

Curriculum Vitae



NAME: **Dr. HASSAN ALSHEMMARI**

DATE OF BIRTH: **August 20, 1968**

NATIONALITY: **KUWAITI**

MARITAL STATUS: **MARRIED**

POSITION: **RESEARCH SCIENTIST**

Google Scholar: <https://scholar.google.com/citations?user=7qz3vJkAAAAJ&hl=en&oi=ao>

Researchgate: <https://www.researchgate.net/profile/Hassan-Alshemmari>

EMPLOYMENT:

Research Scientist : (2019-till date), Environment and Life Science Research Center,
Kuwait Institute for Scientific Research

Associate Research Scientist: (2009- 2019) Environment and Life Science Research Center,
Kuwait Institute for Scientific Research

Coordinator : (2017- till date) SCRC- Kuwait

General Secretary : (2019- till date) The Arab Chemist Union

Program Manager : (2021-till date) Environmental Pollution and Climate Program

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A brief bio of Dr. Hassan Alshemmari

Dr. Hassan Alshemmari is a renowned environmental scientist. He has vast experience in the environmental analysis and assessments. He has been involved in various analytical methodology developments and instrumentation over the last 25 years on trace metals and organic pollutants in different environmental matrices (i.e., sediment, seawater, particulate matter, aerosols, and biota). His experiences extend to the speciation of heavy metals or organometallic compounds in marine and terrestrial pollution related to the distribution and determination of anthropogenic sources, and their effect on the marine environment. He is currently serving as a coordinator for the Stockholm Convention Regional Center for Capacity-Building and the Transfer of Technology for West Asia. He has significant roles in the Arab Chemical Society as well. Alshemmari is the key person who will be responsible for the elaboration of the National Implementation Plan for Kuwait. Alshemmari has published numerous ISI publications in his field and he has been involved in the plentiful international and national significant technical reports. He is serving as a member of various scientific societies. He was actively involved in the various organization meetings (Stockholm, Basel, Minamata, Rotterdam, etc.) and he is an invited special fellow and consultant in various international projects as well.

QUALIFICATIONS

Qualification	Year	University	Country
BSc Chemistry	1993	Kuwait University	Kuwait
Postgraduate Diploma Chemistry	1998	Kuwait University	Kuwait
MSc Environmental Analysis	2001	Plymouth University	UK
PhD Environmental Science	2009	Newcastle University	UK

MAJOR ROLE AND RESPONSIBILITIES

Development of research ideas related to the various environmental issues in Kuwait; and execution and supervision of the analytical work for various projects and improvement of the existing analytical methodologies and instrumentation for the execution of approved projects

PROFESSIONAL EXPERIENCE

Dr. Hassan Alshemmari is an environmental chemist. He has experienced in the environmental analytical chemistry and geochemistry, major in analysis of environmental samples for trace metals by ICP-OES, AAS, ICP-MS, GC-MS and HPLC. The analytical developments have been carried out over last 25 years on trace metals and organic pollutants in different environmental compartments (i.e., sediment, seawater, particulate matter, aerosols, and biota). More experience extend to speciation of heavy metals and organometallic compounds in marine and terrestrial pollution related to distribution and determination of anthropogenic sources, and their effect on the marine environment. He is the key researcher in the assessment of Persistent Organic Pollutants (POPs) in various environment of Kuwait.

Research Interest

1- Environmental assessment and management of Persistent Organic Pollutants in different matrices based on the Stockholm Convention obligations.

2- Heavy and trace metal distribution in the various environment.

3- Electronic and Plastic waste management.

Research Society Membership

Society of Toxicology (SOT)

Kuwait Chemical Society

Arab Union of Chemistry

PROJECTS AND ACTIVITIES

- Project VS001C: The Potential Impact of Draining the Southern Iraqi Marshes on the Sediment Budget and Associated Pollutants in the Northern Arabian Gulf (Final Report, October 2000, KISR 5942)
- Project VS006C: Assessment of sediment quality in Kuwait's Territorial Waters Phase 1: Kuwait Bay (Final Report, August 1999, KISR 5651)
- Project VS004K: Preliminary Investigation of Textural Characteristics and Sediment Associated Pollutants and Relative Toxicity of Kuwait's Northern Marine Environment (Final Report, June 1998, KISR 5285)
- Project VR004C: Toxicity and uptake of crude oil and partially combusted oil by selected marine organisms in Kuwait (Progress Report, May 1996, KISR 4833)

