

# Elisabeth Andrews

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- Education**
- University of Illinois, Department of Civil Engineering      Urbana, IL
- PhD Environmental Engineering 1996
  - MS Environmental Engineering 1991
- California Institute of Technology      Pasadena, CA
- BS Chemical Engineering 1989
- Experience**
- 1999–present      NOAA/GML and University of Colorado      Boulder, CO
- CIRES Research Scientist**
- Data analysis of aerosol optical data related to climate change, long term trends in aerosol properties, aerosol transport and for global model evaluation
  - Presentation of results in peer-reviewed journals and scientific conferences
  - Supervision/mentoring of students and colleagues doing aerosol research
  - Laboratory and field maintenance of aerosol monitoring instruments
  - Computer programming for data analysis and web-based instrument monitoring
- 1999-2000      CIRES Outreach      Boulder, CO
- CIRES Research Scientist**
- Studied involvement and retention of scientists in outreach programs
  - Supervised graduate students doing outreach research
  - Participated in CIRES Earthworks for K-12 teachers course
- 1998-1999      University of Northern Colorado      Greeley, CO
- NSF PFSMETE Post-doc**
- Studied factors influencing high school student interest in science
  - Taught 'Introduction to environmental science' undergraduate elective
  - Taught 'Air pollution and statistics' course to Upward Bound students.
- 1997-1998      Electric Power Research Institute      Palo Alto, CA
- Consultant**
- Analyzed aerosol chemical, optical and gravimetric data from SEAVS field program
- 1996-1997      Colorado State University      Fort Collins, CO
- CIRA Post-doc**
- Intercomparison of cloud droplet monitoring techniques
  - Studied cloud-aerosol interactions
- Awards**
- 2009 Haagen-Smit Award for outstanding paper  
2016 CIRES Technology Transfer Award for CLAP development  
2014 CIRES Silver Medal Award for establishment of NOAA Federated Aerosol Network

## Publications

### Submitted/In Review

- Malm, W.C., Schichtel, B.A., Prenni, A., Day, D., Andrews, E., Perkins, R., Tigges, M., "Revisiting integrating nephelometer measurements," submitted to *Atmos. Environ.*, Sept. 2023.
- Singh, M., Kondo, Y., Ohata, S., Mori, T., Oshima, N., Hyvärinen, A., Backman, J., Asmi, E., Servomaa, H., Schnaiter, F.M., Andrews, E., Sharma, S., Eleftheriadis, K., Vratolis, S., Zhao, Y., Koike, M., Moteki, N., Sinha, P.R., "Mass absorption cross-section of black carbon for Aethalometer in the Arctic," submitted to *Aerosol Sci. Technol.*, Sept. 2023.

