CURRICULUM VITAE PROF. DR. OMAR ABDEL-KARIM RIMAWI

NAME: OMAR ABDEL-KARIM AHMAD RIMAWI

PROFESSION: PROF. OF HYDROGEOLOGY AND HYDROCHEMISTRY

DATE AND PLACE OF BIRTH: 20 .10.1956; TULKARM

NATIONALITY: JORDANIAN

ADDRESS: President of Al-Balqa' Applied University,

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Key Qualifications

Dr. Omar Rimawi is an experienced Hydrologist/ Hydrogeologist and Hydrochemist. Currently working on internationally sponsored Projects as a researcher and/or consultant. These Projects are:

- 1. Integrated water resources management in the lower Jordan Valley (SMART), Joint project (2006-2009). Multilateral (German-Israel-Jordan-Palestine). Funded from BMBF, Germany.
- 2. New geophysical approach for prediction of sinkhole hazards related to the drop of the Dead Sea level and human activity (Sinkhole Hazards)/ 2004-2007. Multilateral (Jordan-Israel-France). Funded from NATO.
- 3. Integrated Water Resources Management of Mediterranean Phosphate Mining and Local Agricultural Systems. FP6 INCO-MPC European Commission
- 4. The salinity curse of the Middle East fossil groundwater: The Radioactivity factor. Project Number: M25-060 and Award Number: TA-MOU-05-M25-060

Dr Rimawi has a history of working with private consulting firms. The followings are representative projects he participated in their execution:

- Groundwater Modelling of the Groundwater Resources of Ghor Es-Safi, Mazra' and Haditha. Project Sponsored by **the Arab Potash Company**, Jordan, 2001/2002
- The hydrology and hydrogeology of the proposed dam on Wadi Ibn Hammad (Consolidation Consultants -Amman)
- Water quality and hydrochemistry of Wadi Araba water resources as a part of Wadi Araba Water Resources Project (Consolidation Consultants Amman)
- Geological investigation of the proposed dams in Wadi Araba (Rahma Dam, Abu Burqa Dam and Wadi Musa Dam) (Consolidation Consultants Amman)
- Reviewer of the Industrial Pollution in the Jordan Valley Report as committed by the Ministry of Planning
- Zarga River Conveyance project (Harza, USAID)
- Middle East Regional Water Resources-Supply and Demand Study (GTZ and Jordanian Consulting Engineers)
- Solute Transport Modeling of the Azrag Groundwater Resources (Jordanian Consulting Engineers)
- UN-Claim: Monitoring, Assessing and quantifying damages to Water Resources Contamination of Groundwater Caused by Accelerated Seepage from As-Samra Wastewater Treatment Plant. Consolidated Consultant. Ministry of Water and Irrigation, 2002-2003
- Groundwater modeling of water resources downstream of Wadi Wala Dam Reservoir... Project Sponsored by the Jordan Valley Authority- Ministry of Water and Irrigation, 2004
- · Water resources evaluation of El-Himma thermal water, Jordan. Project submitted to the Arab Research Center, 2004
- DISI-MUDAWARRA TO AMMAN WATER CONVEYANCE SYSTEM ENVIRONMENTAL AND SOCIAL ASSESSMENT. Consolidated Consultant. World Bank Project and Ministry of Water and Irrigation, 2002-2004
- Storage Systems Project. Geological and hydrogeologic study of the project area along the Jordan River and its side wadis between Yarmouk River and Wadi Rajib in the south.
- Storage Dams in Al-Karak Governorate. Geological and hydrogeological studies, selection of potential dam

Dr Rimawi is also the Author of 50 Articles published in local and international journals

Education	
1982-1985	PhD in Hydrogeology, Hydrochemistry and Isotope Hydrology/ Technical University of Munich, Lehrtuhl fuer Hydrogeologie und Hydrochemie.
1978-1980	M Sc in Geology and Mineralogy at the University of Jordan with special emphasis on hydrogeological, hydrochemical and isotope hydrological studies.
1974-1978	B Sc in Geology and Mineralogy at the University of Jordan with special emphasis on hydrogeological and geophysical investigation.

