

## **Karin Ardon-Dryer**

Assistant professor

Department of Geosciences, Atmospheric Science Group  
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### **EDUCATION**

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**Tel Aviv University** - Tel Aviv, Israel **Oct 2006 – Jun 2012**

**Ph.D.** Department of Geophysics, Atmospheric and Planetary Sciences, and the Porter School of Environmental Studies.

Thesis: “Ice nuclei, their concentration and efficiency in clean and polluted air and their effects on clouds and precipitation”.

Advisor: Prof. Zev Levin.

**Ben Gurion University** – Beer Sheva, Israel **Oct 2003 – Jan 2006**

**MA.** Department of Geography and Environmental Development

Thesis: “Dynamic and Ecology processes of the Ashdod–Nizzanim Nebkha Dunes”.

Advisors: Prof. Haim Tsoar and Prof. Dan Blumberg.

**Ben Gurion University** – Beer Sheva, Israel **Oct 2000 – Jul 2003**

**BA.** Department of Geography and Environmental Development.

Graduated **Summa Cum Laude**.

### **RESEARCH EXPERIENCE**

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**Texas Tech University** – Lubbock, TX **Sep 2017 – Present**

Assistant Professor in the Department of Geosciences, Atmospheric Science Group.

**Harvard University**– Boston, MA **Sep 2015 – Aug 2017**

Postdoctoral Fellow in the Department of Systems Biology, Harvard Medical School in Boston.

- Conducted research on the effects of atmospheric aerosols from different sources (e.g. dust storms) on health.
- Collaborated with Professor Koutrakis from the Department of Environmental Health at Harvard School of Public Health on the aerosol-health project.
- Collaborated with other group members and assisting on different aspects of their research projects.

- Designed and implemented an adaptation of existing lab equipment by adding a multi sensor measurement setup (CO<sub>2</sub>, Temperature and Humidity).

**Massachusetts Institute of Technology** – Cambridge, MA **Sep 2012 – Aug 2015**  
Postdoctoral Research Associate in the Department of Earth, Atmospheric and Planetary Sciences.

- Led three research projects:
  - Droplets collection efficiency experiment; based on a single droplets basis.
  - Designed and tested a chamber to assess contact-freezing process.
  - Assessed the ability to size select dry disperse mineral dust in laboratory.
- Trained students in the group on variety of equipment's.
- Managed the lab and the group while the PI was on sabbatical.

**Weizmann Institute** – Rehovot, Israel **Jan 2012 – Jul 2012**  
Postdoctoral Research Associate in the Department of Environmental Sciences

- Oversaw the transfer of scientific equipment between research institutes and trained the students on how to operate it.
- Maintained inter departmental groups collaboration and facilitated atmospheric particles sampling preparation for a field campaign.

**Ben Gurion University** – Beer Sheva, Israel **2005 - 2006**  
Research Assistant in the Earth and Planetary Image Facility (EPIF)

- Served as EPIC lab administrator.
- Analyzed and adapted satellite, radar images and aerial photographs for a variety of research projects.

## TEACHING EXPERIENCE

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**Texas Tech University** – Lubbock, TX **Fall 2020**  
ATMO 3301 - Weather, Climate, and Human Activities

**Texas Tech University** – Lubbock, TX **Spring 2020**  
ATMO 5302 - Weather, Climate, and Application

**Texas Tech University** – Lubbock, TX **Fall 2019**  
ATMO 3301 - Weather, Climate, and Human Activities

**Texas Tech University** – Lubbock, TX **Spring 2019**  
ATMO 1300 - Introduction to Atmospheric Science

**Texas Tech University** – Lubbock, TX **Fall 2018**  
ATMO 3301 - Weather, Climate, and Human Activities

**Mexico, National Autonomous University of Mexico** **March 2018**

Invited to serve as an instructor at the Aerosol cloud interaction class in The Centro de Ciencias de la Atmósfera at the National Autonomous University of Mexico, Mexico.

**Texas Tech University** – Lubbock, TX **Spring 2018**  
ATMO 5302 - Weather, Climate, and Application

**Texas Tech University** – Lubbock, TX **Fall 2017**  
ATMO 3301 - Weather, Climate, and Human Activities

**Massachusetts Institute of Technology** – Cambridge, MA **Fall 2014**  
Instructor in Experimental Atmospheric Chemistry at the Department of Earth, Atmospheric and Planetary Sciences.

**Massachusetts Institute of Technology** – Cambridge, MA **Spring 2013 & 2014**  
Guest lecturer in Aerosol and Cloud Microphysics and Chemistry course at the Department of Earth, Atmospheric and Planetary Sciences.

**Tel Aviv University** – Tel Aviv, Israel **2009 – 2011**  
Teaching assistant at the Porter School of Environmental Studies.

- Environmental problems in Israel.
- Environmental projects - writing research proposal.

**China Meteorological Administration Training Centre** - Beijing, China **2008 - 2011**  
Served Three times as an instructor at the International Training Course on Weather Modification, part of China Meteorological Administration Training Center and Israel Meteorological Service.

