

Shelly L. Miller, Ph.D.

Curriculum Vita

EDUCATION

Ph.D. (1996) Civil and Environmental Engineering, University of California, Berkeley

Dissertation Title: "Characterization and Control of Exposure to Indoor Air Pollutants Generated by Occupants"

Dissertation Advisor: William Nazaroff (Chair), Minors: Public Health, Chemical Transport Phenomena

M.S. (1991) Environmental Engineering, University of California, Berkeley

M.S. (1987) Operations Research and Statistics, Claremont Graduate School

Thesis Title: "Statistical Analysis of Fire Data and the Influence of Multiple Fires on Suppression Effectiveness for Selected Areas in California"

B.S. (1986) Applied Mathematics *with honors*, Harvey Mudd College

PROFESSIONAL EXPERIENCE

University of Colorado, Boulder, Mechanical Engineering, Associate Professor, 2006-present

University of Colorado, Boulder, Mechanical Engineering, Assistant Professor, 1998-2006

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

Lawrence Berkeley National Laboratory, Indoor Environment Program, Research Assistant, 1991-95

U.S. Naval Weapons Station, Concord, CA, Data Systems, Operations Research Analyst, 1990

Claremont Graduate School, Mathematics, Research Team Leader, 1986-1987

TRW, Inc., San Bernardino, CA, Navigation Engineering, Member of the Technical Staff, 1986-1988

HONORS AND AWARDS

Distinguished Achievement Award, Mechanical Engineering, University of Colorado, 2006

University of Colorado LEAP Fellow, 2005

NSF POWRE Award, 2000

Environmental Achievement Award, US EPA Region 8, 2000

Faculty Teaching Excellence Program Technology Scholar, University of Colorado, 1999

NSF WEE'99 Scholar, Workshop for the Retention and Advancement of Underrepresented and Minority Engineering Educators, 1999

NSF Engineering Education Scholar, Carnegie Mellon University, 1998

Chancellor's Postdoctoral Research Fellowship for Academic Diversity, University of Colorado at Boulder, 1996-1998

Best Doctoral Student Paper, Air & Waste Management Association, 1993

Outstanding Graduate Student Instructor Award, University of California, Berkeley, 1993

Graduate Minority Opportunity Fellowship, University of California, Berkeley, 1989

Academic Excellence Scholarship, Claremont Graduate School, 1986

Dean's List, Harvey Mudd College, 1984-86

PEER-REVIEWED JOURNAL ARTICLES

1. Hemann J, Brinkman G, Dutton S, Hannigan M, Milford J, and Miller SL, Assessing positive matrix factorization model fit: A new method to estimate uncertainty and bias in factor contributions at the daily time scale, *Atmospheric Chemistry and Physics Discussion*, 8: 2988-3026, 2008.
2. Liu, Xiang, Zhai, Zhiqiang, Facciola, Nick A., Miller, Shelly L. Study of Penetration of Outdoor Fine Particles into a Nonresidential Building with Multi-Zone Simulation. *ASHRAE Transactions*, **113**(2):163-171, 2007.
3. Kujundzic, E., Hernandez, M., and Miller, S. L., Ultraviolet germicidal irradiation inactivation of airborne fungal spores and bacteria in upper-room air and in-duct configurations, *Journal of Environmental Engineering and Science*, **6**:1-9, 2007
4. Kujundzic, E., Matalkah, F., Howard, D. J., Hernandez, M., and Miller, S. L., Air cleaners and upper-room air UV germicidal irradiation for controlling airborne bacteria and fungal spores, *Journal of Occupational and Environmental Hygiene*, **3**:536-546, 2006

5. Kujundzic, E., Hernandez, M., Miller, S. L., Particle size distributions and concentrations of airborne endotoxin using novel collection methods in homes during the winter and summer seasons, *Indoor Air*, **16**:216-226, 2006
6. Xu, P., Kujundzic, E., Peccia, J., Schafer, M. P., Moss, G., Hernandez, M., and Miller, S. L., Impact of environmental factors on efficacy of upper-room air ultraviolet germicidal irradiation for inactivating airborne Mycobacteria, *Environmental Science & Technology*, **39**:9656-9664, 2005
7. Henderson, D. E., Milford, J. B., and Miller, S. L., Prescribed burns and wildfires in Colorado: impacts of mitigation measures on indoor air particulate matter, *Journal of the Air & Waste Management Association*, **55**:1516-1526, 2005
8. Fabian, P., Miller, S. L., Hernandez, M. T., Ambient bioaerosol indices for indoor air quality assessments of flood reclamation, *Journal of Aerosol Science*, **36**:762-783, 2005
9. Kujundzic, E., Angenent, L. T., Zander, D. A., Fabian, P. M., Henderson, D. E., Miller, S. L., and Hernandez, M., Effects of ceiling-mounted HEPA-UV air filters on airborne bacteria concentrations in an indoor therapy pool building, *Journal of the Air & Waste Management Association*, **55**:210-218, 2005
10. Fennelly, K., Davidow, A. L., Miller, S. L., Connell, N., Ellner, J. J., Modeling airborne infection with Bacillus anthracis: from Mills to mail, *Emerging Infectious Disease*, **10**:996-1002, 2004
11. Xu, P., Peccia, J., Fabian, P., Martyny, J. W., Fennelly, K., Hernandez, M., and Miller, S. L., Efficacy of ultraviolet germicidal irradiation of upper-room air in inactivating bacterial spores and Mycobacteria in full-scale studies, *Atmospheric Environment*, **37**:405-419, 2003
12. Dutton, S. J., Hannigan, M., and Miller, S. L., Indoor pollutant levels from the use of unvented natural gas fireplaces in Boulder, Colorado, letter to the editor, *Journal of the Air & Waste Management Association*, **52**:1133-1138, 2002
13. Miller, S. L., Anderson, M., Daly, E., and Milford, J., Source Apportionment of Exposures to Volatile Organic Compounds. I. Evaluation of Receptor Models using Simulated Exposure Data, *Atmospheric Environment*, **36**:3629-3641, 2002
14. Anderson, M., Daly, E., Miller, S., and Milford, J., Source Apportionment of Exposures to Volatile Organic Compounds. II. Application of Receptor Models to TEAM Study Data, *Atmospheric Environment*, **36**:3643-3658, 2002
15. Dutton, S. J., Hannigan, M., and Miller, S. L., Indoor pollutant levels from the use of unvented natural gas fireplaces in Boulder, Colorado, *Journal of the Air & Waste Management Association*, **51**:174-185, 2001
16. Anderson, M., Miller, S., and Milford, J., Source apportionment of exposure to toxic volatile organic compounds using positive matrix factorization, *Journal of Exposure Analysis and Environmental Epidemiology*, **11**:295-307, 2001
17. Peccia, J., Werth, H., Miller, S. L., and Hernandez, M., Effects of relative humidity on the ultraviolet-induced inactivation of airborne bacteria, *Aerosol Science & Technology*, **35**:728-740, 2001
18. Miller, S. L. and Nazaroff, W. W., Environmental tobacco smoke particles in multizone indoor environments, *Atmospheric Environment*, **35**:2053-2067, 2001
19. Miller, S. L. and Macher, J. M., Evaluation of a methodology for quantifying the effect of room air ultraviolet germicidal irradiation on airborne bacteria, *Aerosol Science & Technology*, **33**:274-295, 2000
20. Rahn, R. O., Xu, P., and Miller, S. L., Dosimetry of room-air germicidal irradiation using spherical actinometry, *Photochemistry and Photobiology*, **70**:314-318, 1999
21. Nicas, M. and Miller, S. L., A multi-zone model evaluation of the efficacy of upper room air ultraviolet germicidal irradiation, *Applied Environmental and Occupational Hygiene*, **14**:317-328, 1999
22. Miller, S. L., Cheng, Y. S., and Macher, J. M., Welcome to a special issue on bioaerosol generation and sampling, *Aerosol Science & Technology*, **30**:93-99, 1999
23. Hernandez, M., Miller, S. L., Landfear, D. W., and Macher, J. M., A combined fluorochrome method for quantitation of metabolically active and inactive airborne bacteria, *Aerosol Science & Technology*, **30**:145-160, 1999
24. Nazaroff, W. W., Nicas, M., and Miller, S. L., Framework for evaluating measures to control nosocomial tuberculosis transmission, *Indoor Air*, **8**:204-218, 1998
25. Miller, S. L., Branoff, S., and Nazaroff, W. W., Exposure to toxic air contaminants in environmental tobacco smoke: an assessment for California based on personal monitoring data, *Journal of Exposure Analysis and Environmental Epidemiology*, **8**:287-311, 1998
26. Miller, S. L., Leiserson, K., and Nazaroff, W. W., Nonlinear least-squares minimization applied to tracer gas decay for determining air flow rates in a two-zone building, *Indoor Air*, **7**:64-75, 1997
27. Miller-Leiden, S., Lobascio, C., Macher, J. M., and Nazaroff, W. W., Effectiveness of in-room air filtration for tuberculosis control in healthcare settings, *Journal of the Air & Waste Management Association*, **46**:869-882, 1996

