Palestine Technical University- Kadoorie

College of Agricultural Sciences and Technologies

B.O.Box 7

Kadoorie Circle Nablus, West Bank, Palestinian Territory

Email: s.khayat@ptuk.edu.ps

Phone: +97292671073

Mobile: +972599868605

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-](http://www.iwrm-smart.org/) 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)](http://www.ufz.de/index.php?de=30037)”, 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,](http://cordis.europa.eu/programme/rcn/12666_en.html)

[Algeria, Tunisia, Libya, Egypt, Jordan, Palestinian-administered Areas, Lebanon, Syria, (EU](http://cordis.europa.eu/programme/rcn/12666_en.html)-FP7 grant code: [FP7-INCO).](http://cordis.europa.eu/programme/rcn/865_en.html)

*2012-2017* Helmholtz-Virtual Institute DEad SEa Research VEnue "[DESERVE".](http://www.deserve-vi.net/) Water Balancing surrounding Dead Sea basin. Funded by the Helmholtz Association of German Research Centers.

2013-2015 [Portable water sensing system, P](https://www.researchgate.net/publication/274835284_Portable_water_sensing_system?_iepl%5BviewId%5D=IF7GtOJ1isWZnSpmcMl81E9XL2ZpwTxnodFP&_iepl%5Bcontexts%5D%5B0%5D=prfhpi&_iepl%5Bdata%5D%5BstandardItemCount%5D=4&_iepl%5Bdata%5D%5BuserSelectedItemCount%5D=0&_iepl%5Bdata%5D%5BtopHighlightCount%5D=2&_iepl%5Bdata%5D%5BstandardItemIndex%5D=3&_iepl%5Bdata%5D%5BstandardItem3of4%5D=1&_iepl%5BtargetEntityId%5D=PB%3A274835284&_iepl%5BinteractionType%5D=publicationTitle)alestinian-Dutch Academic Cooperation

(PADUCO) program on Water. Funded by Dutch Ministry of Foreign Affairs.

2014-2017 Evaluating Groundwater Resources Using Environmental Isotopes (Phase 1).

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

*Skills* 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

*Languages* 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*

Saed K. Khayat, Amer Marei, Stefan Geyer, Tino Rödiger: *Investigating the complex hydrogeological settings in the northeastern slope of the West Bank to the Jordan Graben (Malih and Jeftlik)*. 08/2018; Euro-Mediterr J Environ Integr (2018) 3: 32.(3):First Online., DOI:10.1007/s41207-018-0074-9

Zaher Barghouthi, Saed Khayat, Abdallah Alimari, Sameer Amereih: *CLIMATE CHANGE CHALLENGES AND OPPORTUNITIES FOR NONCONVENTIONAL WATER USE FOR AGRICULTURE IN PALESTINE*.

Saed K. Khayat, Amer Marei, Tino Roediger, Stefan Geyer: *Using Stable Isotopes to Delineate the Relations between Sub-aquifer Systems in the Eastern Slope of Bethlehem-Hebron to the Dead Sea)/ Palestine*. Arabian Journal of Geosciences 11/2017; 10(22):485., DOI:10.1007/s12517-017-3270-z

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 Jeftlik 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*. Palestine Technical University Research Journal, 2013, 1(1), 16-20.

Zaher Barghouthi, Sameer Amereih, Saed Khayat: *Spectrophotometric Determination of Fluoride in Groundwater Using Complexes of Flavonoid Chrysin*. Palestine Technical University Research Journal, 2013, 1(1), 16-20.

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 δ15Nnitrate and δ 18Onitrate 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/aheh.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. Hoetzl, 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