jordan. Int. J. Low Radiation, Vol. 11, No. 1, 2018

Hanan S., Hamideen, M., <u>Al-Hwaiti, M.</u>, Al-Kharoof, S. (2018). Radiological risk assessment due to natural radioactivity of building stone used in Jordanian houses. Jordan Journal of physics. 11(3):193-200.

<u>Al-Hwaiti, M.</u>, Brumsack, H., Schnetger, B. (**2016**). Suitability assessment of phosphate mine waste water for agricultural irrigation, an example from Eshidiya Mines, South Jordan. *Environmental Earth Sciences*, (2016) 75:276. 10

<u>Al-Hwaiti, M.,</u> Khashman, O (2015). Health risk assessment of heavy metals contamination in tomato and green pepper plants grown in soils amended with phosphogypsum waste materials. *Environmental Geochemistry and Health*, 37:287–304.

<u>Al-Hwaiti</u>, Al Quisi, M., Saffarini, G. Kitam Al-Zhughoul (2015). Assessment of elemental distribution and heavy metals contamination in phosphate deposits: Potential health risk assessment of finer-grained size fraction. *Environmental Geochemistry and Health* 36:651–663

<u>Al-Hwaiti, M.</u>, (2015). Influence of treated waste phosphogypsum materials on the properties of Ordinary Portland Cement. *Bangladesh J. Sci. Ind. Res.* 50(4), 241-250, 2015

<u>Al-Hwaiti, M.</u>, Brumsack, H., Schnetger, B. (**2015**). Fraction distribution and risk assessment of heavy metal in waste clay sediment discharged through phosphate beneficiation process in Jordan. *Environmental Monitoring and Assessment*, 187: 401, DOI 10.1007/s10661-015-4579-2.

<u>Al-Hwaiti, M</u> (2015). Assessment of the radiological impacts of utilizing treatment phosphogypsum as main constituent in the building materials in Jordan. *Environmental Earth Sciences* DOI 10.1007/s12665-015-4354-2.

Al Kuisi, M., <u>Al-Hwaiti, M</u>. Kholoud, M., Abed, A. M (**2015**). Spatial distribution patterns of molybdenum (Mo) concentrations in potable groundwater in Northern Jordan. Environ Monit Assess, 187: 148, DOI 10.1007/s10661-015-4264-5.

<u>Al-Hwaiti, M.</u>, (2015). Influence of treated waste phosphogypsum materials on the properties of Ordinary Portland Cement. *Bangladesh J. Sci. Ind. Res.* 50(4), 241-250, 2015

<u>Al-Hwaiti, M.</u>, Tardio, J., Hailey, R., Bhargava, S. (**2014**). Selectivity assessments of a sequential extraction procedure for potentially trace metals mobility and bioavailability in phosphate rocks from Jordan Phosphate Mines. *Soil and Sediment Contamination*, 23:417–436.

<u>Al-Hwaiti, M.</u>, Al-Khashman, O., Al-Khatib, L.A., Fraige, F (**2014**). Radiological hazard assessment for building materials incorporating phosphogypsum made using Eshidiya mine rock in Jordan. Environmental Earth Sciences (2014) 71:2257–2266 11.

Al-Khashman, O., <u>Al-Hwaiti, M.</u>, Al-Khatib, L.A., Fraige, F (**2014**). Assessment and Evaluation of Treated Municipal Wastewater Quality for Irrigation Purposes. *Research Journal of Environmental and Earth Sciences* (5): 229-236.

Al-Khatib, L, Fraige, F., <u>Al-Hwaiti, M.</u>, Omar Al-Khashman (**2102**). Adsorption from aqueous solution onto natural and acid activated bentonite. *American Journal of Environmental Science*, 8 (5), 510-522.

<u>Al-Hwaiti, M.</u> (2012). Toxic trace elements composition of Eranbee phosphate deposits, central Jordan: Possible environmental implications. *Society for Mining, Meallurgy, and Exploration (SME). Chapter 18: 153-163.*

<u>Al-Hwaiti, M.</u>, (2010). Contamination of potentially trace metals in Agaba and Eshidiya phosphogypsum. *International Journal of Econmic and Environmental Geology*, 1(1): 35-42.