Employment Record

1- Working Experience

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Professor of Hydrogeology and Hydrochemistry, University of Jordan

- Skilled experience in using the different analytical instruments for the analyses of water and earth material (rocks and soils).
- Good experience in using computer in the evaluation of hydrochemical and hydrogeological information (Hydrogeochemical and Hydrogeological Modeling).

1992 - 1998

Assoc. Prof. at the Dept. of Geology in Hydrochemistry and Hydrogeology, University of Jordan.

Experience in different related fields of water quality and water resources planning and implementation projects. Member of many governmental committees representing the University. Some of these committees are listed below:

- Drinking Water Standards (Ministry of Industry and Trade)
- ➤ Mineral Water Standards (Ministry of Industry and Trade)
- > Treated Wastewater Standards (Ministry Industry and Trade)
- ➤ National Environment Strategy of the Surface Ground Water Sector (Ministry of Municipalities, Rural Affairs and Environment)
- Committee Chairman of the Physical and Chemical Methods in Analyzing Water Quality Parameters, and Sample Collection and Preservations (Ministry of Health)
- ➤ National Committee of Karamah Dam Evaluation (Ministry of Planning)
- National Committee of Landslides (Ministry of Public Works and Housing)
- > Azrag Oasis conservation (UNDP-Project)
- ➤ Wadi Rajil Dam Environmental Impact Assessment

1993 – 1995	Tech. Director of the Artificial Groundwater Recharge in Jordan/ University of Jordan; Water
	and Environment Research and Study Center (3-yr) Project Sponsored by the UNDP)

1986 – 1992 Assistant Prof. in the Dept. of Geology and Mineralogy/Faculty of Science at the same time Researcher and Assist, to the Director of the Water & Environment Research and Study Center- University of Jordan.

1985 – 1986 Researcher in the Water & Environment Research and Study Center of the University of Jordan (1985-1986).

1982 – 1985 Researcher by Prof. Dr. Peter Udluft at the Institute for Water Chemistry; Dept. of Hydrogeology and Hydrochemistry-Technical University of Munich (1982-1985), Germany.

Isotope Hydrologist and Hydrogeologist (1980-1981) in the Water Quality and Environmental Isotopes Laboratories of the Natural Resources Authority - Water Resources Directorate, Jordan.

2- Consultancy Work

1980 - 1981

- Groundwater Modeling of the Groundwater Resources of Ghor Es-Safi, Mazra' and Haditha. Project Sponsored by **the Arab Potash Company**, Jordan, 2001/2002
- The hydrology and hydrogeology of the proposed dam on Wadi Ibn Hammad (Consolidation Consultants -Amman)

- Water quality and hydrochemistry of Wadi Araba water resources as a part of Wadi Araba Water Resources Project (Consolidation Consultants - Amman)
- Geological investigation of the proposed dams in Wadi Araba (Rahma Dam, Abu Burqa Dam and Wadi Musa Dam) (Consolidation Consultants - Amman)
- · Reviewer of the Industrial Pollution in the Jordan Valley Report as committed by the Ministry of Planning
- Zarqa River Conveyance project (Harza, USAID)
- Middle East Regional Water Resources-Supply and Demand Study (GTZ and Jordanian Consulting Engineer)
- Solute Transport Modeling of the Azrag Groundwater Resources (Jordanian Consulting Engineer)

3- Teaching

Taught many Graduate and Undergraduate courses in Geology, Hydrogeology, Hydrochemistry, Isotope Hydrology, Environmental Geology and Groundwater Modeling for Ph.D, M.Sc. and B.Sc. Students.

4- Training Courses

Participated in organizing the following local and international training courses:

- · Water Harvesting with cooperation of ECARDA and Uni. of Jordan 1992.
- Environmental Impacts and Solid Waste Management in cooperation with Training Center of the Ministry of Water and Irrigation (1991).
- Hydrogeological and Geophysical Exploration for Ground water Resources in cooperation with CSC-Uni. of Jordan (Special for Hydrogeologists and Geologists from Yemen)
- Water Resources Management in cooperation with CSC-Uni. of Jordan (Special for Hydrogeologists from Yemen)
- Wastewater Treatment and Reuse in Agriculture (WRSC and Bio-Arab. 1990)
- Wastewater Treatment and Reuse in Agriculture (WRSC- Uni. of Jordan), 1989