- G. Activity EM012G: Bioavailability of Heavy Metals in Sediment of Kuwait Selected Ports and Marinas (Technical Reports, June 2003)
- G. Activity EM0046: Seasonal Variation of Trace Metal Concentrations in the Seawater and Suspended Particulate Matter of Kuwait Bay (March 2002)
- Project VS001S: Environmental Information System.
- Project VS023C: Environmental Assessment of the Coastal Habitats and Coral Reef Communities (Progress Report, KISR 5979).
- Project EM051C: High Resolution Historical Records of Trace Metals and Organic Pollutants from Sediments and Coral Reefs in Kuwait. Final Report, KISR 11724, July 2013.
- Project EM050C: Speciation and Distribution of Selected Heavy Metals in Kuwait's Marine Sediment. October 2014.
- Project EM055C: Hydrocarbon pollution of Kuwait's coastal zone: Differentiation of petrogenic. Anthropogenic and biogenic hydrocarbons. Final Report, KISR 12516, December 2014.
- EM104C: Spatial distribution of butyltin compounds in marine sediments of Shuwaikh seaport. Final Report, August 2019.
- P-KISR-06-13: Establishment of West Asia regional center for persistent organic pollutants (POPs) in Kuwait: Finished
- P-EM-101K: The Development of Kuwait's National Implementation Plan (NIP) For Stockholm Convention on POPs: Report submitted.
- Assessment Persistent Organic Pollutants (POPs) in breast milk: Finished

Submitted Proposals

- The development of Kuwait's Minamata Initial Assessment (MIA).
- Bio monitoring of Persistent Organic Pollutants (POPs) in camel milk in Kuwait.
- Electronic–Waste Assessment in the State of Kuwait.
- Bio monitoring of Persistent Organic Pollutants (POPs) in cow milk in Kuwait.

TECHNICAL REPORTS

- N. Al-Ghadban, T. Saeed, **H. Al-Shemmari**, M. Al-Mutairi, A. M. Al-Dousari. Project VS001C. The Potential Impact of Draining the Southern Iraqi Marshes on the Sediment Budget and Associated Pollutants in the Northern Arabian Gulf. Final Report, October 2000, KISR 5942.
- N. Al-Ghadban, T. Saeed, M. Al-Mutairi, **H. Al-Shemmari**, A. Al-Khbbaz. Project VS001C. The Potential Impact of Draining the Southern Iraqi Marshes on the Sediment Budget and Associated Pollutants in the Northern Arabian Gulf. Interim Report, October 1999, KISR 5681.
- N. Al-Ghadban, T. Saeed, M. Al-Mutairi, **H. Al-Shemmari**, A. M. Al-Dousari. Project VS001C. The Potential Impact of Draining the Southern Iraqi Marshes on the Sediment Budget and Associated Pollutants in the Northern Arabian Gulf. Interim Report, May 1999, KISR 5546.
- N. Al-Ghadban, T. Saeed, M. U. Beg, A. M. Al-Dousari, **H. Al-Shemmari**, H. Al-Hashash, P. G. Jacob, M. Al-Mutairi, T. Al-Obaid. Project VS004K. Preliminary Investigation of Textural Characteristics and Sediment Associated Pollutants and Relative Toxicity of Kuwait's Northern Marine Environment. Final Report, June 1998, KISR 5285.
- M. Metwally, M. Beg, L. Ali, **H. Al-Shemmari**, K. Al-Al-Matrouk and M. Bahloul. Project VR004C. Toxicity and uptake of crude oil and partially combusted oil by selected marine organisms in Kuwait. Progress Report, May 1996, KISR 4833.
- N. Al-Ghadban, T. Saeed, **H. Al-shemmari**, A. M. Al-Dousari, M. Al-Mutairi. Project VS001C. The Potential Impact of Draining the Southern Iraqi Marshes on the Sediment Budget and Associated Pollutants in the Northern Arabian Gulf. Interim Report, October 1998, KISR 5394
- N. Y. Khan, T. Saeed, A. N. Al-Ghadban, M. U. Beg, P. G. Jacob, A. M. Al-Dousari, **H. Al-Shemmari**, M. Al-Mutairi, T. Al-Obaid, K. Al-Matrouk. Project VS006C. Assessment of Sediment Quality in Kuwait's Territorial Waters, Phase 1: Kuwait Bay. Final Report, August 1999, KISR 5651.
- M. Al-Dousari, A. Al-Hazza, **H. Al-Shemmari**, and M. Al-Mutari. Surface Textures of Quartz Grains from Barchan Sand Dunes Northwest of Kuwait. Technical Report, VD003G, April 1997, KISR 5025.
- **H. Al-Shemmari**. Effect of Seasonal Variation on Trace Concentrations in the Sediment of Kuwait Bay. Technical Report, VS006G, October 2000, KISR 5964.

