

William W Nazaroff
Professor of Environmental Engineering
Department of Civil and Environmental Engineering
University of California
Berkeley, California 94720-1710

Telephone: (510) 642-1040
Fax: (510) 642-7483
E-mail: nazaroff@ce.berkeley.edu
Web Page: <http://www.ce.berkeley.edu>

Experience:

Faculty, Department of Civil and Environmental Engineering, University of California, Berkeley (Assistant Professor 1988-1992; Associate Professor 1992-1996; Professor 1996-).
Visiting Professor, International Centre for Indoor Environment and Energy, Department of Mechanical Engineering, Technical University of Denmark, Lyngby, June-August 2001.
Visiting Professor, Department of Civil Engineering, Technion — Israel Institute of Technology, Haifa, Israel, 1996-1997.
Faculty Scientist, Environmental Energy Technologies Division, Lawrence Berkeley National Laboratory, 1988-.
Staff Scientist, Indoor Environment Program, Lawrence Berkeley Laboratory, 1980-1988.

Education:

Ph.D., 1989, Environmental Engineering Science, California Institute of Technology; Dissertation: Mathematical modeling and control of pollutant dynamics in indoor air.
M.Eng., 1980, Electrical Engineering and Computer Science, University of California, Berkeley.
B.A., 1978, Physics, University of California, Berkeley.

Research Interests:

Indoor air quality, emphasizing the following topics: pollutant-surface interactions; transport/mixing phenomena; aerosols; environmental tobacco smoke; source characterization; control techniques
Exposure analysis: development and application of methods for assessing exposure to air pollutants

Awards and Distinctions:

Excellence in Review Award, *Environmental Science & Technology*, **37**, 414A, 2003
Roy W. Carlson Distinguished Professor, University of California, Berkeley, 1998-2001
Best paper, 20th Annual Conference, Air Infiltration and Ventilation Centre, Edinburgh, Scotland, 9-13 August 1999
Elected member, International Academy of Indoor Air Sciences, 1991
Presidential Young Investigator, National Science Foundation, 1990
Bachelor's degree awarded with "great distinction in general scholarship," 1978
Phi Beta Kappa, 1978

Courses Developed and Taught:

CE 107, Climate Change Mitigation, upper-division undergraduate course (2 offerings, 2003-2004)
CE 109, Indoor Air Quality, upper-division undergraduate course (6 offerings at UC Berkeley, 1993-2001; one offering at Technion, 1997)
CE 111, Environmental Engineering, upper-division undergraduate course (15 offerings, 1989-2003)
CE 218A, Air Quality Engineering, graduate course (11 offerings, 1989-2002)

CE 218B, Air Pollutant Dynamics, graduate course (9 offerings, 1990-2004)

Seminars and Study Groups:

Airheads [graduate student research seminar in air quality engineering] (Fall 1995, Fall 2001)

Environmental Engineering Graduate Student Research (4 offerings, 1993-1996)

Relative Humidity in Indoor Environments (Spring 2001) [with RL Corsi]

Sustainability and the Built Environment (Fall 2001) [with AJ Gadgil and A Horvath]

Technologies for Sustainable Societies (F 2002, F 2003) [with AJ Gadgil and A Horvath]

Atmospheric Science on Particulate Matter [NARSTO Review] (Spring 2002) [with RA Harley]

Academic Affiliations (UC Berkeley):

Energy and Resources Group (<http://socrates.berkeley.edu/erg/>)

Environmental Health Sciences (<http://ehs.sph.berkeley.edu/>)

Center for Occupational and Environmental Health (<http://ehs.sph.berkeley.edu/coeh/>)

Center for Atmospheric Sciences (<http://www.atmos.berkeley.edu/>)

Center for the Built Environment (<http://www.cbe.berkeley.edu/>)

Academic Administrative Responsibilities:

Civil and Environmental Engineering Department:

Faculty search committees, 1991-1992, 1994, 1999-00 (chair), 2003-04 (chair).

Executive committee, 1997-2001.

Graduate admissions/affairs, 1993-1994.

Graduate major-field advisor, Environmental Engineering Program, 1990-1996, 1997-

Group leader, Environmental Engineering Program, 1997-2001.

Space planning committee, 1998-99.

Strategic planning committee, 1992-1994, 2001-2003 (chair).

Undergraduate admissions committee, 1989-1993.

Undergraduate advisor, 1989-1990.

Undergraduate studies committee, 1989-1993, 1994-1996 (chair).

College of Engineering:

Continuing Education committee, 1994-1996.

Environmental Engineering committee, 1993-1996.

Undergraduate studies committee, 1994-1996.

University (Berkeley campus):

Committee on Prizes, 1994-1996, 1997-2003 (chair 2000-2003).

Environmental Council Executive Committee, 1994-99.

Committee on Undergraduate Instruction in Environmental Studies, 1995-1996.

Other University Service:

Faculty search committees: Biomedical and Environmental Health Sciences, 1993; Energy and Resources Group, 1997-98; Energy and Resources Group, 2001-02.

Air Quality Management Advisory Committee, UC Berkeley Extension, 1992-97.

Committee on Atmospheric Sciences, College of Letters and Science, 1994-96.

Environmental Council Working Group, University of California, Berkeley, 1993-94.

Environmental Sciences Advisory Committee, Division of Undergraduate and Interdisciplinary Studies, 1994-95.

