

## Marina Astitha, PhD

Associate Professor

School of Civil and Environmental Engineering

University of Connecticut

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### EDUCATION

|                                                                                                                                                                                                                                                                                  |           |
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| Post-Doctoral Fellow<br>The Cyprus Institute- Energy, Environment and Water Research Center                                                                                                                                                                                      | 2009-2012 |
| Ph.D. in Environmental Physics<br><i>University of Athens, Department of Physics</i><br>Dissertation: "Characteristic scales of transport and transformation of air pollutants – Impacts on climate". Advisor: Prof. G. Kallos<br>Honors: Dissertation passed "with Distinction" | 2007      |
| M.Sc. in Environmental Physics<br><i>University of Athens, Department of Physics</i><br>Thesis: "Source-Receptor relationship: A modern technique for analysis of environmental measurements". Advisor: Prof. G. Kallos<br>Honors: Highest ranked student in the program         | 2002      |
| B.Sc. in Physics<br><i>University of Athens, Department of Physics</i>                                                                                                                                                                                                           | 1999      |

### PROFESSIONAL EXPERIENCE

|                                                                                                                                                                                                                                                                                                                                                                                                                  |                 |
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| <b>Professor</b><br>University of Connecticut - School of Civil and Environmental Engineering                                                                                                                                                                                                                                                                                                                    | 08/2026-present |
| <b>Interim Director</b><br>Eversource Energy Center – University of Connecticut                                                                                                                                                                                                                                                                                                                                  | 08/2026-08/2027 |
| <b>Associate Professor</b><br><i>University of Connecticut - School of Civil and Environmental Engineering</i>                                                                                                                                                                                                                                                                                                   | 08/2019-08/2026 |
| <b>Associate Department Head for Graduate Education, Equity and Inclusion</b><br>University of Connecticut - School of Civil and Environmental Engineering                                                                                                                                                                                                                                                       | 08/2019-08/2024 |
| <b>Assistant Professor</b><br>University of Connecticut - School of Civil and Environmental Engineering                                                                                                                                                                                                                                                                                                          | 08/2013-08/2019 |
| <b>Senior Research Associate</b><br>University of Athens (Department of Physics, Division of Environmental Physics-Meteorology) – Atmospheric Modeling and Weather Forecasting Group                                                                                                                                                                                                                             | 10/2012-07/2013 |
| <b>Post-Doctoral Fellow</b><br>The Cyprus Institute – Energy, Environment and Water Research Center<br>( <a href="http://eewrc.cyi.ac.cy">http://eewrc.cyi.ac.cy</a> )<br>Development of online physical parameterization scheme for mineral dust emissions in the atmospheric chemistry general circulation model EMAC (ECHAM5/MESSy Atmospheric Chemistry, Max Planck Institute for Chemistry, Mainz, Germany) | 01/2009-09/2012 |

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**Research Associate****12/2007-12/2008**

University of Athens (Department of Physics, Division of Environmental Physics-Meteorology) – Atmospheric Modeling and Weather Forecasting Group

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**AFFILIATIONS**

**NSF National Center for Atmospheric Research (NCAR)-Research Applications Laboratory (RAL) Affiliate Scientist** 2022-present

**Eversource Energy Center Affiliate Faculty** 2015-present

**Member of the Modular Earth Submodel System (MESSy) Consortium Steering Group** (international collaboration) <https://messy-interface.org/about/community/> 2012-2026

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**AWARDS/DISTINCTIONS**

2025-2028 Eversource Energy Professor in Environmental and Sustainability Education

2024-2025 C.R. Klewin, Inc. Excellence in Teaching Award bestowed by senior students of the Civil & Environmental Engineering Department, Univ. of Connecticut

2024-2025 Morico Sustainable Environmental Resources Faculty Fellowship

2020-2022 Al Geib Professor of Environmental Engineering Research and Education

2017 Best reviewer award by the Journal of the Air and Waste Management Association

2016, 2017, 2021 C.R. Klewin, Inc. Excellence in Teaching Award bestowed by the 2015-16, 2016-17, 2020-21 senior students of the Civil & Environmental Engineering Department, Univ. of Connecticut

2007 Young researchers EURASAP award for the paper entitled: “Heterogeneous chemical processes and their role on particulate matter formation in the Mediterranean Region” presented at the 29<sup>th</sup> NATO/CCMS International Technical Meeting on Air Pollution Modeling and its Applications, Sep 2007, Portugal.

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**TEACHING AND MENTORING**

*University Of Connecticut, School of Civil and Environmental Engineering*

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**ENVE GRADUATE PROGRAM****Major Advisor***Current students*

|                                                          |              |
|----------------------------------------------------------|--------------|
| Emily Erickson, PhD student                              | 08/2025-pres |
| Sloane Poppei (co-advised with Dr. Cerrai), PhD student  | 08/2025-pres |
| Fatemeh Azizpourshoubi, PhD student                      | 08/2024-pres |
| Brian Filipiak (co-advised with Dr. Cerrai), PhD student | 01/2023-pres |

#### *Past Ph.D. students*

|                                                                                            |                 |
|--------------------------------------------------------------------------------------------|-----------------|
| Israt Jahan, PhD (now at FM Global)                                                        | 08/2020-01/2026 |
| Tasnim Zaman, PhD (now Assistant Research Professor)                                       | 08/2019-04/2025 |
| Ummul Khaira, PhD (now at STV)                                                             | 08/2019-09/2024 |
| Christina Feng Chang, PhD (now with US EPA)                                                | 08/2017-08/2022 |
| Jaemo Yang, PhD (now with NREL)                                                            | 08/2013-08/2018 |
| Huiying Luo, PhD (now with Cooperative Institute for Research in the Atmosphere-CIRA/NOAA) | 08/2014-07/2019 |

#### *Past M.Sc. students*

Michael Walters (2017-20); Ghezae Fisseha (2015-18); Alexander Samalot, (2014-17);  
Lais DaSilva (2022-2026)

**Associate PhD advisor:** 20+ students 2014-pres

**Course Instructor:** Hydrometeorology (ENVE 5810) Fall 2015-present

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#### **ENVE UNDERGRADUATE PROGRAM**

Semester support: Charlotte Cabral (Spring 2024 independent study, Fall 2024 and Spring 2025 funded by me)

Summer Research for undergraduates (funded by me): Matthew Boehmer (2020),  
Carrington Henry (2021), Charlotte Cabral (2024, 2025)

UConn SURF (summer research) Catrina Nowakowski (2016).

McNair Fellows research experience: Lais Da Silva, Ted Akuffo 2017-18, 2020-21

**Course Instructor:** Environmental Modeling (ENVE 4310), Air Pollution Control (ENVE 3230), Environmental Engineering Fundamentals (ENVE 2310), Environmental Engineering Design I and II (ENVE 4910W, ENVE 4920W)

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#### **HIGH SCHOOL STUDENTS**

*Amity Science Research Program, Amity Regional High School, Woodbridge, Connecticut*

1. Laurella Marin, "Analyzing Particulate Matter Atmospheric Pollution Trends in New England", "Evaluating Sea Level Trends Across the East Coast to Better Prepare for Future Changes" 2018-19  
2019-20
2. Caroline and Christian Chen, "Atmospheric nitrogen deposition and impacts to lake eutrophication" 2020-21

Anay Sahu Summer 2025

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### Teaching Evaluations the last 5 years

| Median Scores (out of 5) | Instructor | School | College |
|--------------------------|------------|--------|---------|
| Spring 2026              | 5.0        | 4.2    | 4.0     |
| Fall 2025                | 5.0        | 4.7    | 4.2     |
| Spring 2025              | 5.0        | 4.0    | 4.0     |
| Fall 2024                | 5.0        | 4.8    | 4.3     |
| Spring 2024              | 5.0        | 3.8    | 3.8     |
| Fall 2023                | 5.0        | 4.3    | 4.4     |
| Spring 2023              | 5.0        | 4.1    | 4.0     |
| Fall 2022                | 4.5        | 4.5    | 4.3     |
| Spring 2022              | 5.0        | 4.1    | 4.0     |
| Fall 2021                | 4.0        | 4.0    | 3.7     |
| Spring 2021              | 5.0        | 4.1    | 4.0     |
| Fall 2020                | 5.0        | 4.0    | 4.0     |
| Spring 2020              | 5.0        | 3.8    | 4.0     |

### RESEARCH INTERESTS-ACTIVITIES

- Integration of physics-based modeling systems with AI/ML to improve prediction and diagnostics of environmental phenomena
- Atmospheric Physics, Dynamics and Chemistry (Regional and Global Modeling Systems)
- Prediction of extreme weather events
- Wind prediction for offshore wind farms
- Climate change assessment for the green energy sector
- Real-time weather forecasting
- Prediction of lake eutrophication
- Uncertainties in atmospheric and air quality modeling systems

### PUBLICATIONS In Preparation (Graduate/Undergraduate Students Underlined)

1. T. Zaman, E. Gutmann, G. Wang, **M. Astitha\***, 2026: Climate Change Assessment of surface Wind Speed for the Northeast U.S. In preparation for submission in March 2026.
2. Ummul Khaira\*, Lulin Xue, Fatemeh Azizpourshoubi, **Marina Astitha**, 2026: Future Winter Snowfall and Precipitation Phase Shifts Across the CONUS.
3. Fatemeh Azizpourshoubi, Ummul Khaira, and **Marina Astitha\***, 2026: The Role of Radiation and Microphysics in Winter Storm Prediction Bias.
4. Jahan I., L. Xue, J. Dellicarpini, **M. Astitha\***, 2026: Severe Wind Climatology for the Conterminous US.