28. Wampler, D., Miller-Leiden, S., Nazaroff, W. W., Gadgil, A., Litvak, A., Mahanama, K.R.R., and Nematollahi, M., Effectiveness of smokeless ashtrays, *Journal of the Air & Waste Management Association*, **45**:494-500, 1995
29. Nero, A. V., Miller-Leiden, S., Nolan, D. A., Price, P. R., Rein, S., Revzan, K. L., Wollenberg, H. A., and Gadgil, A. J., Statistically based methodologies for mapping of radon actual concentrations - the case of Minnesota, *Radiation Protection Dosimetry*, **56**:215-219, 1994

MANUSCRIPTS SUBMITTED OR IN PROGRESS FOR PEER-REVIEW

- Scaramella, P., Camp, J., Goss, C., Diaz-Castillo, S., Hendrikson, E., Litt, J., DiGuseppi, C., Miller, S.L., An assessment of indoor air quality in Hispanic immigrant housing in Commerce City, Colorado, submitted to *Indoor Air*
- Shafer, M., Kujundzic, E., Miller, S., and Moss, C., Technique for the Determination of Ultraviolet Germicidal Irradiance Levels in a Simulated Health-Care Room, submitted to *Journal of Infection Control and Hospital Epidemiology*
- VanSciver, M., Miller, S., and Hertzberg, J., Particle image velocimetry of human cough, in progress
- Facciola, N. A., Toohey, D., Zhai, J., Miller, S.L., Identification, Classification, of ultrafine indoor airborne particulate matter with outdoor values in mechanically ventilated buildings, in progress
- Xu, P., and Miller, S.L. Field investigation and CFD modeling of ultraviolet germicidal irradiation systems for inactivating airborne mycobacteria, in progress

PEER-REVIEWED CONFERENCE PROCEEDINGS

- Kujundzic, E., Howard, C., Hernandez, M., and Miller, S. L., Effectiveness of portable air cleaners and upper-room ultraviolet germicidal irradiation for infection control, *Indoor Air '02:Proceeding of the 9th International Conference on Indoor Air Quality and Climate*, H. Levin, Ed., **2**:718-723, 2002
- Henderson, D., Milford, J., and Miller, S. L., Prescribed burns in Colorado: Impacts of mitigation measures on indoor air particulate matter, *Indoor Air '02:Proceeding of the 9th International Conference on Indoor Air Quality and Climate*, H. Levin, Ed., **1**:158-163, 2002
- Fabian, M. P., Reponen, T., Miller, S. L., and Hernandez, M. T., Total and culturable airborne bacteria and fungi in arid region flood-damaged residences, *Journal of Aerosol Science*, **31** (Suppl 1):S35-S36, 2000
- Xu, P. and Miller, S. L., Factors influencing effectiveness of ultraviolet germicidal irradiation for inactivating airborne bacteria: air mixing and ventilation efficiency, *Indoor Air '99:Proceedings of the 8th International Conference on Indoor Air Quality and Climate*, G. Raw, C. Aizlewood and P. Warren, Eds., **2**:393-398, 1999
- Miller, S. L. Xu, P., Peccia, J., Fabian, P., and Hernandez, M., Effects of ultraviolet germicidal irradiation of room air on airborne bacteria and mycobacteria, *Indoor Air '99:Proceedings of the 8th International Conference on Indoor Air Quality and Climate*, G. Raw, C. Aizlewood and P. Warren, Eds., **2**:665-670, 1999
- Miller-Leiden, S. and Nazaroff, W., Evaluating practical engineering controls to reduce environmental tobacco smoke exposure in multizone residences, *Indoor Air '96:Proceedings of the 7th International Conference on Indoor Air Quality and Climate*, S. Yoshizawa, K. Kimura, K. Ikeda, S. Tanabe, and T. Iwata, Eds., **4**:45-50, 1996
- Miller-Leiden, S. Wadhwa, A., and Nazaroff, W., Effects of interchamber mixing, ventilation and filtration on lung dose from environmental tobacco smoke particles, *Indoor Air '93:Proceedings of the 6th International Conference on Indoor Air Quality and Climate*, O. Seppänen, R. Ilmarinen, J. J. K. Jaakkola, E. Kukkonen, J. Säteri, H. Vuorelma, Eds., **6**:509-514, 1993

