

Curriculum Vitae

Name: Rahel Othman Hamad

Academic Title: Assistant Professor

Current Address: Scientific Research Center- Soran University

Postal Code: 44008

Email: rahel.hamad@soran.edu.iq

Telefon nr: 0750-4132550

Google Scholar: https://scholar.google.com/citations?hl=en&user=_Cy3JDQAAAAJ

ORCID ID: <https://orcid.org/0000-0001-8848-2339>



Key Attributes

- Speaking Kurdish, Arabic, Swedish, and English
- Active, reliable, and flexible team-worker
- Very good organizer and ability to motivate
- Responsive and determined ability to perform under pressure, fast learner, enthusiastic to acquire and grow
- Sociable and dedicated to the effective, qualitative, and timely accomplishment of assigned tasks and duties

Certificates:

- Doctor of Philosophy (Ph.D.) – Environmental Remote Sensing and GIS Modeling, A Leicester and Soran Universities Joint Research Project (2015-2018).
- M.Sc. in Geo-Informatics, Linköping University, Sweden (2004-2006).
- B.Sc. in Geology - Salaheddin University, Erbil, Iraq (1984-1988).

Research Interests:

- Application of GIS and RS in Natural Resources and Environment.
- Application of remote sensing in geomorphology.
- Application of GIS and RS in Natural Resources and Environment.
- Spatial data processing and analysis methods in GIS.
- Ecosystem, Ecosystem Services, Ecology, and Landscape Structure.

Key Skills:

- GIS Software: IDRISI, SURFER, and Arc GIS.
- Image processing software: ENVI 5.5, ERDAS 16, and Geosegma.
- R programming: Image processing and classification.

Career Summary *(Descending)*

(Oct 2020 – present) Postgraduate student coordinator at the Scientific Research Center- Soran University – Ministry of Higher Education-KRG-Iraq (MHE).

Head of GIS and Remote Sensing Department (Dec 2018 – Jun 2022) at the Scientific Research Center- Soran University (MHE).

Academic Program Period

Lecturer (Dec 2018 - present) at Faculty of Science – Department of Petroleum Geosciences Soran University (Teaching GIS subject).

Assistant Lecturer (Sep 2012 – Nov 2018) at the Faculty of Science – Department of Petroleum Geosciences Soran University (Teaching GIS subject).

Thesis and dissertation under my supervisor or co-supervisor

Research Title	Universities	Level of PG	Date
Monitoring the drought in semiarid regions of the Middle East by using Remote Sensing and GIS	Soran University Scientific Research Center- Department of GIS& Remote Sensing	PhD (Co- Supervisor)	1/6/2021 To 5/10/2023
Assessing, Modelling, and Simulating Land Use Land Cover Dynamics in the Selected Districts in the Northeast of Erbil Province, Using GIS and Remote Sensing.	Soran University Faculty of Science - Department of Petroleum Geosciences	PhD (Co- Supervisor)	1/6/2021 Ongoing
Flood Susceptibility Mapping Using Fuzzy-Evidential Belief Function (EBF) and SWAT Models	Soran University Scientific Research Center- Department of GIS& Remote Sensing	MSc (Supervisor)	1/11/2020 To 14/12/2022
Possibility of preparing an atlas of colors and spectral reflective properties of some soils in Nineveh Governorate	University of Mosul- College of Agriculture and Forestry	MSc (Co- Supervisor)	1/5/2019 To 14/6/2021

Private sector periods

May 2011 – Aug 2012: Executive Manager – Designing Water and Sewerage Systems in Dubiz and Altun Kopri.

- Building a Geo-database –(GIS) geographical information system
- Team leader for Field surveying and Field data collection

Feb 2009 – Mar 2011: Project Manager – Feasibility Study and Design of Gali-Bla small Dam in Erbil Governorate.

Preparing; GIS maps, Geo-physical, Geological Surveys, Topography Survey Report, Hydrological Investigations, and Environmental Impact Assessment.

Nov 2007 – Jan 2009: Logistic Manager -Crescent Petroleum – Erbil, Iraq

- Use of GIS networks to supervise and control the logistical operations for ongoing construction and installation work in progress on the site;
- Coordinate with relevant KRG and non-governmental authorities to ensure speedy clearance of shipments at cross-border and cross-governorate borders;
- Liaise with Airport authorities to ensure expedited pick up of shipments from the cargo hangars to the site or the final destination;
- Controlling inventory of items at multiple storage locations. This included

- controlling the transportation and HSE-compliant storage of 35,000MT of the heavy-duty steel pipeline;
- Controlling and ensuring safe transportation and storage of LPG Plant materials and equipment. This included handling 12,000MT of equipment;
- Controlling and ensuring safe transportation and storage of drilling equipment that amounted to 2,000MT worth of equipment.