### PUBLICATIONS Under Review (Graduate Students Underlined)

1. **Astitha, M.\***, S. Haupt, I. Ebert-Uphoff, D. Rao, R. Redmon, D.J. Gagne, D. Hall, A. McGovern, 2026: "Artificial Intelligence and Machine Learning for Short-to-Medium Range Weather Prediction". Provisional acceptance with Nature Reviews Earth and Environment, 8/24/2026.

2. M. Z. Badhan, X. Zhang, **M. Astitha**, G. Wang\*, 2026: Daily precipitation and temperature downscaled from CMIP6 to 4 km over the U.S. Northeast using deep learning. Submitted to Scientific Data, 3/26/2026.
3. B. C. Filipiak\*, B. Raykoff, M. Sinchi, D. Cerrai and **M. Astitha**, 2025: A 5-year Evaluation of Radar Quantitative Precipitation Estimates during the Cool Season. Major revision with the Journal of Hydrology, Aug 5, 2026.
4. Filipiak, B., M. S. Walters, U. Khaira, and **M. Astitha\***, 2025: The efficacy of ten snow-to-liquid ratio algorithms to predict snowfall for impactful winter storms in the Northeast United States. Major revision with *JGR-Atmospheres*, 6/22/2026.

#### PUBLICATIONS (PEER-REVIEWED)

(Graduate students underlined, corresponding author denoted with an asterisk \*)

1. Esmailian, F., X. Zhang, F. Azizpourshoubi, **M. Astitha**, E. Anagnostou\*, 2026: Assessing the Propagation of Weather Forecast Uncertainty into Power Outage Predictions Forecasting, Accepted 14 July 2026.
2. T. Zaman, T. Juliano, B. Kosovic, **M. Astitha\***, 2026: Assessment of Offshore Wind and Turbulence Prediction for the Northeast US using a Three-Dimensional PBL Parameterization in the WRF model. *JGR-Atmospheres*, <https://doi.org/10.1029/2025JD044765>.
3. Lu, Y., T. Zaman, B. Ma, **M. Astitha** and G. Matheou\*, 2025: A Large Eddy Simulation-Based Power Forecast Approach for Offshore Wind Farms. *Energies* 2025, 18(24), 6386; <https://doi.org/10.3390/en18246386>.
4. Filipiak B.\*, **M. Astitha**, D. Cerrai, 2025: Assessing Dynamic and Thermodynamic Variability in Initial and Boundary Conditions for Snowstorm Predictions in the Northeast United States. *JGR-Atmospheres*, DOI: 10.1029/2025JD044240.
5. M. Zahan Badhan, H. Qin, C. Gómez-Gonzalez, **M. Astitha**, G. Wang\*, 2025: A Deep-Learning Based Framework for ESM Climate Downscaling and Its Application to the U.S. Northeast *Journal of Hydrometeorology*, DOI: 10.1175/JHM-D-25-0017.1.
6. Israt Jahan, John Schreck, Charlie Becker, David John Gagne, **Marina Astitha\***, 2025: Uncertainty Quantification of Wind Gust Predictions in the Northeast United States: An Evidential Neural Network and Explainable Artificial Intelligence Approach. *Environmental Modelling and Software*, <https://doi.org/10.1016/j.envsoft.2025.106595>.
7. Ummul Khaira\*, and **Marina Astitha**, 2025: Investigating the role of temporal resolution and multi-model ensemble data on WRF/XGB integrated snowfall prediction for the NE US. *Journal of Hydrology*, <https://doi.org/10.1016/j.jhydrol.2025.133313>.
8. T. Zaman, E. Gutmann, G. Wang, and **M. Astitha\***, 2025: "Validation of the Ensemble Generalized Analog Regression Downscaling (En-GARD) model to downscale near-surface wind speed for the Northeast US". *Journal of Hydrometeorology*, <https://doi.org/10.1175/JHM-D-24-0075.1>.
9. U. Khaira, D. Cerrai, G. Thompson, **M. Astitha\***, 2024: "Integrating physics-based WRF atmospheric variables and machine learning algorithms to predict snowfall accumulation in Northeast United States". *Journal of Hydrology*, <https://doi.org/10.1016/j.jhydrol.2024.132113>.

