

Curriculum Vitae (CV)

Dr. Rebwar Nasir Dara

Ph.D. in Water Science

Specialist in Ground Penetrating Radar (GPR)

GPR data analysis using GPR slice software and basic knowledge of CAD

Hydrologist and environmental consultant

Ecohydrologist

Data Analyst

Current position: Research associate at the University of Birmingham – UK.

1. Personal details

- Surname: Dara
- First name: Rebwar
- Date of Birth : 03-11-1983
- Researcher ID,
Google scholar : <https://scholar.google.com/citations?user=pe3I83wAAAAJ&hl=en>
Researchgate: <https://www.researchgate.net/profile/Rebwar-Dara>
ORCID: <https://orcid.org/0000-0001-6530-4003>
Salahaddin University website: <https://academics.su.edu.krd/rebwar.dara>
Knowledge University website: <https://knu.edu.ig/staff.php?stid=86>
- Nationality : Iraq
Email: rebwar.nasir@gmail.com
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Phone: +447442852347
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Holding : Academically Qualified person (cscs card)

2. Degrass

Date of degree certificate	Degree title	Major subject	University/institute	Contact details	Title of Thesis
01-05-2013-05/12/2017	Doctoral degree	Hydrogeophysics and Environmental hydrology (Ecohydrology)	University of Birmingham, School of Geography, Earth And Environmental Sciences	The University of Birmingham Edgbaston Birmingham B15 2TT United Kingdom	Using Ground Penetrating Radar (GPR) for identifying floodplain and riverbed structural heterogeneity and implications for groundwater-surface water exchange.
01-10-2008 - 22/02/20211	Master Degree	Hydrogeology and water chemistry	Salahaddin University- Erbil, College of Science, Department of Geology	Address: Zanko-Kirkuk Road, Erbil, Iraq 00441 Email: followup@su.edu.krd Phone:	Hydrogeology and Hydrochemistry of Kalar Basin-NE Iraq

				009647504468829	
01-10-2001 - 28/06/2005	Bachelor Degree	Geology	Salahaddin University- Erbil, College of Science, Department of Geology	Address: Zanko-Kirkuk Road, Erbil, Iraq 00441 Email: followup@su.edu.krd Phone: 009647504468829	

3. Other education and expertise

- Second Summer University of Geoscience and Resources Iraq (GRI) held between July 25- August 12, 2011, Freiberg-Germany.
- The English for International Students Unit (EISU), English language preessional course- University of Birmingham , 18-09-2012 to 22-03-2013.
- NERC geophysical skills course at Keele University for one week including 5 days practical course – application all geophysical methods Faebbruary 28- 06 March, 2015, Keele University- UK.
- Participated in hypoTRAIN Sampling hyporheic zones, in situ measurement techniques (ATC 01), University of Birmingham, 02-11- 2015 to 04-11-2015.
- IHS Kingdom software training in London (8 days), November 2014.
- Environmental analysis and modelling by using R (University of Birmingham – MSc course)
- Practical experiences with challenging fieldwork

4. Language skills

- Native language : Kurdish
- Other language skills: English: Excellent in Writing, reading, speaking and listening.

Arabic: very good in reading-, writing, and understanding & speaking.

5. Employment

Dec. 2022 -Now	Research associate at the University of Birmingham – UK.
2017-2022	Lecturer at University of Salahaddin - Erbil- Iraq- College of Science – Department of Geology (Teaching staff).
2017-2022 (part time)	Rapporteur and lecturer at college of Engineering- Knowledge University Member in college council – College of Engineering- Knowledge University.
Sep.-Dec.2020	Postdoc researcher at Leibniz Institute for freshwater ecology and inland fisheries (IGB-Berlin).
2018-now	Hydrologist-Environmentalist consultant at MAPGROUP - Erbil
2013-2017	PhD researchers (Student) at University of Birmingham – UK.
2012-2013	Student at EISU, University of Birmingham, English Pre-sessional Course
2011-2012	Assistant lecture at University of Salahaddin - Erbil- Iraq- College of Science- Department of Geology. Teaching hydrogeology and general Geology for undergrad students
2008-2011	Master Student at University of Salahaddin - Erbil- Iraq- College of Science- Department of Geology.