**Ben Gurion University** - Beer Sheva, Israel **2003 – 2005**  
Teaching assistant at the Department of Geography and Environmental Development

- Geomorphology
- Geomorphology of Planets
- Statistical analysis methods

## **PUBLICATIONS**

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1. **Ardon-Dryer, K.**, Dryer, Y., Williams, J. N., and Moghimi, N.: Measurements of PM<sub>2.5</sub> with PurpleAir under atmospheric conditions, *Atmos. Meas. Tech.*, <https://doi.org/10.5194/amt-2019-396>, accepted 2020.
2. Koerber, A, Starkey, J. C. **Ardon-Dryer, K.** Eko, L Cummins, R. G. Kee, K. F. A Qualitative Content Analysis of Watchlists vs Safelists: How do they address the issue of predatory publishing? *The Journal of Academic Librarianship*, accepted 2020.
3. Malisch, J.L., Harris, B.N., Sherrer, S.M., Lewis, K.A., Shepherd, S. L., McCarthy, P.C., Spott, J.L., Karam, E.P., Moustaid-Moussa, N., Calarco, J. M., Ramalingam, L., Talley, A.E., Canas-Carrel, J.E., **Ardon-Dryer, K.**, Weiser, D.A., Bernal, X.E., & Deitloff, J. In the wake of COVID-19, academia needs new solutions to ensure gender equity. *PNAS*. <https://doi.org/10.1073/pnas.2010636117>.

4. Kelley, M.C, Brown, M.M., Fedler, C.B., and **Ardon-Dryer, K.** Long term measurements of PM<sub>2.5</sub> concentrations in Lubbock, Texas, Aerosol and Air Quality Research, <https://doi.org/10.4209/aaqr.2019.09.0469>, 2020.
5. **Ardon-Dryer, K.** Mock, C., Reyes, J and Lahav, G.: The effect of dust storm particles on single human lung cancer cells, Environmental Research, doi: 10.1016/j.envres.2019.108891.
6. Vergara-Temprado, J., Murray, B. J., Wilson, T. W., O'Sullivan, D., Browse, J., Pringle, K. J., **Ardon-Dryer, K.**, Bertram, A. K., Burrows, S. M., Ceburnis, D., DeMott, P. J., Mason, R. H., O'Dowd, C. D., Rinaldi, M., and Carslaw, K. S.: Contribution of feldspar and marine organic aerosols to global ice nucleating particle concentrations, Atmos. Chem. Phys., 17, 3637-3658, <https://doi.org/10.5194/acp-17-3637-2017>, 2017.
7. **Ardon-Dryer, K.** Garimella, S. Huang. Y-W. Christopoulos, C. and Cziczo, D.J.: Characterization of mobility-selected dry mineral dust particles, Aerosol. Sci. Tech, 49:9, 828-841, 2015.
8. **Ardon-Dryer, K.** Huang. Y-w and Cziczo, D. J.: Laboratory studies of collection efficiency of sub-micrometer aerosol particles by cloud droplets on a single-droplet basis, Atmos. Chem. Phys, 15, 9159–9171, 2015.
9. **Ardon-Dryer, K.** and Levin, Z.: Ground based measurements of immersion freezing in the Eastern Mediterranean, Atmos. Chem. Phys., 14, 5217–5231, 2014.
10. **Ardon-Dryer, K.** Huang, Y.-w. and Cziczo. D. J.: Collection of submicron particles with cloud droplets using the new MIT-CFC. AIP Conf. Proc. 1527, 461; doi: 10.1063/1.4803304, 2013.
11. Friedman, B. **Ardon-Dryer, K.** Carrasquillo, A. Daumit, K. Boulanger, K. Cross, E. Browne, E. Kroll, J. Thornton, J. and Cziczo, D.: CCN closure and composition analysis of droplet-forming aerosol AIP Conf. Proc. 1527,832; doi: 10.1063/1.4803400, 2013.
12. Bingemer, H.G., Klein, H. Ebert, M. Haunold, W. Bundke, U. Herrmann, T. Kandler, K. Müller-Ebert, D. Weinbruch, S Judt, A. **Ardon-Dryer, K.** Levin, Z. and Curtius, J: Atmospheric ice nuclei in the Eyjafjallajökull volcanic ash plume, Atmos. Chem. Phys., 12, 857–867, 2012.
13. **Ardon-Dryer, K.** Levin, Z. and Lawson, R. P: Characteristics of Immersion Freezing Nuclei at the South Pole Station in Antarctica, Atmos. Chem. Phys., 11, 4015-4024, 2011.
14. DeMott, P.J., Möhler, O., Stetzer, O., Vali, G., Levin, Z., Petters, M. D., Murakami, M., Leisner, T., Bundke, U., Klein, H., Kanji, Z. A., Cotton, R., Jones, H., Benz, S., Brinkmann, M., Rzesanke, D., Saathoff, H., Nicolet, M., Saito, A., Nillius, B., Bingemer, H., Abbatt, J.P.D., **Ardon, K.**, Ganor, E., Georgakopoulos, D.G., Saunders, C. Resurgence in Ice Nuclei Measurement Research, Bull Amer Meteor Soc., doi: 10.1175/2011BAMS3119.1, 2011.
15. **Ardon, K.**, Levin, Z., Ganor, E., Klein, H., Bingemer, H. and Bundke U: Ice Nuclei Concentration under different Meteorological Conditions in Israel, 18th International Conference - Nucleation and Atmospheric Aerosols, 10-14 August 2009, Prague, Czech Republic, paper A17.1. Edited by Smolik, J. and O'Dowd, C. ISBN 978-80-02-12161-2, Elsevier, Amsterdam, 2009.
16. DeMott, P.J., Möhler, O., Stetzer, O., Murakami, M., Bundke, U., Klein, H., Kanji, Z. A., Cotton, R., Jones, H., Leisner, T., Cziczo, D., Petters, M.D., Prenni, A.J., Kreidenweis, S.M., Schnaiter, M., Schön, R., Saathoff, H., Wagner, R., Sierau, B., Nicolet, M., Lohmann, U., Gallavardin, S., Saito, A., Nillius, B., Bingemer, H., Abbatt, J., Targino, A., Dorsey, J., **Ardon, K.**, Levin, Z., Ganor, E., Georgakopoulos, D.G., Vali, G. The fourth international ice nucleation workshop (ICIS-2007): Objectives and preliminary results. Proceedings of the 15th International Conference on Clouds and Precipitation, 7-11 July 2009, Cancún, México.