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10. T. Zaman, T. Juliano, P. Hawbecker, **M. Astitha\***, 2024: "On predicting offshore hub-height wind speed and wind power density in the Northeast US coast using high-resolution WRF model configurations during anticyclones coinciding with wind drought". *Energies*, <https://doi.org/10.3390/en17112618>.
  11. I. Jahan, D. Cerrai, **M. Astitha\***, 2024: "Storm gust prediction with the integration of machine learning algorithms and WRF model variables for NE US". *Artif. Intell. Earth Syst.* DOI: <https://doi.org/10.1175/AIES-D-23-0047.1>.
  12. C. Feng-Chang, P. Vlahos, **M. Astitha\***, 2024: Assessing physical and biological lake oxygen indicators using simulated environmental variables and machine learning algorithms. *Environmental Modelling and Software*, <https://doi.org/10.1016/j.envsoft.2024.106024>.
  13. U. Khaira, **M. Astitha\***, 2023: "Exploring the real-time WRF forecast skill for four tropical storms, Isaias, Henri, Elsa and Irene, as they impacted the Northeast United States" *Remote Sens.* 2023, 15(13), 3219; <https://doi.org/10.3390/rs15133219>.
  14. Feng Chang, C., **M. Astitha\***, Y. Yuan, C. Tang, P. Vlahos, V. Garcia, and U. Khaira, 2023: A New Approach to Predict Tributary Phosphorus Loads Using Machine Learning– and Physics-Based Modeling Systems. *Artif. Intell. Earth Syst.*, 2, e220049, <https://doi.org/10.1175/AIES-D-22-0049.1>.
  15. C. Feng-Chang, V. Garcia, P. Vlahos, C. Tang, D. Wanik, J. Yan, J. Bash, **M. Astitha\***, 2021: Linking multi-media modeling with machine learning to assess and predict lake chlorophyll- $\alpha$  concentrations. *Journal of the Great Lakes Research*. Volume 47, Issue 6, December 2021, Pages 1656-1670, ISSN 0380-1330, <https://doi.org/10.1016/j.jglr.2021.09.011>.
  16. H. Luo, **M. Astitha\***, C. Hogrefe, R. Mathur, ST Rao, 2020: Evaluating Seasonality and Trends in Modeled PM<sub>2.5</sub> Concentrations Using Empirical Mode Decomposition. *Atmos. Chem. Phys.*, 20, 13801–13815. <https://doi.org/10.5194/acp-20-13801-2020>.
  17. H. Luo, **M. Astitha\***, S. Trivikrama Rao, C. Hogrefe & R. Mathur (2020) Assessing the manageable portion of ground-level ozone in the contiguous United States, *Journal of the Air & Waste Management Association*, 2020, <https://doi.org/10.1080/10962247.2020.1805375>.
  18. S. T. Rao\*, H. Luo, **M. Astitha**, C. Hogrefe, V. Garcia, R. Mathur, 2020: "On the Limit to the Accuracy of Regional Air Quality Models". *Atmos. Chem. Phys.*, 20, 1627–1639, 2020. <https://doi.org/10.5194/acp-20-1627-2020>.
  19. Z. Tang, P. Zhang\*, K. Muto, M. Sawasawa, M. Simonelli, C. Gutierrez, J. Yang, **M. Astitha**, R. Manning, James Mader, 2020: "Extreme Photovoltaic Power Analytics for Electric Utilities", *IEEE Transactions On Sustainable Energy*, Vol. 11, No. 1, Jan 2020, doi:10.1109/TSTE.2018.2884500.
  20. Yang, J., **Astitha, M.\***, & Schwartz, C. S., 2019. Assessment of storm wind speed prediction using gridded Bayesian regression applied to historical events with NCAR's real-time ensemble forecast system. *Journal of Geophysical Research: Atmospheres*, 124, 9241–9261. <https://doi.org/10.1029/2018JD029590>.
  21. Samalot, A., **M. Astitha\***, J. Yang, and G. Galanis, 2019: Combined Kalman Filter and Universal Kriging to Improve Storm Wind Speed Predictions for the Northeastern United States. *Wea. Forecasting*, 34, 587–601, <https://doi.org/10.1175/WAF-D-18-0068.1>.
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22. H. Luo, **M. Astitha\***, S. T. Rao, C. Hogrefe, R. Mathur, 2019. A New Method for Assessing the Efficacy of Emission Control Strategies. *Atmospheric Environment*, 199, 233-243, <https://doi.org/10.1016/j.atmosenv.2018.11.010>.
  23. Yang, J., **M. Astitha\***, L. Delle Monache, and S. Alessandrini, 2018: An Analog Technique to Improve Storm Wind Speed Prediction Using a Dual NWP Model Approach. *Mon. Wea. Rev.*, 146, 4057–4077, <https://doi.org/10.1175/MWR-D-17-0198.1>.
  24. **Astitha, M.\***, Kioutsioukis, I., Fisseha, G. A., Bianconi, R., Bieser, J., Christensen, J. H., Cooper, O. R., Galmarini, S., Hogrefe, C., Im, U., Johnson, B., Liu, P., Nopmongkol, U., Petropavlovskikh, I., Solazzo, E., Tarasick, D. W., and Yarwood, G.: Seasonal ozone vertical profiles over North America using the AQMEII3 group of air quality models: model inter-comparison and stratospheric intrusions, *Atmos. Chem. Phys.*, 18, 13925-13945, <https://doi.org/10.5194/acp-18-13925-2018>, 2018.
  25. Wanik, D.\*, E. Anagnostou, **M. Astitha**, B. Hartman, G. Lackmann, J. Yang, D. Cerrai, J. He, and M. Frediani, 2017: A Case Study on Power Outage Impacts from Future Hurricane Sandy Scenarios. *J. Appl. Meteor. Climatol.*, 57, 51–79, <https://doi.org/10.1175/JAMC-D-16-0408.1>.
  26. **Astitha\***, M., Luo, H., Rao, S.T., Hogrefe, C., Mathur, R., Kumar, N., Dynamic evaluation of two decades of WRF-CMAQ ozone simulations over the contiguous United States, *Atmospheric Environment*, 164 (2017) 102-116, <https://doi.org/10.1016/j.atmosenv.2017.05.020>.
  27. J. Yang, **M. Astitha\***, E. Anagnostou, B. Hartman, 2017: Using a Bayesian regression approach on dual-model weather simulations to improve wind speed prediction. *Journal of Applied Meteorology and Climatology*, Vol 56, 1155-1174, <https://doi.org/10.1175/JAMC-D-16-0206.1>.
  28. He, J., D. W. Wanik, B. M. Hartman, E. N. Anagnostou\*, **M. Astitha**, M. Frediani, 2016: Nonparametric Tree-based Predictive Modeling of Storm Damage on an Electric Distribution Network. *Risk Analysis*. DOI: 10.1111/risa.12652.
  29. Karydis\*, V. A., Tsimpidi, A. P., Pozzer, A., **Astitha, M.**, and Lelieveld, J.: Effects of mineral dust on global atmospheric nitrate concentrations, *Atmos. Chem. Phys.*, 16, 1491-1509, doi:10.5194/acp-16-1491-2016, 2016.
  30. M. Abdelkader\*, S. Metzger\*, R. E. Mamouri, **M. Astitha**, L. Barrie, Z. Levin, and J. Lelieveld\*, 2015: Dust-Air Pollution Dynamics over the Eastern Mediterranean. *Atmos. Chem. Phys.*, 15, 9173-9189, 2015.doi:10.5194/acp-15-9173-2015.
  31. Wanik, D.W., E. Anagnostou\*, B.M. Hartman, M.E. Frediani, **M. Astitha**, 2015: Storm outage modeling for an electric distribution network in Northeastern USA. *Natural Hazards*, 79(2), 1359-1384, doi 10.1007/s11069-015-1908-2.
  32. Pozzer\*, A., de Meij, A., Yoon, J., Tost, H., Georgoulas, A. K., and **Astitha, M.**: AOD trends during 2001–2010 from observations and model simulations, *Atmos. Chem. Phys.*, doi: 10.5194/acp-15-5521-2015, 2015.
  33. J. Kushta, G. Kallos\*, **M. Astitha**, S. Solomos, C. Spyrou, C. Mitsakou, J. Lelieveld, 2014: Impact of natural aerosols on atmospheric radiation and consequent feedbacks with the meteorological and photochemical state of atmosphere. *Journal of Geophysical Research: Atmospheres*, 119, 3, Pages: 1463–1491, DOI: 10.1002/2013JD020714.
  34. **Astitha\***, M., Lelieveld, J., Abdel Kader, M., Pozzer, A., and de Meij, A.: Parameterization of dust emissions in the global atmospheric chemistry-climate model
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- EMAC: impact of nudging and soil properties, *Atmos. Chem. Phys.*, 12, 11057-11083, doi:10.5194/acp-12-11057-2012, 2012.
35. Kukkonen, J., Olsson, T., Schultz, D. M., Baklanov, A., Klein, T., Miranda, A. I., Monteiro, A., Hirtl, M., Tarvainen, V., Boy, M., Peuch, V.-H., Poupkou, A., Kioutsioukis, I., Finardi, S., Sofiev, M., Sokhi, R., Lehtinen, K. E. J., Karatzas, K., San José, R., **Astitha, M.**, Kallos, G., Schaap, M., Reimer, E., Jakobs, H., and Eben, K., 2012: A review of operational, regional-scale, chemical weather forecasting models in Europe, *Atmos. Chem. Phys.*, 12, 1-87, doi:10.5194/acp-12-1-2012.
  36. Solomos, S., Kallos, G., Kushta, J., **Astitha, M.**, Tremback, C., Nenes, A., and Levin, Z., 2011: An integrated modeling study on the effects of mineral dust and sea salt particles on clouds and precipitation, *Atmos. Chem. Phys.*, 11, 873-892, doi:10.5194/acp-11-873-2011, 2011.
  37. **M. Astitha**, G. Kallos, C. Spyrou, W. O'Hirok, J. Lelieveld and H.A.C. Denier van der Gon, 2010: Modelling the chemically aged and mixed aerosols over the eastern central Atlantic Ocean – potential impacts. *Atmos. Chem. Phys.*, 10, 5797-5822, 2010.
  38. Kallos G., C. Spyrou, **M. Astitha**, C. Mitsakou, S. Solomos, J. Kushta, I. Pytharoulis, P. Katsafados, E. Mavromatidis, N. Papantoniou. "Ten-year operational dust forecasting - Recent model development and future plans". IOP Conf. Ser.: Earth Environ. Sci. 7 (2009) 012012, doi:10.1088/1755-1307/7/1/012012.
  39. **M. Astitha** and G. Kallos, 2009: "Gas-phase and aerosol chemistry interactions in South Europe and the Mediterranean Region". *Environmental Fluid Mechanics*, Vol. 9, Number 1, February 2009. DOI: 10.1007/s10652-008-9110-7.
  40. Mitsakou C., G. Kallos, N. Papantoniou, C. Spyrou, S. Solomos, **M. Astitha** and C. Housiadas, 2008: Saharan dust levels in Greece and received inhalation doses. *Atmos. Chem. Phys.*, 8, 7181–7192, 2008.
  41. **M. Astitha**, G. Kallos and P. Katsafados, 2008: "Air Pollution Modeling in the Mediterranean Region: From Analysis of Episodes to Forecasting". *Atmospheric Research*, 89 (2008) 358–364, <http://dx.doi.org/10.1016/j.atmosres.2008.03.006>.
  42. G. Kallos, **M. Astitha**, P. Katsafados and C. Spyrou, 2007: "Long-Range Transport of Anthropogenically and Naturally Produced Particulate Matter in the Mediterranean and North Atlantic: Current State of Knowledge". *Journal of Applied Meteorology and Climatology*, Vol. 46, Issue 8, August 2007, pp. 1230–1251.
  43. M. Lazaridis, K. Eleftheriadis, J. Smolik, I. Colbeck, G. Kallos, Y. Drossinos, V. Zdimal, Z. Vecera, N. Mihalopoulos, P. Mikuska, C. Bryant, C. Housiadas, A. Spyridaki, **M. Astitha**, V. Havranek, 2006: "Dynamics of fine particles and photo-oxidants in the Eastern Mediterranean (SUB-AERO)". *Atmospheric Environment*, Volume 40, Issue 32, October 2006, pp. 6214-6228.
  44. **Astitha M.**, Kallos G., Mihalopoulos N., 2005: "Analysis of air quality observations with the aid of the source–receptor relationship approach". *Journal of the Air and Waste Management Association*, Vol. 55, pp. 523-535, <https://doi.org/10.1080/10473289.2005.10464628>.
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## SUMMARY TABLE

Citations: 2,348; h-index=21; i-10 index=30 (Source: Google Scholar, Jul 2026)

Citations: 1,567; h-index=19 (Scopus, Oct 2025)

**Table of Journal Impact Factors** (2024 Journal Citation Reports-Clarivate Analytics, 2025)

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| JOURNAL                                              | IMPACT FACTOR |
|------------------------------------------------------|---------------|
| Journal of Hydrology                                 | 6.3           |
| Artificial Intelligence for the Earth Systems (AMS*) | 4.5           |
| IEEE Transactions on Sustainable Energy              | 10.0          |
| Atmospheric Chemistry and Physics                    | 5.1           |
| Environmental Modelling and Software                 | 4.6           |
| Atmospheric Research                                 | 4.4           |
| Remote Sensing                                       | 4.1           |
| Atmospheric Environment                              | 3.7           |
| Natural Hazards                                      | 3.7           |
| Journal of Geophysical Research-Atmospheres (AGU**)  | 3.4           |
| Risk Analysis                                        | 3.3           |
| Energies                                             | 3.2           |
| Weather and Forecasting (AMS)                        | 3.1           |
| Monthly Weather Review (AMS)                         | 3.0           |
| Journal of Hydrometeorology (AMS)                    | 2.9           |
| Journal of Great Lakes Research                      | 2.5           |
| Journal of Applied Meteorology and Climatology (AMS) | 2.2           |
| Journal of the Air & Waste Management Assoc.         | 2.2           |
| Environmental Fluid Mechanics                        | 2.1           |

\*AMS=American Meteorological Society

\*\*AGU=American Geophysical Union

### Editorial services (current)

1. Associate Editor for *Artificial Intelligence for the Earth Systems* (AIES, American Meteorological Society), (ISSN: 2769-7525), Jun 2025-present.
2. Associate Editor for *Weather and Forecasting* (WAF, American Meteorological Society), (ISSN: 0882-8156; eISSN: 1520-0434), Jan 2024-present.
3. Member of the Editorial Board of the journal *Remote Sensing* (July 2020-pres).
4. Member of the Editorial Review Board (ERB) for the *Journal of the Air and Waste Management Association* (JA&WMA); April 2016-pres.
5. Journal Reviewer: npj Climate and Atmospheric Science and Communications Earth & Environment, Atmospheric Chemistry and Physics, Journal of Geophysical Research, Atmospheric Environment, Journal of Air & Waste Management Association, Atmospheric Research, International Journal of Climatology, Atmospheric Pollution Research, among others.
6. Reviewer for federal agencies (NSF, DOE, NSF GRFP, NASA postdoctoral program).

