

Palestine Technical University- Kadoorie
College of Agricultural Sciences and Technologies
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Saed K. Khayat, Dr. rer. nat.

Education

Mar 2003 – Dec 2005 **Karlsruhe Institute of Technology (KIT)**
Dr. rer. nat., Hydrogeology and Isotopes Hydrology, Germany
Oct 1997 – Jun 2000 **An-Najah National University**
MS, Environmental Sciences, Palestinian Territory

Thesis

Hydrochemistry and Isotope Hydrogeology in the Jericho Area/ Palestine

A thesis for the degree of Doctor of Natural Sciences submitted to the Faculty of Civil Engineering, Geosciences and Environmental Sciences, University of Karlsruhe, Germany.

Date of thesis defense: 14. 12. 2005

Main Supervisor: Prof. Dr. Heinz Hötzl, AGK- Angewandete Geologie/ Uni- Karlsruhe

Co-advisors: Prof. Dr. Eng. Olaf Kolditz, University of Tübingen.

Higher Education Experiences

Feb 2008- Apr 2011 **Director of Scientific Research Council Affairs**
Ministry of Education and Higher Education, National Research Council,
Palestinian Territories
Oct 2000 – Feb. 2003 **Head of Academic Follow up Division**
DG for Technical and Vocational Education and Training (TVET), Ministry of
Higher Education.
Mar 1997- Oct 2000 **Head of Curricula Division**
DG for Technical and Vocational Education and Training (TVET), Ministry of
Higher Education.

Research Experience

Aug 2014 – Jul 2015 **Director of Technical and Applied Researches**
Palestine Technical University- Kadoorie, College of Agricultural Sciences and
Technologies, Palestinian Territory

Aug 2008 – Apr 2011

Mar 2003 – present

Guest Researcher

Helmholtz-Zentrum für Umweltforschung, Department of Catchment Hydrology, Germany

Teaching experience

Apr 2011–present

Professor (Associate)

Palestine Technical University- Kadoorie · College of Agricultural Sciences, Palestinian Territory

Courses taught:

- Waste Water Treatment.
- Water and Air Pollution
- Soil Chemistry
- Environmental Impact assessment
- Environmental Biotechnology (M. Sc.)
- Introduction to Sustainable Agriculture
- Principles of Hydroponic
- Solid Waste Management
- Chemistry 1

Oct 2009–May 2011

Lecturer (Part time)

Birzeit University · Institute of Environmental and Water Studies
Palestinian Territory ·

Courses taught:

- Environmental Information Technology (M. Sc.).
- Environmental Monitoring (M. Sc.).

Oct 2007– Jun 2010

Lecturer (Part time)

Al-Quds University · Department of Earth and Environmental Sciences
Palestinian Territory · Abū Dīs, West Bank

Courses taught:

- Introduction to Environmental Sciences
- Introduction to Rock Science
- Water Resources Management and protection
- Wastewater treatment

Academic supervision:

- Sawsan Awes 2017 (ongoing), *Bacterial Sulfate Reduction (SBR) as new tool for desalination of brackish water in lower Jordan valley. Master Thesis in Environmental Biotechnology program, Deanship of Higher studies, Palestine technical University-PTUK, Palestinian Territories.*

- Reem Odeh 2017 (ongoing), *Developing of a Quality Warning technique for Groundwater wells in the Karst Aquifer of Hebron district. Deanship of Higher studies, An-Najah National University, Nablus.*
- Saleh Suleiman 2010, *Identification of Environmental Flow Regime Using Chemical and Biological Parameters in Wadi Zomar/ West Bank. Master thesis. IEWS-Institute for Environmental and Water Studies, Birzeit University*
- Fayez Abu-Hilo 2008, *Spatial and Temporal Variations in the Hydrochemistry and Isotopic Compositions of the Groundwater in the Jordan Rift Valley. Master thesis. IEWS-Institute for Environmental and Water Studies, Birzeit University.*