2006-2008 Assistant Geologists at University of Salahaddin - Erbil- Iraq- College of Science
– Department of Geology

6. Teaching Experience

2017-Now Lecturer at Knowledge university – College of Engineering Erbil, Iraq.

Lecturer at University of Salahaddin - Erbil- Iraq- College of
Science Department of Geology

2016 Giving lecture: University of Birmingham-UK, School of Geography, Earth
and Environmental Sciences (Teaching : Spatial data analysis and
environmental geophysics – Master students.

2015(spring semester) Demonstrator at University of Birmingham-UK, School of Geography, Earth
and Environmental Sciences (Teaching: From molecules to Materials:
deconstructing the Environment) - Undergraduate students

2011-2012 Assistant lecturer at University of Salahaddin - Erbil- Iraq- College of Science-
Department of Geology.

2006-2008 Assistant Geologists at University of Salahaddin - Erbil- Iraq- College of Science –
Department of Geology (crystallography, sedimentation, geophysics, general
geology, Structural geology, Hydrology and hydrogeology)

7. Previous work experience

- The start and end date of the employment: 15-09-2020 to 14-11-2020
- Job position: Postdoc researcher
- Employer and place of work or funding organization: Leibniz Institute for freshwater ecology and inland fisheries (IGB-Berlin).

8. Commercial/Industrial Experience

A. Hydrology, Hydrogeology and environment experiences

- Establishing and installing multilevel mini piezometers in the riverbed.
- Experience in the use of topical eco-hydrological measurements including saturated hydraulic conductivity, sediment logs with particle size analysis, vertical hydraulic gradient and flow derived from Darcy fluxes.
- Hydrogeological investigations such as push-pull salt dilution tracer experiments for identifying fluxes at the aquifer-river exchange.
- Carbon and nitrogen cycling in river environment.
- Experience in Greenhouse gas (GHG) emissions of carbon dioxide (CO₂) and methane (CH₄) from streambeds
- ground-penetrating radar as a noninvasive tool to detect subsurface biologically active zones
- Soil and groundwater quality assessments.
- Conducting Soils Pre-Disturbance Site Assessment (PDSA) for Western Zagros Oil Company in Kurdamir-Ahmed Block- north Iraq.
- Writing EIA reports for many Environmental and oil companies.
- environmental impact assessment for the B-PAD construction and Drilling operation (HKN oil company), Including GPR survey.

B. Utility survey (Ground Penetrating Radar Survey- GPR)

- Concrete scanning – Oxford theatre, KB GPR surveys
- NERC geophysical skills course – Application of GPR for utility locating purpose, Keele University-UK,2015.

- Application of GPR for mapping riverbed and floodplain sediment distribution, River Tern-UK.
- Application of GPR for mapping riverbed and floodplain sediment distribution, Hammer Stream-UK.
- Cavity and Fracture Detection in Carbonate Rocks Georadar (GPR) Survey Using Antenna 40 MHz For TAQA Global oil company- 2018.
- GPR survey in Kani Qirzhala landfill – Erbil for environmental remediation , 2018.
- GPR survey for pipe detection – Dana Gas, Petroleum business company, Erbil, Iraq – 2018.
- GPR survey for cable detection – Ariaphone internet company – 2019.
- Application of GPR for mapping riverbed and floodplain sediment distribution, Erpe River- Berlin-Germany, 2020.
- GPR survey for Archaeology survey – University of Duhok – 2021.