### Editorial Services (past)

Guest editor for the special issue “Prediction of Extreme Weather Events” published by *Remote Sensing* (ISSN 2072-4292, IF 2019: 4.509).

Guest editor for the special issue “Weather Forecasting and Modeling by Using Satellite Data” published by *Remote Sensing* (ISSN 2072-4292, IF 2019: 4.509).

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Guest Editor for the Special Issue "Dust Storms Impacting on Urban Environments" published in the journal *Atmosphere* (ISSN 2073-4433; Impact Factor=1.704 (2017)).

#### PUBLICATIONS (BOOKS)

1. **Marina Astitha** and Efthymios Nikolopoulos (co-Editors): *"Extreme Weather Forecasting: State of the science, uncertainty and impacts"*. Elsevier (edited contribution), October 2022. eBook ISBN: 9780128202432, Paperback ISBN: 9780128201244.
2. J. Lelieveld, M. Abdelkader, **M. Astitha**, V.A. Karydis, K. Klingmüller: "Modeling air pollution by atmospheric desert dust". Book chapter contributed to *Pollution Assessment for Sustainable Practices in Applied Sciences and Engineering*, ISBN: 978-0-12-809582-9, 2020.
3. G. Kallos, C. Mitsakou, A. Alastuey, J. van Ardenne, **M. Astitha**, M. Cusack, U. Doering, E. Gerasopoulos, N. Hatzianastassiou, M. Kanakidou, J. Kushta, J. Lelieveld, Z. Levin, N. Mihalopoulos, M. Millán, J. L. Palau, N. Perez, J. Pey, X. Querol, S. Solomos, C. Spyrou, C. Theodosi, C. Zerefos: Part I - Chapter 4: "Mechanisms of climate variability, air quality and impacts of atmospheric constituents in the Mediterranean Region. A. Navarra and L. Tubiana (eds.), *Regional Assessment of Climate Change in the Mediterranean*, Advances in Global Change Research 50. DOI 10.1007/978-94-007-5781-3\_4, © Springer Science+Business Media Dordrecht 2013.

#### INVITED TALKS

1. **Marina Astitha**, 2025: Successes and Challenges in storm prediction integrating physics-based models with AI/ML. NSF-NCAR Research Application Laboratory seminar, Boulder, CO, June 18, 2025.
  2. **Marina Astitha**, 2025. Leadership Horizons: Exploring Paths Beyond Graduation, John Lof Leadership Academy workshop, College of Engineering, UConn, IPB, May 13, 2025.
  3. **Marina Astitha**, 2023: Career Readiness in the Classroom. Keynote presentation at the Career Everywhere Conference, "Enhancing Career Readiness: Equipping Students with Competencies for Post-Graduate Success", November 3, 2023.
  4. **Marina Astitha**, 2023: Invitation to deliver training seminars for the Sand and Dust Storm Center for the National Center of Meteorology (NCM) of the Kingdom of Saudi Arabia, Fall 2023.
  5. **Marina Astitha**, 2023: Behind the microscope, Today's women pioneers in Science, June 10, 2023. Panel discussion at the Bay Street Theater in Sag Harbor, NY.
  6. **Marina Astitha**, 2023: Environmental modeling for extreme weather, offshore wind and lake water quality: how to integrate physics-based models with machine learning. 2023 Women in Data Science (WiDS) Central Massachusetts Conference, March 15, 2023.
  7. **Marina Astitha**, 2015: Atmospheric composition and dynamics: aerosol influence on cloud/precipitation formation and prediction of extreme weather events. Invited seminar at the Department of Marine Sciences, University of Connecticut, Avery Point, Groton, CT, March 20<sup>th</sup>, 2015.
  8. **Astitha M.**, 2014: "Links and Feedbacks between Atmospheric Dynamics and Atmospheric Composition: modelling the impact of natural aerosols". Invited Seminar at NASA/GISS, May 23<sup>rd</sup>, 2014, NY.
  9. **Astitha M.**, 2014: "Atmospheric Composition and Dynamics: Understanding Aerosols as Players and Moderators". Invited lecture at the Department of Natural Resources and the Environment, UConn, October 3<sup>rd</sup>, 2014, Storrs, CT, USA.
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10. **M. Astitha**, J. Lelieveld, A. Pozzer, H. Tost and L. Smoydzin, 2009: Air quality in the Mediterranean Region. *Workshop on the Impacts of Mediterranean Climate Change on Human Health*, 19-21 October 2009, Pafos, Cyprus.
11. **M. Astitha**, 2009: Long-range transport of Air Pollution to and from North Africa (including Saharan dust and industrial emissions). *Sub-Regional Workshop: Better Air Quality in North Africa*, 23-25 November 2009, Tunis (UNEP, IUAPPA, GAPF, SEI).

## SELECTED CONFERENCE PRESENTATIONS

(Graduate students underlined)

1. Zaman, T., T. W. Juliano, B. Kosovic, **M. Astitha**, 2025: Offshore Hub-Height Wind and Turbulence Predictions in the Northeast US Using a Newly Developed PBL Parameterization in WRF. 105th AMS Annual Meeting, Jan 12-16, 2025. Podium presentation.
2. Filipiak B., D. Cerrai, **M. Astitha**, 2025: Assessing the Impact of Initial and Boundary Conditions on WRF Microphysics in Northeast U.S. Winter Cyclones with the Support of Extensive NASA Field Campaign Instrumentation. 105th AMS Annual Meeting, Jan 12-16, 2025. Podium presentation.
3. Cabral, C., **M. Astitha**, 2025: Investigating the Climate Trends in Daily Temperature and Wind Speed for New England Over the Past 50 Years (1973-2022). 105th AMS Annual Meeting, Jan 12-16, 2025. Poster presentation.
4. Jahan, I., J. Schreck, C. Becker, D. J. Gagne II, and **M. Astitha**, 2024: Decoding Uncertainty in Wind Gust Predictions: An Evidential and XAI Approach. AGU 2024 Fall Meeting, Dec 9-13, 2024. Podium presentation.
5. Badhan, M., **M. Astitha**, and G. Wang, 2024: A 4-km Daily Precipitation Product Downscaled from Multiple CMIP6 Models for the US Northeast: Historical Characteristics and Projected Future Changes. AGU 2024 Fall Meeting, Dec 9-13, 2024. Poster presentation.
6. Khaira, U., and **M. Astitha**, 2024: Enhancing Snowfall Prediction with Advanced Machine Learning and High-Resolution Data Integration, 2024. AGU 2024 Fall Meeting, Dec 9-13, 2024. Poster presentation.
7. Filipiak B., D. Cerrai, **M. Astitha**, 2024: Assessing the Impact of Initial and Boundary Conditions on WRF Microphysics in Northeast U.S. Winter Cyclones with the Support of Extensive NASA Field Campaign Instrumentation. AGU 2024 Fall Meeting, Dec 9-13, 2024. Podium presentation.
8. Zaman, T., **M. Astitha**, E. Gutmann and D. Kirk-Davidoff, 2024: Evaluating How Climate Change Impacts the Trend in Wind Speed in the Northeast U.S. AGU 2024 Fall Meeting, Dec 9-13, 2024. Poster presentation.
9. Zaman, T., T. W. Juliano, B. Kosovic, **M. Astitha**, 2024: Exploring the Relationship Between Model Bias and Atmospheric Stability in Offshore Wind and Turbulence Prediction for the Northeast US using a newly developed Three-Dimensional PBL Parameterization. NAWEA/WindTech 2024 Conference, New Jersey, US, Oct 29-Nov 1, 2024.
10. Jahan, I., **M. Astitha**, J. Schreck, D. J. Gagne, 2024: Uncertainty Quantification of Wind Gust Predictions in the Northeast USA with a Deep Evidential Model. NAWEA/WindTech 2024 Conference, New Jersey, US, Oct 29-Nov 1, 2024.
11. **Astitha, M.**, T. Zaman, I. Jahan, E. Gutmann, G. Wang, 2024: Developing a climate change assessment of wind energy in the NE US, NAWEA/WindTech 2024 Conference, New Jersey, US, Oct 29-Nov 1, 2024.
12. Filipiak, B., **M. Astitha**, and D. Cerrai, 2024: "Improving Winter Power Outage Forecasts with a Snow Index." 104th AMS Annual Meeting/15th Conference on Weather, Water, Climate and the New Energy Economy, 29 January, Baltimore, MD.
13. Israt Jahan, **Marina Astitha**, John Schreck, David John Gagne, 2024: Uncertainty Estimation of Wind Gust Predictions Using the Deep Evidential Model. AMS 104th Annual Meeting, Jan 28-Feb 1, 2024. Podium presentation.
14. U. Khaira and **M. Astitha**, 2024: Enhancing Snowfall Accumulation Prediction in the Northeastern United States: Integrating NWP, Probabilistic Forecasts, and Machine Learning. AMS 104th Annual Meeting, Jan 28-Feb 1, 2024. Poster presentation.
15. T. Zaman, **M. Astitha**, M. Badhan, G. Wang, E. D. Gutmann, 2024: Assessing Climate Change Impact on Green (Wind) Energy Resources in the Northeast U.S. using a Statistical Downscaling Approach. AMS 104th Annual Meeting, 15th Conference on Weather, Climate, and the New Energy Economy, Jan 28- Feb 1, 2024.