Advisory Committee, UC Toxic Substances Teaching and Research Program, Health Effects of Modern Technologies Component, 1997-.

Graduate Student Research Supervision:

Master of Science (does not include those who continued for Ph.D. study under my supervision)

J. Wooley, 1990

A.V. Baughman, 1991

J.A. Cano-Ruiz, 1992

R.B. Balas, 1993

A. Wadhwa, 1993

C. Lobascio, 1993

D. Wampler, 1994

K. Leiserson, 1995

S. Branoff, 1997

B. Pekala, 1998
H.Y. Hammer, 2001

W. Yin, 2000
K. Blumberg, 2003

A. Webb, 2001
B. Coleman, current

Master of Engineering
D. Kong, 1992

Doctor of Philosophy (“dissertation title”)

K. Garbesi, 1993, “Toward Resolving the Model-Measurement Discrepancy of Radon Entry into Houses”

T.-F. Lin, 1995, “Transport and Sorption of Volatile Organic Compounds and Water Vapor in Porous Media”

A.C. Drescher, 1995, “Computed Tomography and Optical Remote Sensing: Development for the Study of Indoor Air Pollutant Transport and Dispersion”

W.J. Riley, 1996, “Wind-Induced Contaminant Transport in Near-Surface Soils with Application to Radon Entry into Buildings”

T.L. Thatcher, 1996, “Particle Dynamics in the Indoor Environment with an Emphasis on Particle Deposition from Natural Convection Flow”

S.L. Miller, 1996, “Characterization and Control of Exposures to Indoor Air Pollutants Generated by Occupants”

M.D. Van Loy, 1998, “Dynamic Behavior of Semivolatile Organic Compounds in Indoor Air”

G.C. Morrison, 1999, “Ozone-Surface Interactions: Investigations of Mechanisms, Kinetics, Mass Transport, and Implications for Indoor Air Quality”

D.-L. Liu, 2002, “Air Pollutant Penetration through Airflow Leaks into Buildings”

M. Sippola, 2002, “Particle Deposition in Ventilation Ducts”

N. Klepeis, current

J. Marshall, current

G. Heath, current

A. Hoats, current

W. Chan, current

P. Sreedharan, current

Sponsored Research:

Release of ethanol to the atmosphere during use of consumer cleaning products, The Soap and Detergent Association, 1989.

Release of 2-aminoethanol and 1,2-propanediol to the atmosphere during use of liquid laundry detergent, Procter and Gamble, 1989.

Pollutant deposition from natural convection flow onto indoor surfaces, Universitywide Energy Research Group, University of California, 1989-1990.

Indoor air pollutant transport, dispersion, and interactions with surfaces, National Science Foundation (PYI award), 1990-1995.

Controlling exposure to environmental tobacco smoke, University of California Tobacco-Related Disease Research Program, 1990-1993.

Characterization of particulate-phase ETS in differing environments (with R. Sextro and A. Gadgil), University of California Tobacco-Related Disease Research Program, 1990-1993.

Particle deposition from natural convection flow onto indoor surfaces, Exploratory Research Grant, U. S. Environmental Protection Agency, 1991-1994.

Indoor ozone concentrations: Quantification of mechanisms of outdoor concentration attenuation (with M. Modera), California Institute for Energy Efficiency, 1991-1992.

Soil-gas transport: A mechanism of indoor exposures to volatile organic compounds (with J. Daisey and R. Sextro), National Institutes for Environmental Health Sciences, 1992-1995.

Effectiveness of portable filtration units in TB control (with R. Spear), E. R. C., Inc., 1993-1995.

Pollutant mixing in indoor air, California Institute for Energy Efficiency, 1994.

Engineering controls for reducing tuberculosis exposure, California Department of Health Services, 1995-1996.

Fate of volatile organic compounds in indoor air, SC Johnson Wax, 1995-97.

Assessing exposure to air toxics from environmental tobacco smoke, California Air Resources Board, 1995-1998.

Mathematical modeling of bipolar ion generation systems, Ion Systems, 1996.

Particle deposition in ventilation system ducts, Lawrence Berkeley National Laboratory, 1998-1999.

Dynamic behavior of particles and vapors in buildings, Lawrence Berkeley National Laboratory, 1998-2002.

Air pollutant exposure associated with distributed electricity generation, California Air Resources Board, 2002-2003.

Indoor air chemistry: Cleaning agents, ozone and toxic air contaminants, California Air Resources Board, 2002-2005.

Quantifying exposure implications of distributed energy generation, University of California Energy Institute, 2003-2004.

Services to the Profession (current):

Associate Editor, *Journal of the Air & Waste Management Association*, 1995-.

Board of Directors, Golden West Section, Air & Waste Management Association, 2003-
Editorial Advisory Board, *Indoor Air*, 2001-.

Executive Advisory Board, Veloz Holdings Inc., 1998-.

Indoor Air Health Advisory Committee, NSF International, 1999-.

International Advisory Board, International Centre for Indoor Environment and Energy,
Technical University of Denmark, 2001-.

Services to the Profession (past):

Associate Editor, *Health Physics*, 1987-1990.

Awards Committee, Association of Environmental Engineering and Science Professors, 2000-2003.

Editorial Board, *Environmental Software*, 1993-1995.

