Curriculum Vitae

Name: Yael Kiro

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Education:

2013	**PhD, Geology** Institute of Earth Sciences, the Hebrew University of Jerusalem. Thesis topic: Dead Sea-aquifer interaction, insights from radium isotopes. Under the supervision of Prof. Yoseph Yechieli, Prof. Abraham Starinsky and Dr. Yishai Weinstein.
2006	**M.Sc., Geology, *magna cum laude*** Institute of Earth Sciences, the Hebrew University of Jerusalem. Research thesis subject: The effect of the Dead Sea level changes on the fresh-saline interface in the alluvial fan of Wadi Arugot. Under the supervision of Dr. Yoseph Yechieli, Prof. Abraham Starinsky and Dr.Vladimir Lyakhovsky.
2003	**B.Sc., Geology, the** Hebrew University of Jerusalem

Appointments:

July 2nd 2019-	**Senior Scientist (Assistant Professor), Department of Earth and Planetary Sciences, Weizmann Institute of Science.**
July 2016-July 1st 2019	**Associate Research Scientist, Lamont-Doherty Earth Observatory, Columbia University.**
2013-2016	**Postdoctoral Research Scientist, Lamont-Doherty Earth Observatory, Columbia University.** Paleoclimate reconstruction from lake sediments (petrography, chemistry and fluid inclusions in halite). Mentors: Prof. Steven Goldstein, Dr. Yochanan Kushnir.

Research experience:

2013	*post doctorate*. Paleoclimate reconstruction from lake sediments based on lake budget modeling and chemical composition of sediments (including radiogenic isotopes); Sedimentology and geochemistry of halite, interglacial climate, development of methods for paleoclimate interpretation from the sediments of the Dead Sea cores obtained by the deep drilling project. U-series dating of sediments including halite.
2007-2013	*Ph.D studies*. Studying lake– and sea–groundwater interaction in the Dead Sea coastal system using radon and radium isotopes, combined with hydrological and geochemical modeling. I focused on seawater circulation in aquifers, its potential effect on coastal water chemistry, radionuclide geochemistry in a coastal aquifer, barite precipitation, adsorption processes and water–rock interaction of the Ca-chloridic brine of the Dead Sea, and showed that saline groundwater circulation in the Dead Sea is a fundamental process affecting the trace element composition of the lake water.

2003-2006 *M.Sc studies*. Studied the effect of sea level changes on coastal aquifers using analytical and numerical modeling and comparing with Dead Sea hydrological and geochemical field data.

Workshops and Internships

2009 Three-month internship at the US Geological Survey working with Dr. Clifford I. Voss on modeling radium isotope distribution in coastal aquifers using a numerical density-dependent groundwater flow model (SUTRA-MS).

2008 Pre-conference short course: Variable Density Modeling and Hydrogeochemical Analysis of Seawater Intrusion instructed by: M. Bakker, G. O. Essink, A. Vandenbohede, P. Stuyfzand, and V. Post. SWIM – 20th Salt Water Intrusion Meeting, Naples, Florida.

2006 Pre-conference short course: Practical Modeling of Saltwater Intrusion instructed by: C. I. Voss and G. Barrocu. First International Joint Salt Water Intrusion Conference – SWIM-SWICA, Cagliari, Sardinia.

Professional Experience:

2014- 2018 **Lamont-Doherty Earth Observatory:** Mentoring undergraduate students, summer internship and Columbia University Earth Institute programs

2010–2012 **Hebrew University of Jerusalem:** Counting lab director

2004–2011 **Hebrew University of Jerusalem:** Teaching assistant

Courses taught: Stratigraphy, Maps and cross-sections, the Dynamic Earth, Earth Mineral and rocks, Groundwater Hydrology, Groundwater Contamination, Sea Floor Mapping.

2002–2003 **Israel Geological Survey**: Research assistant with "Groundwater Infiltration Well Monitoring Project" in the Arava Valley (head of project: Y. Yechieli).

2002 **Israel Geological Society (IGS)**: Assistance with organization of the IGS annual meeting.

Community Activity:

2019 **Bridging Science and Policy**: water scarcity, climate change and adaptation in the Middle East. Columbia Global Center, Amman, **Workshop organizer**.

2018 **Godlschmidt meeting, session convener**: Climate on land, what can we learn from terrestrial archives?

2017 **AGU fall meeting, session convener**: Glacial-Interglacial Climate: Similarities and Differences Between Past and Future

2016 **EGU General Assembly, session convener**: from sapropels to evaporites: Sedimentary expressions of splendid isolation

2014-2016 **Lamont-Doherty Earth Observatory Columbia University: organizer of the geochemistry Seminar.**

2012 **Friends of the Earth ME: outreach activity,** hydrogeology advice on "protecting groundwater sources" project.

2011, 2019 **Adam Teva V'Din (Israel Union for Environmental Defense): outreach activity,** advice and literature review in hydrological issues (e.g. Dead Sea Works, fertilizing).

2011 **The Institute of Earth Sciences, the Hebrew University,** organizing Dead Sea–Red Sea meeting on the 14/12/11.

2010-2011 **Israel Geological Society:** Member of the organizing committee of the annual meeting.