Fraige, F.Y., Al-Khatib, L.A., AlNawafleh, H.M., Dweirj, M.K., <u>Al-Hwaiti, M.</u>, and Al-Khashman, O., (**2012**), *Separation of Shredded E-waste Using Vibration.*, 4th e-Health and Environment Conference in the Middle East, Dubai Palm, UAE, during 30th January -2 February, 2012.

Zielinskia, R., <u>Al-Hwaiti, M</u>., Budahn, J., Ranville, J., Ross, P. (**2011**). Radionuclides, trace elements, and radium residence in phosphogypsum of Jordan. *The Journal of Environmental Geochemistry and Health*, *33*, *149-165*.

Al-Hwaiti, M., Ranville, J., Ross, P. (2010). Contamination of potentially trace metals in Aqaba and Eshidiya Phosphogypsum/ Jordan. *Society for Mining, Metallurgy and Exploration. Published by SME, Chapter* 27, 273-284.

<u>Al-Hwaiti, M.</u>, (2011). Toxic trace elements composition of Eranbee phosphate deposits, south Amman, Jordan: Possible environmental implications". International conference of Beneficiation of Phosphate VI, Kuming, China 6-11 March, 2011. The paper presented"

<u>Al-Hwaiti, M.,</u> Zoheir, B., Lehmann, B. Rabba, I., (**2010**). Epithermal gold mineralization at Wadi Abu Khushayba, Southwestern, Jordan. *Ore Geology Reviews*, *38*,*101-112*.

<u>Al-Hwaiti, M.,</u> Ross, P., Ranville, J., (**2010**). Bioavailability and mobility of trace metals in phosphogypsum from Aqaba and Eshidiya, Jordan. *The Chemie der Erde Geochemistry*, *70*, 283-291. 12.

<u>Al-Hwaiti, M.</u>, Zielinskia, R., Budahn, J., Ranville, J., Ross, P. (**2010**). Distribution and mode of occurrences of radionuclides in phosphogypsum from the Aqaba and Eshidiya fertilizer plants, Jordan. *Chinese Journal of Geochemistry*, 29,261-269.

<u>Al-Hwaiti</u>, M. and Ranville, J. (2010). Distribution of heavy metal and radionuclide contamination in soils related to phosphogypsum waste stockpiling in the Eshidiya Mine, Jordan. *The International Journal Geochemistry: Exploration, Environment, Analysis, 10, 419-433.*

Tao, D., <u>AL-Hwaiti, M.</u> (2010). Beneficiation study of Eshidiya phosphorites using a rotary triboelectrostatic separation. *The Mine Science and Technology*, 20, (3), 357-371.

<u>Al-Hwaiti, M.,</u> (2010). Uranium distribution in Jordan phosphorites, and its recovery based on sequential extraction methods. The 3rd International Symposiums on Nuclear Energy *ISNE-10*, 15-17 December 2010, Amman, Jordan.

<u>Al-Hwaiti, M.,</u> Ranville, J., (2010). Environmental hazard assessment of phosphogypsum waste stockpile material from Jordan". The International Conference of Naturally Occurring of Radioactive Materials, Marrakech, Morocco 22-26 March, 2010. IAEA publications.

<u>Al-Hwaiti, M.</u>, (2009). Distribution of uranium in the Jordan phosphate rock, production of phosphoric acid, DAP fertilizer, and phosphogypsum waste materials Program of "The International Conference on Materials in Jordan" Humboldt Kolleg 4-6 March, German - Jordanian University (GJU), Amman, Jordan. The paper presented "".

<u>Al-Hwaiti, M.</u>, Carney, J.F. Ross, P., Ranville, J., (2005). Heavy Metal Assessment of Phosphogypsum Waste Stockpile Material from Jordan. *American Society of Mining and Reclamation*. 19-23, 2005.