- **H. Al-Shemmari**, A. Al-Khabbaz. Bioavailability of Heavy Metals in Bottom Sediment of Selected Kuwait Ports and Marinas. Technical Report, EM012G, April 2004, KISR 7120.
- **H. Al-Shemmari**, A. Al-Khabbaz. Seasonal Variation on Trace Concentrations in the Seawater and Suspended Particulate Matter of Kuwait Bay. Technical Report, EM004G, January 2009, KISR 9488.
- **H. Al-Shemmari**. Trace Elements Availability in Relation with Different Particle Size Fractions in Sediments of Sulaibikhat Bay. Technical Report, EM041G, July 2009, KISR 9731.
- R. Al-Nafisi, **H. Alshemmari**, T. Saeed, L. Talebi, Q. Karam, A. Al-Khabbaz, K. Al-Banna, M. Al-Khaldy. Environmental Impact Assessment for Development of Shore (15) of Fahaheel Sea Club. Technical Report, EM018S, July 2011, KISR 10688.
- B. Gevao, L. N. Ali, A. N. Al-Ghadban, **H. Alshemmari**, M. Al-Bahloul and K. Al-Matrouk. High Resolution Historical Records of Trace Metals and Organic Pollutants from Sediments and Coral Reefs in Kuwait. Technical Report, EM051C, July 2011, KISR 10707.
- A. Al-khabbaz, **H. Alshemmari**. Major, Trace and rare Earth Elements in Sediments from Sulaibikhat Bay. (EM058G) August 2012.
- M. Bahloul. **H. Alshemmari**. Determination of the Petroleum Hydrocarbons (TPH) in Sediment from Sulaibikhat Bay. (EM059G) March 2013.
- **H. Alshemmari**, L. Ali, L. Talebi, A. Ali, A. Al-Khabbaz, R. Al-Kandari and N. Al-Omani. Speciation and Distribution of Selected Heavy Metals in Kuwait's Marine Sediment. Final Report (EM050C) KISR 12348. Submitted to Kuwait Foundation for the Advancement of Sciences. October 2014.
- T. Saeed, **H Alshemmari**, N. Ahmad, A. Al-Mutairi, and H. Abdullah. Hydrocarbon Pollution of Kuwait's Coastal Zone: Differentiation of Petrogenic. Anthropogenic and Biogenic Hydrocarbons. Final Report (EM055C) KISR 12516. December 2014.

SELECTED PAPERS IN PEER-REVIEWED JOURNALS

- **Alshemmari, H.**, Kavil, Y.N., Sheredah, A. and Rajagopalan, S., 2022. Inevitable human exposure of flame retardants on the potential health risk and assessment of PBDEs in soils collected from Sulaibiya, Kuwait. *Arabian Journal of Geosciences*, 15(24), p.1784.
- Gevao, B., Kurt-Karakus, P.B., Birgul, A., Martinez-Guijarro, K., Sukhn, C., Krishnan, D., Rajagopalan, S., Hajeyah, M., Bahloul, M., **Alshemmari, H.** and Orif, M., 2022. Ambient air concentrations and risk assessment of selected organochlorine pesticides (OCPs) across five Middle Eastern countries. *Journal of Environmental Exposure Assessment*, 1(3), p.14.
- Gevao, B., Martinez-Guijarro, K., Kurt-Karakus, P.B., Sukhn, C., Weber, R., Krishnan, D., Rajagopalan, S., Birgul, A., **Alshemmari, H.**, Hajeyah, M. and Bahloul, M., 2022. Spatial variability in the ambient concentrations of polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans across the Middle East. *Atmospheric Pollution Research*, 13(12), p.101613.

