

CHELSEA A. CORR
Curriculum Vitae

Office: (970) 491-3614
chelsea.corr@colostate.edu

EDUCATION

Ph.D., Earth and Environmental Science
University of New Hampshire, Durham, NH
September 2014

M.S., Atmospheric Science
Colorado State University, Fort Collins, CO
August 2008

B.A., Earth Sciences
Minor: Geography
University of New Hampshire, Durham, NH
May 2006

PROFESSIONAL APPOINTMENTS

Research Scientist I
USDA UV-B Monitoring and Research Program
Natural Resource Ecology Laboratory
Colorado State University, Fort Collins, CO
August 2018 to Present

Visiting Assistant Professor, Atmospheric Science
Bennington College, Bennington, VT
August 2016 to June 2018

NASA Postdoctoral Fellow
Oak Ridge University Associates
NASA Langley Research Center, Hampton, VA
May 2014 to August 2016

PUBLICATIONS

Refereed Journal Articles

Segal-Rozenhaimer, M., Barton, N., Redemann, J., Schmidt, S., LeBlanc, S., Anderson, B., Winstead, E., **Corr, C.A.**, Moore, R., Thornhill, K.L., and Cullather, R. I., Bias and sensitivity of boundary layer clouds and surface radiative fluxes in MERRA-2 and airborne observations over the Beaufort Sea during the ARISE campaign, *J. Geophys. Res.*, DOI: 10.1029/2018JD028349, 2018.

Smith, W.L., Hansen, C., Bucholtz, A., Anderson, B.E., Beckley, M., Corbett, J.G., Cullather, R.I., Hines, K.M., Hofton, M., Kato, S., Lubin, D., Moore, R.H., Segal-Rozenheimer, M., Redemann, J., Schmidt, S., Scott, R., Song, S., Barrick, J.D., Blair, J.B., Bromwich, D.H., Brooks, C., Chen, G., Cornejo, H., **Corr, C.A.**, Ham, S.-H., Kittelman, A.S., Knappmiller, S., LeBlanc, S., Loeb, N.G., Miller, C., Nguyen, L., Palikonda, R., Rabine, D., Reid, E.A., Richter-Menge, J.A., Pilewskie, P., Shinozuka, Y., Spangenberg, D., Stackhouse, P., Taylor, P., Thornhill, K.L., and Winstead, E., Arctic Radiation-IceBridge Sea and Ice Experiment (ARISE): The Arctic radiation energy system during the critical seasonal ice transition, *B. Am. Meteorol. Soc.*, doi: 10.1175/BAMS-D-14-00277.1, 2017.

Moore, R.H., Thornhill, K.L., Weinzierl, B., Sauer, D., D'Ascoli, E., Kim, J., Lichtenstern, M., Scheibe, M., Beaton, B., Beyersdorf, A.J., Bulzan, D., **Corr, C.A.**, Crosbie, E., Jurkat, T., Martin, R., Riddick, D., Shook, M., Slover, G., Voigt, C., White, R., Winstead, E., Yasky, R., Ziemba, L.D., Brown, A., Schlager, H., and Anderson, B.E., Biofuel blending reduces aircraft engine particle emissions at cruise conditions, *Nature*, DOI: 10.1038/nature21420, 2017.

Ziemba, L.D., Beyersdorf, A.J., Chen, G., **Corr, C.A.**, Crumeyrolle, S.N., Diskin, G., Hudgins, C., Martin, R., Mikoviny, T., Moore, R.H., Shook, M., Thornhill, K.L., Winstead, E.L., Wisthaler, A., and Anderson, B.E., Airborne observations of bioaerosol over the Southeastern United States using a wideband integrated bioaerosol sensor, *J. Geophys. Res.*, DOI: 10.1002/2015JD024669, 2016.

Corr, C.A., Ziemba, L.D., Scheuer, E., Anderson, B.E., Beyersdorf, A.J., Chen, G., Crosbie, E., Moore, R.H., Shook, M., Thornhill, K.L., Winstead, E., Lawson, R.P., Barth, M.C., Schroeder, J.R., Blake, D.R., and Dibb, J.E., Observational evidence for the convective transport of dust over the central United States, *J. Geophys. Res.*, DOI: 10.1002/2015JD023789, 2016.

Beyersdorf, A.J., Ziemba, L.D., Chen, G., **Corr, C.A.**, Crawford, J.H., Diskin, G.S., Moore, R.H., Thornhill, K.L., Winstead, E.L., and Anderson, B.E., The impacts of aerosol loading, composition, and water uptake on aerosol extinction variability in the Baltimore-Washington D.C. region, *Atmos. Chem. Phys.*, 16, 1003-1015, 2016.

Jordan, C.E., Anderson, B.E., Beyersdorf, A.J., **Corr, C.A.**, Dibb, J.E., Greenslade, M.E., Martin, R.F., Moore, R.H., Scheuer, E., Shook, M.A., Thornhill, K.L., Troop, D., Winstead, E.L., and Ziemba, L.D., Spectral aerosol extinction (SpEx): A new instrument for in situ ambient aerosol extinction measurements across the UV/visible wavelength range, *Atmos. Meas. Tech.*, 8, 4755-4771, 2015.