<u>Al-Hwaiti, M.</u>, Matheis, G. and Saffaini, G. (2005): Mobilization, Redistribution and Bioavailability of Potentially Toxic Elements in Shidiya Phosphorites, Southeast Jordan. *Journal of Environmental Geology*, 47:431-444. Jiries, A., ElHasan, T., <u>Al-Hwaiti, M.</u>, and Seiler,K.B. (2004): Evaluation of the Effluent Water Quality Produced at Phosphate Mines in Central Jordan. *Journal of Mine Water and Environment*, 23:133-137.

AL-Hwaiti, M. and Abuoleam, N. (2001): Redistribution and Mobilization of Low Toxic Elements in Shidiya Phosphorites. The Arab Fertilizer Association. AFA 14th International Annual Conference. Alexandria. Egypt s v-5/1-sv-5/17. 13.

<u>Al-Hwaiti, M.</u> (2000). Geostatistical and Geochemical Investigation on Eshidiya Phosphorites, Western Orebody, South Jordan: Variation in Ore Composition and Its Content of Toxic Heavy Metals Available for Plant Absorption. PhD Thesis, University of Jordan/Technical University of Berlin.

<u>Al-Hwaiti, M.</u> (1994). Spatial and Geochemical Variability in Wadi Khalid Stream Sediment (*Feinan District- South Jordan*. Master Thesis, University of Jordan.

Al-Hwaiti, M (2017). Heavy metal contamination and health risk assessment in waste mine water dewatering using phosphate beneficiation processes in Jordan Environmental & Biological Engineering, Pattaya (Thailand) May 2-3, 2017.

Al-Hwaiti, M (**2016**). Assessment of the radiological impacts of utilizing treatment phosphogypsum as main constituent in the building materials in Jordan. Environmental Earth Sciences, 18-22, Rio-dejaniero, Brazil.

<u>Al-Hwaiti, M.</u>, Al-Khashman, O., (**2012**). The application of phosphogypsum in agriculture: potential phosphogypsum and soil contamination with trace metals and radionuclides in Eshidiya Mine, Jordan. International colloquium "E3D'12" March 21-24, 2012, Morocco-Agadir.

<u>Al-Hwaiti, M.</u>, Ia'ad, H., Ibrahim, K. (2011). Environmental Protection of use limestone filler and iron slag for developing economical Self-Compacting Concrete by-product in Jordan". The 10th International Jordanian Geologist Conference, Amman, April 3-5, University of Jordan, 2011.

Zielinskia, R, <u>Al-Hwaiti, M.</u>, Budahn, J., Ranville, J., Ross, P. (**2010**). "*Radionuclides, trace elements, and radium residence in phosphogypsum of Jordan*. Geochemistry of Atmospheric Particulates: From Sources to Impacts on the Environment and Health. GSA Denver Annual Meeting, 31 October –3 November, **2010**. The paper presented.

<u>Al-Hwaiti, M.</u>, (2009). *Bioavailability of Potentially heavy metals in Shidiya phosphoorites, south east, Jordan*". The International Conference COVPHOS III, Marrakech, Morocco 18-20 March, 2009. The paper presented ".

<u>Al-Hwaiti, M.</u>, (2008). Contamination of Potentially Trace Metals in Aqaba and Eshidiya *Phosphogypsum/ Jordan*". International conference of Beneficiation of Phosphate V, Rio de Janerio, Brazil 17-22 April, 2008. The paper presented "14.

Al-Hwaiti, M. (2004). *Mobilization, Redistribution and Bioavailability of Potentially Toxic Elements in Shidiya Phosphorites, Southeast Jordan*". Engineering Conference International (Beneficiation of Phosphate IV), December 5-10, 2004, Miami- Florida. The paper presented. **Al-Hwaiti, M. (2001)**. *Geostatistical and Geochemical Investigation on Eshidiya Phosphorites, Western Orebody, South Jordan: Variation in Ore Composition and Its Content of Toxic Heavy Metals Available for Plant Absorption*. The 7th Jordanian Geologist Conference, Amman. Jordanian Geological Conference, Book of Abstracts, University of Jordan.