- **Alshemmari, H.**, 2022. Past, present and future trends of selected pesticidal and industrial POPs in Kuwait. *Environmental Geochemistry and Health*, 44(10), pp.3191-3214.
- **Alshemmari, H.**, 2021. Inventories and assessment of POPs in the State of Kuwait as a basis for Stockholm Convention implementation. *Emerging Contaminants*, 7, pp.88-98.
- **Alshemmari, H.**, Abdulaziz, E.A.S., Rajagopalan, S., Talebi, L.A. and Hajeyah, M., 2021. Pesticides driven pollution in Kuwait: the first evidence of environmental exposure to pesticides in soils and human health risk assessment. *Chemosphere*, p.129688.
- **Alshemmari, H.**, 2021. An overview of persistent organic pollutants along the coastal environment of Kuwait. *Open Chemistry*, Vol. 19 (Issue 1), pp. 149-156.
- Zehra, A., **Alshemmari, H.**, Kavil, Y.N., Khan, A.M. and Hashmi, M.Z., 2021. Effects of PCB70 and PCB75 on HeLa cell proliferation, membrane integrity and cell signaling pathway. *Arabian Journal of Chemistry*, 14, p.102985.
- Al-Farawati, R., Kavil, Y.N., **Alshemmari, H.**, and Turki, A.J., 2020. Vulnerability of the Ocean by the impact of pandemic COVID-19. *Oceanography and Fisheries Open Access Journal*, 12(4): 555845.
- **Alshemmari, H.**, Al-Awadi, M., Karam, Q. and Talebi, L., 2020. Sedimentary butyltin compounds and sediment transport model at the Shuwaikh Port, Kuwait Bay. *Arabian Journal of Geosciences*, 13(14), pp.1-11.
- **Alshemmari, H.**, Talebi, L. and Subrahmanyam, M.N.V., 2020. Speciation of heavy metals and their distribution in surface sediments of the northwestern part of the ROPME Sea Area. *Journal of Environmental Biology*, 41(1), pp.101-110.
- **Alshemmari, H.** and Talebi, L., 2019. Heavy metal concentrations in the surface sediments of the northwestern Arabian Gulf, Kuwait. *Arabian Journal of Geosciences*, 12(18), p.565.
- Gevao, B., Porcelli, M., Rajagopalan, S., Krishnan, D., Martinez-Guijarro, K., **Alshemmari, H.**, Bahloul, M. and Zafar, J., 2018. Spatial and temporal variations in the atmospheric concentrations of “Stockholm Convention” organochlorine pesticides in Kuwait. *Science of the total environment*, 622, pp.1621-1629.
- Gevao, B., Porcelli, M., Rajagopalan, S., Krishnan, D., Martinez-Guijarro, K., **Alshemmari, H.**, Bahloul, M. and Zafar, J., 2017. Seasonal variations in the atmospheric concentrations of polychlorinated biphenyls in Kuwait. *Chemosphere*, 189, pp.652-660.
- Gevao, B., Boyle, E.A., Aba, A.A., Carrasco, G.G., Ghadban, A.N., Al-Shamroukh, D., **Alshemmari, H.** and Bahloul, M., 2014. Polybrominated diphenyl ether concentrations in sediments from the Northern Arabian Gulf: Spatial and temporal trends. *Science of the total environment*, 491, pp.148-153.
- **H. Alshemmari**, L. Ali, and Y. Alotaibi. Trace metal speciation in marine sediment from Sulaibikhat Bay, Kuwait. *Aquatic Ecosystem Health & Management*, Volume:15 Number: SI Pages:33-40, Published date: 2012.

- **H. Alshemmari**, A. M. Al-Dousari, L. Talebi, N. Al-Ghadban. Mineralogical characteristics of surface sediment along Sulaibikhat Bay, Kuwait. *Kuwait J. Sci.* **40** (2A) pp. 1-14, 2013.
- **H. Alshemmari**, Y. Alotaibi, R. Owens. Trace metal concentrations in the surface sediments of Sulaibikhat Bay, Kuwait. *Kuwait Journal of Science and Engineering* 37 (2A), 87-110, 2010.
- A. N. Al-Ghadban, F. Al-Yamani, A. Al-Sammak, R. Al-Hassam, M. Behbehani, J. Al-Hassan, R. Al-Rushaid, **H. Al-Shemmari**, K. Al-Matrouk, A. Al-Khabaz and M. Bahloul. Environmental Stress of Kuwait's Coastal Area Due to the 1991 Oil Slick. *International Journal of Oceans and Oceanography*, Volume 2 Number 1 (2001), pp. 25-50.
- N. Al-Ghadban, T. Saeed, A. M. Al-Dousari, **H. Al-Shemmari**, M. Al-Mutairi. Preliminary assessment of the impact of draining of Iraqi marshes on Kuwait's northern marine environment. Part I. Physical Manipulation. *Wat. Sci. Tech.* Vol. 40, No. 7, pp. 89-98, 1999.
- T. Saeed, A. N. Al-Ghadban, **H. Al-Shemmari**, M. Al-Mutairi, H. Al-Hashash. Preliminary assessment of the impact of draining of Iraqi marshes on Kuwait's northern marine environment. Part II. Sediment associated pollutants. *Wat. Sci. Tech.* Vol. 40, No. 7, pp. 89-98, 1999.