Board of Directors, American Association for Aerosol Research, 1999-2002.

Co-chair, US delegation, U.S. — Italian Bilateral Workshop on “New Technologies and Cultural Heritage”, Venice, Italy, April 2001.

Committee on Air Quality in Passenger Cabins of Commercial Aircraft, National Research Council, 2000-2001.

Expert Panel, Indoor Air Quality, US EPA Radiation and Indoor Environments National Laboratory, November 2001.

Vice-President, Organizing Committee for Indoor Air 2002, 9th International Conference on Indoor Air Quality & Climate, Monterey, California, 30 June – 5 July 2002.

Research Screening Committee, California Air Resources Board, 2000-2002.

Risk Assessment Advisory Committee, Office of Environmental Health Hazard Assessment’s Science Advisory Board, California Environmental Protection Agency, 1995-1996.

Search Committee, Department Head, Indoor Environment Department, Lawrence Berkeley National Laboratory, 2000-2001 (chair).

International advisor for conferences: Indoor Air ‘99 (Edinburgh, Scotland); Healthy Buildings 2000 (Espoo, Finland); 4th International Conference on Indoor Air Quality, Ventilation and Energy Conservation in Buildings, IAQVEC 2001 (Changsha, China).

Scientific Committee, Seventh International Symposium on Natural Radiation Environment (NRE-VII), Greece, 20-24 May 2002.

Publications Committee, American Association for Aerosol Research, Vice-Chair: 1994-1995.
 University Education Committee, Air & Waste Management Association, Secretary: 1992-1994,
 Vice-Chair: 1994-96.
 Membership Committee, International Academy of Indoor Air Sciences, Chair: 1996-1999.
 Editorial Committee (guest, 1997), *Annual Review of Energy and the Environment*, **24**, 1999.
 Session organizer and chair, “Indoor Air Quality: Sources, Sinks, Transport, and Transformation”, Air &
 Waste Management Association, 85th Annual Meeting, Kansas City, MO, June 1992.
 Session organizer and chair, “Indoor Air Quality Science and Technology,” Air & Waste
 Management Association, 86th Annual Meeting, Denver, CO, June 1993.
 Session chair or cochair at national or international conference

- Symposium on Methods for Characterizing Indoor Sources and Sinks, American Society for Testing and Materials, Washington, DC, September 1994
- Engineering Solutions to Indoor Air Quality Problems, Air & Waste Management Association, Research Triangle Park, NC, July 1995
- AAAR 1999, 18th annual conference of the American Association for Aerosol Research, Tacoma, Washington, October 1999
- Indoor Air 99, The 8th International Conference on Indoor Air Quality & Climate, Edinburgh, Scotland, August 1999
- Healthy Buildings 2000, Espoo, Finland, August 2000

 Poster jury (chair), Healthy Buildings 2000, Espoo, Finland, August 2000.
 Interviewer, Switzer Foundation Environmental Fellowships, 1988-1992.
 Environmental Chemistry and Physics—Air, Proposal Review Panel, U.S. EPA, 1987, 1991.
 Tutorials Chair for Annual Meeting, American Association for Aerosol Research, 2003.
 Peer review of research proposals: Center for Indoor Air Research, Environmental Protection Agency, National Science Foundation, North Carolina Board of Science & Technology, Research Grants Council (Hong Kong), Universitywide Energy Research Group (University of California), Water Resources Center (University of California), Office of Health and Environmental Research (U. S. Department of Energy)
 Peer review for archival journals: *Aerosol Science and Technology*, *Atmospheric Environment*, *Chemosphere*, *Environmental Pollution*, *Environmental Science & Technology*, *Environmental Software*, *Environmental Technology*, *Geoderma*, *Health Physics*, *Indoor Air*, *Industrial & Engineering Chemistry Research*, *Inhalation Toxicology*, *Journal of Aerosol Science*, *Journal of the Air & Waste Management Association*, *Journal of Colloid and Interface Science*, *Journal of Environmental Engineering (ASCE)*, *Journal of Environmental Quality*, *Journal of Exposure Assessment and Environmental Epidemiology*, *Journal of Geophysical Research—Atmospheres*, *Journal of Hazardous Materials*, *Journal of the Water Pollution Control Federation*, *Natural Hazards*, *Radiation Protection Dosimetry*, *Review of Scientific Instruments*, *Risk Analysis*, *Science of the Total Environment*, *Water Resources Research*

Membership in Professional Societies:

Air & Waste Management Association, American Association for Aerosol Research, American Chemical Society, American Geophysical Union, Association of Environmental Engineering and Science Professors, International Society for Exposure Analysis, International Society of Indoor Air Quality and Climate, International Society for Industrial Ecology

Consulting Services:

URS Corporation, 2002-2004	Innovative Construction & Building Matls., 2003-
University of Minnesota Extension, 2001	Environmental Defense, 2002
The Sharper Image, 2000-2001, 2003-	Jaffe, Martini & Blum, 1999
The Clorox Company, 1999, 2002	Preston, Gates & Ellis, LLP, 1998-2000

UltraViolet Devices, Inc., 1998-1999
Crosby, Heafey, Roach & May, 1998
Ion Systems, 1994
Motorola, 1993-1996
Procter & Gamble Company, 1991
Aqua Resources, 1989
Forelaws on Board, 1987
Life Systems, Inc., 1986, 1990-91

Rincon Consultants, 1997-1998
SC Johnson, 1994-1995, 2000-2001
Hinshaw & Culbertson, 1993-1995
Reed, Elliot, Creech & Roth, 1993
Law Offices of Cotchett, Illston, & Pitre, 1992-93
Law Offices of McKeehan, Bernard & Wood, 1989
Camp, Dresser and McKee, 1987
Greenpeace Northwest, 1985-1986

Patents:

Nazaroff W.W., and Cass G.R., Systems for reducing deposition of fluid-borne particles, No. 5,061,444, October 29, 1991.