TECHNICAL/RESEARCH REPORTS

- Miller, S. L., Facciola, N., Toohey, D., Zhai, J., Identification, Classification, and Correlation of Ultrafine Indoor Airborne Particulate Matter with Outdoor Values, Final Report American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., 1281-RP, Atlanta, GA 2008
- Miller, S. L., Milford, J. B., Henderson, D., Impacts of Mitigation Measures on Indoor Air Particulate Matter, Final Report US EPA Region 8, Denver Colorado 2003
- Miller, S. L., Hernandez, M., Fennelly, K., Martyny, J., Macher, J., Efficacy Of Ultraviolet Irradiation In Controlling The Spread Of Tuberculosis, Final Report CDC/NIOSH Contract No. 200-97-2602, Health and Human Services Centers for Disease Control and Prevention, NTIS PB2003-103816, 2002
- Miller, S. L., Hernandez, M., Evaluating Portable Air Cleaner Removal Efficiencies for Bioaerosols, Final Report CDC/NIOSH Award No. 0000036755, Health and Human Services Centers for Disease Control and Prevention, 2002

Milford, J. B. and Miller, S. L., Source Apportionment of Exposure to Toxic Volatile Organic Compounds, Final Report EPA Agreement Number R82-6788-010, US Environmental Protection Agency, 2001

CONFERENCE PRESENTATIONS

- Romero, C., Campe, J., Jophlin, C., Hendrikson, E., Miller, S.L., DiGuseppi, C., Litt, J., Policy Forces in a Shifting Community Landscape: An Expose of Immigrant Families, Homes and Health in Commerce City, presented at the 135th American Public Health Association Annual Meeting & Exposition, Washington, DC, 3-7 Nov 2007
- Litt J, Hendrikson E, Miller SL, Camp J, Scaramella P, Goss CW, Diaz-Castillo SL, Bardwell A, DiGuseppi C. A Study of Immigrant Housing Conditions in Commerce City, Colorado, presented at the 135th American Public Health Association Annual Meeting & Exposition, Washington, DC, 3-7 Nov 2007
- Dutton SJ, Hannigan MP, Miller SL, Vedal S, Daily measurements of speciated PM_{2.5} in Denver, CO with seasonal and weekly patterns. 26th Annual American Association for Aerosol Research 26th Conference, Reno, NV, 24-28 Sep 2007.
- Scaramella, P., Litt, J., DiGuseppi, C., Ford, H.A., Hendrikson, E., Pineda-Reyes, F., Pineda-Ford, D., Diaz-Castillo, S., and Miller, S.L., An Assessment of Indoor Air Quality in Hispanic Immigrant Housing in Commerce City, C, AWMA and USEPA Indoor Environmental Quality – Problems, Research, and Solutions, Durham, NC, 17-19, Jul 2006
- Dutton SJ, Matalkah F, Vos CA, Miller SL, Hannigan MP, Vedal S. Denver Aerosol Sources and Health (DASH) study preliminary results (8PI51). 24th Annual American Association for Aerosol Research 24th Conference, Austin, TX, 17-21 Oct 2005.
- Miller, S.L., Toohey, D., Zhai, J., and Facciola, N., Identification, Classification and Correlation of Ultrafine Indoor Airborne Particulate Matter with Outdoor Values: Update on RP 1281, American Society of Heating, Refrigerating, and Air-Conditioning Engineers winter meeting, Chicago, IL, 21-25 Jan 2006
- Hertzberg, J., VanSciver, J.M., Miller, S.L., Flowfield of a Human Cough, 58th Annual Meeting of the Division of Fluid Dynamics, American Physical Society, Chicago, IL, 20-22 Nov 2005
- Scaramella, P., Litt, J., DiGuseppi, C., Ford, H.A., Hendrikson, E., Pineda-Reyes, F., Pineda-Ford, D., Diaz-Castillo, S., and Miller, S.L., An Assessment of Indoor Air Quality in Hispanic Immigrant Housing in Commerce City, CO. 24th Annual American Association for Aerosol Research Conference, Austin, Texas, 17-21 Oct, 2005
- Miller, S.L., Toohey, D., Zhai, J., and Facciola, N., Identification, Classification and Correlation of Ultrafine Indoor Airborne Particulate Matter with Outdoor Values: Update on RP 1281, American Society of Heating, Refrigerating, and Air-Conditioning Engineers summer meeting, Denver, Colorado, 24-29 Jun 2005
- Kujundzic, E., Hernandez, M., and Miller, S. L., UV Irradiation Inactivation of Airborne Fungal Spores in Environmentally-Controlled Studies, 3rd International Ultraviolet Association Conference, Whistler, British Columbia, 24-27 May 2005
- Kujundzic, E., Hernandez, M., and Miller, S. L., Microbiological Clean-air delivery rates for UV air cleaners, 23rd Annual American Association for Aerosol Research Conference, Atlanta, Georgia, 4-8 Oct, 2004
- Brinkman, G., Dutton, S. J., Miller, S. L., Hannigan, M. P., Milford, J. B., Comparison of Chemical Analysis Scenarios for Source Apportionment of Synthetic PM_{2.5} Using Positive Matrix Factorization, 23rd Annual American Association for Aerosol Research Conference, Atlanta, Georgia, 4-8 Oct, 2004
- Toohey, D., Delia, A., Middlebrook, A., Miller, S.L., Tolbert, M., and Toon, B., An integrated system for analyses of aerosol composition and chemistry (ISAACC), 22nd Annual American Association for Aerosol Research Conference, Anaheim, California, 20-24 Oct, 2003
- Henderson, D., Milford, J.B., and Miller, S.L., Prescribed burns and wildfires in Colorado: impacts of mitigation measures on indoor air PM_{2.5}, 22nd Annual American Association for Aerosol Research Conference, Anaheim, California, 20-24 Oct, 2003
- Kujundzic, E., Hernandez, M., and Miller, S.L., Investigating indoor airborne endotoxin levels in Boulder, Colorado Homes, 22nd Annual American Association for Aerosol Research Conference, Anaheim, California, 20-24 Oct, 2003
- Angenent L. T., Kujundzic E., Zander D. A., Henderson D. E., Miller S. L., Hernandez, M. T. Bioaerosol and airborne particulate matter mitigation using hybrid HEPA-UV filter units in a high-exposure environment, 21st Annual American Association for Aerosol Research Conference, Charlotte, North Carolina, 7-11 Oct, 2002
- Kujundzic, E., Howard, C., Hernandez, M., and Miller, S. L., Effectiveness of portable air cleaners and upper-room ultraviolet germicidal irradiation for infection control, 9th International Conference on Indoor Air Quality and Climate, Monterey, California, Jun 30-Jul 5 2002