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16. Israt Jahan, **Marina Astitha**, Ethan D Gutmann and Tasnim Zaman, 2023: Climate Change Assessment for the Offshore Wind Energy Sector in New England: Wind Droughts. AGU 2023 Fall Meeting, Dec 11-15, 2023. Podium presentation.
  17. U. Khaira, D. Cerrai, G. Thompson, **M. Astitha**, 2023: Advancing Snowfall Prediction in the Northeast United States: An Integrated Machine Learning and Numerical Weather Modeling Approach, AGU 2023 Fall Meeting, Dec 11-15, 2023. Poster presentation.
  18. Zaman, T., **M. Astitha**, B. Kosovic, P. Jimenez Munoz, T. W. Juliano and M. Eghdami 2023: Advancements in Offshore Wind and Turbulence Prediction for the Northeast US using a Three-Dimensional PBL Parameterization in the WRF model. AGU 2023 Fall Meeting, Dec 11-15, 2023. Poster presentation.
  19. Tasnim Zaman, **Marina Astitha**, Makduma Badhan, Yelin Jiang, Guiling Wang, Ethan Gutmann, Patrick Hawbecker, and Timothy W. Juliano: Offshore wind prediction and statistical downscaling for climate change assessment of wind energy in the Northeast US. 103rd AMS Annual Meeting, 14th Conference on Weather, Climate, and the New Energy Economy, Jan 8-12, 2023, Denver, CO.
  20. Christina Feng Chang, **Marina Astitha**, Penny Vlahos, Valerie Garcia, 2023: Comparing the capability of two ML algorithms to assess physical and biological oxygen indicators in freshwater ecosystems using simulated environmental variables. 103rd AMS Annual Meeting, 22nd Conference on Artificial Intelligence for Environmental Science, Jan 8-12, 2023, Denver, CO.
  21. Israt Jahan, **Marina Astitha**, Diego Cerrai, 2023: Application of Machine Learning (ML) Algorithms for Wind Gust prediction: a comparison between WRF and AI. 103rd AMS Annual Meeting, 22nd Conference on Artificial Intelligence for Environmental Science, Jan 8-12, 2023, Denver, CO.
  22. Ummul Khaira, Diego Cerrai, Greg Thompson, and **Marina Astitha**, 2022: Challenges and successes of snowfall forecasting using machine learning and numerical prediction for the Northeast United States. AGU 2022 Fall Meeting, Chicago, Dec 12-15, 2022.
  23. Israt Jahan, **Marina Astitha**, Diego Cerrai, 2022: Improving wind gust prediction with the combination of WRF and machine learning algorithms. AGU 2022 Fall Meeting, Chicago, Dec 12-15, 2022.
  24. Tasnim Zaman, **Marina Astitha**, Patrick Hawbecker, and Timothy W. Juliano, 2022: Impact of High-resolution Mesoscale and Atmospheric Stability on predicting Offshore Wind in the Northeast Atlantic Cluster. AGU 2022 Fall Meeting, Chicago, Dec 12-15, 2022.
  25. Tasnim Zaman, **Marina Astitha**, Makduma Badhan, Yelin Jiang, Guiling Wang, Ethan Gutmann, 2022: Application of statistical downscaling for climate change assessment of wind energy in the Northeast U.S. AGU 2022 Fall Meeting, Chicago, Dec 12-15, 2022.
  26. Christina Feng Chang, **Marina Astitha**, Yongping Yuan, Chunling Tang, Penny Vlahos, Valerie Garcia. 2022: Applying a Machine Learning and Multi-Media Modeling Framework to Predict Tributary Phosphorus Loads. The 22nd Annual Community Modeling and Analysis System (CMAS) Conference, University of North Carolina, 17-19 Oct 2022.
  27. T. Zaman, U. Khaira, **M. Astitha**, 2022: High-Resolution Wind Prediction Capabilities for an Offshore Wind Energy Farm in the North-East Atlantic Cluster. WISER IUCRC Planning Meeting/Workshop, March 21-22, 2022, Albany NY. (Poster presentation)
  28. U. Khaira, D. Cerrai and **M. Astitha**, 2022: Development of a New Snowfall Prediction Approach with the Integration of Numerical Weather Prediction, Observations, and Machine Learning Algorithms, AMS 102nd Annual Meeting, 21st Conference on Artificial Intelligence for Environmental Science, virtual event, January 22-28, 2022. (oral presentation)
  29. C. Feng Chang, **M. Astitha**, V. Garcia, P. Vlahos, 2021: Scenario Evaluations through a Machine Learning-Based Model that Predicts Chlorophyll- $\alpha$  Using Multi-Media Modeling Environmental Predictors. AGU 2021 Fall Meeting, Dec 13-17, 2021. (oral presentation)
  30. T. Zaman, U. Khaira, **M. Astitha**, 2021: Updates on Accuracy Analysis in Wind Prediction Using High-Resolution WRF Simulations for an Offshore Wind Farm Facility in the Northeast Atlantic Cluster. AGU 2021 Fall Meeting, Dec 12-16, 2021. (poster)
  31. U. Khaira, T. Zaman, **M. Astitha**, 2021: Improving the Real-Time Forecast of Tropical Storm Isaias for NE US, AGU 2021 Fall Meeting, Dec 12-17, 2021. (poster)
  32. C. Feng Chang, **M. Astitha**, V. Garcia, P. Vlahos, 2021: Exploring the Management Value of a Machine Learning-Based Model that Predicts Chlorophyll- $\alpha$  Using Multi-Media Modeling Environmental Predictors. The 20th Annual Community Modeling and Analysis System (CMAS) Conference, University of North Carolina, 1-5 Nov 2021 (oral presentation, virtual event).
  33. T. Zaman, U. Khaira, **M. Astitha**, 2021: High-resolution wind prediction for offshore wind farm facilities in the Northeast Atlantic cluster. School of Engineering 7th Annual Poster Competition, April 1st, 2021 (Virtual event, Poster presentation, 1st position in the CEE Department).
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34. C. Feng Chang, M. Astitha, V. Garcia, C. Tang, P. Vlahos, D. Wanik, J. Bash, 2021: Updates on Utilizing Multi-media Modeling and Machine Learning to Investigate Conditions that Affect Chlorophyll- $\alpha$  Concentrations: a Lake Erie Case Study. AMS 101<sup>st</sup> Annual Meeting, January 9-15, 2021.
  35. T. Zaman, M. Walters, U. Khaira, and **M. Astitha**, 2021: Uncertainty in Wind Prediction for an Offshore Wind Farm in the Northeast United States. AMS 101<sup>st</sup> Annual Meeting, 12th Conference on Weather, Climate, and the New Energy Economy, January 9-15, 2021 (virtual event).
  36. U. Khaira, M. S. Walters, T. Zaman and **M. Astitha**, 2021: Impact of initial/boundary conditions and model configuration towards the prediction of tropical storm Isaias. AMS 101<sup>st</sup> Annual Meeting, 12th Conference on Weather, Climate, and the New Energy Economy, January 9-15, 2021 (virtual event).
  37. T. Zaman, M. S. Walters, U. Khaira, M. Boehmer, **M. Astitha**, 2020: High-resolution WRF simulations for Offshore wind farm facilities in the Northeast Atlantic cluster. AGU 2020 Fall Meeting, virtual event, Dec 1-17, 2020. Poster presentation.
  38. U. Khaira, M. S. Walters, T. Zaman and **M. Astitha**, 2020: Impact of initial/boundary conditions and model configuration to predict storms for the Northeast United States. AGU 2020 Fall Meeting, virtual event, Dec 1-17, 2020. Poster presentation.
  39. C. Feng Chang, M. Astitha, V. Garcia, C. Tang, P. Vlahos, D. Wanik, J. Bash, 2020: Updates on the Assessment of Environmental Variables Affecting Chlorophyll-a through Multi-media Modeling and Machine Learning: a Lake Erie Case Study. AGU 2020 Fall Meeting, virtual event, Dec 1-17, 2020.
  40. C. Feng Chang, M. Astitha, V. Garcia, C. Tang, P. Vlahos, D. Wanik, J. Bash: On the Sensitivity of a Machine Learning-Based Model to Predict Chlorophyll- Using Multi-Media Modeling Environmental Predictors. 19th Annual Community Modeling and Analysis System (CMAS) Conference, University of North Carolina, 26-30 Oct 2020 (oral presentation, virtual event).
