

Curriculum Vitae

Oz Kira

Education

Ph.D. Environmental Engineering	2016
The Department of Environmental, Water, and Agriculture Engineering, Faculty of Civil and Environmental Engineering, Technion, Israel Institute of Technology, Haifa, Israel	
M.Sc Environmental Engineering	2012
The Department of Environmental, Water, and Agriculture Engineering, Faculty of Civil and Environmental Engineering, Technion, Israel Institute of Technology, Haifa, Israel	
B.Sc Chemical Engineering	2008
The Department of Chemical Engineering, Faculty of Engineering, Ben Gurion University of the Negev, B'eer Sheva, Israel.	
B.Sc Chemistry	2008
The Department of Chemistry, Faculty of Natural Science, Ben Gurion University of the Negev, B'eer Sheva, Israel.	

Positions

Senior lecturer	10/2021 – present
The Department of Civil and Environmental Engineering, Faculty of Engineering, Ben Gurion University of the Negev, B'eer Sheva, Israel.	
Research associate	5/2021 - 10/2021
The Department of Soil and Crop Science, School of Integrative Plant Science, College of Agriculture and Life Science, Cornell University, Ithaca, NY, USA.	
Postdoctoral associate	5/2018 - 4/2021
The Department of Soil and Crop Science, School of Integrative Plant Science, College of Agriculture and Life Science, Cornell University, Ithaca, NY, USA.	
Postdoctoral associate	1/2016 - 5/2018
The Department of Environmental, Water, and Agriculture Engineering, Faculty of Civil and Environmental Engineering, Technion, Israel Institute of Technology, Haifa, Israel	

Fellowships

Postdoctoral fellowship	2018-2019
Vaadia-BARD Postdoctoral Fellowship	

Honors and Awards

- (1) 1st prize for outstanding poster – The 1st Technion-STU Workshop on Recycling of Materials and Environmental Protection November 2016.
- (2) "Vivian Konigsberg Award for Excellence in Teaching" for the spring semester 2014-2015.
- (3) 1st prize for outstanding poster - The Dahlia Greidinger International Symposium 2013. March 2013.
- (4) "Vivian Konigsberg Award for Excellence in Teaching" for the winter semester 2012-2013.

Teaching Experience (courses)

Teaching survey (Technion, IIT) average score – 4.53 (out of 5).

Courses:	"Chemistry for Civil Engineers"	2022-present
	"Introduction to Environmental Engineering"	2021-present
Ben-Gurion University of the Negev		
	"Introduction to Water and Wastewater Sanitation" (graduate course)	2017-2018
Technion, Israel Institute of Technology, Haifa, Israel		
Tutorials:	"Chemometrics" (graduate course)	2010-2018
	"Introduction to Soil Chemistry" (undergraduate course)	

- "Introduction to Remote Sensing" (undergraduate course)
- "Fundamentals of Environmental Engineering" (undergraduate course)
- "Water and Wastewater Treatment" (undergraduate course)
- "Water Supply and Wastewater Collection" (undergraduate course)
- "Fluid Mechanics" (undergraduate course)
- "Laboratory in Air Quality" (undergraduate course)