5- Research

- Wastewater reuse in irrigation at the Queen Alia International Airport and King Hussein Medical Center (3-years project) Hydrochemistry and Hydrogeology.
- The effects of wastewater effluents on the surface water quality (Khirbet es-Samra-Wadi Dhuleil-Zarqa River) (2-years project).
- The effects of wastewater effluents on the groundwater quality along Zarqa-River (Hydrochemistry and Hydrogl.)
- Wastewater quality changes during infiltration to groundwater Khirbet es-Samra and Queen Alia Airport.
- Groundwater investigation, Hydrogeological and Hydrochemical Azraq Basin.
- Supervision of a project about precipitation water quality and its time and space distribution in Jordan. Ministry of planning (3-years project).
- Member of the research team on the water quality of the dam waters in Jordan-Ministry of Planning (3-year project).
- Member of the research team on the artificial groundwater recharge in Jordan-Ministry of Planning (3-year project)
- Member of the research team on water harvesting in Jordan (3-years project, University of Jordan)
- Tech. Director of the research project on artificial recharge in Jordan (3-years project, University of Jordan). Only during the period 1993-1994, 1997
- Coordinator and researcher of a project dealing with the climatological and hydrological data of Badia region/ Jordan (1997 - 1999; Badia Development Program/ Higher Council for Science and Technology)

6- Publications

More than 40 articles and reports dealing with: Isotope hydrology; Hydrogeology; Hydrochemistry; Geotechnical and Engineering Geology; Environmental Problems and Surface Water Hydrology were published or accepted for publications in local, regional, and international journals or submitted to governmental agencies. These journals include the Journal of Hydrology, Hydrogeologie und Umwelt, Dirasat, Abhath Al-Yarmouk, IHS, International Journal of Environmental Studies, WRSC Bulletin, and Arab Gulf Journal of Scientific Research, International Journal of Hydrological Sciences.