Awards & Grants

Jan 2016	Grant: Zamalah Grant
Aug 2006	Grant: DFG Sachbeihilfen: Spatial and Temporal Variations in the Hydrochemistry and Isotopic Compositions of the Groundwater and Surface Runoff in the Jordan Rift Valley (Case Study for Ramallah Jerusalem Sub-basin)
Apr 2006	Scholarship: DAAD- Helmholtz Post Doc Award
Mar 2003	Scholarship: BMBF- GIJP multilateral Project, PhD Program

Projects Participation:

2002 – 2005:	Water Resources Evaluation for a Sustainable Development in the Jordan Rift Basin". (BMBF grant-code: 02WT0250).
2006-2009	IWRM-Project in the Lower Jordan Rift Valley: " SMART - Sustainable Management of Available Water Resources with Innovative Technologies", (BMBF grant-code 02WM0801).
2007-2012	IWRM-project Helmholtz Dead Sea: "Sustainable Management of Water Resources (Quantity and Quality) in the Dead Sea Area (SUMAR)", BMBF grant-code: 02WM0848.
2011-2013	Palestine for European Research Area-PERA. Higher or Secondary Education Establishments. INCO.2010-6.2 - Mediterranean Partner Countries: Morocco,

Algeria, Tunisia, Libya, Egypt, Jordan, Palestinian-administered Areas, Lebanon, Syria, (EU-FP7 grant code: FP7-INCO).

2012-2017	Helmholtz-Virtual Institute DEad SEa Research VEnue "DESERVE". Water Balancing surrounding Dead Sea basin. Funded by the Helmholtz Association of German Research Centers.
2013-2015	Portable water sensing system, Palestinian-Dutch Academic Cooperation (PADUCO) program on Water. Funded by Dutch Ministry of Foreign Affairs.
2014-2017	Evaluating Groundwater Resources Using Environmental Isotopes (Phase I). IAEA-International Atomic Energy Agency Vienna, Project no. PAL7004.
2017-2019	Evaluating Groundwater Resources Using Environmental Isotopes (Phase II). IAEA-International Atomic Energy Agency Vienna, Project no. PAL7005.
2017-2019	Establishing of Early Warning System for the Drinking Groundwater in the Karstic Aquifer of Hebron Area, Palestine. PalGer- Palestinian German Academic cooperation. Funded by BMBF and Palestinian Ministry of Higher Education.

Skills & Activities

<i>Skills</i>	Environment, Environmental Monitoring, Contaminant Transport Hydrology, Heavy Metals, Hydrochemistry, Water Quality, Hydrogeochemistry, Water Chemistry, Environmental Geochemistry, Environmental Impact Assessment, Environmental Analysis, Environmental Pollution, Environmental Management, Water Analysis, Water Resources Management, Water and Wastewater Treatment, Water Quality Analysis, Hydrological Modeling, Water Quality Monitoring, Water Sampling, Water Quality Assessment, Drinking Water Quality, Geochemical Modeling
<i>Languages</i>	Arabic, English, German