  41. C. Feng Chang, M. Astitha, V. Garcia, C. Tang, P. Vlahos, D. Wanik, J. Yan, Using Multi-media Modeling and Machine Learning to Assess Environmental Variables that Affect Chlorophyll-a and Dissolved Oxygen: a Lake Erie application. Chesapeake Community Research Symposium 2020-ChesCRS20, June 8-10, 2020. Virtual format (oral presentation).
  42. C. Feng Chang, M. Astitha, V. Garcia, C. Tang, P. Vlahos, D. Wanik, J. Yan, 2020: Utilizing Multi-media Modeling and Machine Learning to Assess dissolved oxygen as a proxy for Hypoxia in Lake Erie. AMS 100th Annual Meeting, 19th Conference on Artificial Intelligence for Environmental Science, Boston, MA, Jan 2020.(oral presentation)
  43. Walters, M., Yang, J., Koukoulou, M., Astitha M., 2020. Evaluation of winter weather prediction during extreme snowfall events. American Meteorological Society 100th Annual Meeting, Boston, MA. Jan 12-16, 2020. Poster presentation.
  44. Walters, M., Astitha, M., 2019: On the predictive accuracy of wind gusts related to severe storms for the Northeast United States. American Geophysical Union AGU 2019 Fall Meeting, San Francisco, CA. Dec 9-13, 2019. Poster presentation.
  45. C. Feng Chang, M. Astitha, V. Garcia, C. Tang, P. Vlahos, D. Wanik, J. Yan, 2019: Assessment of Environmental Variables that Affect Harmful Algal Blooms and Hypoxia in Lake Erie Using Multi-media Modeling and Machine Learning. AGU 2019 Fall Meeting, Dec 9-13 2019 (poster presentation).
  46. C. Feng Chang, M. Astitha, V. Garcia, C. Tang, P. Vlahos, D. Wanik, J. Yan. Using Multi-media Modeling and Machine Learning to Assess Parameters Associated with Harmful Algal Blooms. 10<sup>th</sup> US Symposium on Harmful Algae, Orange Beach, Alabama, 3-8 Nov, 2019. Oral presentation.
  47. H. Luo, M. Astitha, C. Hogrefe, R. Mathur, S.T. Rao, 2019: Evaluating Seasonality and Trends in Modeled PM2.5 Concentrations Using Empirical Mode Decomposition. 18th Annual Community Modeling and Analysis System (CMAS) Conference, University of North Carolina at Chapel Hill's Friday Center, NC, 22-24 Oct 2019 (oral presentation).
  48. Christina Feng Chang, Marina Astitha, Valerie Garcia, Chunling Tang, Penny Vlahos, David Wanik, Jun Yan, 2019: Assessment of Environmental Variables that Affect Dissolved Oxygen, Total P, and Total N Concentrations in Lake Erie Using Multi-media Modeling and Machine Learning, 18th Annual Community Modeling and Analysis System (CMAS) Conference, University of North Carolina at Chapel Hill's Friday Center, NC, 22-24 Oct 2019 (poster presentation; **poster award**)
  49. H. Luo, M. Astitha, C. Hogrefe, R. Mathur, S.T. Rao, 2019: Seasonality and Trends of Modeled PM2.5 using WRF-CMAQ using Empirical Mode Decomposition. Meteorology And Climate - Modeling for Air Quality (MAC-MAQ) Conference, Sep 11-13, 2019, UC Davis, Davis, CA.
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50. Christina Feng Chang, **Marina Astitha**, Valerie Garcia, Ellen Cooter, Chunling Tang, Penny Vlahos, David Wanik. Using Machine Learning to Assess Parameters Associated with Harmful Algal Blooms (HABs) and Hypoxia for Lake Erie. Meteorology And Climate - Modeling for Air Quality (MAC-MAQ) Conference, Sep 11-13, 2019, UC Davis, Davis, CA.
  51. Jaemo Yang, **Marina Astitha\***, Diego Cerrai, Peter Watson, 2018: "Uncertainty Assessment of Extreme Storm Forecasts Using Numerical Weather Prediction and Gridded Bayesian Linear Regression". AGU Fall Meeting 2018, A048-Extreme Weather Events: Forecast skill, Uncertainty Quantification and Impact Modeling, Washington, DC, 10-14 December 2018. Poster presentation.
  52. Michael S. Walters, Jaemo Yang, Marika Koukoulou, Gregory Thompson and **Marina Astitha\***, 2018: "Evaluation of Winter Weather Prediction During Extreme Snowfall Events for the NE US." AGU Fall Meeting 2018, A048-Extreme Weather Events: Forecast skill, Uncertainty Quantification and Impact Modeling, Washington, DC, 10-14 December 2018. Poster presentation.
  53. **M. Astitha**, H. Luo, C. Hogrefe, R. Mathur, and S.T. Rao. Quantifying the influence of boundary conditions and anthropogenic emissions to ozone concentrations towards estimating the modelled controllable portion of the ozone burden in continental United States, 17th Annual Community Modeling and Analysis System (CMAS) Conference, University of North Carolina at Chapel Hill's Friday Center, NC, 22-24 Oct 2018 (oral presentation).
  54. H. Luo, **M. Astitha**, C. Hogrefe, R. Mathur, and S.T. Rao. Dynamic evaluation of WRF-CMAQ PM2.5 simulations over the Contiguous United States for the period 2000-2010. 17th Annual Community Modeling and Analysis System (CMAS) Conference, University of North Carolina at Chapel Hill's Friday Center, NC, 22-24 Oct 2018 (oral presentation).
  55. Christina Feng Chang, Catherine Nowakowski, **Marina Astitha**, Valerie Garcia, Ellen Cooter, Chunling Tang, Penny Vlahos, David Wanik. Updates on Using Multi-media Modeling to Investigate Conditions Leading to Harmful Algal Blooms. 17<sup>th</sup> Annual Community Modeling and Analysis System (CMAS) Conference, University of North Carolina at Chapel Hill's Friday Center, NC, 22-24 Oct 2018 (**poster award**).
  56. P. Zhang, Z. Tang, X. Liu, J. Yang, K. Muto, J. Yan, **M. Astitha**, J.N. Debs, D.A. Ferrante, D. Marcaurele, I.M. Hazlewood, D. Hedman, 2018: PV extreme capacity factor analysis. IEEE Power and Energy Society General meeting, Aug 5-10, 2018, Portland, OR.
  57. H. Luo, **M. Astitha**, S.T. Rao, C. Hogrefe, R. Mathur: Probabilistic assessment of emission control scenarios in meeting the ozone standard. 36th International Technical Meeting on Air Pollution Modelling and its Application, 14-18 May 2018, Ottawa, Canada. Oral presentation.
  58. **M. Astitha**, I. Kioutsoukis, G. Araya Fisseha, R. Bianconi, J. Bieser, J. H. Christensen, O. Cooper, S. Galmarini, C. Hogrefe, U. Im, B. Johnson, P. Liu, U. Nopmongkol, I. Petropavlovskikh, E. Solazzo, D. W. Tarasick, G. Yarwood, 2018: Seasonal ozone vertical profiles over North America using the AQMEII group of air quality models. 36th International Technical Meeting on Air Pollution Modelling and its Application, 14-18 May 2018, Ottawa, Canada. Oral presentation.
  59. J. Yang, **M. Astitha** and C. S. Schwartz, 2018: Gridded Bayesian Linear Regression to Improve Storm Forecasts Using NCAR's Real-Time Prediction System for Northeast United States. 98<sup>th</sup> Annual Meeting of the American Meteorological Society, 25th Conference on Probability and Statistics, Jan 8-11, 2018, Austin, TX, USA. Oral presentation.
  60. V. Garcia, C. Nowakowski, **M. Astitha**, P. Vlahos, E. Cooter, C. Tang, 2017: Using Multi-media Modeling to Investigate Conditions Leading to Harmful Algal Blooms. American Geophysical Union (AGU) Fall 2017 Meeting, New Orleans. 11-15 December 2017. Oral presentation.
  61. J. Yang, **M. Astitha** and C. S. Schwartz, 2017: Improvement of Storm Forecasts Using Gridded Bayesian Linear Regression for Northeast United States. AGU Fall Meeting 2017, NG001: Advances in Data Assimilation, Predictability and Uncertainty Quantification, New Orleans, 11-15 December 2017. Oral presentation.
  62. D. Cerrai, E.N. Anagnostou, J. Yang, **M. Astitha**, 2017: Predicting Power Outages Using Multi-Model Ensemble Forecasts. American Geophysical Union (AGU) Fall 2017 Meeting, New Orleans. 11-15 December 2017. Poster presentation.