17. **Ardon, K.**, Levin, Z., Ganor, E., Klein, H. and Bingemer, H: The effect of air pollution on ice nuclei concentration in Israel. Proceedings of the 15th International Conference on Clouds and Precipitation, 7-11 July 2009, Cancún, México.
18. **Ardon, K.**, Tsoar, H. Blumberg, D.G.: Dynamics of nebkhas superimposed on a parabolic dune and their effect on the dune dynamics, Journal of Arid Environments, 73, 1014-1022, 2009.

**Publication submitted / in preparation:**

19. **Ardon-Dryer, K.** The atmosphere and everything that lies within, not an empty space after all, a chapter in, AIRSCAPES – Atmosphere as a form in Architecture, under review 2020.
20. Elmassry, M.M., Ray, N., Sorge, S., Webster, J., Elmassry, M., Kruczek, C., Vanos, J. **Ardon-Dryer, K.** and San Francisco, M. Investigating the culturable atmospheric fungal and bacterial microbiome in West Texas: Implication of dust storms and origins of the air parcels, under review, 2020.
21. **Ardon-Dryer, K.** Chmielewski, V, Burning E., and Xueting X.: Electric field, aerosol, and wind covariance in West Texas dust storms, under review, 2020
22. **Ardon-Dryer, K.** Warzywoda, J., Tekin, R., Week, B., Biro, J., Almodovar, S., Hope-Weeks, J. and Sacco A. Face mask protection from pandemic COVID-19: insights into the composition and filtering efficiency of several materials used as mask under review, 2020.
23. **Ardon-Dryer, K.**, Xia, X. Kelley, M.C, and Plantier, M. Comparison of different Dust Storms as Measured by AEROS (in preparation).
24. Kelley, M.C., and **Ardon-Dryer, K.**, Analysis of Blowing Dust Days in Lubbock, Texas, (in preparation).

**Grants**

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<b>2019</b>	The CH Foundation Single cell imaging microscope for different research projects across TTU (PI, \$181,100 - Granted).
<b>2019</b>	STEM Training in Ethics of Publication Practices (STEPP), in NSF SMA - Cultivating Cultures of Ethica (Co PI, \$345,702- Granted).
<b>2018</b>	International Grant competition for international travel, International office at Texas Tech University (\$2000 - Granted).

**FELLOWSHIPS, AWARDS & HONORS**

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<b>2012</b>	Dean's funding for postdoctoral fellowship, Weizmann Institute, Israel.
<b>2011</b>	Israeli Meteorological Society Scholarship for Young Scientists, Israel.
<b>2011</b>	Departmental Excellence Award for Achievements from the Department of Geophysics, Atmospheric and Planetary Sciences, Tel Aviv University, Israel.
<b>2011</b>	NCAR fellowship to attend Weather Research and Forecasting model Workshop (WRF), Cypress.
<b>2008</b>	EUFAR grant fellowship to attend the 2nd EUFAR Summer School on Airborne Cloud and Aerosol Science, KMNI, Utrecht, the Netherlands.
<b>2008</b>	Fellowship from JNF Rieger Foundation Fellowship for Environmental Studies.

- 2007** Travel grant from **MedCLIVAR** - Mediterranean Climate Variability and Predictability.
- 2007** Fellowship from JNF Rieger Foundation Fellowship for Environmental Studies.
- 2003** Summa Cum Laude graduate from the Department of Geography and Environmental Development, Ben Gurion University, Israel.
- 2002** Departmental Excellence Award for Achievements from the Department of Geography and Environmental Development, Ben Gurion University, Israel.
- 2001** Departmental Appreciation Award for Achievements from the Department of Geography and Environmental Development, Ben Gurion University, Israel.

## **INVITED TALKS**

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### **2020**

- COVID-19 ensuring gender equity in academia. WISPACE Conference: Presenting a Vision and Activity, The Impact of COVID on the Space Industry, Women in the Israeli Space Industry, (Virtual), July 23, 2020.
- New mask design in COVID 19 ERA. Are they going to protect us? GEO Health CoP Telecon meeting (Virtual), June 2, 2020.

### **2019**

- Haboobs and Dust Storms: How do they impact us now and in the future? Citizens' Climate Lobby of Lubbock, Lubbock, November 7, 2019, Texas Tech University
- What's in a dust storm? - A characteristics comparison of dust storms measured by AEROS in West Texas, Invited talk, Regional NWS MIC leadership Meeting, Lubbock, September 17, 2019.
- What's in a dust storm? - A characteristics comparison of dust storms measured by AEROS in West Texas, Invited talk, SOOCon West Meeting, Amarillo, August 21, 2019.
- Dust storm and health Invited talk, Lubbock Gem and mineral society annual show, Lubbock, June 1, 2019.
- Haboobs - because everything bigger in Texas Invited talk, Science by the Glass, The Texas Tech Climate Center Present, May 14, 2019.
- Women in STEM Panel: Women's and Gender Studies at the 35th Annual Women's & Gender Studies Conference, April 26th, Texas Tech University
- The atmosphere and everything that lies within, not an empty space after all, Invited talk, AIRSCAPES - atmosphere as form in architecture, Lubbock, April 5, 2019.
- You can do it" in I'm First Gen Summit, March 7, 2019 Texas Tech University.