Publication Highlights

Book Chapters

- Elias G. Carayannis, Yesid Carvajal-Escobar, Ziad Mimi, Saed Khayat, Saleh Sulieman, Wilson Garces, Guillermo Cespedes: *Application of Methodologies for Environmental Flow Determination in an Andean and a Mediterranean Basin*. Creating a Sustainable Ecology Using Technology-Driven Solutions, 01/2013: pages 296-314; , DOI:10.4018/978-1-4666-3613-2.ch020
- Khayat S. K., Geyer S., A.M. Marei: *Tracing the inorganic carbon system in the groundwater from the lower Jordan Valley basin (Jericho/Palestine)*. The Water Rock interaction (ED.), XIII 01/2010: pages 1008; Taylor and Francis Group., ISBN: 978-0-415-60426-0
- C. Chen, S. Khayat, S. Geyer, W. Ali, H. Hötzl, O. Kolditz: *A GIS based hydrosystem model for the Jericho Plain, Palestine*. The Water of the Jordan Valley, Edited by Heinz Hötzl, Peter Möller, Eliahu Rosenthal, 11/2009: pages 349-360; Springer Berlin Heidelberg., ISBN: 978-3-540-77757-1, DOI:10.1007/978-3-540-77757-1_17
- S. Khayat, M. Ghanem, A. El Rahman Tamimi, M. Haddad, S. Geyer, H. Hötzl, W. Ali, P. Möller: *Hydrochemistry and isotope hydrogeology in the Jericho area/Palestine*. The Water of the Jordan Valley, Edited by Heinz Hötzl, Peter Möller, Eliahu Rosenthal, 11/2009: pages 325-348; Springer Berlin Heidelberg., ISBN: 978-3-540-77756-, DOI:10.1007/978-3-540-77757-1_16

Journal Publications

- A. Marei, Salah. N, Al-Rimawi. F, Khayat. S, Damiri. B, A. Naser. A: *Assessment of Commonly Used Pesticides in the Ground Water of the Shallow Aquifer Systems in Jericho and Jiftlik areas/ Lower Jordan Valley, Occupied Palestinian Territories*. International Journal of Environmental & Agriculture Research (IJOEAR), Vol-3, Issue-2, February- 2017
- Noa Hillel, Christian Siebert, Stefan Geyer, Saed Khayat, Tobias Licha, Jonathan B. Laronne: *Water quality and discharge of the Lower Jordan River*. Journal of Hydrology 06/2015; 527:1096–1105., DOI:10.1016/j.jhydrol.2015.06.002
- Saed Khayat, Amer Marei Stefan Geyer, Husam Eter: *Quantifying the surface water runoff to the Dead Sea under different climate scenarios. A case study from Wadi Arogut*. International Journal of Water 12/2014;, DOI:10.1504/IJW.2016.073744
- Saed Khayat, Xavier Martinez Lladó, Basel Natsheh, Tahseen Sayara, Nawaf Abu-Khalaf, Yamen Hamdan: *Investigation of the presence of halogenated bi-products formation in the drinking water network in Tulkarm District / Palestine*.
- Zaher Barghouthi, Sameer Amereih, Saed Khayat: *Spectrophotometric Determination of Fluoride in Groundwater Using Complexes of Flavonoid Chrysin*.
- Nawaf Abu-Khalaf, Saed Khayat, Basel Natsheh: *Multivariate data analysis to identify the groundwater pollution sources in Tulkarm area / Palestine*. DOI:10.5923/j.scit.20130304.01

