Curriculum Vitae - Yoav Ben Dor

Short Biography

After graduating Misgav regional high-school, majoring in biology and Arabic, and completing my military service, I volunteered for two months as a counsellor in Cider Lake Camp, PA, USA. I then travelled through South America for 10 months, where I was fascinated by its breathtaking landscapes, and decided to pursue a career in earth sciences. I began with a B.Sc. at the Hebrew University of Jerusalem, which I graduated in 2013 *cum laude*, and continued to M.Sc. studies (with a thesis), which I completed in 2015 *magna cum laude*. In 2015, I started my Ph.D. studies in the interdisciplinary program of hydrology and water resources at the Hebrew University, where I have focused on the reconstruction of the hydrologic and climatic variability of the Dead Sea watershed during episodes of global climate changes. As part of my research, I have applied methods from various fields, including petrography, geochemistry, statistics and computer modelling. Since 2013, I have also been teaching mineralogy, sedimentary petrography and hydrology at the institute of earth sciences of the Hebrew University. I volunteered as a tutor for students with learning disabilities for several years, and have also served as the captain of the Hebrew University orienteering club, which I founded with the students' union in 2013. Since 2018, I have also been guiding and counseling high-school students conducting research projects (Avodat Gemer) at the Hebrew University. Additionally, in 2020 my wife and I initiated "*The Earth for Toddlers*" book series that conveys basic concepts in earth sciences to children in an approachable way, and our first book, "*The Rock Cycle for Toddlers*" is now available online.

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Academic Education

2015-present Ph.D. in Hydrology and Environmental Science

The Hebrew University of Jerusalem, under the supervision of Y. Enzel, E. Morin, Y. Erel

Thesis subject: *Seasonal to centennial hydro-meteorological variability during late Pleistocene climate changes in the Levant from deep Dead Sea sediments*

https://www.nature.com/articles/s41598-018-25969-6

https://www.sciencedirect.com/science/article/abs/pii/S0277379118307741

Abstract: Studying the high-resolution hydrological Dead Sea sediments in order to improve our understanding of how local hydro-climatic processes are affected by global climatic changes as analogs of future climate changes. This study is set to identify changes in the frequency of extreme hydrometeorological events and climate variability during climate change. Because these aspects of the water cycle have great implications on vegetation, water availability and precipitation, their determination is crucial for the densely populated sub-tropical regions in the world.

2013-2015 M.Sc. in Geology (magna cum laude with GPA 98)

The Hebrew University of Jerusalem and Geological Survey of Israel, under the supervision of D. Avigad and Y. Harlavan

Thesis subject: *The Provenance of the fine fraction of the Cambrian siliciclastic sequence of Israel*

https://onlinelibrary.wiley.com/doi/abs/10.1111/sed.12479

https://www.gov.il/BlobFolder/reports/bendor-report-2015/en/report_2015_Ben-Dor-Y-Cambrian-Siliciclastic-Sequence-Israel-Geochemistry-Heavy-Minerals-Clays-GSI-17-2015-Msc-Thesis-HUJI.pdf

Abstract: The Cambrian siliciclastic sequence of north Gondwana, exposed in southern Israel, and throughout north Africa and Arabia, is a dominant feature hosting regional water, minerals and hydrocarbon reservoirs. Its pivotal stratigraphic location at the bottom of the Israeli-Levantine sedimentary column suggests that these sediments have played a key role in following geological and sedimentary processes that took place throughout the Mediterranean. In this study mineralogical and multi-proxy isotopic analyses revealed the signature of remote sediment sources, thus clarifying paleogeographical and tectonic constraints during the deposition of this sequence.

I was on the Dean's List for academic accomplishments in 2014 and 2015, and was awarded the Rector's prize in 2015.

2010-2013 B.Sc. in Earth Sciences (cum laude with GPA 94.4)

The Hebrew University of Jerusalem
I was on the Dean's List for academic accomplishments in the years 2011 and 2013.

Work Experience

2020 Teacher/Lecturer | Hebrew University of Jerusalem

Teaching sedimentary petrology for undergraduate and graduate students.

2020 Teacher/Lecturer | Licensed tour guides courses

Teaching geology, geomorphology, climate and hydrology to students of licensed tour guides courses in several institutes licensed by the ministry of tourism.

2018-today Group counselor | Alpha research program in the sciences

As part of the Alpha research program in sciences (part of the Future Scientists Center) I am counseling a group of students conducting their research projects in the faculty of mathematics and science of the Hebrew University.