Nazaroff W.W., and Gadgil A.J., An apparatus for treating environmental tobacco smoke (ETS) particle and gas-phase contaminants, No. 5,678,576, October 21, 1997.

Publications (in archival, refereed journals):

1. Budnitz R.J., Berk J.V., Hollowell C.D., Nazaroff W.W., Nero A.V., and Rosenfeld A.H., Human disease from radon exposures: The impact of energy conservation in residential buildings, *Energy and Buildings*, **2**, 209-215, 1979.
2. Nazaroff W.W., An improved technique for measuring working levels of radon daughters in residences, *Health Physics*, **39**, 683-686, 1980.
3. Nazaroff W.W., Boegel M.L., Hollowell C.D., and Roseme G.D., The use of mechanical ventilation with heat recovery for controlling radon and radon-daughter concentrations in houses, *Atmospheric Environment*, **15**, 263-270, 1981.
4. Offermann F.J., Hollowell C.D., Nazaroff W.W., Roseme G.D., and Rizzuto J.R., Low-infiltration housing in Rochester, New York: A study of air-exchange rates and indoor air quality, *Environment International*, **8**, 435-445, 1982.
5. Nazaroff W.W., Offermann F.J., and Robb A.W., Automated system for measuring air-exchange rate and radon concentration in houses, *Health Physics*, **45**, 525-538, 1983.
6. Revzan K.L. and Nazaroff W.W., A rapid spectroscopic technique for determining the potential alpha-energy concentration of radon decay products, *Health Physics*, **45**, 509-524, 1983.
7. Nero A.V., Boegel M.L., Hollowell C.D., Ingersoll J.G., and Nazaroff W.W., Radon concentrations and infiltration rates measured in conventional and energy-efficient houses, *Health Physics*, **45**, 401-406, 1983.
8. Nazaroff W.W., Radon daughter carousel: An automated instrument for measuring indoor concentrations of Po-218, Pb-214, and Bi-214, *Review of Scientific Instruments*, **54**, 1227-1233, 1983.
9. Robb A.W. and Nazaroff W.W., Field data logger with EPROM storage, *Review of Scientific Instruments*, **54**, 1252-1253, 1983.
10. Nazaroff W.W., Optimizing the total-alpha three-count technique for measuring concentrations of radon progeny in residences, *Health Physics*, **46**, 395-405, 1984.
11. Nero A.V. and Nazaroff W.W., Characterising the source of radon indoors, *Radiation Protection Dosimetry*, **7**, 23-39, 1984.
12. Doyle S.M., Nazaroff W.W., and Nero A.V., Time-averaged indoor Rn concentrations and infiltration rates sampled in four U.S. cities, *Health Physics*, **47**, 579-586, 1984.
13. Nazaroff W.W. and Doyle S.M., Radon entry into houses having a crawl space, *Health Physics*, **48**, 265-281, 1985.

