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6th EDITION OF

ADVANCED CHEMISTRY WORLD CONGRESS

MARCH 27-28, 2025 | LONDON, UK

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SPEAKER

Tawfeeq Jawhar Mohammed-Shukur

Van Yüzüncü Yıl University, Turkey

ADV. CHEMISTRY 2025

March 27-28, 2025 | London, UK

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CERTIFICATE
OF RECOGNITION

ADV. CHEMISTRY 2025

THIS CERTIFICATE IS PROUDLY PRESENTED TO

Tawfeeq Jawhar Mohammed-Shukur

Van Yüzüncü Yıl University, Turkey

In recognition of your outstanding contribution as a **Distinguished Speaker** of the presentation entitled

Hydrogeochemical Evolution Processes, Groundwater Quality and Non-Carcinogenic Risk Assessment of Nitrite-Enriched Groundwater to Human Health in Different Seasons in the Hawler (Erbil) and Bnaslawa Urbans, Iraq

at the

6th Edition of

Advanced Chemistry World Congress

held during March 27-28, 2025 London, UK

It's a great privilege to express sincere thanks and profound gratitude to present this award in recognition of your invaluable insights, experience and expertise.

Junaid Sadeque

Junaid Sadeque
AECOM, USA

Atsushi Yoshizawa

Atsushi Yoshizawa
Hirosaki University, Japan

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Biography

Jawhar Mohamaed Shukur Tawfeeq works as Hydrogeological researcher since 2019 in Van Yuzun Cu Yill University, Department of Environmental Engineering, Turkey. He also works, as a Hydro geologist Expert in GDWS /KRI/Iraq Since 2010. He presented his researches in Germany in Berlin Free University during international conference (GeoBerlin2023) and in the University of Sulaymania, Iraq during (GeoKurdistan2022). Master degree in Hydrogeology in Van Yuzun Cu Yill University, Department of Environmental Engineering, Turkey, 2021. He is working now with water and sanitation group with UN agency in Erbil, Iraq as a Hydro geologist expert.

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Hydrogeochemical Evolution Processes, Groundwater Quality and Non-Carcinogenic Risk Assessment of Nitrite-Enriched Groundwater to Human Health in Different Seasons in the Hawler (Erbil) and Bnaslawa Urbans, Iraq

Jawhar Mohamaed Shukur Tawfeeq[1], Erkan Dişli[2] and **Masoud Hussein Hamed[3]**

[1]Department of Environmental Engineering, Van Yüzüncü Yıl University, Turkey
[2]Department of Geology, University of Salahaddin, Iraq

The main objectives of this research are to assess groundwater, a primary source of drinking water in the urban areas of Hawler (Erbil) and Bnaslawa in northern Iraq, and the non-carcinogenic human health risks of nitrate contamination associated with drinking water quality. For this purpose, twenty-seven groundwater samples were collected from wells to assess the hydrogeochemical characteristics and groundwater quality for both natural and anthropogenic purposes during the wet (May 2020) and dry (September 2020) seasons. During the wet and dry seasons, NO^{3-} in groundwater ranged from 14.00 to 61.00 mg/L and 12.00 to 60.00 mg/L, with an average value of 35.70 and 29.00 mg/L, respectively. Approximately 25.92% of the samples exceeded the permissible limit of the WHO (2011) drinking water standard. The ratios of NO_3-/Na^+ vs. Cl^-/Na^+ and SO_4^{-2}/Na^+ vs. NO_3-/Na^+ indicate the effect of agricultural activities and wastewater leaking from cesspools or septic tanks on the quality of groundwater during the wet and dry seasons. The EWQI method ranked 62.5% and 75% of the urban groundwater as not recommended for drinking and the remaining samples are moderately suitable in both wet and dry seasons. The non-carcinogenic human health risk assessment displayed that during the wet and dry seasons, 29.6% and 25.9% of adults, 48% and 30% of children, and 48.1% and 29.6% of infants were exposed to increased concentrations of nitrate in groundwater. During high nitrate in drinking water, non-carcinogenic human health risk levels vary as infant>child>adults.

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