Master Program Period

Feb 2004 - June 2006: Researcher, Municipality office of Katrineholm City / Sweden

- The use of GIS in analyzing pollution risks in connection with road accidents with chemical discharge; searching for the best interpolation methodologies through geostatistical analysis. **(D-Thesis)**
- Integration of Geographical Information System (GIS), Global Positioning System (GPS), and SURFER software in the detection of groundwater reserves and best exploitation through digging boreholes. **(C-Thesis)**

Jun 2004 - Aug 2004: Paramedical Companion, Governmental Social Service Department of the city of Katrineholm /Sweden (Summer Job)

- Taking care of mentally retarded patients.

Nov 2000 - Jun 2001: Assistant Instructor, Skolskeppet nursery school, Stockholm / Sweden

Taking care of school kids while awaiting their parents to take them home, *(The purpose of the job was to mingle with Swedish-speaking persons to substantiate my meanwhile theoretical study of the Swedish language).*

Aug 1993 - Oct 1999: Geologist, Directorate of Geological Survey, Ministry of Industry, Iraq, Erbil

- Representing the Ministry of Industry in the Governor's Office overseeing violations of government-sponsored requirements.
- Geological mapping of marble reserves in the region.
- Head of the committee for rock testing for export.

Research Published in Scientific Journals

- Quantitative Assessment of Land Use/Land Cover Changes in a Developing Region Using Machine Learning Algorithms: A Case Study in the Kurdistan Region, Iraq. **(Journal: Heliyon)**
- Meteorological drought in semi-arid regions: A case study of Iran. **(Journal of Arid Land)**
- Mapping Flood Vulnerability by Applying EBF and AHP Methods.

(Scientific Journal of the University of Zakho)

- Erbil Basin Groundwater Recharge Potential Zone Determination Using Fuzzy-Analytical Hierarchy Process (AHP) in North Iraq. **(Tikrit Journal for Agricultural Sciences)**
- Possibility of preparing an atlas of colors and spectral reflective properties of some soils in Nineveh. **(Indian Ecological Society)**
- Time Series Modelling and Simulating the Lockdown Scenarios of COVID-19 in the Kurdistan Region of Iraq. **(The Journal of Infection in Developing Countries)**
- Impact of forest trees on the soil reflectance and their relation of soil oxides in Sherawa village, Erbil government- Iraq. **(Tikrit Journal for Agricultural Sciences)**
- An Assessment of Artificial Neural Networks, Support Vector Machines, and Decision Trees for Land Cover Classification Using Sentinel-2A Data. **(Applied Ecology and Environmental Sciences)**
- Multiple Morphometric Characterization and Analysis of Malakan Valley Drainage Basin Using GIS and Remote Sensing, Kurdistan Region, Iraq. **(American Journal of Water Resources)**
- A remote sensing and GIS-based analysis of urban sprawl in Soran District, Iraqi Kurdistan. **(Springer Nature Applied Sciences)**
- Assessment of heavy metal release into the soil after mine clearing in Halgurd-Sakran National Park, Kurdistan, Iraq. **(Springer-Environmental Science and Pollution Research)**
- Predicting Land Use/Land Cover Changes Using a CA-Markov Model under Two Different Scenarios. **(MDPI-Sustainability)**
- Land Cover Changes Induced by Demining Operations in Halgurd-Sakran National Park in the Kurdistan Region of Iraq. **(MDPI-Sustainability)**
- Post-War Land Cover Changes and Fragmentation in Halgurd-Sakran National Park (HSNP), Kurdistan Region of Iraq. **(MDPI-Land)**
- Multi-Criteria Assessment of Land Cover Dynamic Changes in Halgurd-Sakran National Park (HSNP), Kurdistan Region of Iraq, Using Remote Sensing and GIS. **(MDPI-Land)**
- GIS for Risk Analysis of Community Operations at the Planning of Groundwater Depots in the Municipality. **(Master Thesis)**

IT- competence

- ArcGIS including 3D-Analysis, Spatial Analysis, and Geo-statistical Analysis
- ENVI, ERDAS, GLOBAL MAPPER, Surfer, and GNSS (Trimble) applications.

Major Training Attended:

- **Jan 1995 - Dec 1995:** Six months study tour in the Directorate of Groundwater, Iraq – Erbil and the Directorate of Construction Materials Laboratory, Iraq- Erbil.