<u>Al-Hwaiti, M</u>. (1994). Spatial and Geochemical Variability in Wadi Khalid Stream Sediment (*Feinan District- South Jordan*. The Fifth Jordanian Geological Conference and Third Geological Conference & the Middle East (GEOCOM III) Jordanian Geological Conference, Book of Abstracts, (1994), Amman. The paper presented.

List of Paper Presented and Published in Conferences

Al-Hwaiti, M (2024). Vanadium Unveiled: Exploring Jordanian Rock Phosphate and the Crucial Role of Vanadium Technologies in Shaping a Sustainable Energy Future. International scientific conference in road-building, agriculture, and energy technology. Varna-Bulgaria.

Al-Hwaiti, M (2023). Exploring the Composition of Pharmaceutical Industrial Wastewater in Amman, Jordan: A Comprehensive Analysis of Physical, Chemical, and Radionuclide Concentrations". International Conference on Civil and Environmental Engineering(ICCEE) Pattaya, Thailand.

Al-Hwaiti, M (2019). Distribution and speciation of uranium in Jordan phosphate rocks and their phosphate fertilizer industry. The Ninth International Symposium on Naturally Occurring Radioactive Material 23-27 September 2019 - Denver, Colorado.

Al-Hwaiti, M (2019). Review: Phosphogypsum potential uses and problems: An example from Jordan phosphogyspum. The Second International Conference on Engineering and Science of the Euro-Arab Organisation for Environmental, Water and Desert Research. between 28-30 march 2019 in Antalya, Turkey.

Al-Hwaiti, M., Al-Shaweesh M., and Al-Muhtaseb, A. (2019): Improving the rheological

properties and compressive strength of self-compacting concrete incorporating the finest limestone and quarry and finest iron slag, Jordan, 17th international waste management and landfill symposium, 30/9-4/10. 2019. Proceedings SARDINIA2019© 2019

Al-Hwaiti, M (2017). Heavy metal contamination and health risk assessment in waste mine water dewatering using phosphate beneficiation processes in Jordan Environmental & Biological Engineering, Pattaya (Thailand) May 2-3, 2017.

Al-Hwaiti, M (2016). Assessment of the radiological impacts of utilizing treatment phosphogypsum as main constituent in the building materials in Jordan. Environmental Earth Sciences, 18-22, Rio-dejaniero, Brazil.

Al-Hwaiti, M., Al-Khashman, O., (**2012**). The application of phosphogypsum in agriculture: potential phosphogypsum and soil contamination with trace metals and radionuclides in Eshidiya Mine, Jordan. International colloquium "E3D'12" March 21-24, 2012, Morocco-Agadir.

Fraige, F.Y., Al-Khatib, L.A., AlNawafleh, H.M., Dweirj, M.K., Al-Hwaiti, M., and Al-Khashman, O., 2012, *Separation of Shredded E-waste Using Vibration.*, 4th e-Health and Environment Conference in the Middle East (Oral Presentation), held at the Atlantis Hotel, Dubai Palm, UAE, during 30th January – 2 February, 2012.

Al-Hwaiti, M., Ia'ad, H., Ibrahim, K. (2011). Environmental Protection of use limestone filler and iron slag for developing economical Self-Compacting Concrete by-product in 15. The 10th International Jordanian Geologist Conference, Amman, April 3-5, University of Jordan, 2011.

Zielinskia, R, **Al-Hwaiti, M.,** Budahn, J., Ranville, J., Ross, P. (2010). "*Radionuclides, trace elements, and radium residence in phosphogypsum of Jordan*. Geochemistry of Atmospheric Particulates: From Sources to Impacts on the Environment and Health. GSA Denver Annual Meeting, 31 October –3 November, **2010**. The paper presented.

Al-Hwaiti, **M.**, (2009). *Bioavailability of Potentially heavy metals in Shidiya phosphoorites, south east, Jordan*". The International Conference COVPHOS III, Marrakech, Morocco 18-20 March, 2009. The paper presented ".