- Henderson, D., Milford, J., and Miller, S. L., Prescribed burns in Colorado: Impacts of mitigation measures on indoor air particulate matter, 9th International Conference on Indoor Air Quality and Climate, Monterey, California, Jun 30-Jul 5 2002
- Wysmuller, S. M., Duffy, M. E., Dutton, S. J., Mackie, T. A., Rabinovitch, N., and Shelly L. Miller, S. L. Pilot indoor environmental intervention study in grade schools and residences to reduce childhood asthma symptoms, Annual Air and Waste Management Association Conference, Orlando, FL, June 2001
- Gelfand, E. W., Liu, A. L., Dutton, S. J., Mackie, T. A., Duffy, M. E., Wysmuller, S. M., Miller, S. L., and Rabinovitch, N. Association between indoor PM levels, asthma symptoms and the use of air cleaners, American Academy of Allergy, Asthma and Immunology Annual Conference, New Orleans, LO, 16-21 Mar, 2001
- Miller, S. L., Duffy, M. E., Dutton, S., Mackie, T., Wysmuller, S., Rabinovitch, N. Effects of indoor environmental interventions in grade schools and residences on childhood asthma, 19th Annual American Association for Aerosol Research Conference, St. Louis, MO, 6-10 Nov 2000
- Anderson, M.J., Miller, S.L., and Milford, J.B. Source Apportionment of Exposure to Toxic Volatile Organic Compounds in California, 10th Annual Conference of the International Society of Exposure Analysis, Monterey, CA, 24-27 Oct 2000
- Anderson, M.J., Miller, S.L., and Milford, J.B. Source Apportionment of Exposure to Toxic Volatile Organic Compounds in California, International Symposium on the Measurement of Toxic and Related Air Pollutants (sponsored by the Air & Waste Management Assoc. and U.S. Environmental Protection Agency), Durham, NC, 12-14 Sep 2000
- Miller, S. L., Anderson, M., and Milford, J. B. Source apportionment of exposure to toxic volatile organic compounds, Engineering Solutions to Indoor Air Quality Problems Symposium, Raleigh, NC, 17-19 Jul 2000
- Duffy, M. E., Dutton, S., Mackie, T., Wysmuller, S., Rabinovitch, N., and Miller, S. L. Pilot indoor environmental intervention study in grade schools and residences to reduce childhood asthma symptoms, Engineering Solutions to Indoor Air Quality Problems Symposium, Raleigh, NC, 17-19 Jul 2000
- Xu, P., Peccia, J., Hernandez, M., and Miller, S. L. The efficacy of upper room ultraviolet germicidal irradiation in inactivating airborne microorganisms under incomplete mixing conditions, Engineering Solutions to Indoor Air Quality Problems Symposium, Raleigh, NC, 17-19 Jul 2000
- Lai, A. C., Miller, S. L., and Nazaroff, W. W. Effectiveness of methods for reducing residential ETS exposure, 18th annual conference of the American Association for Aerosol Research Conference, Tacoma, WA, 11-15 Oct 1999
- Dutton, S. and Miller, S. L., Penetration of particle within indoor environments, 18th annual conference of the American Association for Aerosol Research Conference, Tacoma, WA, 11-15 Oct 1999
- Xu, P. and Miller, S. L., Factors influencing effectiveness of ultraviolet germicidal irradiation for inactivating airborne bacteria: air mixing and ventilation efficiency, 8th International Conference on Indoor Air Quality and Climate, Edinburgh, Scotland, 8-13 August 1999
- Miller, S. L. Xu, P., Peccia, J., Fabian, P., and Hernandez, M., Effects of ultraviolet germicidal irradiation of room air on airborne bacteria and mycobacteria, 8th International Conference on Indoor Air Quality and Climate, Edinburgh, Scotland, 8-13 August 1999
- Miller, S. L., Xu, P., Peccia, J., Fabian, P., Hernandez, M., Effects of ultraviolet germicidal irradiation of room air on airborne bacteria and mycobacteria, Hazard Control Technologies in Healthcare: Collaborative Strategies for the Next Millennium, Colorado Springs, CO, 2-4 August 1999
- Milford, J. B. and Miller, S. L., From source to exposure: completing the chain in analysis of air quality, Association of Environmental Engineering and Science Professors Research Frontiers Conference, University Park, PN, 31 Jul - 3 Aug 1999
- Miller, S. L. and Hannigan, M., Indoor carbon monoxide levels from the use of unvented natural gas fireplaces in Boulder, CO, Proceedings of the First NSF International conference on Indoor Air Health, Denver, CO, 3-5 May 1999
- Miller, S. L., Xu, P., Hernandez, M., Fennelly, K., Macher, J. M., and Martyny, J., Efficacy of ultraviolet irradiation of room air in controlling the spread of tuberculosis, 17th annual conference of the American Association for Aerosol Research Conference, Cincinnati, OH, 23-26 June 1998
- Miller, S. L., Branoff, S., Van Loy, M. D., and Nazaroff, W. W., Modeling Californians' exposure to sixteen toxic air contaminants in environmental tobacco smoke, 7th annual meeting of the International Society of Exposure Analysis, Research Triangle Park, NC, 2-5 November 1997
- Miller, S. L., Hernandez, M. and Macher, J. M., Effectiveness of filtration or ultraviolet irradiation to control airborne disease transmission, 57th annual American Industrial Hygiene Conference and Exhibition, Dallas, TX, 17-23 May 1997

- Miller, S. L., Branoff, S., and Nazaroff, W. W., The contribution of environmental tobacco smoke to the exposure of Californians for sixteen toxic air contaminants, Society For Risk Analysis and 6th annual meeting of the International Society of Exposure Analysis, New Orleans, LA, 8-12 December 1996
- Nazaroff, W. W., and Miller, S. L., Controlling indoor aerosols: Tuberculosis and environmental tobacco smoke, 1996 International Conference on Aerosol Science and Technology (invited), Chinese Association for Aerosol Research, Chungli, Taiwan, 5-7 December 1996
- Nazaroff, W. W., Drescher, A. C., and Miller, S. L., Tracer techniques for studying indoor air pollutant transport and dispersion, Korea Academy of Industrial Technology, Seoul, Korea, 12-13 November 1996
- Miller, S. L., Hernandez, M. and Macher, J. M., Effectiveness of ultraviolet irradiation of room air for inactivating airborne bacteria, 15th annual conference of the American Association for Aerosol Research Conference, Orlando, FL, 14-18 October 1996
- Miller-Leiden, S. and Nazaroff, W., Evaluating practical engineering controls to reduce environmental tobacco smoke exposure in multizone residences, 7th International Conference on Indoor Air Quality and Climate, Nagoya, Japan, 22-26 July 1996
- Miller-Leiden, S. and Nazaroff, W., Evaluation of ceiling-mounted air filters for reducing tuberculosis transmission, International Symposium on Engineering Solutions to Indoor Air Quality Problems, sponsored by the Air & Waste management Association and the U.S. EPA, Research Triangle Park, NC, 24-26 Jul 1995
- Miller-Leiden, S. and Nazaroff, W., Environmental tobacco smoke particles: Investigating the effects of building factors on exposure and lung dose, Fourth International Aerosol Conference, Los Angeles, CA, 29 Aug -2 Sep 1994
- Miller-Leiden, S., Wadhwa, A., Xu, M., Nematollahi, M., and Nazaroff, W., Determination of environmental tobacco smoke lung dose under different ventilation and interchamber mixing conditions, 86th Annual Meeting of the Air & Waste Management Association, Denver, CO, 14-18 June 1993
- Miller-Leiden, S. Wadhwa, A., and Nazaroff, W., Effects of interchamber mixing, ventilation and filtration on lung dose from environmental tobacco smoke particles, 6th International Conference on Indoor Air Quality and Climate, Helsinki, Finland, 4-8 July 1993
- V. Nero, Miller-Leiden, S., Nolan, D. A., Price, P. R., Rein, S., Revzan, K. L., Wollenberg, A., and Gadgil, A. J., Statistically-based methodologies for mapping of radon "actual" concentrations: The case of Minnesota, First International Workshop on Indoor Radon Remedial Action: The Scientific Basis and the Practical Implications, Rimini, Italy, 27 Jun-2 Jul 1993

