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Curriculum Vitae

Itamar A. Shabtai, PhD

Postdoctoral Research Fellow | BARD Scholar

College of Agricultural and Life Sciences, Cornell University

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Research interests

Soil biogeochemistry, soil organic matter, mineralogy, environmental chemistry

Cornell University

Ithaca, NY

Postdoctoral fellow

2018-present

Higher education

Hebrew University of Jerusalem

Rehovot, Israel

Ph.D., Soil science

2018

Dissertation: *Tailoring polymer-clay composites for simultaneous pollutant adsorption from wastewater.*

Advisor: Prof. Yael Mishael

Hebrew University of Jerusalem

Rehovot, Israel

M.Sc., *magna cum laude* Soil science

2014

Thesis: *Land Use Effects on Vertisol Properties – Aggregate Stability, Hydraulic Conductivity and Abiotic Conditions in the Soil.*

Advisor: Prof. Moshe Shenker, Dr. Meni Ben Hur

Hebrew University of Jerusalem

Rehovot, Israel

B.Sc. Soil Science

2011

Peer reviewed publications

1. Ray J.R., **Shabtai I.A.**, Teixido, M., Mishael Y.G., Sedlak D.L. (2019) Polymeric-clay composite geomedia for sorptive removal of trace organic compounds and metals in urban storm water. *Water Research*, 157:454-462.
2. **Shabtai I.A.**, Mishael. Y.G. (2018) Polycyclodextrin-clay composites: Regenerable dual-site sorbents for Bisphenol A removal from treated wastewater. *ACS Applied Materials and Interfaces*, 10:27088-27097.
3. **Shabtai I.A.**, Mishael. Y.G. (2017) Catalytic polymer-clay composite for enhanced removal and degradation of diazinon. *Journal of Hazardous Materials*, 335:135-142.
4. **Shabtai, I.A.**, Mishael, Y.G. (2016). Efficient Filtration of effluent organic matter by polycation-clay composite sorbents: Effect of polycation configuration on pharmaceutical removal. *Environmental Science and Technology*, 50:8246-8254.
5. **Shabtai, I.A.**, Shenker, M., Edeto, W. L., Warburg, A., and Ben-Hur, M. (2014). Effects of land use on structure and hydraulic properties of Vertisols containing a sodic horizon in northern Ethiopia. *Soil and Tillage Research*, 136:19-27.

Submitted manuscripts

1. **Shabtai I.A.**, Lynch L.M., Mishael, Y.G. Scientific and technological challenges in designing polymer-clay composite sorbents: a meta-analysis of the last decade. (in revision, *Water Research*).

Scholarships and Grants

Cornell University Institute of Biotechnology, Seed Grant Program Award (\$10,000)	2019
Atkinson Center for Sustainability Small Grant Program (\$7000)	2019
Canadian Light Source, Synchrotron beamline proposal	2019
BARD Postdoctoral Fellowship (\$68,000)	2019

Prizes and Awards

Clay Minerals Society, Annual Meeting Travel Grant Award (\$1000)	2018
Rieger Foundation – JNF Graduate Fellowship in Environmental Studies (\$5000)	2017
Israeli Ministry of Science and Technology PhD Travel Grant (\$1200)	2017
Best poster, 9th International Interfaces against Pollution, Lleida, Spain.	2016
Hebrew University of Jerusalem, Travel Grant Award (\$800)	2016
The Robert H. Smith Scholarship Foundation PhD Scholarship (\$3300)	2015&2016
Eli Douer Fund - Scholarship for Environmental Research (\$4000)	2014
Hebrew University of Jerusalem, School for Environmental Studies PhD Scholarship (\$3400)	2014

Selected presentations

Shabtai, I.A., Srabani, D., Inagaki, T., Kogel-Knabner, I., Lehmann, J. Long-term soil water content and exchangeable Ca interact to stabilize organic matter. European Geophysical Union, General Assembly. Vienna, Austria. (Remote session).

Shabtai, I.A., Srabani, D., Inagaki, T., Kogel-Knabner, I., Lehmann, J. Elucidating the shifting controls on organic carbon cycling across a soil water content gradient (2019). European Geophysical Union, General Assembly. Vienna, Austria. (Oral presentation).

Shabtai, I.A., Mishael, Y.G. (2019) Polymer-clay composite sorbents for water treatment: a meta-analysis of the past decade. European Geophysical Union, General Assembly. Vienna, Austria. (PICO presentation).

Shabtai, I.A., Mishael, Y.G. (2018) Poly-Cyclodextrin-clay composites: Regenerable dual-site sorbents for simultaneous pollutant adsorption. *The 55th Annual Meeting of the Clay Minerals Society*. Urbana-Champaign, IL, USA. (Oral presentation)

Shabtai, I.A., Mishael, Y.G. (2017) Cyclodextrin-montmorillonite composites for simultaneous removal of bisphenol A and dissolved organic matter. *16th International Clay Conference*. Granada, Spain. (Oral presentation)

Shabtai, I.A., Mishael, Y.G. (2016) Enhanced removal and degradation of an organophosphate insecticide by acid-activated polymer-clay composite surfaces. *9th International Interfaces Against Pollution Conference*, Lleida, Spain. (Poster Session - Best poster award)

Shabtai, I.A., Mishael, Y.G. (2015) Filtration of Organic Matter from Secondary Effluent by a Hybrid Inorganic/Organic Sorbent (Poster session). *The Annual Conference of the Israeli Society of Water Resources*, Benyamina, Israel. (Poster session)

Shabtai, I.A., Shenker, M. and Ben-Hur, M. (2012) Land-use change effects on soil structure and hydraulic properties of Ethiopian Vertisols. *Drylands, Deserts and Desertification*, Bluastein Institutes for Desert Research Sede Boqer Campus of Ben-Gurion University, Israel. (Oral presentation)

Teaching and Mentoring

Teaching assistant appointments

Hebrew University of Jerusalem

Physical Chemistry and Surface Phenomena in Soil (graduate level)	2014,2018
Interactions in Clay-Organic Systems (graduate level)	2014-2018
Fundamentals of Soil Science (undergraduate level)	2014-2018
Soil and Water Salinity (undergraduate level)	2014-2018

Mentoring experience

Primary research mentor for two undergraduate students	2019
Mentor for Cornell undergraduate research award (\$2000)	2019
External user trainer at the Hebrew University inter-departmental instrumentation lab (HPLC, GC, FTIR, TGA, etc.)	2014-2018

Service and Affiliations

Review: Global Change Biology, Geoderma, Journal of Hazardous Materials, Nutrient Cycling in Agroecosystems.

Membership: American Geophysical Union, European Geophysical Union, Cornell Biogeochemistry, Environmental Science, and Sustainability Graduate Student Association, Israeli Soil Science Society and Society of Clay Research, The Clay Minerals Society, USA.

Committee: Member of e-Communication Committee, Clay Mineral Society

Patents

Mishael Y.G., **Shabtai I.A.**, Kohay H., Izbitsky A. Levy L. (2018) US Patent No. 15561128. Hybrid sorbent composites comprising mineral clay for removal of organic-based materials.