2000-2012 **Outreach projects:** lecturing and guiding teachers and high school students in environmental issues; tutoring underprivileged youth at learning centers; environmental youth projects and education activity with the Society for the Protection of Nature in Israel and the Green Course.

Peer review of submitted manuscripts to the journals of *Advances in Water Resources, Water Resources Research, Chemical Geology, Marine Pollution Bulletin, Global and Planetary Change, Applied geochemistry, Paleolimnology, Quaternary Research, Environmental Science and Technology, Geosphere; BSF and NSF proposals review*

Grants

2019 **NSF-BSF, GEO, MG&G**, pending, PI's Yael Kiro, Celine Grall: *Along-strike variations in the thermal regime and pore-pressure at the plate interface of the Alaska subduction zone.*

2018 **President Global Innovation Fund**, Columbia University ($20,000), PI's Yael Kiro, Steven L. Goldstein, Yochanan Kushnir

2017 **Climate Center Award**, Columbia University ($10,000, PI's Yael Kiro, Steven L Goldstein, Holly A Michael): *Characterizing the effect of seawater circulation in aquifers on the geochemistry of some key trace elements and isotopes in seawater*.

2017 **NSF EAR** Award # 1725323 ($365,837, PI's Yaakov Weiss, Yael Kiro, Cornelia Class, Gisela Winckler, Steven L. Goldstein): *The Systematics of Helium in Diamond-forming Metasomatic Mantle Fluids*

2016 **NSF EAR** Award #1635391 ($315,000, PI's Yael Kiro, Steven L. Goldstein, Yochanan Kushnir): *Reconstructing east Mediterranean climate during extreme aridities from Dead Sea salt deposits and implications for late Quaternary climate*

2016 **Comer Science and Education foundation** ($3,300, PI's Yael Kiro, Eduardo Luis Piovano): *Timing of late Quaternary climatic events in subtropical South America based on U-series dating of lake authigenic minerals.*

2016 **Climate Center Award**, Columbia University ($10,000, PI's Yael Kiro, Wallace Broecker, Tanzhuo Liu): *Determining Sources of dust to Western Europe during the last interglacial*.

2016 **Climate Center Award**, Columbia University ($10,000, PI's **Yael Kiro**, Toby Koffman, Gisela Winckler): *Reconstructing paleotemperatures from mineral fluid inclusions in halite (using noble gases).*

2014 **Climate Center Award**, Columbia University ($10,000, PI's **Yael Kiro**, Steven L. Goldstein, Bärbel Hönisch): *Isotopic characterization of Dead Sea water sources for paleoclimate reconstruction*.

2013 **Climate Center Award**, Columbia University ($10,000, PI's **Yael Kiro**, Steven L. Goldstein, Tim Lowenstein): An analogue for a warming Levant: delineating extreme arid events during the late Quaternary from Dead Sea salt deposits.

Awards

2017	Prof. Rafael Freund Award, the Israel Geological Society for outstanding papers in the geological sciences.
2014	Prof. Yaacov Bentor Award for an outstanding doctoral work on the geology of Israel and its surrounding area.
2014	Postdoctoral fellowship for Excellent PhD students, the Hebrew University
2009-2012	The Harry and Sylvia Hoffman Leadership and Responsibility Program Scholarship for excellent Ph.D students.
2011	Wolf Foundation Scholarship for Excellence
2010	The Israel Association of Water Resources Goldschmidt Award for young scientists on successfully completion of MS.c
2009, 2011	Rieger-Jewish National Fund fellowship in environmental studies
2009	United States – Israel Binational Science Foundation (BSF) travel grant for young scientists, funded three months internship in the U.S Geological Survey
2008	Israel Association of University Women prize
2006	Scholastic award from the Harry and Margaret Ben Fund and the South African Zionist Women's Fund

Selected Talks:

2018 **Queens College. City University of New York:** Warm intervals in Eastern Mediterranean: reconstructing temporal and spatial rainfall distribution from the geochemistry of the Dead Sea sediments

2017 **Rutgers University**: Drastic hydrological shifts in Levant climate during the last interglacial

2017 **ASU Origins Project, The coming water wars:** Water and climate change: past climate perspective

2017 **The Hebrew University,** Drastic hydrological shifts in Levant climate during the last interglacial indicated by $^{234}U/^{238}U$ in authigenic minerals from the Dead Sea

2016 **NCAR,** Extreme aridity cycles in the Middle East during the last interglacial

2016 **Caltech**, Extreme aridity cycles in the Middle East during the last interglacial revealed by halite deposition in the Dead Sea

2016 **California State Northridge**, Time-scales and geochemical processes of seawater circulation in aquifers: a lesson from the Dead Sea

2016 **LDEO**, Extreme aridity cycles in the Middle East during the last interglacial revealed by halite deposition in the Dead Sea

2015 **Dartmouth College**, Extreme aridity cycles in the Middle East during the last interglacial

2013 **Binghamton University**, Dead Sea–aquifer interaction: insights from radium isotopes

2011 **LDEO**, Seawater circulation in coastal aquifers – insights from radium isotopes in the Dead Sea

2009 **U.S Geological Survey**, Reston. Radium behavior in the variable density flow field of the Dead Sea coastal aquifer.