INVITED LECTURES

- University of Texas, Austin, Department of Civil, Environmental and Architectural Engineering, Overview of Air Quality Research at the University of Colorado at Boulder, Nov 2007
- National Institute of Standards and Technology, Maryland, Identification, Classification and Correlation of Ultrafine Indoor Airborne Particulate Matter with Outdoor Values, Mar 6 2007
- University of California, Berkeley, Department of Civil and Environmental Engineering, "Identification, Classification and Correlation of Ultrafine Indoor Airborne Particulate Matter with Outdoor Values," Feb 27 2007
- Lawrence Berkeley National Laboratory, "Ultraviolet Irradiation for Inactivating Airborne Microorganisms," Feb 26 2007
- American Society of Heating, Refrigerating and Air-Conditioning Engineers Special Seminar, "Particle Technology: From Fundamentals to Today," Dallas TX, Jan 2007
- Clarkson University, "Efficacy of UVGI for Inactivating Airborne Mycobacteria and Fungi," Apr 2006
- Denmark Technological University, "Recent Developments in our Understanding of UVGI Efficacy for Inactivating Microorganisms," Lyngby Denmark, Dec 2005
- CalPoly San Luis Obispo, "Indoor and Outdoor Fine Particulate Matter Levels during Prescribed Burns and Forest Fires," May 2005
- Colorado School of Mines, "Air Quality Engineering: Public Health and the Indoor Environment," Apr 2002
- Boulder Valley School District Teachers As Scholars Program, "Bioaerosols: from Warfare to Human Health," Dec 2001
- Colorado School of Mines, AIHA/ASSE Annual Technical Conference, "Tuberculosis control Methods and new Research," Sep 2000
- U.S. EPA Region 8, "Pilot Indoor Environmental Intervention Study," May 2000
- Healthy Indoor Environments, Asthma and Allergen Control Conference, "Product Technology for Asthma and Allergen Control," May 2000

CIRES, "Ultraviolet Technologies," Feb 2000

Centers for Disease Control and Prevention, "Ultraviolet Germicidal Irradiation Research Update," Mar 2000

American Thoracic Society, "Tuberculosis Infection Control in the 21st Century," Dec 1999

RESEARCH CONTRACTS AND GRANTS

U.S. Environmental Protection Agency, M. P. Hannigan (PI), J. B. Milford, J. L. Peel, W. Navidi, S. L. Miller, Health Effects and Characterization of Urban and Rural Coarse Particulate Matter in Northeastern Colorado, \$1,200,000, Oct 2007 - Sep 2011, SLMs share is 30% of \$830k or \$275k

Big 12 Universities Fellowship, University of Colorado, Indoor Environmental Science and Engineering: Transferring Research and Teaching Knowledge between CU-Boulder and UT-Austin, \$2500, Dec 2007-Dec 2007

The Boeing Company, S. L. Miller (PI) and M. Hernandez, Reducing Cross-Infection in Aircraft Cabins, sub-contract to Kansas State University for \$992,600, total grant award is \$1,364,700, Nov 2006 – Nov 2009, SLM's share is 70%

National Institutes of Health, SBIR, Phase I. S. L. Miller (PI), A Novel Holographic Detector for Remote Sensing of Environmental Hazards, \$31,684, 6-mo award funded Sep 2006, SLM's share is \$4000

Foundation-National Institutes of Health, S. P. Cape (PI), S. L. Miller, T. Randolph, M. Hernandez, R. E. Sievers, Needle-Free Delivery of Stable, Respirable Powder Vaccine, University of Colorado-Boulder sub-contract to Aktiv-Dry LLC for \$2,231,843, total grant award is to Aktiv-Dry for \$19.5 million 2005-2010, SLM's contribution is for the first three years at 10% (\$133,911)

National Institutes of Health, S. L. Miller, M. P. Hannigan (PI), Air Pollution Health Effects: A Source-Oriented Approach, CU sub-contract to National Jewish for \$771,409, total grant award is \$1,770,062 Apr 2004 – Mar 2009, SLM's share is 40% (\$308,564)

U.S. Department of Housing and Urban Development, Indoor and Outdoor Air Quality Characterization and Risk Management Recommendations for Immigrant Housing in Commerce City, Colorado CU sub-contract to UCHSC for \$143,880, total grant award is \$676,120 Sept 2004 – May 2007

American Society of Heating, Refrigerating, and Air-Conditioning Engineers, S. L. Miller (PI) and J. Zhai, Identification, Classification and Correlation of Ultrafine Indoor Airborne Particulate Matter with Outdoor Values, \$109,972 Sept 2004 – Aug 2006, SLM's share is 80% (\$87,988)

Department of State, Partnership between University of Colorado and Ecole Polytechnique de Tunisie Tunisia, Education and Training Curriculum Development for Environmental Sustainability, funding for travel provided, Sep 01- Jun 06, Faculty participant from CU (1 out of 4 faculty, M. Krarti is principal investigator), \$118,000, SLM's share is \$4000, Dec 2001- Jul 2006

Council on Research and Creative Work, University of Colorado, Development of Airborne Allergen Sampling and Analyses, \$5710, Oct 2004 – Sep 2005

Gilbert Foundation, Efficacy of Germicidal UV Irradiation in Controlling Nosocomial Infections Phase I: Controlled Laboratory Tests, \$49,644 Jan 2004 – May 2005

Shaklee Corporation, Air Treatment Unit Study, \$47,884 Feb 2004 – Jun 2004

Council on Research and Creative Work, University of Colorado, Speciation and Apportionment of Personal Exposure PM_{2.5}, \$6877, Jan 2002 – Dec 2003