14. Nazaroff W.W., Feustel H., Nero A.V., Revzan K.L., Grimsrud D.T., Essling M.A., and Toohey R.E., Radon transport into a detached one-story house with a basement, *Atmospheric Environment*, **19**, 31-46, 1985.
15. Offermann F.J., Sextro R.G., Fisk W.J., Grimsrud D.T., Nazaroff W.W., Nero A.V., Revzan K.L., and Yater J., Control of respirable particles in indoor air with portable air cleaners, *Atmospheric Environment*, **19**, 1761-1771, 1985.
16. Nero A.V., Sextro R.G., Doyle S.M., Moed B.A., Nazaroff W.W., Revzan K.L., and Schwehr M.B., Characterizing the sources, range, and environmental influences of radon-222 and its decay products, *The Science of the Total Environment*, **45**, 233-244, 1985.
17. Nazaroff W.W., and Cass G.R., Mathematical modeling of chemically reactive pollutants in indoor air, *Environmental Science & Technology*, **20**, 924-934, 1986.
18. Sextro R.G., Offermann F.J., Nazaroff W.W., Nero A.V., Revzan K.L., and Yater J., Evaluation of indoor aerosol control devices and their effects on radon progeny concentrations, *Environment International*, **12**, 429-438, 1986.
19. Nero A.V., Schwehr M.B., Nazaroff W.W., and Revzan K.L., Distribution of airborne radon-222 concentrations in U.S. homes, *Science*, **234**, 992-997, 1986.
20. Nazaroff W.W., Doyle S.M., Nero A.V., and Sextro R.G., Potable water as a source of airborne radon-222 in U.S. dwellings: A review and assessment, *Health Physics*, **52**, 281-295, 1987.
21. Nazaroff W.W., Lewis S.R., Doyle S.M., Moed B.A., and Nero A.V., Experiments on pollutant transport from soil into residential basements by pressure-driven air flow, *Environmental Science & Technology*, **21**, 459-466, 1987.
22. Nazaroff W.W., and Cass G.R., Particle deposition from a natural convection flow onto a vertical isothermal flat plate, *Journal of Aerosol Science*, **18**, 445-455, 1987.
23. Nazaroff W.W., Predicting the rate of radon entry from soil into the basement of a dwelling due to pressure-driven air flow, *Radiation Protection Dosimetry*, **24**, 199-202, 1988.
24. Nazaroff W.W., and Cass G.R., Mathematical modeling of indoor aerosol dynamics, *Environmental Science & Technology*, **23**, 157-166, 1989.
25. Nazaroff W.W., and Sextro R.G., Technique for measuring the indoor ²²²Rn source potential of soil, *Environmental Science & Technology*, **23**, 451-458, 1989.
26. Nazaroff W.W., and Cass G.R., Mass-transport aspects of pollutant removal at indoor surfaces, *Environment International*, **15**, 567-584, 1989.
27. Nazaroff W.W., Salmon L.G., and Cass G.R., Concentration and fate of airborne particles in museums, *Environmental Science & Technology*, **24**, 66-77, 1990.
28. Nazaroff W.W., and Teichman K., Indoor radon: Exploring U. S. federal policy for controlling human exposures, *Environmental Science & Technology*, **24**, 774-782, 1990.
29. Salmon L.G., Nazaroff W.W., Ligocki M.P., Jones M.C., and Cass G.R., Nitric acid concentrations in Southern California museums, *Environmental Science & Technology*, **24**, 1004-1013, 1990.
30. Wooley J., Nazaroff W.W., and Hodgson A.T., Release of ethanol to the atmosphere during use of consumer cleaning products, *Journal of the Air & Waste Management Association*, **40**, 1114-1120, 1990.
31. Nazaroff W.W., Ligocki M.P., Ma T., and Cass G.R., Particle deposition in museums: Comparison of modeling and measurement results, *Aerosol Science and Technology*, **13**, 332-348, 1990.
32. Cass G.R., Nazaroff W.W., Tiller C., and Whitmore P.M., Protection of works of art from damage due to atmospheric ozone, *Atmospheric Environment*, **25A**, 441-451, 1991.
33. Nazaroff W.W., and Cass G.R., Protecting museum collections from soiling due to the deposition of airborne particles, *Atmospheric Environment*, **25A**, 841-852, 1991.

34. Nazaroff W.W., Radon transport from soil to air, *Reviews of Geophysics*, **30(2)**, 137-160, 1992.
35. Nazaroff W.W., Kong D., and Gadgil A. J., Numerical investigations of the deposition of unattached ^{218}Po and ^{212}Pb from natural convection enclosure flow, *Journal of Aerosol Science*, **23**, 339-352, 1992.
36. Little J.C., Daisey J.M., and Nazaroff W.W., Transport of subsurface contaminants into buildings: An exposure pathway for volatile organics, *Environmental Science & Technology*, **26**, 2058-2066, 1992.
37. Gadgil A.J., Kong D., and Nazaroff W.W., Deposition of unattached radon progeny from enclosure flows, *Radiation Protection Dosimetry*, **45**, 337-341, 1992.
38. Ligocki M.P., Salmon L.G., Fall T., Jones M.C., Nazaroff W.W., and Cass G.R., Characteristics of airborne particles inside Southern California museums, *Atmospheric Environment*, **27A**, 697-711, 1993.
39. Nazaroff W.W., Hung W.-Y., Sasse A.G.B.M., and Gadgil A.J., Predicting regional lung deposition of environmental tobacco smoke particles, *Aerosol Science and Technology*, **19**, 243-254, 1993.
40. Cano-Ruiz J.A., Kong D., Balas R.B., and Nazaroff W.W., Removal of reactive gases at indoor surfaces: Combining mass transport and surface kinetics, *Atmospheric Environment*, **27A**, 2039-2050, 1993.
41. Lin T.-F., Little J.C., and Nazaroff W.W., Transport and sorption of volatile organic compounds and water vapor within dry soil grains, *Environmental Science & Technology*, **28**, 322-330, 1994.
42. Xu M., Nematollahi M., Sextro R.G., Gadgil A.J., and Nazaroff W.W., Deposition of tobacco smoke particles in a low ventilation room, *Aerosol Science and Technology*, **20**, 194-206, 1994.
43. Sasse A.G.B.M., Gadgil A.J., and Nazaroff W.W., Particle filter based on thermophoretic deposition from natural convection flow, *Aerosol Science and Technology*, **20**, 227-238, 1994.
44. Yost M. G., Gadgil A.J., Drescher A.C., Zhou Y., Simonds M.A., Levine, S.P., Nazaroff W.W., and Saisan P.A., Imaging indoor tracer-gas concentrations with computed tomography: Experimental results with a remote sensing FTIR system, *American Industrial Hygiene Association Journal*, **55**, 395-402, 1994.
45. Baughman A.V., Gadgil A.J., and Nazaroff W.W., Mixing of a point source pollutant by natural convection flow within a room, *Indoor Air*, **4**, 114-122, 1994.
46. Sasse A.G.B.M., Gadgil A.J., and Nazaroff W.W., On the measurement of ^{218}Po diffusivity using the two-filter method, *Journal of Aerosol Science*, **25**, 689-697, 1994.
47. Wampler D.A., Miller-Leiden S., Nazaroff W.W., Litvak A., Mahanama K. R. R., Nematollahi M., and Gadgil A.J., Effectiveness of smokeless ashtrays, *Journal of the Air & Waste Management Association*, **45**, 494-500, 1995.
48. Drescher A.C., Lobascio C., Gadgil A.J., and Nazaroff W.W., Mixing of a point source indoor pollutant by forced convection, *Indoor Air*, **5**, 204-214, 1995.
49. Drescher A.C., Gadgil A.J., Price P.N., and Nazaroff W.W., Novel approach for tomographic reconstruction of gas concentration distributions in air: Use of smooth basis functions and simulated annealing, *Atmospheric Environment*, **30**, 929-940, 1996.
50. Lin T.-F., Little J.C., and Nazaroff W.W., Transport and sorption of organic gases in activated carbon, *ASCE Journal of Environmental Engineering*, **122**, 169-175, 1996.
51. Lin T.-F., and Nazaroff W.W., Transport and sorption of water vapor in activated carbon, *ASCE Journal of Environmental Engineering*, **122**, 176-182, 1996.