- Saed Khayat, Amer Marei, Basel Natsheh, Nawaf Abu-Khalaf: *Mechanisms of Groundwater Pollutants Transport in Tulkarm Area / Palestine*. 12/2012; 2(6):281-290., DOI:10.5923/j.re.20120206.06
- Amer Marie, Saed Khayat, Muna Dajani: *Water quality legislation in Palestine over the past century*. 06/2012; 24(15)., DOI:10.1186/2190-4715-24-15
- Yesid Carvajal-Escobar, Ziad Mimi, Saed Khayat, Saleh Sulieman, Wilson Garcesand Guillermo Cespede: *Application of Methodologies for Environmental Flow Determination in an Andean and a Mediterranean Basin:Two Case Studies of the Pance River (Colombia) and Wadi River (Palestine) Basin*. International Journal of Social Ecology and Sustainable Development 12/2011; 2(4):26-43., DOI:10.4018/jsesd.2011100103
- Amer Marei, Ziad Mimi, Saed Khayat, Mohammad Sbaih: *Hydrogeological assessments of major springs in Wadi Al Bathan, West Bank, Palestine*. International Journal of Environmental Studies 08/2011; 68(4-4):431-445., DOI:10.1080/00207233.2011.582723
- Saleh Sulieman, Ziad Mimi, Saed Khayat: *Using Biological Indicators to Characterize the Natural Flow Regime in Wadi Zomar Stream/Palestine*. Asian Journal of Applied Sciences 07/2011; 4(7):685-701., DOI:10.3923/ajaps.2011.685.701
- A. Marei, S. Khayat, S. Weise, S. Ghannam, M. Sbaih, S. Geyer: *Estimating groundwater recharge using the chloride mass-balance method in the West Bank, Palestine*. Hydrological Sciences Journal/Journal des Sciences Hydrologiques 07/2010; 55(5)(5):780-792., DOI:10.1080/02626667.2010.491987
- Saed Khayat, Peter Möller, Stefan Geyer, Amer Marei, Christian Siebert, Fayez Abu Hilo: *Hydrochemical variation in the springs water between Jerusalem–Ramallah Mountains and Jericho Fault, Palestine*. Environmental Geology 06/2009; 57(8):1739-1751., DOI:10.1007/s00254-008-1459-x
- S. Geyer, S. Khayat, T. Roediger, C. Siebert: *Anthropogenic Influence On Groundwater Quality In Jericho and And Adjoining Wadis (Lower Jordan Valley, Palestine)*.
- Saed Khayat, Heinz Hötzl, Stefan Geyer, Wasim Ali, Kay Knöller, Gerhard Strauch: *Sulphur and oxygen isotopic characters of dissolved sulphate in groundwater from the Pleistocene aquifer in the southern Jordan Valley (Jericho area, Palestine)*. Isotopes in Environmental and Health Studies 10/2006; 42(3):289-302., DOI:10.1080/10256010600839780
- Saed Khayat, Stefan Geyer, Heinz Hötzl, Marwan Ghanem, Wasim Ali: *Identification of nitrate sources in groundwater by $\delta^{15}\text{N}$ nitrate and $\delta^{18}\text{O}$ nitrate isotope: A study of the shallow Pleistocene aquifer in the Jericho area, Palestine*. Acta Hydrochimica et Hydrobiologica 04/2006; 34(1- 2):27 - 33., DOI:10.1002/ahch.200400615
- Saed Kuzeed Khayat: *Hydrochemistry and isotope hydrogeology in the Jericho Area / Palestine*.
- Saed Khayat, Heinz Hötzl, Stefan Geyer, Wasim Ali: *Hydrochemical investigation of water from the Pleistocene wells and springs, Jericho area, Palestine*. Hydrogeology Journal 01/2006; 14(1):192-202., DOI:10.1007/s10040-004-0399-0

Conference Proceedings

N. Abu-Khalaf, S. Khayat, P. French: *Portable water sensing system*. First Palestinian-Dutch Academic Cooperation (PADUCO) program on water conference, Birzeit University, Ramallah, Palestine.; 02/2015

Stefan Geyer, Saed Khayat, Amer Marei: *Quantifying surface water runoff from Wadi Arogut towards the Dead Sea*. EGU General Assembly Conference Abstracts; 01/2015

N. Abu-Khalaf, S. Khayat, P. French: *Portable water sensing system*. First Palestinian-Dutch Academic Cooperation (PADUCO) program on water conference, Birzeit University, Palestine, 24-26 February; 01/2015

W. ALI, H. El-Nasser, A. Flexer, S. Geyer, Y. Guttman, M. Haddad, H. Hoetzel, S. Khayat, O. Kolditz, D. Kuntz, P. Möller, E. Salameh, M. Sauter, A. Sawerieh, A. R. Tamimi, H. Werz, A. Yellen Dror, A. Zoubi: *Water resources evaluation of aquifers in the lower Jordan Rift Valley*. The First International Conference on Environmental Science and Technology, American Academy of Sciences, New Orleans, Louisiana, USA; 02/2005