### **2018**

- Dusty atmosphere in Lubbock TX - From the air to the lungs Invited talk, The Earth and Planetary Image Facility in the Department of Geography and Environmental Development, Ben Gurion University, Israel, December 19, 2018.
- The dusty cell - A detailed view of the interaction between individual human lung cells and dust storm particles Invited talk, Clinical Research Center and Research Authority at Soroka University Medical Center, Israel, December 6, 2018.
- The dusty cell - A detailed view of the interaction between individual human lung cells and dust storm particles Invited talk, Porter School of Environmental Studies, Tel Aviv University, Israel, December 3, 2018.
- The dusty cell - A detailed view of the interaction between individual human lung cells and dust storm particles Invited talk, Department of Environmental Sciences at the Weizmann Institute, Israel, December 2, 2018.

- The Impacts of Dust Storm Particles on Human Lung Cells: An Analysis at the Single Cell Level Invited talk, Global Health seminar at the Texas Tech University Health Sciences Center, May 2, 2018.
- The Impacts of Dust Storm Particles on Human Lung Cells: An Analysis at the Single Cell Level Invited talk, The Centro de Ciencias de la Atmósfera at the National Autonomous University of Mexico, Mexico City, March 16, 2018.
- Aerosol, tiny particles with large impact on clouds, precipitation and our health, Invited talk, Departments of Biology, Texas Tech University, February 21, 2018.

**2017**

- Aerosol, tiny particles with large impact on clouds, precipitation and health, Invited talk, Departments of Geosciences, Texas Tech University, January 31, 2017.

**2016**

- Ice in Clouds: field and laboratory studies of cloud microphysics, Invited talk, Departments of Geography & Geoscience and Physics & Astronomy, University of Louisville, April 20, 2016.
- Ice in Clouds: field and laboratory studies of cloud microphysics, Invited talk, Department Civil and Environmental Engineering, Technion, April 13, 2016.
- Ice in Clouds: field and laboratory studies of cloud microphysics, Invited talk, Department of Solar Energy and Environmental Physic, The Institutes for Desert Research Ben Gurion University, April 11, 2016.
- Ice in Clouds: field and laboratory studies of cloud microphysics, Invited talk, Department of Geography and Environmental Development, Ben Gurion University, April 5, 2016.
- Laboratory Studies of Collection Efficiency of Sub-micrometer Aerosol Particles by Cloud Droplets on a Single Droplet basis, Invited talk, Department of Geophysics, Atmospheric and Planetary Sciences, Tel-Aviv University, April 4, 2016.

**2015**

- The Mystery of Ice in Clouds: field and laboratory studies of cloud microphysics, Invited talk, Department of Earth and Atmospheric Sciences, Purdue University, February 2, 2015.

**2014**

- The Mystery of Ice in Clouds: field and laboratory studies of cloud microphysics, Invited talk, Department of Meteorology and Climate Science, San Jose State University, December 8, 2014.
- Aerosols and Clouds and their effects on the radiation, Invited talk, Department of Meteorology and Climate Science, San Jose State University, December 8, 2014.
- Ground based Measurements of Immersion Freezing in the Eastern Mediterranean, MASS seminar, Department of Earth, Atmospheric and Planetary Sciences, MIT, April 28, 2014.
- Ground based Measurements of Immersion Freezing in the Eastern Mediterranean, Departmental seminar, Department of Chemistry, University of New Hampshire April 3, 2014.
- Ground based Measurements of Immersion Freezing in the Eastern Mediterranean, Invited seminar, Institute for Atmospheric and Environmental Sciences, Goethe University, Frankfurt, Germany, January 31, 2014.

**2013**

- Making Stuff Colder Series - The nature of clouds, Invited talk by Nova science Café, Cambridge, M.A, October 22, 2013.

**2012**

- Measurements of Ice Nuclei in the Eastern Mediterranean, Atmospheric Chemistry seminar, Department of Earth, Atmospheric and Planetary Sciences, MIT, October 31, 2012.
- Air Pollution, Clouds and Their Relationship, Invited talk by the Neiman Library of Exact Sciences and engineering, Tel Aviv University, Israel, May 3, 2012.
- Ice Nuclei, their Concentration and Efficiency in Clean and Polluted Air and their Effects on Clouds and Precipitation, Invited seminar, Department of Environmental Sciences at the Weizmann Institute, Israel, February 26, 2012.

#### 2011

- Measurement of Ice Nuclei in Israel- Ice Nuclei Concentration and Efficiency in Clean and Polluted Air and their Effects on Clouds and on Precipitation, Scientific meeting of Israeli National Water Service, Israel, July 20, 2011.
- Measurement of Ice Nuclei in Israel- Ice Nuclei Concentration and Efficiency in Clean and Polluted Air and their Effects on Clouds and on Precipitation, Alumni Conference, Department of Geophysics, Atmospheric and Planetary Sciences, Tel Aviv University, Israel, June 1, 2011.
- Measurement of Ice Nuclei in Israel- Ice Nuclei Concentration and Efficiency in Clean and Polluted Air and their Effects on Clouds and on Precipitation, Invited seminar in the Department of Geography and Environmental Development, Ben Gurion University, Israel, March 24, 2011.