9. Research funding and grants

1-

- Start and end dates of funding: Sep 2012 – April 2017.
- Type : Ph.D. study
- Source: Higher committee for educational development in Iraq (HCED)- Prime minister office.
- Amount: 2600 USD/month

2-

- Start and end dates of funding: 15-09-2020 to 14-11-2020
- Type : short-term postdoc
- Source: Leibniz Institute for freshwater ecology and inland fisheries
- Amount: 5163 Euro/month

10. Data Analyses:

- Data Analysis using Microsoft excel
- Data Analysis using R programming
- Data Analysis using SPSS

11. Research output

A) PEER-REVIEWED SCIENTIFIC ARTICLES

1. Anja Höhne, Birgit M Müller, Hanna Schulz, Rebwar Dara, Malte Posselt, Jörg Lewandowski, James L McCallum (2020). Fate of trace organic compounds in the hyporheic zone: Influence of microbial metabolism, *Water Research* 224, 119056.
2. Masoud H Hamed, Rebwar N Dara, Marios C Kirlas (2022). Groundwater vulnerability assessment using a GIS-based DRASTIC method in Erbil Dumpsite area (Kani Qirzhala), Central Erbil Basin, North Iraq.
3. Fatah, Kaiwan Kareemkhan, Masoud Hamed, Mariwan Hamah Saeed, and **Rebwar Dara**. "EVALUATION GROUNDWATER QUALITY BY USING GIS AND WATER QUALITY INDEX TECHNIQUES FOR WELLS IN BARDARASH AREA, NORTHERN IRAQ." *The Iraqi Geological Journal* (2020): 87-104.
4. Safieh Javadinejad, **Rebwar Dara**, Masoud Hussein Hamed Mariwan Akram Hamah Saeed Forough Jafary. "Analysis of Gray Water Recycling by Reuse of Industrial Waste Water for Agricultural and Irrigation Purposes". *Journal of Geographical Research* (2020).

DOI: [10.30564/jgr.v3i2.2056](https://doi.org/10.30564/jgr.v3i2.2056)

5. Javadinejad, S., **Dara, R.**, & Jafary, F. (2020). Potential impact of climate change on temperature and humidity related human health effects during extreme condition. *Safety in Extreme Environments*, 1-7.

6. Li, Fanghua, M. Sheikholeslami, **Rebwar Nasir Dara**, M. Jafaryar, Ahmad Shafee, Trung Nguyen-Thoi, and Zhixiong Li. "Numerical study for nanofluid behavior inside a storage finned enclosure involving melting process." *Journal of Molecular Liquids* 297 (2020): 111939.
7. Li, Yong, Farshad Shakeriaski, Azeez A. Barzinjy, **Rebwar Nasir Dara**, Ahmad Shafee, and Iskander Tlili. "Nanomaterial thermal treatment along a permeable cylinder." *Journal of Thermal Analysis and Calorimetry* 139, no. 5 (2020): 3309-3315.
8. Dinh, Manh Tran, I. Tlili, **Rebwar Nasir Dara**, Ahmad Shafee, Yahya Yaseen Yahya Al-Jahmany, and Trung Nguyen-Thoi. "Nanomaterial treatment due to imposing MHD flow considering melting surface heat transfer." *Physica A: Statistical Mechanics and its Applications* 541 (2020): 123036.
9. Xiong, Qingang, M. Ayani, Azeez A. Barzinjy, **Rebwar Nasir Dara**, Ahmad Shafee, and Trung Nguyen-Thoi. "Modeling of heat transfer augmentation due to complex-shaped turbulator using nanofluid." *Physica A: Statistical Mechanics and its Applications* 540 (2020): 122465.
10. Tlili, Iskander, Tawfeeq Abdullah Alkanhal, M. Othman, **Rebwar Nasir Dara**, and Ahmad Shafee. "Water management and desalination in KSA view 2030: case study of solar humidification and dehumidification system." *J Therm Anal Calorim* (2019).
11. **Dara, R.**, Kettridge, N., Rivett, M.O., Krause, S. and Gomez-Ortiz, D., 2019. Identification of floodplain and riverbed sediment heterogeneity in a meandering UK lowland stream by ground penetrating radar. *Journal of Applied Geophysics*, 171, p.103863.
12. Tlili, Iskander, Tawfeeq Abdullah Alkanhal, M. Othman, **Rebwar Nasir Dara**, and Ahmad Shafee. "Water management and desalination in KSA view 2030: case study of solar humidification and dehumidification system." *J Therm Anal Calorim* (2019).
13. Tlili, Iskander, Tawfeeq Abdullah Alkanhal, Azeez A. Barzinjy, **Rebwar Nasir Dara**, Ahmad Shafee, and Zhixiong Li. "Investigation of thermal characteristics of carbon nanotubes: Measurement and dependence." *Journal of Molecular Liquids* 294 (2019): 111564.
14. Zhao, Dongming, Mohammadali Hedayat, Azeez A. Barzinjy, **Rebwar Nasir Dara**, Ahmad Shafee, and Iskander Tlili. "Numerical investigation of Fe₃O₄ nanoparticles transportation due to electric field in a porous cavity with lid walls." *Journal of Molecular Liquids* 293 (2019): 111537.
15. Saleem, S., Ahmad Shafee, M. Nawaz, **Rebwar Nasir Dara**, Iskander Tlili, and Ebenezer Bonyah. "Heat transfer in a permeable cavity filled with a ferrofluid under electric force and radiation effects." *AIP Advances* 9, no. 9 (2019): 095107.
16. Javadinejad, Safieh, **Rebwar Dara**, and Forough Jafary. "Impacts of Extreme Events on Water Availability." *Annals of Geographical Studies* 2, no. 3 (2019): 16-24.
17. Javadinejad, Safieh, **Rebwar Dara**, and Forough Jafary. "Taking Urgent Actions to Combat Climate Change Impacts." *Annals of Geographical Studies* 2, no. 4 (2019): 1-13.
18. Javadinejad, Safieh, **Rebwar Dara** and Forough Jafary. "Effect of Precipitation Characteristics on Spatial and Temporal Variations of Landslide in Kermanshah Province in Iran." *Journal of Geographical Research| Volume 2*, no. 04 (2019).
19. **Dara, R.N.**, 2018. *Using Ground Penetrating Radar (GPR) for identifying floodplain and riverbed structural heterogeneity and implications for groundwater-surface water exchange* (Doctoral dissertation, University of Birmingham).