National Institutes of Health, SBIR, Phase I. M. Hernandez (PI), S. L. Miller, Determining the Recovery and Enumeration Efficiency of Prototype Immuno/Electrochemical Bioaerosol Detectors in Pilot-Scale Chambers, \$31,684, 6-mo award funded Aug 2001, SLM's share is 20% (\$6337)

U.S. Environmental Protection Agency, S. L. Miller (PI) and J. B. Milford, Prescribed Burns and Wildfires in Colorado – Impacts of Mitigation Measures on Indoor Air and Personal Exposure to Particulate Matter, \$30,263, Aug 27 2001 – Feb 28 2003, SLM's share is 60% (\$18,158)

Breathe Better Foundation, Breathe Better Bus Project, \$10,000 gift Sep 2000

National Science Foundation, POWRE, Bioaerosols: Gaining Expertise through Education and Research, \$75,000 Mar 2000 – Dec 2003

National Science Foundation, D. W. Toohey (PI), A. M. Middlebrook, S. L. Miller, M. A. Tolbert, O. B. Toon, Major Research Instrumentation Grant, Atmospheric Chemistry Directorate for Geosciences, Development of an Integrated System for Analyses of Aerosol Composition and Chemistry, \$560,000, Mar 2000 – Aug 2004, SLM's share is 20% (\$112,000)

- Centers for Disease Control and Prevention, National Institute of Occupational Safety and Health, S. L. Miller (PI) and M. Hernandez, Efficacy of Ultraviolet Irradiation and In-Room Air Cleaners in Controlling the Spread of Tuberculosis, \$19,000, Oct 2000 – May 2002, SLM’s share is 50% (\$9,500)*
- Centers for Disease Control and Prevention, National Institute of Occupational Safety and Health, Efficacy of In-Room Air Cleaners against Bioaerosols, \$25,000, one-year contract funded Oct 2000*
- National Jewish Medical and Research Center, Environmental Lung Center Faculty Grant, \$3500, 2000-2001*
- U.S. Environmental Protection Agency, Pilot Indoor Environmental Intervention Study in Day-care Centers and Grade Schools to Reduce Childhood Asthma Symptoms, \$25,400, Sep 1999 – May 2002*
- U.S. Environmental Protection Agency, S. L. Miller and J. B. Milford (PI), Source Apportionment of Exposure to Toxic Volatile Organic Compounds, \$129,700, Sep 1998 – Sep 2001, SLM’s share is 50% (\$64,850)*
- Centers for Disease Control and Prevention, National Institute of Occupational Safety and Health, S. L. Miller (PI), M. Hernandez, and K. P. Fennelly, Efficacy of Ultraviolet Irradiation in Controlling the Spread of Tuberculosis, \$352,000, Sep 1997 – Aug 2003, SLM’s share is 45% (\$158,400)*

PAID CONSULTING ACTIVITIES

- QVX, provided testing protocol for UV-enhanced air cleaners, 2008
- Bona Kemi, provided analytical services and expertise, 2006-present
- Wardenburg Medical Center, provided air quality testing services and expertise, 2004 – present
- Leeds School of Business, provided air quality testing services and expertise, 2004 – 2005
- Shaklee Corporation, provided technical services for in-room air cleaner design and testing, 2003–present
- Gilbert Group, expertise on ultraviolet technology, 2003-present
- StrionAir, provided technical services HVAC filtration products, 2003–present
- Shining Mountain Waldorf School, provided air quality testing services and expertise, 2002
- Boulder Community Hospital, Indoor air quality testing and air pollution control design, 2002
- Centers for Disease Control and Prevention, photoreactivation and ultraviolet irradiation expertise, 2001-2003

TEACHING GRANTS

- Service Learning Program, University of Colorado, for MCEN 4228-003 Art and the Environment, \$1000 Spring Semester 2004
- Technology and Culture Program, University of Colorado, for MCEN 4228-003 Art and the Environment, \$5000 Spring Semester 2004
- Undergraduate Excellence Fund, University of Colorado at Boulder, S. L. Miller, (Principal Investigator), Air Quality Monitoring of Particulate Matter Size Distributions, \$7,268, one-year grant funded Mar 1998
- Undergraduate Excellence Fund, University of Colorado at Boulder, S. Miller and J. Milford (co-PIs), Laboratory on Ambient Air Quality and Personal Exposure Monitoring for Carbon Monoxide, \$12,850, one-year grant funded Mar 1997

COURSES TAUGHT

Semester & Year	Number of Students	Faculty Course Questionnaire Rating
<i>Air Pollution Control Engineering, MCEN 4131/5131</i>		
Spring 1999	26 undergraduate students, 4 graduate students	Course C, Instructor C+
Spring 2002	23 undergraduate students, 6 graduate students	Course B, Instructor B
Spring 2004*	26 undergraduate students, 12 graduate students	Course C, Instructor C
Spring 2005	32 undergraduate students, 11 graduate students	Course B, Instructor B
Spring 2006	35 undergraduate students, 7 graduate students	Course , Instructor
<i>Indoor Air Pollution, MCEN 4141/5141 (New Course)</i>		
Fall 1997**	7 undergraduate students	Course B+, Instructor A-

* Taught course for the first time using newly developed [proactive teaching and learning](#) tools; half of the students liked the new teaching style, and half did not. Used the same techniques in Spring 2005, with some additional refinement, and course improved greatly.

Fall 1998	11 graduate students	Course A, Instructor A
Fall 1999	11 undergraduate students, 11 graduate students	Course B-, Instructor C+
Fall 2001	8 undergraduate students, 4 graduate students	Course A, Instructor A
<i>Measurements Laboratory, MCEN 3027</i>		
Fall 2000	24 undergraduate students	Course C+, Instructor B+
Spring 2000	27 undergraduate students	Course B-, Instructor B
Fall 2001	44 undergraduate students	Course B, Instructor B+
Fall 2002	34 undergraduate students	N/A
Fall 2003	46 undergraduate students	Course C+, Instructor A
Fall 2004	44 undergraduate students	Course C, Instructor B
Fall 2006	44 undergraduate students	
Fall 2008	44 undergraduate students	
<i>Aerosol Dynamics, MCEN 6278 (New Course)</i>		
Spring 2001	8 graduate students	Course B-, Instructor B
<i>Aerosol Dynamics, MCEN 4228/5228 (New Course)</i>		
Fall 2005	11 undergraduate students, 14 graduate students	
<i>Breathe Better Bus Project MCEN 4228 (New Course)</i>		
Spring 2001	15 undergraduate students	Course B, Instructor B
<i>Art and the Environment MCEN 4228 (New Interdisciplinary Course Developed and Co-Taught with Fine Art Prof George Rivera)</i>		
Spring 2004	17 undergraduate engineering students, 15 undergraduate fine arts students	Course B, Instructor B+
<i>Energy and Environment Seminar Series (New course, 1 credit hour)</i>		
Fall 2004	24 graduate students	N/A
Spring 2005	20 undergraduate students	N/A
Fall 2005		
Spring 2006		
Fall 2006		