#### 2010

- Physics of Cloud formation and Precipitation, International weather modification meeting in Galilee International Management institute, Israel, November 1, 2010.

### CONFERENCE PRESENTATIONS

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#### Talks

- **Ardon-Dryer, K.:** Differences between Dust Storms Measured by AEROS, 2020 Southern NM Dust Conference, Las Cruces, NM, USA (Virtual), April 6, 2020.
- **Ardon-Dryer, K.:** Effect of Dust Particles on Human Lung Cells, 2020 Southern NM Dust Conference, Las Cruces, NM, USA (Virtual), April 6, 2020.
- **Ardon-Dryer, K.,** Tairu, A., Ramirez-Diaz, Z., Xia, X and Zhang X. The Effect of Dust Storm Particles on Human Lung Epithelial Cells. American Meteorological Society, 100<sup>th</sup> annual meeting, Boston, MA, USA, January 13-16, 2020.
- **Ardon-Dryer, K.,** Kelley, M., Xia, X and Plantier, M. What's in a Dust Storm? A Characteristics Comparison of Dust Storms Measured by AEROS in West Texas. American Meteorological Society, 100<sup>th</sup> annual meeting, Boston, MA, USA, January 13-16, 2020.
- **Ardon-Dryer, K.** Maman, S., Friedlander, L., Schüttler., T and Hakamada, R. She Space International – an Educational Project to Advance and Empower Female Students in STEM Focusing on Space Science. American Geophysics Society meeting, San Francisco, CA, USA, December 9-13, 2019.
- **Ardon-Dryer, K.,** Brown, M., Kelley, M., Berdine, G., Dennis J. and Yang S.: The effect of dust storms on the rate of ER admissions in West Texas, American Meteorological Society, 99<sup>th</sup> annual meeting, Phoenix, AZ, USA, January 6-10, 2019.
- **Ardon-Dryer, K.,** Mock, C., Reyes, J. and Lahav G.: The Impacts of Dust Storm Particles on Human Lung - an Analysis at the Single Cell Level, 10th International Aerosol Conference (IAC 2018) St. Louis, Missouri, USA, September 2-7, 2018.
- **Ardon-Dryer, K.,** Mock, C., Reyes, J. and Lahav G.: The Impacts of Dust Storm Particles on Human Lung - an Analysis at the Single Cell Level, American Meteorological Society, 98<sup>th</sup> annual meeting, Austin, TX, USA, January 7-11, 2018.



- **Ardon-Dryer, K.**, Mock, C., Reyes, J. and Lahav G.: The Impacts of Dust Storm Particles on Human Lung - an Analysis at the Single Cell Level, American Geophysics Society meeting, New Orleans, LA, USA, December 11-15, 2017.
- **Ardon-Dryer, K.**, Huang, Y.-w. and Cziczo, D.J.: Using Mass Spectrometry to Determine Residual Chemical Composition in Coagulation Experiments, American Chemical Society meeting, Boston, Massachusetts, USA, August 16-20, 2015.
- **Ardon-Dryer, K.**, Huang, Y.-w. and Cziczo, D.J.: Experimental Assessment of Collection Efficiency of Submicron Aerosol Particles by Cloud Droplets Using the New MIT-CFC, American Meteorological Society meeting, 14<sup>th</sup> conference on cloud physics, Boston, Massachusetts, USA, July 7-11, 2014.
- **Ardon-Dryer, K.**, Levin, Z. and Teller A.: Measurements of Ice Nuclei in the Eastern Mediterranean, The International Conference on Clouds and Precipitation (ICCP), Leipzig, Germany, July 31- August 3, 2012.
- **Ardon-Dryer, K.**, Levin, Z., Bingemer H. and Klein, H. Atmospheric ice nuclei (IN) in the Eyjafjallajökull volcanic ash plume over Germany and Israel. Annual Meeting of the Israeli Association of Aerosol Research, Rehovot, Israel, March 1, 2012.
- **Ardon-Dryer, K.**, Levin, Z., Bingemer H. and Klein, H. Atmospheric ice nuclei (IN) in the Eyjafjallajökull volcanic ash plume over Germany and Israel. European Aerosol Conference, Manchester, England, September 4-9, 2011.
- **Ardon, K.**, and Levin, Z: Measurement of Immersion Freezing Nuclei in Antarctica, the Israeli Association for Aerosol Research, 2010, the Hebrew University, Jerusalem, Israel, February 10, 2010.
- **Ardon, K.**, Levin, Z., Ganor, E., Klein, H., Bingemer, H. and Bundke U: Ice Nuclei Concentration under different Meteorological Conditions in Israel, The 18<sup>th</sup> International Conference on Nucleation & Atmospheric Aerosols, 2009, Prague, Czech Republic, August 10-14, 2009.
- **Ardon, K.**, and Levin, Z: Measurement of ice nuclei in Israel using the device - FRIDGE-TAU. CARESS 2009, Weizmann Institute of Science, Rehovot, Israel, June 8, 2009.
- **Ardon, K.**, Levin, Z., Ganor, E., Measurements of ice nucleation on aerosol particles in Israel using the new instrument FRIDGE-TAU, the Israeli Association for Aerosol Research, 2008, Tel Aviv University, Tel Aviv, Israel, December 24, 2009 (In Hebrew).
- **Ardon, K.** and Levin, Z: The influence of air pollution on the development of ice in clouds and on precipitation formation, The 2nd EUFAR Summer School on Airborne Cloud and Aerosol Science, 2008, The Netherlands Meteorological Institute, Utrecht, The Netherlands, April 17-25, 2008.
- **Ardon, K.**, Tsoar, H., and Blumberg, D.G. Dynamics of the Ashdod Nizzanim Nebkha dunes. The Geography society convention, Jerusalem University, Israel, January 01-03, 2006 (In Hebrew).
- **Ardon, K.**, Tsoar, H., and Blumberg, D.G. Dynamics of the Ashdod Nizzanim Nebkha dunes. CARESS 2005, Weizmann Institute of Science, Rehovot, Israel, May 29, 2005.