20. **Dara, R.**, Krause, S. and Rivett, M., 2016, April. Geophysical controls of aquifer-river exchange flow patterns in a UK lowland meandering river. In *EGU General Assembly Conference Abstracts* (Vol. 18).
21. McDonald, K., Kolbe, T., **Dara, R.**, Weatherill, J., Hannah, D. and Krause, S., 2016, April. The importance of spatial complexity in improving performance of groundwater-surface water models. In *EGU General Assembly Conference Abstracts* (Vol. 18).
22. **Dara, R.N.**, Jirjees, S., Fatah, K.K. and Javadinejad, S., 2021. Climatic Parameters Analysis of Koysinjaq Meteorological Station, Kurdistan Region, Northern Iraq. *The Iraqi Geological Journal*, pp.99-109.
23. Javadinejad, S., **Dara, R.** and Jafary, F., 2020. Investigation of the effect of climate change on heat waves. *Resources Environment and Information Engineering*, 2(1), pp.54-60.
24. Javadinejad, S., **Dara, R.**, Hamed, M.H., HamahSaeed, Mariwan, M.A, and Jafary, S.F., 2020. Analysis of Gray Water Recycling by Reuse of Industrial Waste Water for Agricultural and Irrigation Purposes. *Journal of Geographical Research | Volume, 3(02)*.
25. Javadinejad, S., Hannah, D.H., Krause, S.K., **Dara, R.**, Jafary, F. and Naseri, M., 2020. The impacts of climate change on energy-water systems and economic analysis. *The Iraqi Geological Journal*, pp.1-17.
26. Sharef, A. J., & **Dara, R. N.** (2021). Greater Zab River Basin planning (2050). *Iraqi Journal of Agricultural Sciences*, 52(5), 1150-1162.
<https://jcoagri.uobaghdad.edu.iq/index.php/intro/article/view/1453>
27. Sharef, A. J., **Dara, R. N.**, & Ahmed, A. R. (2021). ALANA RIVER BASIN MANAGEMENT. *IRAQI JOURNAL OF AGRICULTURAL SCIENCES*, 52(6), 1304-1317.
<https://jcoagri.uobaghdad.edu.iq/index.php/intro/article/view/1470>
28. Raja Tahir Mahmood, Muhammad Javid Asad, Saqib Hussain Hadri, M. A. El-Shorbagy, Abd Allah A. Mousa, **Rebwar Nasir Dara**, Muhammad Awais & Iskander Tlili (2022) Bioremediation of textile industrial effluents by Fomitopsis pinicola IEBL-4 for environmental sustainability, Human and Ecological Risk Assessment: An International Journal, DOI: 10.1080/10807039.2022.2057277