Al-Hwaiti, M., (2008). Contamination of Potentially Trace Metals in Aqaba and Eshidiya *Phosphogypsum/ Jordan*". International conference of Beneficiation of Phosphate V, Rio de Janerio, Brazil 17-22 April, 2008. The paper presented "

Al-Hwaiti, M. (2004). *Mobilization, Redistribution and Bioavailability of Potentially Toxic Elements in Shidiya Phosphorites, Southeast Jordan*". Engineering Conference International (Beneficiation of Phosphate IV), December 5-10, 2004, Miami- Florida. The paper presented. **Al-Hwaiti, M. (2001).** *Geostatistical and Geochemical Investigation on Eshidiya Phosphorites, Western Orebody, South Jordan: Variation in Ore Composition and Its Content of Toxic Heavy Metals Available for Plant Absorption*. The 7th Jordanian Geologist Conference, Amman. Jordanian Geological Conference, Book of Abstracts, University of Jordan.

Al-Hwaiti, M. (1994). Spatial and Geochemical Variability in Wadi Khalid Stream Sediment (*Feinan District- South Jordan*. The Fifth Jordanian Geological Conference and Third Geological Conference & the Middle East (GEOCOM III) Jordanian Geological Conference, Book of Abstracts, (1994), Amman. The paper presented.

DECTORAL THESIS (EXTERNAL EXAMINAR)

1. Ben Byju. S (2016) Study of Effect of high background radiation as a Causative agent for certain congenital malfunctions. Bharathiar University, India (External Examiner)

2. Dhanya Balakrishnan (2019) A study on distribution and uptake of natural radionuclides in terrestrial environment of Eloor Island. Bharathiar University, India (External Examiner)

3. Lekshmi R. docx (2019) Study primeval radio-isotopes in soil and the external radiation dose to the human beings in the coastline villages of southern Kerala. Bharathiar University, India (External Examiner)

4. HARIANDRA A/L MUTHU (2022). RADIOLOGICAL EVALUATION AND ANALYSIS OF COMMONLY CONSUMED VEGETABLES IN SELANGOR, MALAYSIA, UNIVERSITY OF MALAYA.

MASTER THESIS SUPERVISED

2024 Evaluation of bioaccessibility and health risk assessment of potentially toxic heavy metals using edible (Cabbage and reddish) plants and inedible (Barley) plants irrigated by reclaimed water in South Jordan. College of Engineering, Master Program (Health, Safety and Environmental Engineering), Al-Hussen Bin Talal University. (**Supervisor**)

2024 Health risk assessment of potentially toxic heavy metals using edible (Cucumber and Lettuce) plants and inedible (Alfalfa) plants irrigated by reclaimed water in South Jordan.

College of Engineering, Master Program (Health, Safety and Environmental Engineering), Al-Hussen Bin Talal University. (**Supervisor**)

2024 Health Hazard assessment of external gamma exposure and radon level in a dwelling constructed with Jordan phosphogypsum as building material. College of Engineering, Master Program (Health, Safety and Environmental Engineering), Al-Hussen Bin Talal University. (**Supervisor**)

2024 Environmental assessment of industrial settlements and its impact on sustainable development in Aqaba. College of Engineering, Master Program (Health, Safety and Environmental Engineering), Al-Hussen Bin Talal University. (**Supervisor**)

2023 Effect of catalysts on performance and emissions in combustion diesel engine using biodiesel derived from non-edible plant "Handal", Jordan. College of Engineering, Al-Hussen Bin Talal University. (**Supervisor**)

2022 Development of marine microalgae for biodiesel production, College of Engineering, Master Program of Bioenergy Engineering, Al-Hussen Bin Talal University. (**Supervisor**)

2021 Development of new electrode for phosphoric acid fuel cell, College of Engineering, Master Program of Bioenergy Engineering, Al-Hussen Bin Talal University. (**Supervisor**) 2020 Effective of pretreatment of wheat straw and sludge digestion on biogas yield production. College of Engineering, Master Program of Bioenergy Engineering Al-Hussen Bin Talal University. (**Supervisor**)

2020 Development of light weight concrete bricks, with especial reference to thermal performance in buildings and its energy efficiency. Master Program of Bioenergy Engineering, Al-Hussen Bin Talal University. (**Supervisor**)