#### **Poster presentations**

- Moghimi, N., Edwards, J., Dryer, Y., and **Ardon-Dryer, K.** The November 2018 California Biomass Burning as Measured by Purple Air Sensors. American Meteorological Society, 100<sup>th</sup> annual meeting, Boston, MA, USA, January 13-16, 2020.
- Kelley, M., Brown, M. and **Ardon-Dryer, K.** Changes in PM<sub>2.5</sub> Concentrations in Lubbock, Texas. American Meteorological Society, 100<sup>th</sup> annual meeting, Boston, MA, USA, January 13-16, 2020.

- Williams, J., Mansell, T., Bruning, E. and **Ardon-Dryer, K.** Effects of Ice Nuclei Particle Parameterization on Cloud Formation and Electrification Using the COMMAS Model. American Meteorological Society, 100<sup>th</sup> annual meeting, Boston, MA, USA, January 13-16, 2020.
- Rademacher, H., Delene, D., **Ardon-Dryer, K** and San Francisco, M. Biological Particles (Bacteria and Fungi) in Thunderstorms. American Meteorological Society, 100<sup>th</sup> annual meeting, Boston, MA, USA, January 13-16, 2020.
- Xia, X. and **Ardon-Dryer, K.** Effect of Grinding on Dust Particle Size Distribution, American Geophysics Society meeting, San Francisco, CA, USA, December 9-13, 2019.
- **Ardon-Dryer, K.**, Kelley, M., Xia, X and Plantier, M. What's in a Dust Storm? A Characteristics Comparison of Dust Storms Measured by AEROS in West Texas and What it Means to Our Health. American Geophysics Society meeting, San Francisco, CA, USA, December 9-13, 2019.
- Carcano, A., **Ardon-Dryer, K.**, Cañas-Carre, J., et al. Assessment of Exposure and Toxicity of aerosol particle emission from commercial 3D printers. The 2019 Annual South Central SETAC Meeting, *May 3-5, 2019* Baylor University, Texas.
- Moghimi, N., Williams J. Dryer Y. and **Ardon-Dryer, K.:** Evaluation of PurpleAir Low-Cost Sensors under Atmospheric Conditions, American Meteorological Society, 99<sup>th</sup> annual meeting, Phoenix, AZ, USA, January 6-10, 2019.
- **Ardon-Dryer, K.**, Reyes, J., Mock, C. and Lahav G.: The Impacts of Dust Storm Particles on Human Lung Cells - an Analysis at the Single Cell Level, Inaugural Planetary Health/GeoHealth Annual Meeting, Boston, MA, April 28-30, 2017.
- **Ardon-Dryer, K.**, Levin, Z., Bingemer H. Curtius, J. Weinbruch, S. Ebert, M. and Cziczo, D.J.: Atmospheric ice nuclei in the Eyjafjallajökull volcanic ash plume over Germany and Israel, Gordon Research Conferences, Atmospheric Chemistry, Mount Snow Resort, Vermont, USA, July 28 - August 2, 2013.
- **Ardon-Dryer, K.**, Huang, Y.-w. and Cziczo, D.J.: Collection of submicron particles with cloud droplets using the new MIT-CFC, 19<sup>th</sup> International Conference on Nucleation & Atmospheric Aerosols, Colorado State University, Fort Collins, Colorado, USA, June 24-28, 2013.
- **Ardon-Dryer, K.** and Levin, Z., Measurement of Ice Nuclei in the Eastern Mediterranean and Antarctica. Biogeochemistry and -physics of the lower atmosphere autumn school, Paphos, Cyprus, October 9 -17, 2010
- **Ardon, K.**, Levin, Z., Ganor, E., Klein, H. and Bingemer, H: The effect of air pollution on ice nuclei concentration in Israel, The International Conference on Clouds and Precipitation (ICCP), 2008, July 7-11, Cancun, Mexico, 2008.
- **Ardon, K.**, Tsoar, H., and Blumberg, D.G. Dynamics of the Ashdod-Nizzanim Coastal dunes from ERS imagery, aerial photographs, and ground measurements. MERIS (A)ATSR Workshop 2005, ESARIN center, Frascati, Rome Italy, September 25-30, 2005.

#### **Undergraduate Student Posters**

- Plantier, M. and **Ardon-Dryer, K.:** The comparison and characteristics of aerosol particles on clear and dusty days in Lubbock, Texas, Department of Geosciences Research Day, Texas Tech University, May 8, 2019.
- Horton, M. and **Ardon-Dryer, K.:** Changes of meteorological parameters during dust storms, Department of Geosciences Research Day, Texas Tech University, May 8, 2019.
- Luna, D. and **Ardon-Dryer, K.:** The effects of an israeli dust storm on human cells, Department of Geosciences Research Day, Texas Tech University, May 8, 2019.