SCIENTIFIC AND PROFESSIONAL SOCIETIES

International Society of Indoor Air Quality and Climate
 International Society of Exposure Analysis
 American Association for Aerosol Research
 Air and Waste Management Association
 Association for Environmental Engineering and Science Professors

SERVICE TO SCHOLARLY OR PROFESSIONAL ORGANIZATIONS

National Institutes of Health, National Institute of Allergy and Infectious Diseases, Member of Special Emphasis Panel that reviewed clinical trial planning grant applications, Feb 2007, Nov 2007, May 2008
 American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Environmental Health Committee, 2006-present
 American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Standards Committee Member for SPC 185, Testing Protocol for In-Duct UV Systems, 2006-present
 Mickey Leland National Urban Air Toxics Research Center, Proposal Review Panel, Analysis of the NHANES VOC Project Data Set, Apr 2006
 American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Standards Committee Member for SPC 161P, Air Quality Within Commercial Aircraft, 2000-present

** Taught as Chancellor's Fellow.

National Academy of Sciences Review Panel, Decontamination of Harmful Biological Agents: How Clean is Safe? Draft Report, Feb 2005

Centers for Disease Control and Prevention Review Panel, Update to Guidelines for Prevention the Transmission of *Mycobacterium tuberculosis* in Health-Care facilities, Draft Report, Jan 2005

American Association for Aerosol Research, elected Board Member, 2001-2004

Association of Environmental Engineering and Science Professors, Secretary for Diversity Committee, 1998-2004

Consultant to the Board of Scientific Counselors, Office of Research and Development, US Environmental Protection Agency, tasked to review the National Exposure Research Laboratory, 2001

Aerosol Science & Technology, Guest Editor for Special Issue on Bioaerosols, Feb 1999

National Academy of Sciences Review Panel, Air Quality in Passenger Cabins of Commercial Aircraft Draft Report, Jul 2001

Society of Women Engineers, Annual Conference, Panel Member, "Women in Academia" Panel, Denver CO, Jun 29, 2001

International Society for Indoor Air Quality and Climate Task Force Committee Member, 2001-present

American Association for Aerosol Research, Tutorial Committee Member, 1999-2001

American Association for Aerosol Research, Chair of Indoor Air Working Group, 1997-98

American Association for Aerosol Research, Vice-Chair of Indoor Air Working Group, 1996-97

American Association of University Women, Girls in Engineering, University of Colorado, Presented a Mechanical Engineering Workshop, Mar 1998

Chemical Industry Institute of Toxicology/Chemical Manufacturers Association, State of the Science Workshop, Invited Expert Reviewer, Nov 1997

Proposal Review Panels for the National Science Foundation, Mickey Leland National Urban Air Toxics Research Center, Natural Sciences, and Engineering Research Council of Canada

Peer Reviews for *Environmental Science and Technology*, *Aerosol Science & Technology*, *Journal of Environmental Engineering Science*, *Indoor Air*, *International Journal of Exposure Analysis and Environmental Epidemiology*, *Atmospheric Environment*, *American Society of Testing and Materials' Special Technical Publications*, *Journal of the Air and Waste Management Association*, *American Industrial Hygiene Association Journal*, *Risk Analysis*

SERVICE TO MECHANICAL ENGINEERING DEPARTMENT

Faculty Development Program Director, Develop and direct a mentoring and enrichment program for pre-tenured and untenured faculty with less than 7 years experience, 2006-present

Graduate Committee, 2005-2006

Alumni Committee Member, Department of Mechanical Engineering, 2004

Senior Student Advisor, 2002

Junior Student Advisor, 2001

Faculty Search Committee Member, 2001

Study Abroad Students Faculty Advisor, 2001-present

Graduate Seminar Series Organizer, 2000

Undergraduate Committee Member, 1999-2004, 2008-present

Industrial Advisory Committee Member, 1999

Organizer and Speaker (topic: Cooperative Education) for Ball Day, a workshop for faculty and Engineerings at Ball Aerospace Company, 1999

Guest lecture in many courses, including Intro to Mechanical Engineering, Intro to Environmental Engineering, Fundamentals of Environmental Engineering, Air Quality Modeling

Organizer of Energy and Environment seminar series for undergraduate and graduate students, offered every semester

SERVICE TO ENVIRONMENTAL ENGINEERING PROGRAM

Student Advisor, 2001-2003, 2008-present

Society for Environmental Engineers Faculty Advisor, 1999

SERVICE TO COLLEGE OF ENGINEERING AND APPLIED SCIENCE

Strategic Planning, developed and presented mini-retreat for faculty on Places, Spring 2008

High School Honors Institute, University of Colorado, Presented an Environmental Engineering Workshop, summer 2005, 2006
Engineering Open House, Faculty Panelist, Oct 2004
Women in Engineering Program, Engineering Career Day for Women, air pollution demonstrations, Mar 2004
Integrated Teaching and Learning Program, Expert Reviewer for the TeachEngineering digital library's air pollution modules, 2003
Integrated Teaching and Learning Program, taught air pollution engineering to middle and high school teachers, 2003
Engineering Advisory Council, Poster Presentation on Engineering Controls for Infectious Diseases, Spring 2001
Engineering Open House, Environmental Engineering Program demonstration, Oct 2000
Engineering Career Day for High School Women, Organized and Presented an Air Pollution Measurements Demonstration, Feb 27, 1999
Women in Engineering Program for middle school girls, Energy Workshop Leader, Water Turbine Demonstration, Jul 1999
High School Honors Institute, University of Colorado, Presented a Mechanical Engineering Workshop, Aug 1998

SERVICE TO BOULDER CAMPUS

Boulder Faculty Assembly Secretary, 2008
Boulder Faculty Assembly Representative, Fall 2006 – present
Boulder Faculty Assembly Academic Affairs Committee, Fall 2006 - present
Moderator, Council on World Affairs on Global Climate Change, “Climate Change: When will policy catch up to science?” over 100 attendees, Spring 1999

SERVICE TO THE COMMUNITY

Summit Middle School Science Fair Judge, Jan 2002
Boulder Valley School District Research Seminar Series, Faculty Advisor for 3 high school students, 1999-2001
I Have a Dream Foundation, Mentor and Supervisor for a sophomore high school student, Jun-Jul 1999