2020 An experimental investigation on performance, emission, and characteristics of Hndal seeds oil blends in internal combustion a diesel engine, Master Program of Bioenergy Engineering, Al-Hussein Bin Talal University. (**Supervisor**)

2019 Development of self-compacted concrete by using phosphogypsum waste materials and scoria as partial replacement of cement to determine thermal conductivity, College of Engineering, Master Program of Bioenergy Engineering, Al-Hussen Bin Talal University. (**Supervisor**)

2006 "Environmental Aspects of Phosphate Beneficiation Processes in Al-Abied Mine-Central Jordan: Migration and Dispersion of Heavy Metals in the Sediment, Soil and Water System". Environmental Applied Science, the Hashemite University, Jordan. (Co-Supervisor)

2005 Spatial Variability of the Upper Horizon Phosphate in The Eshidiya Area, South Jordan", Environmental and Applied Science, University of Jordan. (Co-Supervisor)

2005 "Findings of Phosphate Mining Waste-Toxicity and Radioactive Analysis from
 Eshidiya and Aqaba Phosphogypsum, Jordan", Environmental Science and Engineering
 Colorado School of Mines, CO, USA. (Co-Supervisor)

GRADUATION PROJECTS SUPERVISED

2019 Sequential extraction of REE from phosphogypsum waste materials.

2018 An experimental investigation of biodiesel production from Handal seeds oil

2017 Assessment of radioactivity and biological in some pharmaceutical industrial wastewater effluents in Amman, Jordan.

2016 Health risk assessment of Polonium and toxic Heavy metals of local tobacco and some selected brands of cigarettes in Jordan.

2016 Assessment of atmospheric radiation dose in Jordan.

2012 Evaluation of treated mine waste water quality for irrigation and agriculture crops cultivation: potential surface water, clay slurry, tailing water, soil , and groundwater contamination with toxic trace metals in Eshidiya Mine.

2012 Clean up of phosphogypsum by using polymers

2010 Environmental Protection of Use Limestone Filler and Iron Slag By-product for Developing Economical Self Compacted Concrete in Jordan.

2008 Utilization of Phosphogypsum waste materials in Agriculture and Soil Amendment

2008 Utilization of Phosphogypsum waste materials in Cement Industry and building

PROFESTIONAL ACTIVITIES

2024 Editorial Board Member in Jordan Journal of Civil Engineering

2022 Editorial Board Member in Jordan Journal of Civil Engineering

2019-2020 Member of the Scientific Research and Innovation Support Fund at the Ministry of Higher Education in the energy sector

2020-2021 Member of the Scientific Research and Innovation Support Fund at the Ministry of Higher Education in the engineering sciences, nanotechnology and biotechnology sector

2022 Organizing Committee of the 9th International conference of Chemical Engineering Division, Amman-Jordan

2022 Organizing Committee of the 9th International conference of Chemical Engineering Division, Amman-Jordan

2020 Organizing Committee of the 11th Jordanian Geologist Conference. Amman

2019 Chairman organizing committee of the international symposium for Engineering and Science, Antalya- Turkey, 28-30/3/2019.

2016 Organizing Committee of the NORM V, Brazil

2010 Organizing Committee of the 10th Jordanian Geologist Conference. Amman

2009 Organizing Committee of the International Conference COVPHOS III, Marrakech, Morocco 18-20 March, 2009.

2008/2009 Experience with Private and General Jordanian accreditation (Based on ABET accreditation) for the Environmental Engineering Department.

2002/2004 Established the College of Mining and Environmental Engineering, Al Hussein Bin Talal University (Study plan, Courses Outline, and Laboratories)

2003 Organizing Committee of the 8th Jordanian Geologist Conference

2001 Organizing Committee of the 7th Jordanian Geologist Conference

1998 Organizing Committee of the 6th Jordanian Geologist Conference

INTERNATIONAL PROFFICNALS ACTIVITES

Consultant

2017 Environment Impact Assessment (EIA) for Fhais Cement Factory, 2017

2017 Environment Impact Assessment (EIA) for the development of Mahis Area, 2016

2008-present Environment Impact Assessment (EIA) for Jordan Industrial solid waste management (International Atomic Energy Agency, IAEA) in Vienna-Austria: 2009-Present. Consultant at the International Atomic Energy Agency (IAEA), in the field of hazardous solid waste management (e.g. Phosphogypsum), Vienna 14-20/11/2009.