Technion, Israel Institute of Technology, Haifa, Israel

Publications

- (1) Han, J., Chang, C. Y.-Y., Gu, L., Zhang, Y., Meeker, E.W., Magney, T.S., Walker, A.P., Wen, J., **Kira, O.**, McNaull, S., Sun, Y. The physiological basis for estimating photosynthesis from Chla fluorescence. *New Phytologist*, 234: 1206-1219 (2022).
- (2) **Kira, O.**, Shaviv, A., Dubowski, Y. Concomitant tracking of NH₃, N₂O and soil mineral-N using steady-state incubation cells to enhance sustainability of urea fertilization approaches. *Geoderma*. 404, 115305. (2021).
- (3) Chang, C. Y., Wen, J., Han, J., **Kira, O.**, LeVonne, J., Melkonian, J., Riha, S. J., Skovira, J., Ng, S., Gu, L., Wood, J. D., Nätke, P., Sun, Y. Unpacking the drivers of diurnal dynamics of sun-induced chlorophyll fluorescence (SIF): Canopy structure, plant physiology, instrument configuration and retrieval methods. *Remote Sensing of Environment*. 265, 112672. (2021).
- (4) **Kira, O.**, Chang, C. Y., Gu, L., Wen, J., Hong, Z., Sun, Y. Partitioning Net Ecosystem Exchange (NEE) of CO₂ Using Solar-Induced Chlorophyll Fluorescence (SIF). *Geophysical Research Letters*. 48 (4) e2020GL091247. (2021).
- (5) Chang, C. Y., Zhou, R., **Kira, O.**, Marri, S., Skovira, J., Gu, L., Sun, Y. An Unmanned Aerial System (UAS) for concurrent measurements of solar-induced chlorophyll fluorescence and hyperspectral reflectance toward improving crop monitoring. *Agricultural and Forest Meteorology*. 294, 108145 (2020).
- (6) **Kira, O.**, Sun, Y. Extracting Sub-Pixel C3/C4 Emission Sources of Solar-Induced Chlorophyll Fluorescence (SIF) to Using Artificial Neural Network. *ISPRS J. Photogramm. Remote Sens.* 161: 135-146 (2020).
- (7) Peng, Y., **Kira, O.**, Nguy-Robertson, A., Suyker, A., Arkebauer, T., Sun, Y., Gitelson, A. Towards generic models for remote estimation of gross primary production in crops. *Agronomy Journal* 111(6): 1-10 (2019).
- (8) **Kira, O.**, Bareket, M., Sabach, S., Dubowski, Y. VOC emissions from polyurethane mattresses in the sleeping environmental: comparison under different environmental conditions using chamber experiments. *Environmental Science and Technology* 53, 15, 9171-9180 (2019).
- (9) **Kira, O.**, Shaviv, A., Dubowski, Y. Direct Tracing of NH₃ and N₂O Emissions Associated with Urea Fertilization Approaches, using Static Incubation Cells. *Science of the Total Environment*, 661: 75-85 (2019).
- (10) **Kira, O.**, Dubowski, Y., Linker, R. In-situ open path FTIR measurements of the vertical profile of spray drift from air-assisted sprayers. *Biosystems Engineering* 169: 32-41 (2018).
- (11) **Kira, O.**, Nguy-Robertson, A. L., Arkebauer, T. J., Linker, R., Gitelson, A. A. Toward Generic Models for Green LAI Estimation in Maize and Soybean: Satellite Observations. *Remote Sensing*. 9: 1-16 (2017).
- (12) **Kira, O.**, Linker, R., Dubowski, Y. Estimating pesticide primary drift in orchards using active Open Path FTIR. *Atmospheric Environment*. 142: 264-270 (2016).
- (13) **Kira, O.**, Linker, R., Dubowski, Y. Detection and quantification of water-based aerosols using active open-path FTIR. *Scientific Reports*. 6, 25110 (2016).
- (14) **Kira, O.**, Nguy-Robertson, A. L., Arkebauer, T. J., Linker, R., Gitelson, A. A. Informative spectral bands for remote green LAI estimation in C3 and C4 crops. *Agricultural and Forest Meteorology*. 218-219 (2016) 243-249.
- (15) **Kira, O.**, Dubowski, Y., Linker, R. Reconstruction of passive open-path FTIR ambient spectra using meteorological measurements and its application for detection of aerosol cloud drift. *Optics Express*. 23: no.15 (2015).
- (16) **Kira, O.**, Linker, R., Gitelson, A. A. New look at non-destructive estimation of foliar chlorophyll and carotenoid contents. *International Journal of Applied Earth Observation & Geoinformation*. 38:251-260 (2015).

- (17) **Kira, O.**, Linker, R., Shaviv, A. A Novel Method Combining FTIR-ATR Spectroscopy and Stable Isotopes to Investigate the Kinetics of Nitrogen Transformations in Soils. *Soil Science Society of America Journal*. Soil Science Society of America Journal, 78:54–60 (2014).

Professional Conferences

Oral Platform Presentations

- (1) **Kira, O.**, Sun, Y. Solar induced chlorophyll fluorescence pixel un-mixing to emission sources using reflectance data and artificial neural network. AGU fall meeting, Washington D.C, USA. December 2018.
- (2) **Kira, O.**, Dubowski, Y., Raphael Linker., Avi Shaviv., Gitelson. A. Remote sensing for agriculture and the environment. Ceremony for undergraduate excellent students. Technion IIT, Haifa, Israel. June 2017. *Invited talk*.
- (3) **Kira, O.**, Dubowski, Y., Raphael Linker. Detection and quantification of water-based aerosols using active open-path FTIR. The European Aerosol Conference, France, September 2016.
- (4) **Kira, O.**, Air pollution monitoring. College of Science Summer School, STUCSS2016, Shantou University, China. August 2016. *Invited talk*.
- (5) **Kira, O.**, Atmospheric remote sensing. College of Science Summer School, STUCSS2016, Shantou University, China. August 2016. *Invited talk*.
- (6) **Kira, O.**, Dubowski, Y., Raphael Linker. Remote sensing of pesticide drift: a tool for estimating and reducing air pollution in agriculture. The annual conference of the Israeli Society of Agricultural Engineering, July 2016.
- (7) **Kira, O.**, Dubowski, Y., Linker. R. Monitoring Pesticide Drift Using Open-Path FTIR. EPScon, Conference on research in environmental, earth and planetary sciences. May 2015.
- (8) **Kira, O.**, R. Linker., Avi Shaviv. A Novel Method Combining FTIR-ATR Spectroscopy and Stable Isotopes to Investigate the Kinetics of Nitrogen Transformations in Soils. CARESS, Conference on Active Research by Environmental Sciences Students. May 2013.
- (9) **Kira, O.**, R. Linker., Avi Shaviv. A Novel Method Combining FTIR-ATR Spectroscopy and Stable Isotopes to Investigate the Kinetics of Nitrogen Transformations in Soils. The joint conference of the Israeli Society of Soil Science, and the Israeli Society for Clay Minerals Research. December 2012.

Service

- (1) Designing and executing the building of a satellite reception station – Eumestat. Technion IIT 2017.
- (2) Founding the student conference for connecting water engineering students to the local industry. Technion IIT 2016, 2018.