2013-today Teaching Assistant | Hebrew University of Jerusalem

Teaching the application of microscopy-based techniques for the analysis of minerals, rocks, sediments and sedimentary rocks in particular, as well as introduction to hydrology and modelling and analyses of environmental systems.

2010-2013 Research Assistant | Geological Survey of Israel

I worked at the geochemistry and environmental geology department, and conducted numerous analyses and measurements of sediment, rock and water samples. I also participated in fieldwork and operated the scanning electron microscope.

Scholarships and Awards

2020 (Ph.D.) – The Peretz Grader award of the Israeli Geological Society for an excellent publication.

2019 (Ph.D.) – The Menachem Shraga & Theodor Dicker award for excellent research students in earth sciences.

2018 (Ph.D.) – The Rieger Foundation Award for excellent Ph.D. students in the fields of environmental science.

2016, 2017 (Ph.D.) – The Advanced School of Environmental Studies award for excellent Ph.D. students.

2014, 2015 (M.Sc.) – Moscona Fellowship for excellent M.Sc. students. Dean’s prize, Rector’s prize.

2011, 2013 (B.Sc.) – Dean's prize for excellence in academic studies.

International Training

2018 - the joint IPA-IAL meeting in Stockholm, Sweden.

2016 - visiting scientist in section 5.2, GeoFurschungZentrum (GFZ), Germany.

IAS 2016 international Summer School of Sedimentology, Italy.

2016 - International Continental Drilling Project (ICDP) annual training course, Germany.

PALEX 2016 Summer School (joint with GeoFurschungZentrum and Al-Quds University), Austria and Germany.

Volunteering

2018-today Research advisor | Alpha research program in the sciences

As part of the Alpha research program in sciences (part of the Future Scientists Center) I have advised high-school students who conducted a research project at our laboratory towards majoring in chemistry (Avodat Gemer).

2017-2020 Committee member | Israel Geological Society

I was on the organizing committee (board) of the Israel Geological Society for two and a half years. As a member I took part in planning, designing and organizing the various activities that were carried out by the IGS. I was also responsible for planning, establishing and producing the new IGS website.

2013-today Captain | Hebrew University Orienteering Club

I established the Hebrew University orienteering club in 2013 in a joint effort with the students' union and the Cosell association for physical education. The Club provides HUJI students with the opportunity to participate in the amazing and challenging sport of orienteering with a communal atmosphere.

http://nivuthuji.wixsite.com/nivuthuji

2013-2016 Tutor | Perach Tutorial Project/Hebrew University

I tutored multiple students with learning disabilities in order to promote equality for students that begin their academic studies from a disadvantageous starting point, due to learning disabilities or deficient education.

Publications

Peer reviewed

Ben Dor Y., Flax T., Levitan I., Enzel Y., Brauer A., Erel Y. (in review). Experimental investigation of the paleohydrological implications of aragonite precipitation in the endorheic Dead Sea and its precursors.

Ben Dor Y., Neugebauer I., Enzel Y., Schwab M.J., Tjallingii R., Erel Y. and Brauer A. (2019). Reply to comment on Ben Dor Y. et al. "Varves of the Dead Sea sedimentary record." Quaternary Science Reviews 215 (2019): 173–184. *Quaternary Science Reviews*.

Ben Dor Y., Neugebauer I., Enzel Y., Schwab M.J., Tjallingii R., Erel Y. and Brauer A. (2019). Varves of the Dead Sea sedimentary record. *Quaternary Science Reviews*.

Ben Dor Y., Armon M., Ahlborn M., Morin E., Erel Y., Brauer A., Schwab M.J., and Enzel Y. (2018). Changing flood frequencies under opposing late Pleistocene eastern Mediterranean climates. *Scientific reports*.

Quade J., Dente E., Armon M., **Ben Dor, Y.**, Morin E., Adam O. and Enzel Y. (2018), Megalakes in the Sahara? A Review. *Quaternary Research*.

Vainer S., **Ben Dor Y.** and Matmon A. (2018), Coupling cosmogenic nuclides and luminescence dating into a unified accumulation model of aeolian landforms age and dynamics: 2 The case study of the Kalahari Erg 3. *Quaternary Geochronology*.

Ben Dor, Y. Harlavan, Y. and Avigad, D. (2018). Provenance of the great Cambrian sandstone succession of northern Gondwana unravelled by strontium, neodymium and lead isotopes of feldspars and clays. *Sedimentology*.