2008 Consultant at the International Atomic Energy Agency (IAEA), in the field of hazardous solid waste management (e.g. Phosphogypsum), Vienna, 14-20/7/2008.

2010-present Editorial Board: Journal of Environmental Chemistry and Ecotoxicology

2010-present Editorial Board: Journal of Engineering

2010-present Editorial Board: Walailak Journal of Science and Technology
2010-present Editorial Board: Journal of Civil Engineering and Environmental Sciences
2010-present Reviewer for International Journals: Environmental Geochemistry and Health,
Environmental Earth Sciences, Environmental Assessment and Monitoring, and others.

MEMPERSHIP

The International Waste Working Group (IWWG)
Alumni association of Australian Endeavour Award
Alumni association of American Fulbright Award
Alumni association of University of Jordan
Jordanian Geologist Associations
The Youth of Arab Forum- Amman
Member Council of the Jordanian Geologist Association
Deputy President of Jordanian Geologist Association
Jordanian Environmental Association
(UNCTAD)-Mining Sector
Jordan Society for Expanding the Natural Resources

FUNDED PROJECTS

Project Title	Funding Institution	Amount of Fund, (\$ US)
Erasmus Plus Project: "Introducing Recent Electrical Engineering into Undergraduate Curriculum" (IREEDER).	The European Union (EU)	886,000
Optimization and characterization of biodiesel production from Jordan Hnadal seed oil: performance of diesel engine with biodiesel, and a potential bio-lubricant base-stock and its medical applications Principal Investigator	Deanship of scientific research, Al-Hussein Bin Talal University Ma'an- Jordan	161,000

Extraction of Vanadium from phosphoric acid Co-investigator	Scientific Research Support Fund/ Ministry of Higher Education and Scientific Research, Amman- Jordan	227,000
Utilization of Phosphogypsum waste materials in agriculture and cement industry: Principal Investigator	Deanship of scientific research, Al-Hussein Bin Talal University Ma'an- Jordan	11,000
Development of Fouling Resistant Membrane for Application in Water Treatment: Co-investigator	Scientific Research Support Fund/ Ministry of Higher Education and Scientific Research, Amman- Jordan	115,000
Distribution and Redistribution of Toxic Elements in Shidiya Phosphorites: Principal Investigator	The Higher Council for Science and Technology- Amman- Jordan	21,000
10tai		1,421,000

COURSES AND TRANING

2010 Environmental Health and Safety, RMIT, Melbourne, Australia

2008 Private and General Jordanian accreditation (Based on ABET accreditation), Environmental Engineering Department, Al-Hussein University.

2006 Hazardous solid waste management, Tunis

2004 Environmental Health and Safety, Colorado School of Mines

2003 Short course on Metals, health and the environment, 6-7/9/ 2003, Edinburgh, UK.

2002 Minex Program for geostatistical ore reserve estimation, Jordan Phosphate Mines Company, Jordan.

2000 JD Edwards Foundation Class, 16/5/2000-16/7/2000, Jordan Posphate Mines Company, Amman-Jordan

1994 Digital Maping, 9-20/7/1994, College of The Geographical Royal Jordanian Center for surveying Sciences.

<u>SKILLS</u>

Experimental Skills: X-ray Fluorescence (XRF), ICP-AES, ICP-MS, Atomic Absorption Spectroscopy (AAS), Neutron Activation (INAA), Gammaspectrometry, X-ray Diffraction (XRD), Scanning Electron Microscope (SEM), Microprobe Analysis, BET, and FTIR. Computer Skills: DOS, Windows, Microsoft office (Word, Excel, PowerPoint, CorelDRAW...etc); and Geostatisitcal Program: Minex, GS⁺, GeoEas, SPSS.