B) Ongoing researches

1. Geological controls on groundwater-surface water exchange flow patterns (River Tern). (will submit to *Journal of hydrology*)
Rebwar Dara, Stefan Krause and Nick Ketteridge
2. Streambed heterogeneity drives microbial metabolic activity through residence time (will Submit to *JGR: Biogeosciences*)
Paul Romeijn, **Rebwar Dara**, David Hannah and Stefan Krause
3. Fate of trace organic compounds in the Hyporheic Zone: Influence of microbial metabolism
Anja Höhne^{1,2}, Birgit M. Müller², Hanna Schulz², **Rebwar Dara**⁴, Malte Posselt⁵, Jörg Lewandowski^{2,3}, James L. McCallum¹
(will Submit to *Journal of Water Research*)

12. Research supervision and leadership experience

Number of supervisees	Degree Program	Principal supervisor	Co-supervisor
4	Undergraduate	Yes	-----

4	High Diploma	Yes	
3	Master study		Yes
1	Master study	Yes	

13. Teaching merits

- Pedagogical training and other demonstrated pedagogical expertise– Salahaddin University- 2011- for 3 months.
- ILT001 Introduction to Learning & Teaching in HE for Postgraduates- University of Birmingham-UK.
- ILT003 Small Group Teaching in HE for Postgraduates- University of Birmingham-UK.
- ILT002 Lab Based Demonstrating for Postgraduates- University of Birmingham-UK.
- ILT004 Introduction to Assessment and Feedback for Postgraduates- University of Birmingham-UK.
- Invigilation Training at University of Birmingham.

14. Other key academic merits

- International Membership: European Geoscience Union (EGU) and EEGS (student membership).
- National Membership: Kurdistan Geologist Syndicate and Kurdistan teacher Union.
- Chairing and organizing a workshop: entitled (Water Resources and Environmental Challenges in Kurdistan Region- Iraq - 2019) in knowledge university, Erbil- Iraq.
- Chairing and organizing a workshop: entitled (Floods in Erbil City- Iraq: Problems and Solutions - 2022) in knowledge university, Erbil- Iraq.
- Attending (speaker) International workshop: about Clean Tigris – Northern Iraq (Sustainable water resource management in Iraq) , held in Erbil International Hotel , 27-29/5/2021. Organised by elbarlament - Cultures of Democracy – Germany.
- Two Poster presentation at European Geosciences Assembly (EGU 2016) in Vienna, 17- 22/April 2016
- SAGEEP 2015 Geophysics to Engineering and Environmental Problems (SAGEEP) in Austin, Texas- USA on March 22-26, 2015.
- British Hydrological Society (BHS) – University of Birmingham – September- Poster Presentation.

15. Scientific and societal impact

Media Interview:

- Rudaw TV , 23-03-2021 – Discuss about drought and water scarcity in Iraq
- Lagal Ranj Program – Rudaw TV – Guest, 02-06-2021 – Discuss about water resource management in the Kurdistan Region.
- Babylon FM- Breakfast Club, 29-05-2021- Discuss about water crisis in Iraq and Kurdistan region.
- WAR TV Interview, 08-07-2021 – The role of water in agriculture, industry and tourism

16. Teaching interest

General geology, Petroleum geology, Groundwater and surface water exchange, Hydrogeology, Environmental hydrology, water resource, Water quality, Environmental geology Geophysical

methods such as (Electrical method, Ground penetrating radar (GPR), and Seismic method).
Introduction to petroleum, Research method/statistics.

17. Memberships

- European Geoscience Union (EGU)
- EEGS (student membership).
- University Cultural Center- Advertisement administrator.
- Kurdistan Geologist Syndicate.