Moore, R.H., Shook, M., Beyersdorf, A.J., **Corr, C.**, Herndon, S.C., Knighton, W.B., Miake-Lye, R., Thornhill, K.L., Winstead, E., Yu, Z., Ziemba, L.D., and Anderson, B.E., Influence of jet fuel composition on aircraft engine emissions: A synthesis of aerosol emissions data from the NASA APEX, AAFEX, and ACCESS missions, *Energ. Fuel*, 29, 2591-2600, 2015.

Planacar, G.G., Lefer, B.L., Shetter, R.E., Hall, S.R., Shaw, W.J., Cohen, R.C., **Corr, C.A.**, Herndon, S.C., Slusser, J.R., and Madronich, S., Effects of aerosols and NO₂ concentration on ultraviolet actinic flux near Mexico City during MILAGRO: Measurements and model calculations, *Atmos. Chem. Phys.*, 13, 1011-1022, 2013.

Corr, C.A., Hall, S.R., Ullmann, K., Anderson, B.E., Beyersdorf, A.J., Thornhill, K.L., Cubison, M.J., Jimenez, J.L., Wisthaler, A., and Dibb, Spectral absorption of biomass burning aerosol determined from retrieved single scattering albedo during ARCTAS, *Atmos. Chem. Phys.*, 12, 10505-10518, 2012.

Corr, C.A., Krotkov, N., Madronich, S., Slusser, J.R., Holben, B., Gao, W., Flynn, J., Lefer, B., and Kreidenweis, S.M., Retrieval of aerosol single scattering albedo at ultraviolet wavelengths at the T1 site during MILAGRO, *Atmos. Chem. Phys.*, 9, 5813-5827, 2009.

AWARDS AND HONORS

Leadership Symposium Scholar, Dissertations Initiative for the Advancement of Climate Change Research New Generation of Polar Researchers Leadership Symposium, University of Southern California Boone Center for Environmental Leadership, Catalina Island, CA, May 2-9, 2015.

NASA Group Achievement Awards – DISCOVER-AQ, ARISE and KORUS-AQ

INVITED TALKS

Corr, C.A., Ziemba, L.D., Anderson, B.E., Beyersdorf, A.J., Moore, R.H., Shook, M., Thornhill, K.L., Winstead, E., Lawson, P., Froyd, K., Peischl, J., Pollack, I., Reyerson, T., Scheuer, E., and Dibb, J.E., Observational evidence for the convective transport of dust over the central United States, Invited seminar for the Center for Atmospheric Sciences at Hampton University, Hampton, VA, February 25, 2015.

SELECTED CONFERENCE PRESENTATIONS

Corr, C.A., *Odwuor, A., Griffin, R.J., Pusede, S., Anderson, B.E., Beyersdorf, A.J., Campuzano-Jost, P., Chen, G., Day, D.A., Diskin, G., Jimenez, J., Moore, R.H., Nault, B.A., Schwarz, J.P., Shook, M., Thornhill, K.L., Winstead, W., Wisthaler, A., and Ziemba, L.D., Utilizing NASA airborne data to investigate the influence of fuel type on biomass burning aerosol properties, Poster presentation at the 2017 American Geophysical Union Annual Fall Meeting, New Orleans, LA, December 11-15, 2017.

***Corr, C.A.**, Moore, R.H., Winstead, E., Thornhill, K.L., Crosbie, E., Ziemba, L.D., Beyersdorf, A.J., Chen, G., Martin, R., Shook, M., Corbett, J., Smith, W., and Anderson, B.E., In situ observations of Arctic cloud properties across the Beaufort Sea marginal ice zone, Poster presentation at the 2016 American Geophysical Union Annual Fall Meeting San Francisco, CA, December 12-16, 2016.

***Corr, C.A.**, Anderson, B.E., Barrick, J., Beyersdorf, A.J., Chen, G., Crawford, J., Crosbie, E., Jordan, C.E., Moore, R.H., Shook, M., Thornhill, K.L., Winstead, E., Ziemba, L.D., Hall, S.R., and Madronich, S., The influence of aerosols on photolysis rates in three U.S. Cities, Oral presentation at the Atmospheric Radiation Science Workshop, Boulder, CO, March 8-11, 2016.

***Corr, C.A.**, Barrick, J., Beyersdorf, A., Chen, G., Crawford, J., Jordan, C., Moore, R., Shook, M., Thornhill, K.L., Winstead, E., Ziemba, L., Madronich, S., and Anderson, B., The influence of aerosol composition on photolysis rates based on airborne observations, Poster presentation at the 2015 American Geophysical Union Annual Fall Meeting San Francisco, CA, December 14-18, 2015.

***Corr, C.**, Barrick, J., Beyersdorf, A., Chen, G., Crawford, J., Jordan, C., Moore, R., Shook, M., Thornhill, K.L., Winstead, E., Ziemba, L., Madronich, S., and Anderson, B., Investigating the influence of aerosol composition on photolysis rates using airborne observations, Poster presentation at the 13th International Conference on Atmospheric Science and Applications to Air Quality, Kobe, Japan, November 11-13, 2015.