52. Garbesi K., Sextro R.G., Robinson A.L., Wooley J.D., Owens J.A., and Nazaroff W.W., Scale dependence of soil permeability to air: Measurement method and field investigation, *Water Resources Research*, **32**, 547-560, 1996.
53. Riley W.J., Gadgil A.J., Bonnefous Y.C., and Nazaroff W.W., The effect of steady winds on radon-222 entry from soil into houses, *Atmospheric Environment*, **30**, 1167-1176, 1996.
54. Lin T.-F., Van Loy M.D., and Nazaroff W.W., Gas-phase transport and sorption of benzene in soil, *Environmental Science & Technology*, **30**, 2178-2186, 1996.
55. Miller-Leiden S., Lobascio C., Nazaroff W.W., and Macher J., Effectiveness of in-room air filtration and dilution ventilation for tuberculosis infection control, *Journal of the Air & Waste Management Association*, **46**, 869-882, 1996.
56. Riley W.J., Gadgil A.J., and Nazaroff W.W., Wind-induced ground-surface pressures around a single-family house, *Journal of Wind Engineering and Industrial Aerodynamics*, **61**, 153-167, 1996.
57. Fischer M.L., Bentley A.J., Dunkin K.A., Hodgson A.T., Nazaroff W.W., Sextro R.G., and Daisey J.M., Factors affecting indoor air concentrations of volatile organic compounds at a site of subsurface gasoline contamination, *Environmental Science & Technology*, **30**, 2948-2957, 1996.
58. Thatcher T.L., Fairchild W.A., and Nazaroff W.W., Particle deposition from natural convection enclosure flow onto smooth surfaces, *Aerosol Science and Technology*, **25**, 359-374, 1996.
59. Drescher A.C., Park D.Y., Yost M.G., Gadgil A.J., Levine S.P., and Nazaroff W.W., Stationary and time-dependent indoor tracer-gas concentration profiles measured by OP-FTIR remote sensing and SBFM computed tomography, *Atmospheric Environment*, **31**, 727-740, 1997.
60. 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.
61. Van Loy M.D., Lee V.C., Gundel L.A., Daisey J.M., Sextro R.G., and Nazaroff W.W., Dynamic behavior of semivolatile organic compounds in indoor air: 1. Nicotine in a stainless steel chamber, *Environmental Science & Technology*, **31**, 2554-2561, 1997.
62. Thatcher T.L., and Nazaroff W.W., Effect of small-scale obstructions and surface textures on particle deposition from natural convection flow, *Aerosol Science and Technology*, **27**, 709-725, 1997.
63. 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.
64. Marr L.C., Morrison G.C., Nazaroff W.W., and Harley R.A., Reducing the risk of accidental death due to vehicle-related carbon monoxide poisoning, *Journal of the Air and Waste Management Association*, **48**, 899-906, 1998.
65. Morrison G.C., Nazaroff W.W., Cano-Ruiz J.A., Hodgson A.T., and Modera M.P., Indoor air quality impacts of ventilation ducts: Ozone removal and emissions of volatile organic compounds, *Journal of the Air and Waste Management Association*, **48**, 941-952, 1998.
66. Van Loy M.D., Nazaroff W.W., and Daisey J.M., Nicotine as a marker for environmental tobacco smoke: Implications of sorption on indoor surface materials, *Journal of the Air and Waste Management Association*, **48**, 959-968, 1998.
67. Nazaroff W.W., Nicas M., and Miller S.L., Framework for evaluating measures to control nosocomial tuberculosis transmission, *Indoor Air*, **8**, 205-218, 1998.
68. Riley W.J., Robinson A.L., Gadgil A.J., and Nazaroff W.W., Effects of variable wind speed and direction on radon transport from soil into buildings: Model development and exploratory results, *Atmospheric Environment*, **33**, 2157-2168, 1999.