Ahlborn M., Armon M., **Ben Dor Y.**, Neugebauer I., Schwab M. J., Tjallingii R., J.S. Shoqeir, E. Morin, Enzel Y. and Brauer, A. (2018). Increased frequency of torrential rainstorms during a regional late Holocene eastern Mediterranean drought. *Quaternary Research.*

Reports

Ben Dor Y. (2015). The Provenance of the Fine Fraction of the Cambrian Siliciclastic Sequence of Israel; an Isotope Geochemistry Study of Heavy Minerals, Clays and Feldspars (GSI/17/2015). https://www.gov.il/BlobFolder/reports/bendor-report-2015/en/report_2015_Ben-Dor-Y-Cambrian-Siliciclastic-Sequence-Israel-Geochemistry-Heavy-Minerals-Clays-GSI-17-2015-Msc-Thesis-HUJI.pdf

Crouvi O., Enzel Y., **Ben Dor Y.**, & Amit R. (2015). Atmospheric Dust, Dust Deposits (Loess) and Soils in the Negev Desert; Fieldtrip Guidebook (GSI/22/2015). https://www.gov.il/BlobFolder/reports/crouvi-et-al-report-2015/en/report_05_05_plio_GSI-22-2015.pdf

Conferences (partial)

Schwab M. J., Müller D., Neugebauer, I., Tjallingii, R., **Ben Dor, Y.**, Enzel, Y., Brauer, A., (2020). Changes in hydroclimate during last deglaciation lake-level fall in the Dead Sea sediment record. Oral presentation at the 22nd European geoscience union general assembly. Held online.

Ben Dor Y., Flax T., Levitan I., Enzel Y., Brauer A., Erel Y. (2020). A laboratory investigation of the paleohydrological implications of aragonite precipitation in the endorheic Dead Sea and its precursors. Oral presentation at the Israel Geological Society Annual Meeting. Maale Hahamisha, Israel.

Flax T., **Ben Dor Y.**, Levitan I., Erel Y. (2020). The effect of extracellular substances on aragonite precipitation in Lake Lisan, the Pleistocene predecessor of the Dead Sea. Poster presentation at the Israel Geological Society Annual Meeting. Maale Hahamisha, Israel.

Levitan I., **Ben Dor Y.**, Flax T., Erel Y. (2020). Laboratory investigation of the hydrological implications of aragonite precipitation in the Dead Sea. Poster presentation at the Israel Geological Society Annual Meeting. Maale Hahamisha, Israel.

Quade J., Dente E., Armon M., **Ben Dor Y.**, Morin E., Adam O. and Enzel Y. (2019). How blue was the green Sahara? Reviewing Saharan megalakes evidence for wetter environments. Oral presentation at the International Union for quaternary Research. Dublin, Ireland

Vainer S., **Ben Dor Y.**, and Matmon A. (2019). Unraveling the residence and migration of aeolian deposits by combining cosmogenic nuclides and luminescence data into a unified model. Oral presentation at the International Union for Quaternary Research. Dublin, Ireland.

Müller D., Neugebauer I., Tjallingii R., Schwab M. J., **Ben Dor Y.**, Enzel Y. and Brauer A. (2019). A lake sediment record of the last deglaciation derived from the ICDP Dead Sea Deep Drilling Project (DSDDP). Poster presentation at the International Union for quaternary Research. Dublin, Ireland

Ben Dor Y., Armon M., Morin E., Erel Y., and Enzel Y. (2019). What can Dead Sea sediments teach us on the impact of climate change on flood frequencies? A lesson from the Last Glacial Lake Lisan.

Poster presentation at the Research Day of the Faculty of Mathematics and Science. Jerusalem, Israel. Jerusalem, Israel.

Ben Dor Y., Armon M., Morin E., Erel Y., Brauer A. and Enzel, Y. (2019). Seasonal to decadal scale hydroclimatic response in the eastern Mediterranean to climate change during the last glacial. Oral presentation at the Israel Geological Society Annual Meeting. Kfar Blum, Israel.

Morag N., Bodzin R. and **Ben Dor, Y.** (2019). New method for heavy mineral assemblage analysis in the Geological Survey of Israel using SEM-EDS phase mapping. Poster presentation at the Israel Geological Society Annual Meeting. Kfar Blum, Israel.

Sirota I., Armon M., **Ben Dor Y.**, Morin E., Lensky, N.G. and Enzel, Y. (2019). Modelling hydroclimatic control on accreting sedimentary halite-mud sequence. Oral presentation at the Israel Geological Society Annual Meeting. Kfar Blum, Israel.