- Xia, X. and **Ardon-Dryer, K.**: Does grinding change dust particles' size distribution?, Department of Geosciences Research Day, Texas Tech University, May 8, 2019.
- Tairu, A. and **Ardon-Dryer, K.**: The Effect of Dust Storm Particles on Human Lung Epithelial Cell Colonies Behavior, Department of Geosciences Research Day, Texas Tech University, May 8, 2019.
- Patel, R., San Francisco, M. and **Ardon-Dryer, K.**: Microbial diversity in dust samples from around the United States, Department of Geosciences Research Day, Texas Tech University, May 8, 2019.
- Abdullah, S. and **Ardon-Dryer, K.**: Effects of dust particles kaolinite on human lung cells, Department of Geosciences Research Day, Texas Tech University, May 8, 2019.
- Luna, D. and **Ardon-Dryer, K.**: The effects of an israeli dust storm on human cells, Undergraduate Research Conferences, Texas Tech University, April 1-3, 2019.
- Xia, X. and **Ardon-Dryer, K.**: Does grinding change dust particles' size distribution?, Undergraduate Research Conferences, Texas Tech University, April 1-3, 2019.
- Tairu, A. and **Ardon-Dryer, K.**: The Effect of Dust Storm Particles on Human Lung Epithelial Cell Colonies Behavior, Undergraduate Research Conferences, Texas Tech University, April 1-3, 2019.
- Patel, R., San Francisco, M. and **Ardon-Dryer, K.**: Microbial diversity in dust samples from around the United States, Undergraduate Research Conferences, Texas Tech University, April 1-3, 2019.
- Abdullah, S. and **Ardon-Dryer, K.**: Effects of dust particles kaolinite on human lung cells, Undergraduate Research Conferences, Texas Tech University, April 1-3, 2019.

## **MENTORING & ADVISING STUDENTS**

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### **PhD Students, Current**

Mary (Cece) Kelly, (Fall 2020 – Present): Dust storms in west Texas spatial and temporal distribution and impact on PM concentration.

### **Master's Students, Current**

Jake Williams, (Fall 2018 - Present): Effects of Ice Nuclei Particle Parameterization in the N-COMMAS Model

Zyanya Ramirez. (Fall 2019 - Present): The Impacts of Dust Storm on Human Lung Cells an Analysis at the Single Cell Level

Moira Plantier (Fall 2019 - Present): Mineralogical and Chemical Composition of Dust Particles from Africa (co-chairing)

Ayomide Tairu (Fall 2019 - Present): Effect of dust particles from Africa on cell viability (co-chairing)

### **Graduated**

Mary (Cece) Kelly, (Fall 2018 – Spring 2020): Changes in PM<sub>2.5</sub> concentration in Lubbock, Texas

### **Undergraduate Students, Current**

Radha Patel (Fall 2018 - Present): present of microbiome in dust particles

Theodore Sandhu (Fall 2019- present): Dust storm in Arizona and their effect on vali fever

Xueting (Tina) Zhang (Fall 2019- present): Effect of dust storm on ER visits in Lubbock TX.

Bhakta, Shiv (Sumer 2020- present): Dust storm in west Texas

Kristina Robinson (Fall 2020 - present): Effect of dust storm from Israel on cells at a single cell level

Beatriz Melendez (Fall 2020 - present): Analysis of AEROS home.

### **Undergraduate Students, Former**

Suha Abdullah (spring 2018–spring 2020): Effect of clay mineral on cells at a single cell level  
Xueting (Amanda) Xia (Summer 2018-spring 2020): Analysis of AEROS aerosol concentration.  
Brittany Graham (Fall 2019- spring 2020): Measuring of PM<sub>2.5</sub> and PM<sub>10</sub> using AEROS  
Casey Collins (Fall 2019- spring 2020): Measuring of PM<sub>2.5</sub> and PM<sub>10</sub> using AEROS  
Kai Summerall (Fall 2019- spring 2020): Changes in PM<sub>2.5</sub> concentration in Amarilo  
Faith Hurd (Fall 2019- spring 2020): Effect of dust particles on cell colonies growth  
William Kastor (Fall 2019- spring 2020): Effect of dust particles on cell colonies growth  
Luna Derek (Fall 2018 - Fall 2019): Effect of dust storm from Israel on cells at a single cell level  
Justin Edwards (Summer 2019): Purple air sensors in Lubbock  
\*Tairu Ayomide (Fall 2018 – Spring 2019): Effect of dust particles on cell colonies growth  
Dylan Angel (Spring - Fall 2019): Effect of dust particles on cell colonies growth  
\*Plantier Moira (spring 2019): Dust storm in Arizona.  
Brown Mallory (spring 2018 – spring 2019): Measurements of aerosol particle in West Texas atmosphere  
Horton Markicia (spring 2019): Measurements of aerosol particle in West Texas atmosphere  
Cooper Darbie (spring 2019): Effect of dust particles on cell colonies growth  
Ojeda Ellen (spring 2019): Measurements of aerosol particle in West Texas atmosphere  
Abdurraq Nimotallah (Fall 2018): Effect of dust particles on cell colonies growth  
Joshua Ademiluyi (Spring 2018): Effect of clay mineral on cells at a single cell level

*\* Graduated and became Master's Students in the group*

### **High school Students, Current**

Nastaran Moghimi (spring 2018 - Present): Evaluation of PurpleAir sensor  
Maya Hunter (summer 2020- present): Evaluation of Colorado PurpleAir sensor

### **MS. Committee Member, Current**

Analia Carcano, Department of Environmental Toxicology, Texas Tech University (Spring 2019- present)

### **Ph.D. Committee Member, Current**

Mark Johnson, Department of Natural Resources Management, Texas Tech University (Spring 2019- present).  
Morgan Williamson, Department of Biological Sciences, Texas Tech University (Fall 2019- present).

