

April 2019

**A PhD position in an Innovative Training Network on Managed Aquifer Recharge, an EU funded Marie Curie Grant**

We seek for a PhD candidate at the Hydrology lab at the Agricultural Research Organization, Volcani Center, Israel - Dr. Daniel Kurtzman. The research will be conducted with collaboration with Dr. Avinoam Rabinovich and Prof. Emeritus Gedeon Dagan of the Faculty of Engineering, Tel Aviv University (TAU), from which the candidate will pursue a PhD degree. Mekorot, the national water company of Israel will cooperate as well.

In the last 5 years managed aquifer recharge of excesses desalinated seawater is performed through infiltration ponds. While the fast flow and transport (days-weeks) from ground-surface to the shallow parts of the aquifer was recently studied (Ganot et al., 2017, Ganot et al., 2018), the long term (years) flow and transport from the shallow part of aquifer under the infiltration ponds to well's perforations is much less known. The lack of magnesium in the desalinated water is a concern, therefore, quantifying the enrichment of the desalinated water with it during flow in the aquifer will be perused.

The research work will consist mainly of constructing and running numerical simulations and developing mathematical models of reactive mixing constrained to field data using a probabilistic approach. Some field and laboratory work may be required.

Candidates should have:

- An MSc. degree in one of the following areas: engineering, groundwater hydrology, geophysics, geochemistry, physics.
- Strong capabilities in computational methods and modeling of geophysical processes
- Background in groundwater hydrology, probability theory and geostatistics
- Enthusiasm to find solutions for water problems
- Excellent English

Candidates should E-mail their CV, copy of university diplomas, list of courses and grades, peer-reviewed publications they authored/co-authored and MSc thesis (title and abstract only) to [daniel@agri.gov.il](mailto:daniel@agri.gov.il)

The expected time of start of the work is September –October 2019.

## References

Ganot, Y., R. Holtzman, N. Weisbrod, I. Nitzan, Y. Katz, and D. Kurtzman. 2017. Monitoring and modeling infiltration-recharge dynamics of managed aquifer recharge with desalinated seawater, *Hydrol. Earth Syst. Sci.*, 21, 4479-4493.

Ganot, Y., Holtzman, R., Weisbrod, N., Russak, A., Katz, Y., & Kurtzman, D. 2018. Geochemical processes during managed aquifer recharge with desalinated seawater. *Water Resources Research*, 54. <https://doi.org/10.1002/2017WR021798>