Language Skills

	<u>Reading</u>	<u>Writing</u>	<u>Speaking</u>
Arabic	Excellent	Excellent	Excellent
English	Excellent	Excellent	Excellent
Germany	Good	Good	Fair
Malaya	Good	Good	Fair

CONFERNCES ATTENCENCE

1994 The 5th Jordeanian Geologist Conference & Third Geological Conference in the Middle East (GEOCOM III)/ Amman

- 1996 The Arab Geological Unity/ Sudan
- 1997 Stratigraphicl Geology / Iraq
- 1998 The 6th Jordanian Geologist Conference/ Amman
- 2000 The Arab Fertilizer Associations (AFA). Alexandria/ Egypt
- 2001 The 7th Jordanian Geologist Conference Amman
- 2001 Beneficiation of Phosphate III/ Tampa, Florida/USA
- 2003 6th International Symposium on Environmental Geochemistry (ISEG) Sept., 7-9, 2003, Edinburgh, UK.

2004 The 8th International Conference of Jordanian Geologists Association April 6-7, 2004. Held in Amman University

2004 International Engineering Conference "MUTAH 2004", April 26-28, Mutah University, Jordan.

2004 Engineering Conference International (Beneficiation of Phosphate IV): Miami-Florida, Dec., 5-10, 2004.

2006 The 6th International conference on the Geology-UAE, March 20-23, 2006.

- 2007 The fifth Jordanian International Mining Conference, Amman-Jordan 3-6/9/2007.
- 2008 Beneficiation of Phosphate V, Rio de Janerio, Brazil 17-22 April
- 2009 The International Conference of Materials in Jordan, Amman 4-6 March.

- 2009 The International Conference COVPHOS III, Marrakech, Morocco 18-20 March.
- 2009 Program of "The International Conference on Materials in Jordan" Humboldt Kolleg 4-6 March 2009 German - Jordanian University (GJU), Amman, Jordan.
- 2010 The International Conference of Naturally Occurring of Radioactive Materials, Marrakech, Morocco 22-26 March
- 2010 Geochemistry of Atmospheric Particulates: From Sources to Impacts on the Environment and Health. GSA Denver Annual Meeting (31 October –3 November 2010)
- 2010 The 3rd International Symposiums on Nuclear Energy *ISNE-10*, 15-17 December 2010 in Amman, Jordan.
- 2011 Beneficiation of Phosphate VI, Kuming, China 6-11 March

2011 The 10th International Jordanian Geologist Conference, Amman, April 3-5, University of Jordan.

- 2012 World Future Energy Summit, hosted by Masdar, Abu Dhabi, 16-19/1/2012.
- 2012 EU Sustainable Energy Week, Brussels, Belgium, 18-22 June, 2012
- 2013 Environmental Engineering, Bangkok-Tailiand, March 20-24
- 2013 NORM IV, China, March 25-28
- 2016 NORM 8, Rio dajanerio- Brazilian, 18-22/10/2016
- 2017 Environmental & Biological Engineering, Pattaya (Thailand) May 2-3, 2017
- 2019 NORM 9 the Ninth International Naturally Occurring Radioactive Material Symposium. Denver, Colorado, September 23 27, 2019

2019 17th international solid waste management and landfill symposium, 30/9-4/10/ 2019, Sardinia-Italy.

<u>REFERENCES</u>

1. Prof. Dr. Hamidi Abdul Aziz, Ph.D.

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0001-6287-0560

URL: http://www.civil.eng.usm.my

2. Prof. Dr. Mohd Azmier Ahmad

School of Chemical Engineering, Engineering Campus, Universiti Sains Malaysia (USM), 14300 Nibong Tebal, Penang, Malaysia,

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E-mail: <u>chazmier@usm.my</u>

3. Prof. Dr. Reyad A. Shawabkeh

Faculty of Engineering, Chemical Engineering Department, University of Jordan, Amman, Tel.: +962779642404 Jordan, *RShawabk@ju.edu.jo*

4. Prof. Dr. Suresh K. Bhargava

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6. Prof. Dr. Jim Ranville

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7. Prof. Dr. Bernd Lehmann

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