PROGRAMS TO IMPROVE TEACHING AND PROFESSIONAL COMPETENCE

Big 12 Fellowship Program, visited TU Austin for 2 weeks mentoring students, giving invited talks, developed faculty research collaborations, Nov 2007
Leadership Education for Advancement and Promotion, Associate Faculty Leadership Workshop, Jan 6-8, 2006
Leadership Education for Advancement and Promotion, Negotiation Workshop, Feb 16, 2005
Faculty Teaching Excellence Program, Interaction in a Nutshell Workshop, Lee Potts facilitator, Jan 27 and Feb 3, 2005
Faculty Teaching Excellence Program, Goal Oriented Teaching through Interactive Learning, Jan 18, Carl Wieman facilitator, Jan 18, 2005
Leadership Education for Advancement and Promotion, Introductory Leadership Workshop, Jan 4–7, 2005
NSF Workshop for the Advancement and Retention of Underrepresented & Minority Engineering Educators, Arlington, VA, Sep 1999
The Summer Institute on Technology, Scholarship, and New Media Pedagogy, Jun 1999
Service Learning, Graduate Teacher Program Summer Series, Jun 9, 1999
Faculty Teaching Excellence Program, establishing a Teaching Portfolio, Boulder, Feb 1999
Faculty Teaching Excellence Program, Interaction in a Nutshell Workshop, Lee Potts facilitator, Apr, 1999
NSF Engineering Education Scholars Workshop, Carnegie Mellon University, Jul 1998
Faculty Teaching Excellence Program, Effective Presentations, Lee Potts facilitator, Jan 20, Jan 27, & Feb 3, 1998

PH.D. STUDENT SUPERVISION

Steven Dutton, Ph.D., Environmental Engineering, Ph.D. candidate, expected graduation Spring 2008
Elmira Kujundzic, Ph.D., Environmental Engineering, graduated May 2005, Dissertation Title: Engineering Control Technologies for Removing or Inactivating Biologically-Derived Particles in the Indoor Environment. Currently employed as a Post-Doctoral Researcher, Mechanical Engineering, University of Colorado. Awarded Best Paper, Air & Waste Management Association and \$2500 scholarship, 2003

Peng Xu, Ph.D., Architectural Engineering, Graduated May 2001, Dissertation Title: Ultraviolet Germicidal Irradiation for Preventing Infectious Disease Transmission. Currently employed as a Staff Engineer, Building Technologies, Lawrence Berkeley National Laboratories

M. S. STUDENT SUPERVISION

Kevin Ryan, M.S., Mechanical Engineering, graduation expected 2009

Nicholas Clements, M.S., Mechanical Engineering, graduation expected 2010

Joshua Hemann, M.S., Applied Mathematics, Graduated December 2007, Thesis Title: Assessing Positive Matrix Factorization Model Fit: a New Method to Estimate Uncertainty and Bias in Factor Contributions at the Daily Time Scale. Currently employed as Senior Technical Support Engineer at Visual Numerics, Inc., Broomfield, CO

Peter Scaramella, M.S., Environmental Engineering, Graduated June 2007, Thesis Title: A Comprehensive Exposure Assessment of Indoor Allergens and Air Pollutants in Commerce City, Colorado. Currently employed as Staff Toxicologist, Geomatrix Consultants, Inc., Oakland, CA

Nick Facciola, M.S., Mechanical Engineering, Graduated December 2006, Thesis Title: Identification, Classification, and Correlation of Ultrafine Indoor Airborne Particulate Matter with Outdoor Values. Currently employed as an Environmental Consultant at Ryerson Master and Associates, Inc., Santa Barbara, CA

Fatimah Matalkah, M.S., Environmental Engineering, Graduated December 2005

David Henderson, M.S., Mechanical Engineering, Graduated May 2003, Thesis Title: Impacts of Mitigation Measures on Indoor Air Particulate Matter. Currently employed as an environmental consultant at Colorado Power Systems, Inc., Monument, Colorado

Steven Wysmuller, M.S., Environmental Engineering, Graduated Dec 2002, Thesis Title: Reducing Childhood Exposure to Indoor Allergens Using Environmental Interventions in Grade Schools and Residences. Currently employed as a Staff Engineer, TRC Raviv Associates, Inc.

Melissa Anderson, M.S., Environmental Engineering, Graduated May 2001, Thesis Title: Source Apportionment of Toxic Volatile Organic Compounds, Currently employed as an Environmental Consultant at TetraTech

UNDERGRADUATE RESEARCH STUDENT SUPERVISION

Nicholas Clements (DLC Apprentice), Julia Radcliff (President's Leadership Class), Megan Johnson (UROP), Megan Christen (DLC apprentice), Cody Howard (UROP, hourly), Janice Huang (UROP), Nathan Sealy (UROP), Kelly Kohn (Independent study (IS)), Francis Xi (Hourly), Iain Elliot (IS, hourly), Geoff Gay (IS), Chris Hulse (IS), Jeremy Hollands (IS), Thomas Calihan (IS), Andrew Diaz (IS), Eric Kuo (IS), Charley Abernathy (IS), Keith Jariabka (IS), Alex Shorter (IS), Carissa Money (IS), Brady Olson (IS), Heather Roubideaux (IS)

SUMMER RESEARCH STUDENT SUPERVISION

Summer Undergraduate Research Experience, University of Colorado, Francis Xi 2004, Nick Ortiz 2005, Megan Johnson 2007

Environmental Engineering NSF REU Program, University of Colorado, Sharon Shearer 2002, Jennifer Jeffers 2004, 2006

Summer Multicultural Access to Research Training, University of Colorado, Dusty Mousseaux 2001

GRADUATE STUDENT DISSERTATION/THESIS COMMITTEES

Kevin Higdon, Ph.D. Committee Member, Aerospace Engineering, expected to graduate 2010

Edward EJ Lachendro, M.S. Committee Member, Environmental Engineering, graduated 2007

James Russell, Ph.D. Committee Member, Aerospace Engineering, graduated 2005

Jennifer Walsh, Ph.D. Committee Member, Chemical Engineering, graduated 2005

Casey Cairney, Ph.D. Committee Member, Chemical Engineering, graduated 2005

Alice Delia, Ph.D. Committee Member, Program in Atmospheric and Oceanic Sciences, graduated 2004

Jaimee Dahl, Ph.D. Committee Member, Chemical Engineering, graduated 2004

Chung-Tai Wu, Ph.D. Committee Member, Architectural Engineering, graduated 2003

Peter Franklin, Environmental Sciences, Murdoch University, Australia, 2001

Jordan Peccia, Ph.D. Committee Member, Environmental Engineering, graduated Dec 2000

Mohsin Alawi, Ph.D. Committee Member, Architectural Engineering, graduated 1999

Steven Grumbach, Ph.D. Committee Member, Architectural Engineering, graduated 1999
Ethan Chatfield, M.S. Committee Member, Environmental Engineering, graduated 2000
Patricia Fabian, M.S. Committee Member, Environmental Engineering, graduated 2000
Wes Ramm, M.S. Committee Member, Mechanical Engineering, graduated 1999

UNDERGRADUATE STUDENT THESIS COMMITTEE

Nicci Wolters, Undergraduate Honors Thesis in Chemistry, 2008
Tali Nagler, Undergraduate Honors Thesis in Fine Art, 2004