Papers under Review

- New and legacy organochlorine pesticides in the agricultural soil and atmosphere of the Sultanate of Oman: occurrence, sources, air-soil exchange and regulatory framework
- Status, Trends and Implications of Persistent Organic Pollutants (POPs) Concentrations in Human Milk from Asia, Europe and the Middle East: A Short Review
- Potential Toxicity of Metal Speciation Associated with Particle Size Fractions of Sediments along the North West of Arabian Gulf

Workshop Proceedings

- ❖ Workshop to initiate the updating of the National Implementation Plan (NIP) of Oman under the Stockholm Convention, developing POP inventories and monitoring POPs- Book of Proceedings 27-29 September 2021 as a Chief Editor.

- ❖ Consultative Meeting on the Latest Developments in the Stockholm Convention on Persistent Organic Pollutants-Kuwait (SCRC-Kuwait) - Book of Proceedings 10-11 October 2021 as a Chief Editor.
- ❖ Workshop to initiate the updating of the National Implementation Plan (NIP) of Iraq under the Stockholm Convention, developing POP inventories and monitoring POPs- Book of Proceedings 19-21 October 2021 as a Chief Editor.
- ❖ Workshop to initiate the National Implementation Plan (NIP) of State of Palestine under the Stockholm Convention, developing POP inventories and monitoring POPs- Book of Proceedings 29-30 November and 1st of December 2021 as a Chief Editor.

Conferences and Technical meetings

- Twelfth meeting of the Persistent Organic Pollutants Review Committee (POPRC.12) of the Stockholm Convention on POPs Rome, Italy, 2016.
- Seventh session of the Intergovernmental negotiating committee on mercury (INC- 7) Dead Sea, Jordan, 2016.
- Participation in the “Annual Joint Meeting to Enhance Cooperation and Coordination between the Regional Centres under the Basel and Stockholm Conventions, Barcelona, Spain”, 6-7 November 2017.
- Participation in the “Meeting of the Conferences of the Parties to the Basel, Rotterdam and Stockholm Conventions, Geneva, Switzerland”, 24 April – 5 May 2017.
- Participation in the “Asia & the Pacific Regional Preparatory Meeting of the POPs”, 06-10 March 2017, Bangkok, Thailand.
- Participation in the “Annual Joint Meeting to Enhance Cooperation and Coordination between the Regional Centers under the Basel and Stockholm Conventions”, 15-16 November 2018, Geneva, Switzerland.

- Presented an Invited talk at the 18th Asian Chemical Congress (ACC) and the 20th General Assembly of the Federation of Asian Chemical Societies (FACS), Taipei, Taiwan on December 8-12 2019.
- Participated in the webinar titled ‘Tackling plastic waste through the Basel Convention, 18 February 2021.
- Invited talk on International Conference on Recent Trends in Applied Sciences Technology and Health (Virtual) - SRM Institute of Science And Technology, India. 3-5 March 2021.
- Participated in the Online COPs regional preparatory meeting for the Asia-Pacific region Online, from 08 June to 09 June 2021.
- Participated in the Online segment of the meetings of the Conferences of the Parties to the Basel, Rotterdam and Stockholm conventions (BC COP-15, RC COP-10 and SC Cop-10) - Online, from 26 July to 30 July 2021.
- Invited talk in the Indo-US International Bilateral Workshop (Virtual) on Water and Air Research Initiative for Societal Health (WaARISH 2021) held on 24-25 August 2021.
- Conducted as a coordinator for the National Workshop for Oman with the cooperation of BRS Secretariat- Online, from 27-29 September 2021.
- Conducted as a coordinator for the Regional Workshop for 12 Arabic Speaking countries with the cooperation of BRS Secretariat- Online, from 10-11 October 2021.
- Conducted as a coordinator for the National Workshop for Iraq with the cooperation of BRS Secretariat- Online, from 19-22 October 2021.
- Participated and delivered a talk on the progress report and the current activities of Stockholm Convention Regional Center for Capacity-Building and the Transfer of Technology for West Asia (SCRC-Kuwait) in the Annual Joint Meeting to Enhance Cooperation and Coordination between the Regional Centers under the Basel and Stockholm Convention on 23-24 November 2021 (Online).
- Conducted as a coordinator for the National Workshop for State of Palestine with the cooperation of BRS Secretariat- Online, from 29-30 November and 1st of December 2021.
- Delivered an invited talk in the Third International Day of Chemistry at Mauritania organized by the Department of Chemistry of the FST, Mauritania on 9-11 December 2021.