69. Garbesi K., Robinson A.L., Sextro R.G., and Nazaroff W.W., Radon entry into houses: The importance of scale-dependent permeability, *Health Physics*, **77**, 183-191, 1999.
70. Lai A.C.K., and Nazaroff W.W., Modeling indoor particle deposition from turbulent flow onto smooth surfaces, *Journal of Aerosol Science*, **31**, 463-476, 2000.
71. Lai A.C.K., Thatcher T.L., and Nazaroff W.W., Inhalation transfer factors for air pollution health-risk assessments, *Journal of the Air & Waste Management Association*, **50**, 1688-1699, 2000.
72. Morrison G.C., and Nazaroff W.W., The rate of ozone uptake on carpets: Experimental studies, *Environmental Science & Technology*, **34**, 4963-4968, 2000.
73. Van Loy M.D., Riley W.J., Daisey J.M., and Nazaroff W.W., Dynamic behavior of semivolatile organic compounds in indoor air. 2. Nicotine and phenanthrene with carpet and wallboard, *Environmental Science & Technology*, **35**, 560-567, 2001.
74. Miller S.L., and Nazaroff W.W. Environmental tobacco smoke particles in multizone indoor environments, *Atmospheric Environment*, **35**, 2053-2067, 2001.
75. Liu D.-L., and Nazaroff W.W. Modeling pollutant penetration across building envelopes, *Atmospheric Environment*, **35**, 4451-4462, 2001.
76. Riley W.J., McKone T.E., Lai A.C.K., and Nazaroff W.W., Indoor particulate matter of outdoor origin: Importance of size-dependent removal mechanisms, *Environmental Science & Technology*, **36**, 200-207, 2002. [See errata on p. 1868.]
77. Singer B.C., Hodgson A.T., Guevarra K.S., Hawley E.L., and Nazaroff W.W., Gas-phase organics in environmental tobacco smoke: 1. Effects of smoking rate, ventilation, and furnishing level on emission factors, *Environmental Science & Technology*, **36**, 846-853, 2002.
78. Morrison G.C., and Nazaroff W.W., The rate of ozone uptake on carpet: Mathematical modeling, *Atmospheric Environment*, **36**, 1749-1756, 2002.
79. Thatcher T.L., Lai, A.C.K., Moreno-Jackson R., Sextro R.G., and Nazaroff W.W., Effects of room furnishings and air speed on particle deposition rates indoors, *Atmospheric Environment*, **36**, 1811-1819, 2002.
80. Bennett D.H., McKone T.E., Evans J.S., Nazaroff W.W., Margni, M.D., Jolliet O., Smith K.R., Defining intake fraction, *Environmental Science & Technology*, **36**, 206A-211A, 2002.
81. Morrison G.C., and Nazaroff W.W., Ozone interactions with carpet: Secondary emissions of aldehydes, *Environmental Science & Technology*, **36**, 2185-2192, 2002.
82. Liu D.-L., and Nazaroff W.W. Particle penetration through building cracks, *Aerosol Science & Technology*, **37**, 565-573, 2003.
83. Klepeis N.E., Apte M.G., Gundel L.A., Sextro R.G. and Nazaroff W.W., Determining size-specific emission factors for environmental tobacco smoke particles, *Aerosol Science and Technology*, **37**, 780-790, 2003.
84. Marshall J.D., Riley W.J., McKone T.E. and Nazaroff W.W., Intake fraction of primary pollutants: Motor vehicle emissions in the South Coast air basin, *Atmospheric Environment*, **37**, 3455-3468, 2003.
85. Singer B.C., Hodgson A.T. and Nazaroff W.W., Gas-phase organics in environmental tobacco smoke: 2. Exposure-relevant emission factors and indirect exposures from habitual smoking, *Atmospheric Environment*, **37**, 5551-5561, 2003.
86. Siegel J.A. and Nazaroff W.W., Predicting particle deposition on HVAC heat exchangers, *Atmospheric Environment*, **37**, 5587-5596, 2003.
87. Sippola M.R. and Nazaroff W.W., Modeling particle loss in ventilation ducts, *Atmospheric Environment*, **37**, 5597-5609, 2003.

Publications (accepted):

Nazaroff W.W. and Singer B.C., Inhalation of hazardous air pollutants from environmental tobacco smoke in US residences, *Journal of Exposure Analysis and Environmental Epidemiology*.

Nazaroff W.W. and Weschler C.J., Cleaning products and air fresheners: Exposure to primary and secondary air pollutants, *Atmospheric Environment*.

Publications (submitted):

Sippola M.R. and Nazaroff W.W., Experiments measuring particle deposition from fully developed turbulent flow in ventilation ducts, *Aerosol Science & Technology*.

Nicas M., Nazaroff W.W. and Hubbard A., Toward understanding the risk of secondary airborne infection: Emission of respirable pathogens, *Journal of Occupational and Environmental Hygiene*.

Chan W.R., Nazaroff W.W., Price P.N., Sohn M.D. and Gadgil A.J., Analyzing a database of residential air leakage in the United States, *Energy and Buildings*.

Edited Special Issues of Archival Journals:

Burge H.B., Leovic K.W., and Nazaroff W.W. (Eds.), Engineering solutions to indoor air quality problems, *Journal of the Air & Waste Management Association*, **46**, September 1996.

Nazaroff W.W., and Leovic K.W. (Eds.), Engineering solutions to indoor air quality problems II, *Journal of the Air & Waste Management Association*, **48**, October 1998.