1. Rimawi, O. and Salameh, E. (1984): Isotope analyses and hydrochemistry of the thermal spring along the

- eastern side of the Dead Sea- Wadi Araba Rift Valley. J. Hydrology 73: 129-145.
- 2. Rimawi, O. and Udluft, P. (1985): Natural water groups and their origin of the Shallow Aquifer Complex in Azraq Depression. Geol. Jb. Reihe C 38: 17-38.
- 3. Rimawi, O. and Udluft, P. (1986): The effects of the flow patterns on the chemistry of groundwater in Central Jordan. The International Congress in Semi-arid and Arid Regions. Amman Jordan.
- Rimawi, O. and Salameh, E. (1988): Experience gathered by wastewater reuse; water quality changes during infiltration: In Biswas, A. and Arar, FAO the Regional Workshop on the August, 1986, Amman. Butterworths, London.
- 5. Rimawi, O. and Proesl, K.H. (1986): Nitrate in groundwater. WRSC Bulletins 6th. Issue. University of Jordan, Amman. Jordan.
- 6. Rimawi, O. et al., (1986): Curative water in Afra area /Tafilah Jordan. University of Jordan. Report submitted to the Ministry of planning of Jordan, p. 64. (In Arabic).
- 7. Rimawi, O. and Salameh, E. (1987): Hydrochemistry of precipitation of Northern Jordan. WRSC Bulletin 8th Issue. University of Jordan. Amman-Jordan.
- 8. Rimawi, O. and Salameh, E. (1987): Natural radioactivity and hydrochemistry of some Jordanian Groundwater resources. WRSC Bulletin 9th Issue, University of Jordan, Amman-Jordan.
- 9. Rimawi, O. et al, (1987); Effect of Khirbit es-Samra effluent on the surface water quality along Dhuleil- Zerka River. WRSC Bulletin 10th Issue, University of Jordan, Amman-Jordan.
- 10. Rimawi, O. and Salameh, E. (1988): Hydrochemistry and groundwater system of Zerka Main-Zara thermal field. J. Hydrology, 89: 147-163, Amsterdam.
- 11. Rimawi, O. and Salameh, E. (1988): Hydrochemistry of precipitation of Northern Jordan. Intern. J. Environmental Studies, Vol. 32, pp. 203-216.
- 12. Rimawi, O. and Salameh, E. (1988): The special features of the groundwater flow system in Central Jordan. Dirasat, Volume XV Number 9, University of Jordan, Amman.
- 13. Rimawi, O.; et. al. (1988): Wastewater Reuse in Irrigation at King Hussein Medical Center and Queen Alia International Airport. Results of a three years research project issued by the University of Jordan. This research project sponsored by the Ministry of Planning of Jordan and the University of Jordan, Amman.
- 14. Rimawi, O.; et. al. (1989): Treated wastewater reuse in agriculture Part 1: Hussein Medical Center. WRSC Bulletin 12th Issue. University of Jordan. Amman Jordan.
- 15. Rimawi, O.; et. al. (1989): Treated wastewater reuse in agriculture. Part II: Queen Alia International Airport, WRSC Bulletin 13th Issue, University of Jordan, Amman-Jordan.
- 16. Rimawi, O.; et. al. (1989): Curative waters in Jordan. Report submitted to the Ministry of Planning of Jordan, pp. 120. Amman Jordan (in Arabic).
- 17. Rimawi, O. and Salameh, E. (1990): Water resources in Palestine; West Bank and Gaza Strip. In: Proceedings of the Symposium on Water Resources of the Arab World and its Strategic Importance; 2-4 April 1989, PP. 197-206. University of Jordan, Amman. (In Arabic).
- 18. Rimawi, O. and Salameh, E. (1991): Precipitation water quality in Jordan. Results of a three years research project issued by the Water Research and Study Center; University of Jordan. This research was sponsored by the Ministry of Planning and the University of Jordan, Amman. (191 P.)
- 19. Rimawi, O.; Salameh, E. and Bannayan, H. (1991): Groundwater artificial recharge in Jordan. Results of a three years research project issued by the Water Research and Study Center; University of Jordan. This research was sponsored by the Ministry of Planning of Jordan and the University of Jordan, Amman (197 P.).
- 20. Rimawi, O.; El-Naqah, A. and Salameh E. (1991): Hydrochemical characteristics of groundwater resources in the Northeastern part of Jordan Valley/ Jordan. Dirasat, Volume 19B No. 1; pp. 87-117. University of Jordan, Amman.
- 21. Rimawi, O. (1992): Salinization and water quality of the groundwater resources in Dhuleil-Hallabat area-Jordan. Dirasat, Volume 19B Number 3. pp. 131-176, University of Jordan, Amman - Jordan.
- 22. Rimawi, O. (1992): Quality changes of treated wastewater during infiltration and its effects on groundwater resources in Khirbet Es-Samra area/ Jordan. Arab Gulf J. Scient. Res., 10(2), pp 121-142. Published by Arab Bureau of Education for the Gulf States. Riyad, Saudi Arabia. (In Arabic)

