

## Shelly L. Miller

1111, Engineering Drive, 427 UCB, University of Colorado, Boulder, CO 80309-0427

Phone: 303-492-0587; Email: shelly.miller@colorado.edu

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### Professional Preparation

Harvey Mudd College, Applied Mathematics *with honors*, BS, 1986

Claremont Graduate School, Operations Research and Statistics, MS, 1987

University of California, Berkeley, Environmental Engineering, MS, 1991

University of California, Berkeley, Civil and Environmental Engineering, PhD, 1996

Chancellor's Fellow, University of Colorado, Boulder, 1996-1998

### Academic/Professional Appointments

University of Colorado, Boulder Mechanical Engineering, Professor, 6/15-present

University of Colorado, Boulder Mechanical Engineering, Associate Professor, 6/06-present

University of Colorado, Boulder Mechanical Engineering, Assistant Professor, 9/98-5/06

University of Colorado, Boulder, Mechanical Engineering, Chancellor's Fellow, 9/96-8/98

### Recent 15 Publications (out of 69 peer-reviewed publications in total)

1. Carlton, E.J., Barton, K., Shrestha, P.M., Humphrey, J., Newman, L.S., Adgate, J.L., Root, E. and Miller, S.L. Relationships between home ventilation rates and respiratory health in the Colorado Home Energy Efficiency and Respiratory Health (CHEER) study. *Environmental Research*, 169:297-307, 2019
2. Eltarkawe, M.A., and Miller, S.L. The impact of industrial odors on the subjective well-being of communities in Colorado, *International Journal of Environmental Research and Public Health*, 15: 1091, 2018, <https://doi.org/10.3390/ijerph15061091>
3. Militello-Hourigan, R., and Miller, S. L. The impacts of cooking and an assessment of indoor air quality in Colorado passive and tightly constructed homes, *Building and Environment*, 144:573-582, 2018. (DOI: [10.1016/j.buildenv.2018.08.044](https://doi.org/10.1016/j.buildenv.2018.08.044))
4. Rosario, K., Fierer, N., Miller, S.L., Luongo, J., Breitbart, M. Diversity of DNA and RNA viruses in indoor air as assessed via metagenomics sequencing, *Environmental Science & Technology*, 52:1014-1027, 2018, <https://doi.org/10.1021/acs.net.7b04203>
5. Clements, N., Keady, P.B., Emerson, J., Fierer, N., Miller, S.L., Seasonal Variability of Airborne Particulate and Bacteria Concentrations in Colorado Homes, *Atmosphere*, 9(4):133, <https://doi.org/10.3390/atmos9040133>.
6. Luongo, J.C., Barberan, A., Hacker-Cary, R., Morgan, E.E., Miller, S.L., Fierer, N. Microbial analyses of airborne dust collected from dormitory rooms predict the sex of occupants, *Indoor Air*, 27:338-344, 2017
7. Emerson, J.B., Keady, P.B., Clements, N., Morgan, E.E., Awerbuch, J., Miller, S.L. Fierer, N. High temporal variability in airborne bacterial diversity and abundance inside single-family residences. *Indoor Air*, 27:576-586, 2017
8. Luongo, J.C., Brownstein, J. Miller, S.L. Ultraviolet germicidal coil cleaning: Impact on heat transfer effectiveness and static pressure drop. *Building and Environment*, 112:159-165, 2017
9. Miller, S.L., Facciola, N.A., Toohey, D., Zhai, J., Ultrafine and fine particulate matter inside and outside of mechanically ventilated buildings, *International Journal of Environmental Research and Public Health*, 14(2):128, 2017, <https://doi.org/10.3390/ijerph14020128>

10. Miller, S.L., Clements, N., Elliott, S.A., Subhash, S.S., Eagan, A., Radonovich, L.J., Implementing a negative-pressure isolation ward for a surge in airborne-infectious patients. *American Journal of Infection Control*, 45:652-650, 2016
11. Adams, R., Bhangar, S., Dannemiller, K., Eisen, J., Fierer, N., Gilbert, J., Green, J., Marr, L., Miller, S.L., Seigel, J., Stephens, B., Waring, M., Bibby, K. Ten questions concerning the microbiome of buildings, *Building and Environment*, 109:224-234, 2016
12. Offermann, F.J., Eagan, A., Offermann, A.C., Subhash, S.S., Miller, S.L., and Radonovich, L.J. Potential airborne pathogen transmission in a hospital with and without surge control ventilation system modifications. *Building and Environment*, 106:175–180, 2016
13. Luongo, J.C. and Miller, S.L., Ultraviolet Germicidal Irradiation on HVAC Cooling Coils: Decreased Surface Microbial Loading and Resuspension of Cell Clusters, *Building and Environment*, 105:50-55, 2016
14. Subhash, S. S., Baracco, G., Miller, S.L., Eagan, A., Radonovich, L.J., Estimation of needed isolation capacity for an airborne-influenza pandemic, *Health Security*, 14(4):1-6, 2016
15. Clements, N., Hannigan, M.P., Miller, S.L., Peel, J.L., and Milford, J.B.: Comparisons of urban and rural PM10–2.5 and PM2.5 mass concentrations and semi-volatile fractions in Northeastern Colorado, *Atmos Chem Phys*, 16:7469-7484, 2016

### **Synergistic Activities**

- Tutorial Instructor, Designing and conducting field campaigns that include indoor environments, American Association for Aerosol Research, Annual Conference, St. Louis MO Sept 2018
- Editor for special issue on Indoor Air Pollution for the open Access MDPI journal *Atmosphere*, 2017-2019
- National Academy of Sciences invited panel speaker, Microbiomes of the Built Environment study, October 2016, and October 2017
- Conference President for the Healthy Buildings America Conference, Jul 2015, held at the University of Colorado Boulder. This is a biannual Conference of the International Society for Indoor Air Quality and Climate
- International Society for Indoor Air Quality and Climate, Workshop organizer and presenter for Indoor Air 2014 Hong Kong, *Women in IAQ research: personal and career development for early stage researchers*
- American Association for Aerosol Research, Finance Committee 2013-2015, Vice-Chair Indoor Aerosols Working Group, 2015-2016. AAAR has over 800 members and publishes the scientific journal *Aerosol Science & Technology*
- Engineering Faculty Consultant to the Veterans Hospital Administration, National Center Occupational Health and Infection Control, 2008 – 2015

### **Collaborators and Other Affiliations**

*Collaborators and Co-authors (past 48 months):* Adgate, J. (CU Denver); Carlton, E. (CU Denver); Fierer, N. (CU Boulder); Hannigan, Michael P. (CU Boulder); Jimenez, J. (CU Boulder); Milford, Jana B. (CU Boulder); Root, E. (Ohio State U); Ziemann, P. (CU Boulder)

*Graduate Advisor:* Nazaroff, William W (UC-Berkeley)

*Graduate Students and Postdoctoral Researchers Supervised (recent only):* Pat Keady (MS research associate 2012-2013); Nicholas Clements (PhD 2013, postdoc 2015), Julia Luongo (PhD 2016), Prateek Shrestha (PhD 2018); Mohamed Eltarkawe (current PhD); Jamie Humphrey (postdoc 2015-2017), Donna Auguste (current PhD)