Ben Dor Y., Armon M., Ahlborn M., Morin E., Erel Y., Brauer, A., Schwab, M. J., Tjallingii, R., and Enzel, Y. (2018). The DSDDP core: from microfacies to hydroclimatology. Oral presentation given at the international ICDP meeting. Jerusalem, Israel.

Ben Dor, Y., and Neugebauer I., (2018). Insights from high resolution archives: from microfacies to microclimate. Oral presentation given at the festive colloquium in honor of Prof. J. Negendank. Potsdam, Germany.

Ben Dor, Y., Armon M., Ahlborn M., Morin E., Erel Y., Brauer A., Schwab M. J., Tjallingii R., and Enzel Y., (2018). Changing flood frequencies under opposing late Pleistocene eastern Mediterranean climates. Oral presentation at the joint IPA-IAL meeting. Stockholm, Sweden.

Ben Dor, Y., Armon M., Ahlborn M., Morin E., Erel Y., Brauer A., Schwab M. J., Tjallingii R., and Enzel Y., (2018). Changing flood frequencies under opposing late Pleistocene eastern Mediterranean climates. Poster presented the Israel Association of Water Resources annual meeting. Neve Ilan, Israel.

Schwab M. J., Ahlborn M., Armon M., **Ben Dor Y.**, Neugebauer I., Tjallingii R., Hasan S. J., Morin E., Enzel Y. and Brauer A.(2018) Frequency of torrential rainstorms during a regional late Holocene. Poster presented at the EGU General Assembly Conference Abstracts. Vienna, Austria.

Ahlborn M., **Ben Dor Y.**, Enzel Y., Neugebauer I., Schwab M. J., Tjallingii R., Brauer A. (2017) Latest Pleistocene flash flood deposits in the Dead Sea basin inferred from the ICDP core. Poster presented at the EGU General Assembly Conference Abstracts. Vienna, Austria.

Ahlborn M., Armon M., **Ben Dor Y.**, Enzel Y., Morin E., Neugebauer I., Schwab M. J. and Brauer, A. (2017) Increased frequency of debris flows during a regional late Holocene drought inferred from a Dead Sea sediment record. Poster presentation at the EGU General Assembly Conference Abstracts. Vienna, Austria.

Ben Dor Y., Ahlborn M., Brauer A., Tjallingii R., Armon M., Morin E. , Schwab M. J., Torfstein A., Erel Y., Enzel Y. (2017) High-Resolution Hydrological Record of the Last Glacial Dead Sea recovered from the ICDP Cores. Poster presented at the EGU General Assembly Conference Abstracts. Vienna, Austria.

Ben Dor Y. (2016). The Last Glacial Maximum Record of the Dead Sea Deep Drilling International Continental Drilling Project cores and its Climatological Implications. Orally presented at the International Association of Sedimentologists Summer School of Sedimentology. Alghero, Sicily.

Ahlborn M., **Ben Dor Y.**, Schwab M. J., Neugebauer I., Plessen B., Tjallingii R., Enzel Y. and Brauer, A. (2016). Extreme flood events in the Dead Sea basin. Poster presented at the EGU General Assembly Conference Abstracts. Vienna, Austria.

Ben Dor Y., Harlavan Y. and Avigad D. (2016). The Provenance of the Fine Fraction of the Cambrian Siliciclastic Sequence of Eilat; an Isotope Geochemistry Study of Heavy Minerals, Clays and Feldspars. Poster presented at the Israel Geological Society Annual Meeting. Elat, Israel.

Ben Dor Y., Harlavan Y. and Avigad D. (2015). The origins of Feldspars and Clays in the Cambrian Siliciclastic Sequence of Israel; Insights from Pb and Nd Isotopes. Orally presented at the Israel Geological Society Annual Meeting. Kinar, Israel.

Ben Dor Y., Harlavan Y. and Avigad D. (2014). The Isotope-Geochemistry of the Clays (<2µm) from the Cambrian Amudei Shelomo and Shehoret Formations: A Provenance Study. Poster presented at the Israel Geological Society Annual Meeting. En Bokek, Israel.

Ben Dor Y., Elazar, O. Harlavan Y. and Avigad D. (2013). Characterizing Provenance Sources of the Siliciclastic Cambrian Formations using Isotope Geochemistry of Heavy Minerals – preliminary results. Poster presented at the Israel Geological Society Annual Meeting. Acco, Israel.