### Published/Accepted (Alphabetical by year)

- Bigi, A., Veratti, G., Andrews, E., Collaud Coen, M., Guerrieri L., Bernardoni, V., Massabo, D., Ferrero, L., Teggi, S., Ghermandi, G., "Black Carbon and Brown Carbon absorption by in-situ filter-based photometer and ground-based sun-photometer in an urban atmosphere," *Atmos. Chem. Phys.*, accepted, October 2023.
- Boedicker, E., Andrews, E., Sheridan, P.J., Quinn, P.K., "Climatology of aerosol properties at a coastal monitoring site in northern California," 23, 9525-9547, <https://doi.org/10.5194/acp-23-9525-2023>, 2023.
- Casans, A., Rejano, F., Maldonado-Valderrama, J., Casquero-Vera, J.A., Ruiz-Penuela, S., van Drooge, B.L., Lyamani, H., Cazorla, A., Andrews, E., Mirza-Montoro, F., Perez-Ramirez, D., Olmo, F.J., Alados-Arboledas, L., Carinanos, P., Titos, G., "Cloud condensation nuclei activation properties of Mediterranean pollen types considering organic chemical composition and surface tension effects," *Sci. Tot. Environ.*, doi:10.1016/j.atmosenv.2023.119961, 2023.
- Jaffe, D. A., Miller, C., Thompson, K., Finley, B., Nelson, M., Ouimette, J., Andrews, E. "An evaluation of the U.S. EPA's correction equation for Purple Air Sensor data in smoke, dust and urban wintertime pollution events," *Atmos. Meas. Tech.*, 16, 1311-1322, <https://doi.org/10.5194/amt-16-1311-2023>, 2023.
- Kahn, R. Andrews, E., Brock, C.B., Chin, M., Feingold, G., Gettleman, A., Levy, R.C., Murphy, D.M., Nenes, A., Pierce, J.R., Popp, T., Redemann, J., Sayer, da Silva, A., A.M., Sogacheva, L., Stier, P., "Reducing Aerosol Forcing Uncertainty by Combining Models with Satellite and Within-the-Atmosphere Observations: A Three-Way Street," *Rev. Geophys.*, ROG20303, doi:10.1029/2022RG000796, 2023.
- Mehra, M., Shrestha, S., Krishnakumar, A.P., Guagenti, M.C., Moffett, C.E., VerPloeg, S.G., Flynn, J.H., Andrews, E., Sherman, J.P., Mayol-Bracero, O., Kumar, R., Rai, M., Usenko, S., Sheesley, R.J., "Atmospheric heating in the Eastern Gulf coast US from Saharan dust: tracking the June 2020 event with surface and satellite observations," *Atmos. Environ.*, 310, 119988, <https://doi.org/10.1016/j.atmosenv.2023.119988>, 2023.
- Collaud Coen, M., Andrews, E. "The interplay between climate and air quality in a low-carbon future," in *WMO Air Quality and Climate Bulletin - No. 2*, Editor: O.R. Cooper, [https://public.wmo.int/en/our-mandate/focus-areas/environment/air\\_quality/wmo-air-quality-and-climate-bulletin-no.2](https://public.wmo.int/en/our-mandate/focus-areas/environment/air_quality/wmo-air-quality-and-climate-bulletin-no.2), Sept. 2022.
- Ouimette, J.R., Malm, W.C., Schichtel, B.A., Sheridan, P.J., Andrews, E., Ogren, J.A., Arnott, W.P. "Evaluating the PurpleAir monitor as an aerosol light scattering instrument," *Atmos. Meas. Tech.*, 15, 655-676, <https://doi.org/10.5194/amt-15-655-2022>, 2022.

- Rejano, F., Casquero-Vera, J.A., Lyamani, H., Andrews, E., Casans, A., Perez-Ramirez, D., Alados-Arboledas, L., Titos, G., Olmo, F.J., "Impact of different urban aerosol sources on the cloud condensation nuclei properties using a clustering model," *Sci. Tot. Environ.*, 858, <https://doi.org/10.1016/j.scitotenv.2022.159657>, 2022.
- Schmale, J., Sharma, S., Decesari, S., Pernov, J., Massling, A., Hansson, H-C., von Salzen, K., Skov, H., Andrews, E., Quinn, P.K., Upchurch, L.M., Eleftheriadis, K., Traversi, R., Gilardoni, S., Mazzola, M., Laing, J., Hopke, P., "Pan-Arctic seasonal cycles and long-term trends of aerosol properties from ten observatories," *Atmos. Chem. Phys.*, 22, 3067-3096, <https://doi.org/10.5194/acp-22-3067-2022>, 2022.
- Virkkula, A., Grythe, H., Backman, J., Petaja, T., Busetto, M., Lanconelli, C., Lupi, A., Becagli, S., Traversi, R., Severi, M., Vitale, V., Sheridan, P., Andrews, E., "Aerosol optical properties calculated from size distributions, filter samples and absorption photometer measurements at Dome C, Antarctica and their relationships between seasonal cycles of sources," *Atmos. Chem. Phys.*, 22, 5033-5069, <https://doi.org/10.5194/acp-22-5033-2022>, 2022.
- Gliss, J., Mortier, A., Schulz, M., Andrews, E., Balkanski, Y., Bauer, S.E., Benedictow, A.M.K., Bian, H., Checa-Garcia, R., Chin, M., Ginoux, P., Griesfeller, J.J., Heckel, A., Kipling, Z., Kirkevag, A., Kokkola, H. Laj, P., Le Sager, P., Lund, M.T., Lund Myhre, C., Matsui, H., Myhre, G., Neubauer, D., van Noije, T., North, P., Olivie, D.J.L., Sogacheva, L., Takemura, T., Tsigaridis, K., Tsyro, S.G., "AeroCom phase III multi-model evaluation of the aerosol lifecycle and optical properties using ground and space based remote sensing as well as surface in situ observations," *Atmos. Chem. Phys.*, 21, 87–128, doi:10.5194/acp-21-87-2021, 2021.
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