- Rimawi, O. and Abu Sharar, T. (1993): Water chemistry of the Dhuleil Aquifer (Jordan) as influenced by long term pumpage. J. Hydrology, 149: 49-66
- 24. Rimawi, O.; Shatanawi, M. and Awwad, M. (1994): Appropriate geological and hydrogeological conditions in selecting methods of artificial recharge; Azraq-Basin as a potential area. In the Proceedings of the Regional Seminar on the Potential of Groundwater Artificial Recharge, Dec. 13-15, 1993, Amman-Jordan.
- 25. Rimawi, O.; Shatanawi, M. and Awwad, M. (1994): Ground-water quality changes of the Shallow Aquifer due to unintended artificial recharge in the vicinity of Khirbet Es-Sammra Stabilization Ponds. Proceedings of the Regional Seminar on the Potential of Groundwater Artificial Recharge, Dec. 13-15, 1993, Amman-Jordan.
- 26. Shatanawi, M.; Rimawi, O. and Awwad, M. (1994): Harvested water as a source of artificial recharge. Proceedings of the Regional Seminar on the Potential of Groundwater Artificial Recharge, Dec. 13-15, 1993, Amman-Jordan.
- Rimawi, O.; Awad, M. and Ayed, R. (1994): Water quality of karst springs in Wadi Shueib Catchment area.
 Abhath Al-Yarmouk "Pure Science and Engineering Series" Vol. 3, No. 2, PP. 79-110. Yarmouk University,
 Jordan
- 28. Rimawi, O. and El-Naqah, A. (1995): Estimation of Transmissivity from Specific Capacity data in Fractured Basalt Aquifer System in Northeast Jordan. Arab Gulf of Scient. Res. 13(3), PP. 463-479.
- Rimawi, O.; Abu Taha, I.; El-Naqa, A. and Al-Ansari, N. (1995): Geological and geotechnical analysis of instability problems at Wadi Es Sir Treatment Plant. Technical Report Submitted to the Water Authority/ Ministry of Water and Irrigation, Jordan.
- 30. Rimawi, O.; El-Isa, Z.; Atallah, M. and Others (1995): Geological, geotechnical, hydrogeological and geophysical investigation of the sinkholes in Ghor El-Haditha area/ Jordan. Technical Report Submitted to the Jordan Valley Authority/ Ministry of Water and Irrigation.
- 31. Rimawi, O.; El-Isa, Z. and Saad, A. (1995): Geological, hydrogeological and geophysical investigations of the groundwater resources of Wadi Isal area. Technical Report submitted to the Arab Potash Company.
- 32. Rimawi, O. and El-Naser, H. (1997): Hydrogeochemical calculations of the carbonate system of the Deep Thermal Groundwaters along the Jordan Rift Valley/ Jordan. Abhath Al-Yarmouk, Pure Science and Engineering Series, Vol. 6, No. 2, pp. 111-133, Yarmouk University.
- 33. Rimawi, O. and Salameh, E. (1997): Curative water in Jordan. Ministry of Tourism. (In Arabic and English), 150 P, Amman.
- Rimawi, O. and Al-Ansari, N. (1997): Water quality degradation in Northeastern part of Mafraq area/ Jordan. Proceedings of Rabat Symposium S4, Fresh Water Contamination, International Association of Hydrological Sciences (IAHS). IAHS Publication No. 243.
- 35. Rimawi, O.; Al-Ansari, N. and Zayd, A. (1997): GwHydro- Finite Element Computer Package. Al al-Bayt University, Jordan.
- Al-Ansari, N. and Rimawi, O. (1997): Sediment load transport model of Al-Mousel Dam/ Iraq. Proceedings of Rabat Symposium S6, Human Impact on Erosion and Sedimentation, International Association of Hydrological Sciences (IAHS). IAHS Publication No. 245.
- 37. Rimawi, O. and Ta'any, R. (1997): Availability of surface water of Wadi Rajil as a source of groundwater artificial recharge for Azraq Basin. (Accepted for publication in Journal of Babylon University, Iraq).
- 38. Rimawi, O. and El-Naqa, A. (1998): WEDGE- a computer program for rock wedge stability analysis. Dirasat, Natural and Engineering Sciences, volume 25, no. 1, University of Jordan.
- 39. Rimawi, O. (1998): Analysis of a karstic spring hydrogeological system: A case study on Ras El-Ain Spring Amman/ Jordan. (Accepted for publication in Hydrogeologie und Umwelt, Uni. Wuerzburg, Germany)
- 40. Rimawi, O.; El-Naser, H. and Al-Zabet, T. (1998): Using Finite Element Model for optimizing rates of an overpumped aguifer in Dhuleil-Hallabat area/ Jordan. (Accepted in "Mu'atah Journal")
- 41. Rimawi, O.; Al-Ansari, N.; Salameh, E. and El-Naqa, A. (1999): Hydrochemistry of the groundwater