  63. **M. Astitha**, H. Luo, C. Hogrefe, R. Mathur, S. T. Rao, 2017: Predicting Future-Year Ozone Concentrations: Integrated Observational-Modeling Approach for Probabilistic Evaluation of the Efficacy of Emission Control strategies. 16th Annual Community Modeling and Analysis System (CMAS) Conference, University of North Carolina at Chapel Hill's Friday Center, NC, 23-25 Oct 2017 (oral presentation).
  64. H. Luo, **M. Astitha**, S.T. Rao, C. Hogrefe, R. Mathur, and N. Kumar, 2017: Dynamic evaluation of two decades of WRF-CMAQ ozone simulations over the contiguous United States. 16th Annual
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- Community Modeling and Analysis System (CMAS) Conference, University of North Carolina at Chapel Hill's Friday Center, NC, 23-25 Oct 2017 (poster presentation).
65. **M. Astitha**, **H. Luo**, S. T. Rao, C. Hogrefe, R. Mathur, and N. Kumar, 2017: Dynamic Evaluation of Two Decades of WRF-CMAQ Ozone Simulations over the Contiguous United States. Meteorology And Climate - Modeling for Air Quality (MAC-MAQ) Conference, Sep 13-15, 2017, UC Davis, Davis, CA. (oral presentation)
  66. **H. Luo**, **M. Astitha**, S. T. Rao, C. Hogrefe, R. Mathur, 2017: Estimating the confidence bounds for projected ozone design values under different emissions control options. Meteorology And Climate - Modeling for Air Quality (MAC-MAQ) Conference, Sep 13-15, 2017, UC Davis, Davis, CA. (oral presentation)
  67. **J. Yang**, **M. Astitha**, L. Delle Monache, and S. Alessandrini, 2017: Improvement of wind speed prediction using statistical and analog techniques for NE U.S. 97<sup>th</sup> Annual Meeting of the American Meteorological Society, 22–26 January, 2017 Washington State Convention Center, Seattle, Washington. Poster presentation.
  68. **J. Yang**, **M. Astitha**, L. Delle Monache, and S. Alessandrini, 2016: Analog ensemble and Bayesian regression techniques to improve the wind speed prediction during extreme storms in the NE U.S. American Geophysical Union Fall 2016 Meeting, Dec 12-16, 2016, San Francisco, CA. Poster presentation.
  69. **J. Yang**, **M. Astitha** and L. Delle Monache, 2016: Improvement of the numerical prediction of extreme weather events using Analog ensemble and Bayesian regression techniques in NE U.S. 3rd Annual New England Graduate Student Water Symposium (NEGSWS), September 9-11, 2016, University of Massachusetts Amherst, MA. Poster presentation.
  70. **M. Astitha**, **H. Luo**, S.T. Rao, C. Hogrefe, R. Mathur, N. Kumar, 2016: Dynamic evaluation of two decades of CMAQ simulations over the continental U.S. 35th NATO/SPS International Technical Meeting on Air Pollution Modelling and its Application, 3-7 Oct, 2016, Chania, Greece. Oral presentation.
  71. S.T. Rao, **H. Luo**, **M. Astitha**, C. Hogrefe, R. Mathur, N. Kumar, 2016: On regional modelling support for air quality policies. 35th International Technical Meeting on Air Pollution Modelling and its Application, 3-7 Oct, 2016, Chania, Greece. Oral presentation.
  72. **M. Astitha**, **H. Luo**, S.T. Rao, C. Hogrefe, R. Mathur, N. Kumar, 2016: Two Decades of WRF/CMAQ simulations over the continental U.S.: New approaches for performing dynamic model evaluation and determining confidence limits for ozone exceedances. 15th Annual Community Modeling and Analysis System (CMAS) Conference, University of North Carolina at Chapel Hill's Friday Center, NC, 24-26 Oct 2016 (oral presentation).
  73. **C. Nowakowski**, **M. Astitha**, V. Garcia, P. Vlahos, E. Cooter, C. Tang, B. Hinckley, 2016: Prediction of harmful water quality parameters combining weather, air quality and ecosystem models with in-situ measurements. 15th Annual Community Modeling and Analysis System (CMAS) Conference, University of North Carolina at Chapel Hill's Friday Center, NC, 24-26 Oct 2016 (poster presentation).
  74. S.T. Rao, **H. Luo**, **M. Astitha**, C. Hogrefe, and R. Mathur, 2016: Scale Issues in Regional Air Quality Modeling for Policy Support. 10th International Conference on Air Quality - Science and Application, March 2016, Milan, Italy.
  75. D. W. Wanik, E. N. Anagnostou, B. M. Hartman, **M. Astitha**, and M. E. B. Frediani, 2016: Forecasting Storm-Related Power Outages in Connecticut and Massachusetts, AMS 96th Annual Meeting, New Orleans, LA, January 13, 2016.
  76. **Yang, J.**, **M. Astitha**, E.N. Anagnostou, B. Hartman, G. Kallos, 2015: Predictability of extreme weather events for NE U.S.: improvement of the numerical prediction using a Bayesian regression approach. American Geophysical Union Fall 2015 Meeting, Dec 14-18, 2015, San Francisco, CA.
  77. Anagnostou, E.N, D. Wanik, **M. Astitha**, M. Frediani, G. Lackmann, J. He, **J. Yang**, 2015: Evaluation of power outages in Connecticut during hypothetical future Hurricane Sandy scenarios. American Geophysical Union Fall 2015 Meeting, Dec 14-18, 2015, San Francisco, CA.
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78. Wanik, D., E.N. Anagnostou, B. Hartman, M. Frediani, **M. Astitha**, 2015: Using Predictive Analytics to Predict Storm Outages at Electric Distribution Utilities. American Geophysical Union Fall 2015 Meeting, Dec 14-18, 2015, San Francisco, CA.
79. Cifuentes-Lorenze, A., M. Howard-Strobel, T. Flake, G. McCardell, J. O'Donnell, **M. Astitha**, 2015: Modeling Waves and Coastal Flooding along the Connecticut Coast. American Geophysical Union Fall 2015 Meeting, Dec 14-18, 2015, San Francisco, CA.
80. **M. Astitha**, ST Rao, J. Yang and H. Luo, 2015: Inherent uncertainty in the prediction of ozone and particulate matter for NE US. 14th Annual CMAS (Community Modeling and Analysis System) Conference, October 5-8, 2015, UNC-Chapel Hill, NC.
81. **M. Astitha**, ST Rao, J. Yang and H. Luo, 2015: Quantifying inherent uncertainty in the prediction of atmospheric pollutant concentrations: variability stemming from the initial state. Meteorology and Climate-Modeling Air Quality conference (MAC-MAQ), Sep 6-8, 2015, Sacramento, CA.
82. **Marina Astitha**, Jaemo Yang, Huiying Luo, S.T. Rao, 2015: Inherent uncertainties in atmospheric modeling: weather and air pollution. 34th International Technical Meeting on Air Pollution Modelling and its Application 4-8 May, 2015, Montpellier, France. Oral presentation.
83. **M. Astitha**, S.T. Rao, J. Yang, H. Luo, 2015: Discussion on inherent uncertainties in atmospheric modeling: altering the initial state. Symposium on Coupled Chemistry-Meteorology/Climate Modelling, WMO Headquarters, Geneva, Switzerland 23-25 February 2015. Oral presentation.
84. X. Zhang, E. N Anagnostou, **M. Astitha**, H. Vergara, J. Gourley, E. Hong Yang, 2014: Adjusting Satellite Rainfall Error in Mountainous Areas for Flood Modeling Applications, 2014 AGU Fall Meeting, San Francisco, CA, USA.
85. **M. Astitha**, E. Anagnostou, J. Yang, X. Zhang, 2014: Natural aerosol feedback effects during extreme weather events for North East U.S. AGU 2014 Fall Meeting (American Geophysical Union) (Dec 15-19, 2014, San Francisco, CA).
86. Karydis, V., Tsimpidi, A., **M. Astitha**, and J. Lelieveld, 2014: Effects of mineral dust on global atmospheric nitrate concentrations. *European Geosciences Union General Assembly 2014, Vienna, Austria (oral present.)*.
87. **Astitha M.**, 2014: "Aerosol-Cloud-Precipitation Interactions". Guest lecture at the course Air Pollution and Atmospheric Chemistry (Prof. K. Wagstrom), Department of Chemical and Biomolecular Engineering, October 22<sup>nd</sup>, 2014, Storrs, CT, USA.