***Corr, C.A.**, Mok, J., Krotkov, N., Lefer, B., Anderson, B.E., Barrick, J., Beyersdorf, A.J., Chen, G., Moore R.H., Shook, M., Thornhill, K.L., Winstead, E., Ziemba, J.D., Madronich, S., Crawford, J., and Dibb, J.E., Aerosol optical properties retrieved using actinic flux and irradiance during DISCOVER-AQ Texas: In-situ comparisons and photochemical impacts, Platform (oral) presentation at the 2015 American Association for Aerosol Research Conference, Minneapolis, MN, October 12-16, 2015.

***Corr, C.A.**, Ziemba, L.D., Anderson, B.E., Beyersdorf, A.J., Moore, R.H., Thornhill, K.L., Shook, M., Winstead, E., Lawson, P., Froyd, K., Peischl, J., Pollack, I., Reyerson, T., Scheuer, E., and Dibb, J.E., Evidence for the convective transport of dust during DC-3, Poster presentation at the 2014 American Geophysical Union Annual Fall Meeting, San Francisco, CA, December 15-19, 2014.

***Corr, C.A.**, Hall, S.R., Ullmann, K., Shetter, R., Anderson, B., Beyersdorf, A.J., Thornhill, K.L., Cubison, M., Jimenez, J.L., and Dibb, J.E., Retrieval of spectral aerosol optical properties and their relationship to aerosol chemistry during ARCTAS, Oral presentation at the 2010 American Geophysical Union Annual Fall Meeting, San Francisco, CA., December 13-17, 2010.

***Corr, C.A.**, Hall, S.R., Ullmann, K., Shetter, R., Anderson, B., and Dibb, J.E., The retrieval of aerosol single scattering albedo using actinic flux: retrieval sensitivities, Poster presentation at the 2009 American Geophysical Union Annual Fall Meeting, San Francisco, CA, December 14-18, 2009.

***Corr, C.**, Taylor, T., Kreidenweis, S., Slusser, J., Davis, J., and Lefer, B., Estimating single scattering albedo, asymmetry parameter, and aerosol optical depth in the ultraviolet using an operational retrieval algorithm for Houston, TX, Poster presentation at the 26th Annual American Association for Aerosol Research Conference, Reno, Nevada, September 24-28, 2007.

***Corr, C.A.**, Cottrell, L.D., Ziemba, L.D., Beckman, P.J., Talbot, R.W., and Griffin, R.J., Measurements of aerosol chemical composition and optical properties in the polluted summer marine boundary layer, Poster presentation at the 7th International Aerosol Conference, St. Paul, MN, September 10-15, 2006.

(*) denotes presenter

DEPARTMENTAL TALKS

Corr, C., Aerosol-Solar Radiation Interactions: Research at the intersection of climate and air quality, Bennington College, Bennington, VT, September 16, 2016

TEACHING EXPERIENCE

Visiting Assistant Professor, Bennington College

- The World Ocean (Spring 2018)
- Climate Science and Policy (co-instructor, Spring 2018)
- Planet Earth (Fall 2017)
- Energy and the Environment (Fall 2017)
- Air Pollution Measurement and Monitoring (Spring 2017)
- Climate Change: Past, Present, and Future (Spring 2017)
- Climate and Environment in the Anthropocene (Fall 2016)
- Introduction to the Atmosphere (Fall 2016)

Co-Instructor, University of New Hampshire

- Global Environmental Change (Spring 2013)
- Techniques in Environmental Science (Fall 2010, 2011, 2012, 2013)

MENTORING EXPERIENCE

Audrey Odwuor (Rice University '17, Earth Science), Student Airborne Research Program project mentor (June 2016-June 2018)

PROFESSIONAL SERVICE

Reviewer for Atmospheric Chemistry and Physics, Atmospheric Environment, Environmental Science and Technology, Journal of Geophysical Research—Atmospheres, and Photochemistry and Photobiology

PROFESSIONAL MEMBERSHIPS

American Geophysical Union (2014-present)

American Association for Aerosol Research (2015-present)

COMMUNITY OUTREACH AND INVOLVEMENT

Guest speaker on climate change, Mount Anthony Union Middle School, Bennington, VT, April 2018

On-site outreach coordinator for the NASA KORUS-AQ research project, June 2016.

NASA Earth Science Week blogger, <http://esw.climate.nasa.gov/>, October 2014.

Marshwood Middle School Earth Day Celebration presenter, Eliot, ME, April 2013.

4-H Teen Conference presenter, Durham, NH, June 2012.

White Mountains Community College Women in Science and Technology panelist, Berlin, NH, April 2012.

UNH Undergraduate Research Conference Interdisciplinary Science and Engineering Symposium judge, Durham, NH, April 2011, 2012.

Nottingham School Science Fair judge, Nottingham, NH, March 2010, 2011.

Arctic research blogger, <http://fieldnotesfromsummit.blogspot.com/>, June 2010, 2011.

Transforming Earth Systems Science Education Fellow, University of New Hampshire, 2008-2009.