

## CURRICULUM VITAE

### 1. Personal

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Dates	Description
1981	Born in Israel Married +2

### 2. University Education and Additional Training

Dates	Description
2006–2009	B.Sc. (Graduation with honors <i>magna cum laude</i> ) in Soil and Water Sciences at The Robert H. Smith Faculty of Agriculture, Food and Environment, the Hebrew University of Jerusalem
2009–2012	M.Sc. (Graduation with honors <i>magna cum laude</i> ) in Soil and Water Sciences at The Robert H. Smith Faculty of Agriculture, Food and Environment, the Hebrew University of Jerusalem Title of thesis: Aerating clayey soil using air injection and adding hydrogen peroxide to irrigation Supervision by: <b>Dr. Shmulik Friedman</b>
2015–2020	Ph.D. in Soil and Water Sciences at The Robert H. Smith Faculty of Agriculture, Food and Environment, the Hebrew University of Jerusalem Title of thesis: Soil aeration and dynamics of forced air and water flow into partially saturated soil Supervision by: <b>Dr. Shmulik Friedman</b>
2020–2021	Postdoctoral position at the Weizmann Institute of Science with <b>Prof. Brian Berkowitz</b> Research subject: Across compartment flow and transport
2021–2022	Postdoctoral position at the Institute of Environmental Assessment and Water Research (IDAEA), Spanish National Research Council (CSIC). with <b>Prof. Marco Dentz</b> Research subject: Unstable flow and anomalous transport in partially saturated media

### 3. Positions Held and Academic Status

Dates	Description
2012-2015	Environmental and hydrology consulting at LDD advanced technologies.
2023 to date	Research scientists (Rank C, equivalent to “Lecturer”) at the ARO, The Volcani Center, Institute of Soil, Water and Environmental Sciences.

#### 4. Research Grants

##### A. Internationally Peer Reviewed Grants:

Year	Granting Source	Duration (years)	Role*	Title (short)	Budget	
					Total (US \$ / year)	Researcher (US \$ / year)
2021	European Commission (Horizon22 - MSCA postdoctoral fellowship)	2	PI	predicting and upscaling of unsaturated flow and transport phenomenon (USFT project)	90,000	90,000

\*PI = Principal Investigator; CI = Cooperating Investigator

##### B. Other Funds:

Year	Granting Source	Duration (years)	Role*	Title (short)	Budget	
					Total (US \$ / year)	Researcher (US \$ / year)
2016	Head of ARO foundation	3	PI	fellowship of excellence doctorates	15,000	15,000
2020	Feinberg Graduate School, Weizmann Institute of Science	1	PI	Emergency postdoc fellowships to help people affected by the COVID-19 pandemic	11,000	11,000

\*PI = Principal Investigator; CI = Cooperating Investigator

**Part II: LIST OF PUBLICATIONS**

1. **Ben-Noah, I.**, and Friedman, S.P., 2015. Continuum modeling of steady air injection into partially saturated soils. *Vadose Zone Journal*, 14(9). [doi:10.2136/vzj2014.12.0170](https://doi.org/10.2136/vzj2014.12.0170)
2. **Ben-Noah, I.**, and Friedman, S.P., 2016. Aeration of clayey soils by injecting air through subsurface drippers: Lysimetric and field experiments. *Agricultural Water Management*, 176:222-233. [doi:10.1016/j.agwat.2016.06.015](https://doi.org/10.1016/j.agwat.2016.06.015)
3. **Ben-Noah, I.**, and Friedman, S.P., 2016. Oxygation of clayey soils by adding hydrogen peroxide to the irrigation solution: Lysimetric experiments. *Rhizosphere*, 2:51-61. [doi:10.1016/j.rhisph.2016.08.002](https://doi.org/10.1016/j.rhisph.2016.08.002)
4. **Ben-Noah, I.**, and Friedman, S.P., 2018. A review and evaluation of root respiration and of natural and agricultural processes of soil aeration. *Vadose Zone Journal*, 17(1):1-47. [doi:10.2136/vzj2017.06.0119](https://doi.org/10.2136/vzj2017.06.0119)
5. **Ben-Noah, I.**, and Friedman, S.P., 2019. Bounds to air-flow patterns during cyclic air injection into partially saturated soils inferred from extremum states. *Vadose Zone Journal*, 18(1):1-16. [doi:10.2136/vzj2018.01.0023](https://doi.org/10.2136/vzj2018.01.0023).
6. **Ben-Noah, I.**, Nitsan, I., and Friedman, S.P., 2020. Forced and natural gas movement in dry sand – Barrel experiments and models, 84(2):425-442. *Soil Science Society of America Journal*, [doi: 10.1002/saj2.20042](https://doi.org/10.1002/saj2.20042)
7. **Ben-Noah, I.**, Nitsan, I., and Friedman, S.P., 2021. Forced gas injection and water infiltration into sand – a two-phase flow barrel and column experiment. *Soil Science Society of America Journal* 85(1):40-58. [doi: 10.1002/saj2.20138](https://doi.org/10.1002/saj2.20138)
8. **Ben-Noah, I.**, Nitsan, I., Cohen, B., Kaplan, G. and Friedman, S.P., 2021. Soil aeration using air injection in a Citrus orchard with shallow groundwater. *Agricultural Water Management*, 245: 106664. [doi: 10.1016/j.agwat.2020.106664](https://doi.org/10.1016/j.agwat.2020.106664)
9. **Ben-Noah, I.**, Friedman, S.P. and Berkowitz, B., 2022. Air injection into water-saturated granular media – A dimensional analysis. *Water Resources Research*, 58(6):e2022WR032125. [doi: 10.1029/2022WR032125](https://doi.org/10.1029/2022WR032125)
10. **Ben-Noah, I.**, Hidalgo, J.J., Jimenez-Martinez, J., and Dentz, M., 2023. Solute Trapping and the Mechanisms of Non-Fickian Transport in Partially Saturated Porous Media. *Water Resources Research* 59(2), e2022WR033613. [doi:10.1029/2022WR033613](https://doi.org/10.1029/2022WR033613)
11. **Ben-Noah, I.**, Friedman, S.P., and Berkowitz, B., 2023. Dynamics of Air Flow in Partially Water-Saturated Granular Media. invited by *Reviews of Geophysics*. 61(2):e2022RG000798 [doi: 10.1029/2022RG000798](https://doi.org/10.1029/2022RG000798)