### **MS. Committee Member, Graduated**

Murphy Kelley, MSc. (2018): Department of Geosciences, Atmospheric Science Group, Texas Tech University, Assessing Lightning Risk in Vulnerable Outdoor Environments.

### **ADDITIONAL TRAINING**

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**School of Ice workshop** – Denver, Colorado **June 2019**  
U.S. Ice Drilling and National Science Foundation workshop for training faculty from Minority Serving Institutions to implement ice core and climate change related science at the introductory college level.

**Harvard Medical School - Teaching Institute workshop** – Boston, MA **July 2016**  
Teaching Institute: Theory, Practice, & Navigating STEM Higher Education. A four days' workshop held by Dr. Jennifer Herman, Director of the Center for Excellence in Teaching from Simmons College.

**The Netherlands Meteorological Institute** - Utrecht, The Netherlands **April 2008**  
The 2nd European Facility for Airborne Research (EUFAR) Summer School On Airborne  
Cloud and Aerosol Science.

## **PROFESSIONAL SERVICE, LEADERSHIP AND MEMBERSHIPS**

### **Professional service & leadership service at TTU**

**Summer 2019** Organizer of She Space International workshop at TTU  
**Fall 2017- Present** Member of TTU Climate Science Center  
**Spring 2017-Present** Member of TTU First Generation Transition & Mentoring Programs  
• Presenter in 2018 “I’m First Gen” Summit - Mentoring  
• Presenter in 2019 “I’m First Gen” Summit - You can do it  
**Spring 2017-Present** Member of STEM Core center of outreach research and education  
• Tech Savvy, STEM Conference for 6th to 9th grade girls  
**Spring 2018** Department of Geosciences Search committee member.  
**Spring 2019** Department of Geosciences Search committee member.

### **Professional service & leadership service**

**2020-Present** Board Member in the Board of Women and Minority (BWM) in the American  
Meteorology Society  
**2019** Volunteer in the Board of Women and Minority (BWM) in the American  
Meteorology Society - Organizing team for AMS Annual Women Luncheon.  
**2018-Present** Board Member of Environment and Health in the American Meteorology  
Society  
**2020** Co-chair of the session *Air Pollution Health Impacts Assessments* in the 11th  
Conference on Environment and Health at the 100th AMS meeting, Boston,  
MA, USA, January 2020.  
**2019** Co-chair of the session *Aerosols, Aeroallergens, and Health* in the 10th  
Conference on Environment and Health at the 99th AMS meeting, Phoenix,  
AZ, USA, January 2019.  
**2018** Co-chair of the session *Assessments of Air Pollution Exposure Variability and  
Health* in the 9th Conference on Environment and Health in the 98th AMS  
meeting, Austin, TX, USA, January 2018.  
**2016** Organizer of Harvard’s first Path of Professorship Workshop for postdoctoral  
women.  
**2015** Reviewer for the 2015 NOAA's Atmospheric Chemistry, Carbon Cycle, and  
Climate (AC4) proposal program.  
**2015** Reviewer for the 2015 National Fellowships Program of Sigma Delta Epsilon/  
Graduate Women in Science.  
**2014** Organizer of Postdoctoral meeting at MIT in the Department of Earth,  
Atmospheric and Planetary Sciences.  
**2014** Organizer of the “Summer Workshop on Data Analysis and Presentation of  
Cloud Microphysical Measurements”, held at MIT.  
**2013-2014** Organizer of “Path of Professorship Workshop”, held at MIT,  
(<http://odg.mit.edu/development/pop/>).  
**2013** Organizer of NEATChem-2013, The 4th New England Atmospheric  
Chemistry Symposium (<https://sites.google.com/site/neatchem/>), held at MIT.  
**2013** Session chair at the 19th International Conference on Nucleation &  
Atmospheric Aerosols and Nucleation Symposium, Fort Collins, Colorado,  
USA, 24-28 June 2013.

- 2012** Session chair at the 25th Annual Meeting of the Israeli Association of Aerosol Research, Rehovot, Israel, March 1, 2012.
- 2002-2004** Project Coordinator and manager at the Karen Moses - Leadership Program at Ben Gurion University, Israel. Managements of three projects and twenty students.

**Reviewer of scientific publications:**

Aerosol and Air Quality Research  
Atmospheric Chemistry and Physics  
Atmosphere  
Bulletin of the American Meteorological Society (BAMS)  
Environmental research  
Environmental Science & Technology  
GeoHealth  
Geophysical Research Letters  
International Journal of Environmental Research and Public Health  
International Journal of Heat and Mass Transfer  
Journal of Geophysical Research

**Professional Society Membership(s) present and past:**

American Geophysical Union  
American Meteorological Society  
American Association for Aerosol Research  
European Geophysical Union  
American Chemical Society  
International Commission of Clouds and Precipitation  
International Journal of Environmental Research and Public Health  
International Journal of Heat and Mass Transfer  
Nucleation & Atmospheric Aerosols Society  
European Aerosol Society  
Earth Science Women's Network  
Israeli Meteorological Society  
Israeli Association of Aerosol Research

**LANGUAGES**

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Hebrew - native  
English – fluent

**Google Scholar page** - <http://scholar.google.com/citations?user=7pQppTYAAAAJ&hl=en>

**Research Gate page** - [https://www.researchgate.net/profile/Karin\\_Ardon-Dryer](https://www.researchgate.net/profile/Karin_Ardon-Dryer)