- resources in the Northeastern Part of Mafrag, Jordan. AL-MANARAH, Vol. 4, No. 2
- 42. Rimawi, O.; El-Naqa, A. and Salameh, E. (1999): Chemical changes during infiltration of the effluents of a Yeast Industry wastewater treatment plant in Ruseifa area, Jordan. Hydrological Sciences-Journal-des Sciences Hydrologiques, 44(5) October 1999
- 43. Rimawi, O.; Shatanawi, M. And Fayyad, M. (1999): The effect of Ruseifa solid waste disposal site on the groundwater resources of Amman Zarqa Basin. Abhath Al-Yarmouk « Basic Sci. & Eng. « Vol. 8 No.1, pp. 73-92.
- 44. Rimawi, O. and Katbeh, H. (2001): Chemical and Isotopic Composition of the Groundwater Resources of Deir Alla Area in Jordan Valley. In press in the IAEA-Technical Documents, Vienna. IAEA-Project No. RAW-8-002 in Jordan Ministry of Water and Irrigation, Water Authority of Jordan, Amman.
- 45. Rimawi, O. and Katbeh, H. (2001): Origin of Nitrates and Salinization of Wadi Dhuleil Groundwater Resources. Using chemical and Isotopic Techniques in Jordan. IAEA- Technical Documents, Vienna. IAEA- Project No. RAW- in Jordan Ministry of Water and Irrigation, Water Authority of Jordan, Amman.
- 46. Al-Zubi, H.; Taqa, A. and Rimawi, O. (2001): Determination of Groundwater Resources Using Environmental Isotopes in N-E Mafraq, Jordan. Proceeding of the Fourth Syrian-Egyptian Conference of Chemical and Petroleum Engineering, 9-11 October 2001, Homs-Syria, PP. 789-803
- 47. Khatieb, M.; Abdulla, F. and Rimawi, O. (2002): Three Dimensional Numerical Groundwater Flow Model for the Two Aquifers (Upper and Middle) of the Azraq Basin-Jordan. Freiberger Forschungshefte, Geowissenschaften C494; pp. 137-148, Freiberg 2001. Selected Contributions to Applied Geology in the Jordan Rift Valley
- 48. Qannam, Z.; Merkel, B. and Rimawi, O. (2002): Water Quality and Environmental Aspects of Beit Lehem Hebron Water Resources Freiberger Forschungshefte, Geowissenschaften C494; pp. 95-109, Freiberg 2001. Selected Contributions to Applied Geology in the Jordan Rift Valley
- 49. El-Memah, M.; Rimawi, O. and El-Naser, H. (2002): Hydraulic Characteristics of the Rum and Alluvial Aquifers in Wadi Yutum Catchment/ Jordan. (Freiberger Forschungshefte, Geowissenschaften C494; pp. 83-93, Freiberg 2001. Selected Contributions to Applied Geology in the Jordan Rift Valley
- 50. Rimawi, O. (2003): (Arabization) Operation and maintenance of rural water supply and sanitation systems: A training package for managers and planners (WHO/SDE/WSH/OO.2) WHO Publications
- 51. Rimawi, O. (2003): (Arabization) Tools for assessing O&M status of water supply and sanitation in developing countries (WHO/SDE/WSH/OO.3) WHO Publications
- 52. Al-Momani, M.; Kilani, S.; Amro, H.; Katbeh,; Tuffaha, R.; Rimawi, O. and El-Naqa, A. (2003): Isotope Response to Hydrological Systems for Long Term Exploitation: Case of Azraq Basin, Jordan. Final Report Coordinated Research Programme IAEA- Vienna
- 53. Rimawi, O. (2004): Groundwater Modeling of the Water Resources Downstream of Wadi Wala Dam Reservoir. Report submitted to the Ministry of Water and Irrigation
- 54. Jiries, A. and Rimawi, O. et al. (2005): Polycyclic aromatic hydrocarbon (PAH) in top soil leachate and groundwater from Ruseifa solid waste landfill, Jordan. Accepted for publication in the Intern. Jour. Of Env. Poll.
- 55. Rimawi, O., Jiries, A., Zubi, Y. and El-Naqa, A., 2009. Reuse of Mining Wastewater in Agricultural Activities in Jordan. *Journal of Environment, Development and sustainability*. 11: 695-703.
 - Al-Dahabi, I., Al- Zu'bi, Y.,Rimawi, O., AlZu'bi, J., 2010. The relationship between total suspended particulate matter (TSP) and different climatic factors: The case of Jordan. Journal of Food, Agriculture & Environment, Vol.8 (1):-308-312.

Language Ability		Speaking	Reading	Writing
	Arabic		Mother Tongue	
	German	Good	Good	Good
	English	Excellent	Excellent	Excellent

Signature Omar Rimawi