## RESEARCH PROJECTS

*Total Funding since joining UConn: 14.3M (my share ~ \$4M)*

### CURRENT PROJECTS (\$M in total with M my share)

1. NSF IUCRC WISER: "Assessment of the impact of compound extreme weather events on grid priorities based on historical high-resolution reanalysis data: heatwaves and wind droughts". PI: M. Astitha, co-PI: G. Wang. 50K, 03/01/2026-02/28/2027.
1. NSF IUCRC WISER: "The North American Outage Prediction Project". PI: D. Cerrai, co-PIs: A. Astitha, J. Freedman, E. Anagnostou, D. Song, S. Basu. 225K, 03/01/2026-02/28/2027.
2. Deployment of a high-resolution wind prediction system for the offshore wind farm facilities in the Northeast Atlantic cluster. Marina Astitha (PI), Eversource Energy \$200,000; 9/2022-9/2027.
3. Improving Extreme Weather Forecasting Capabilities in support of Power Outage Prediction Activities: Phase II – wind gust and winter weather. Marina Astitha (PI), Eversource Energy Center, \$350,000; 09/2023-08/2026.

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## FINISHED PROJECTS SINCE JOINING UConn (~\$3.9M my share)

1. DLR-RENEW: Dynamic Line Rating Robust Validation, Enhancement and Field Demonstration in New England with Changing Weather and Offshore Wind Integration. DOE, PI: Junbo Zhao (75%), co-PI: Marina Astitha (25%=525K). 2.1M. 11/1/23-10/31/26. Offshore Wind Power Forecasting and Grid Integration, DOE NETL. PI: E. Anagnostou, co-PIs: M. Astitha (20% share=325K), J. Zhao, G. Matheou, M. Pena Mendez. Budget: 1.625M. 12/31/2024-12/30/2025
  2. NSF IUCRC WISER: "Wind power resources for Northeast US under a changing climate". PI: M. Astitha (UConn), co-PI: J. Freedman (UAlbany). 75K (50% my share), 02/06/2025-12/31/2025.
  3. Power system vulnerability assessment under a changing climate. Xinxuan Zhang (PI), Marina Astitha, Guiling Wang, Stergios Emmanouil (co-PIs). 88K (25% my share=22K), 09/2023-08/2025.
  4. NSF IUCRC Phase I Grant, University of Connecticut, E. Anagnostou (PI UConn), Marina Astitha (senior personnel). 750K, 7/2023-6/2028.
    - NSF IUCRC WISER: "An offshore wind energy prediction system from regional to wind farm scale: assessment of extreme wind scenarios". PIs: M. Astitha and J. Freedman (UAlbany), Co-PI: G. Matheou. 75K (18,750 my share), 01/01/2024-12/31/2024.
    - NSF IUCRC WISER: "Weather and Impact Modeling for Outage Prediction, Management and Restoration". PI: D. Cerrai, co-PIs: M. Astitha, N. Bassill, E. Anagnostou. 75K (25K my share), 01/01/2024-12/31/2024.
    - NSF IUCRC WISER: "Prediction uncertainty in power outages connected to weather forecast lead-time". PI: X. Zhang, co-PI: M. Astitha. 50K (25K my share), 01/01/2024-12/31/2024.
  5. Climate change assessment for offshore wind energy. Marina Astitha (PI). Research Excellence Program of the Office of the Vice President for Research, UConn. \$24,772; 05/2023-6/2024.
  6. Improving Extreme Weather Forecasting Capabilities in support of Power Outage Prediction Activities. Marina Astitha (PI), Eversource Energy Center, \$300,000; 05/01/2020-12/30/2023.
  7. "CLEAN EARTH: CoLaboratory of Environmental Advocacy, Net-zEro-Carbon And Renewable Technologies", Marina Astitha (co-PI Climate/Extremes), (PI: Emmanouil Anagnostou), Office of the Vice President for Research, University of Connecticut, FY22 New England University Collaboration on Renewable and Sustainable Energy. \$100,000 (~8k to fund a student). 3/2022 – 3/2023.
  8. High resolution wind prediction capabilities. Marina Astitha (PI), Eversource Energy, \$87,000; 1/1/2020-6/30/2021.
  9. Improving prediction of severe wind storms with the combination of weather prediction models, observations and machine learning algorithms. Marina Astitha (PI), Diego Cerrai (co-PI). Research Excellence Program of the Office of the Vice President for Research, UConn. \$24,772; 08/2021-12/2022.
  10. Climate Change Assessment for the Green Energy Sector in the U.S. Northeast. Prof. Guiling Wang (PI) and Marina Astitha (Co-PI). May 2022-Dec 2022. UConn CEE Initiative, \$22K (50%=11K).
  11. Predictive Storm & Damage Modeling for Preparedness and Emergency Response Support, \$4,048,284, Eversource Energy. Emmanouil Anagnostou (PI), Marina Astitha (co-PI). July 1, 2015 - May 31, 2020. (20% contribution=809K)
  12. Enhancing Predictability of Power Outages from a new Representation of Weather and Vegetation Impacts in UConn's Outage Prediction Model. E.N. Anagnostou (PI), Marina Astitha (co-PI). 01/01/2018-12/31/2019. Award: \$1,411,000 (20% contribution=282K)
  13. Understanding the information embedded in observations and regional air quality model outputs and using models for regulatory assessments. Funding agency: Electric Power Research Institute (EPRI). PI: M. Astitha, co-PI: ST Rao (NCSU and UConn). Award: \$220,398. 12/2/2015-06/30/2018.
  14. Department of Education's Graduate Assistantships in Areas of National Need (GAANN) project: Environmental engineering at the forefront of water policy and education. T. Vadas (PI), G. Wang (project director), C. Kirchhoff, M. Astitha, E. Anagnostou, J. Mellor. 2015-2019. Award: \$738,195. (16% contribution)
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15. Grid-side System enhancements to integrate distributed energy resources (Phase-II). PI: Peng Zhang, co-PI: Marina Astitha, Efthymios Nikolopoulos. Eversource Energy Center. \$200,000; 01/01/2018-12/31/2019.
16. Expanding the UCONN Predictive Storm & Outage Model into Eversource MA and NH. E.N. Anagnostou (PI), co-PI Marina Astitha. Eversource Energy (\$550,000; 30% contribution=165K) 09/01/2016-12/31/2018.
17. Next Generation United Illuminating Predictive Storm Damage Modeling Enhancements for Preparedness and Emergency Response Support. E.N. Anagnostou (PI), Marina Astitha, and David Wanik. United Illuminating (\$275,000; 20% contribution=55K) 05/01/2016-01/31/2019.
18. Grid-scale Systems enhancements to integrate distributed energy resources. PI: Peng Zhang, co-PI: Marina Astitha. Award: \$82,300. Eversource Energy Center. 10/01/2016-12/31/2017.
19. Establishing a Dominion/UCONN Carbon Dioxide time series in Long Island Sound, Award: \$24,500. PI: Vlahos, co-PI: Astitha, Dominion Foundation. 09/2016 to 08/2017.
20. Damage Modeling and Forecasting System of the NU Center Bridge-Funding. Northeast Utilities and Department of Civil and Environmental Engineering, School of Engineering, University of Connecticut. Principal Investigator: Prof. E. Anagnostou (\$1,188,872). 04/15/2013-05/31/2015. (20% contribution=238K, co-PI).
21. The United Illuminating Company (UI) participation in the damage prediction modeling and vegetation management. Department of Civil and Environmental Engineering, School of Engineering, University of Connecticut. Principal Investigator: Prof. E. Anagnostou. (\$513,000).02/01/2014-01/31/2016. (20% contribution=102.6K, co-PI)
22. The Importance of Vegetation Management Information on Storm Damage Prediction funded by The Energy and Power Research Institute (EPRI). PI: Prof. E. Anagnostou (\$50,000). 04/01/2014-04/01/2015. (20% contribution=10K, co-PI)

#### **CERTIFICATES/TRAINING**

1. Trained Facilitator of Entering Mentoring Training for Institutional Teams, Center for the Improvement of Mentored Experiences in Research (CIMER), Feb 19-23, 2024.
2. Neuroinclusive Teaching Fellow. Certificate from Winter Institute for STEM faculty in Building Neuroinclusive Learning Environments. Jan 11, 2024.
3. Diversity, Equity & Inclusion 101: A 10-Day Foundational Program, Sep 21, 2023. Certificate of completion, Academic Impressions.
4. Career Champion with UConn's Center for Career Readiness and Life Skills since 2022.
5. Women in STEM Leadership program, Alda Center's Women in STEM Leadership Program, Alan Alda Center for Communicating Science, Stony Brook University Oct-Nov 2021.
6. Certificate: Preparing for Distance Education by UConn's CETL, May 29-June 4, 2020.

#### **Professional and Institutional Service (current)**

1. Elected Chair of the Promotion, Tenure, Reappointment (PTR) Committee of the School of Civil and Environmental Engineering, AY25-26.
2. Member of the Steering Committee for Weather, Water and Climate Enterprise (CWWCE), American Meteorological Society (AMS); 2023-pres.
3. Member of the Renewable Energy Committee, American Meteorological Society; 2023-pres.
4. Elected Member of the Executive Committee of the Graduate School, UConn, 2023-2026.
5. UConn OVPR Internal Competition Advisory Board, 2024-2025.
6. Co-chaired the Earth and Environmental Science group of proposals for OVPR's Research Excellence Program (REP), 2024-25.

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7. Member of the Provost's Academic Integrity Hearing Panel (2024-25).
  8. Environmental Engineering ABET accreditation coordinator and self-study writer, 2024-2025.
  9. Member of the Board of Directors for the Air and Waste Management Association New England section (2023-present).
  10. Member of the Atmospheric Sciences Group (ASG) committee, University of Connecticut (2015-present).

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#### **Professional and Institutional Service (past)**

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1. Elected member of the Board of Directors for the Air and Waste Management Association (2021-2024).
  2. Member of the organizing committee for the Symposium on Securing a Sustainable Environmental Future. Cross-college symposium, University of Connecticut, Oct 18-20, 2023. Symposium Committee: Gene Likens, Michael Willig, Ashley Helton, Tim Vadas, Marina Astitha, Mark Urban, Kathy Segerson, James Knighton, Wei Ren.
  3. Chair of the Civil and Environmental Engineering (CEE) Antiracism and Equity Action Team (ACT); 2020-2024.
  4. Member of the Resilient Infrastructure and Nature-based Solutions Working Group for the CT Governor's Council on Climate Change, 2022-2023.
  5. Appointed Associate Director of the Environmental Engineering program, UConn (2018-2019; 1-yr term).
  6. Primary convener and chair of the AGU Fall Meeting 2018-2022 sessions: "Extreme weather events: forecast skill, uncertainty quantification and impact modeling".
  7. Convener of the AMS 2020 session "Severe Weather: Predictability, Uncertainty and Best Use of Forecast Information", 30th Conference on Weather Analysis and Forecasting/26th Conference on Numerical Weather Prediction, Boston, MA, Jan 12-16 2020.
  8. Co-chair of the Annual Community Modeling and Analysis System (CMAS) Conference, session "Multiscale Model Applications and Evaluations", 2019-2022.
  9. Participation in UConn's NEAG School of Education online "Disability Awareness and Inclusive Teaching Training project", Sep 2019.
  10. Environmental Engineering ABET accreditation coordinator and self-study writer, 2018-2019.
  11. Chair of the CEE Teaching Observation Committee, 2018-2019.
  12. Appointed Team Leader of the "Forecasting" Thematic Area for the Eversource Energy Center at the University of Connecticut (2017-2019. 2-yr term). In this role, I steered new Center initiatives and coordinated efforts of Center investigators pursuing funding opportunities in this thematic area.
  13. Member of the Environmental Literacy subcommittee (UConn), 2018-19, 2019-20, 2020-21.
  14. Chair of the graduate admissions committee for the Environmental Engineering program (2016-2017).
  15. Participation in the Air Quality Model Evaluation International Initiative (AQMEII) phase 3. Prepare a two-continent (EU and North America) air quality model evaluation in collaboration with HTAP (Task Force on Hemispheric Transport of Air Pollution). Conference abstract and peer-review manuscript.
  16. Member of the 2015 CMAQ model external scientific peer review panel organized by EPA-ORD/CMAS. June 17-19, 2015, Research Triangle Park, NC.
  17. Member of the Environmental Engineering program seminar committee (2014-2015).
  18. Participation in the Joy of Teaching (by P. Filene) book group. Organized by the Institute for Teaching and Learning. September-October 2013. Storrs campus, UConn, CT, USA.
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#### **COMPUTER KNOWLEDGE – MODELING SYSTEMS**

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- Fortran 77, Fortran 90, 95, Intel and Portland Group Fortran Compilers, Dos, Unix, Linux, MS Windows, Word, Excel, Linux shell scripting, NCAR graphics (Linux), Vis5d (Linux), Ferret (Data Visualization and Analysis), GRIB, NETCDF3/4, MATLAB, ArcGIS.
  - CAMx air quality model, RAMS/ICLAMS modeling system, HYPACT dispersion model, MDMS dispersion model, SKIRON/Eta modeling system, CMAQ Community Multiscale Air Quality Modeling System, Weather Research and Forecasting Model (WRF).
  - EMAC (ECHAM5/MESSy) atmospheric chemistry general circulation model.

## **MEMBERSHIPS**

- American Association for the Advancement of Science (AAAS) Member
- American Geophysical Union (AGU) Life Member
- European Geosciences Union (EGU) Life Member
- American Meteorological Society (AMS) Member
- Association of Environmental Engineers and Science Professors (AEESP)
- Air and Waste Management Association (A&WMA) Member
- American Association of University Professors (AAUP) Member