Nazaroff W.W., Weschler C.J., and Corsi R.L. (Eds.), Indoor Air Chemistry and Physics: Papers from Indoor Air 2002, *Atmospheric Environment*, **37**, 5451-5646, 2003.

Books:

Nazaroff W.W., and Nero A.V. (Eds.), *Radon and Its Decay Products in Indoor Air*, John Wiley and Sons, New York, 1988 (ISBN 0-471-62810-7), 518 pp.

Cass G.R., Druzik J.R., Grosjean D., Nazaroff W.W., Whitmore P.M., and Whittman C.L., *Protection of Works of Art from Atmospheric Ozone*, The Getty Conservation Institute, Marina del Rey, California, 1989 (ISBN 0-89236-126-3), 94 pp.
(<http://www.getty.edu/conservation/resources/ozone.pdf>)

Nazaroff W.W., Ligocki M.P., Salmon L.G., Cass G.R., Fall T., Jones M.C., Liu H.I.H., and Ma T., *Airborne Particles in Museums*, Research in Conservation 6, The Getty Conservation Institute, Marina del Rey, California, 1993 (ISBN 0-89236-187-5), 144 pp.
(<http://www.getty.edu/conservation/resources/airborne.pdf>)

Nazaroff W.W., and Alvarez-Cohen L., *Environmental Engineering Science*, Wiley, New York, 2001 (ISBN 0-471-14494-0), 690 pp.

Book Chapters and Articles in Books:

1. Nazaroff W.W., Nero A.V., and Revzan K.L., Alpha spectroscopic techniques for field measurement of radon daughters, *Natural Radiation Environment*, Vohra K.G., et al., eds., Wiley Eastern Ltd., New Delhi, 1982, pp. 350-357.
2. Nero A.V., Boegel M.L., Hollowell C.D., Ingersoll J.G., Nazaroff W.W., and Revzan K.L., Radon and its daughters in energy efficient buildings, *Natural Radiation Environment*, Vohra K.G., et al., eds., Wiley Eastern Ltd., New Delhi, 1982, pp. 473-480.
3. Sextro R.G., Moed B.A., Nazaroff W.W., Revzan K.L., and Nero A.V., Investigations of soil as a source of indoor radon, *Radon and Its Decay Products: Occurrence, Properties and Health Effects*, Hopke P.K., ed., American Chemical Society, Washington, D.C., 1987, pp. 10-29.
4. Nazaroff W.W., Moed B.A., and Sextro R.G., Soil as a source of indoor radon: Generation, migration, and entry, *Radon and Its Decay Products in Indoor Air*, Nazaroff W.W., and Nero A.V. (Eds.), John Wiley and Sons, New York, 57-112, 1988.

5. Nazaroff W.W., Doyle S.M., Nero A.V., and Sextro R.G., Radon entry via potable water, *Radon and Its Decay Products in Indoor Air*, Nazaroff W.W., and Nero A.V. (Eds.), John Wiley and Sons, New York, 131-157, 1988.
6. Nazaroff W.W., Measurement techniques, *Radon and Its Decay Products in Indoor Air*, Nazaroff W.W., and Nero A.V. (Eds.), John Wiley and Sons, New York, 491-504, 1988.
7. Nazaroff W.W., Gadgil A.J., and Weschler C.J., Critique of the use of deposition velocity in modeling indoor air quality, *Modeling Indoor Air Quality and Exposure, ASTM STP 1205*, Nagda N. L. (Ed.), American Society for Testing and Materials, Philadelphia, 81-104, 1993.
8. Nazaroff W.W., Radon hazards, *Encyclopedia of Environmental Science*, Alexander D.E. and Fairbridge R.W. (Eds.), Kluwer Academic Publishers, Dordrecht, 499-501, 1999.
9. Nazaroff W.W., and Klepeis N.E., Environmental tobacco smoke particles, *Indoor Environment: Airborne Particles and Settled Dust*, Morawska L. and Salthammer T. (Eds.), Wiley-VCH, Weinheim, Germany, 2004, pp. 245-274.

Major Committee Reports:

1. Risk Assessment Advisory Committee, *A Review of the California Environmental Protection Agency's Risk Assessment Practices, Policies, and Guidelines*, California Environmental Protection Agency, Office of Environmental Health Hazard Assessment, Science Advisory Board, 1996.
2. Committee on Air Quality in Passenger Cabins of Commercial Aircraft, *The Airliner Cabin Environment and the Health of Passengers and Crew*, National Research Council, National Academy Press, Washington, DC, 2002.

Conference Presentations and Invited Lectures:

1. Hollowell C.D., Berk J.V., Lin C., Nazaroff W.W., and Traynor G.W., Impact of energy conservation in buildings on health, *Changing Energy Use Futures*, Vol. II, 638, 1979.
2. Hollowell C.D., Boegel M.L., Ingersoll J.G., and Nazaroff W.W., Radon-222 in energy efficient buildings, *American Nuclear Soc. Trans.*, **33**, 148, 1979.
3. Hollowell C.D., Berk J.V., Boegel M.L., Miksch R.R., Nazaroff W.W., and Traynor G.W., Building ventilation and indoor air quality, 14th International Symposium on Atmospheric Pollution, Paris, 1980.
4. Nazaroff W.W., Revzan K.L., and Robb A.W., Instrumentation for a radon research house, International Symposium on Indoor Air Quality, Health and Energy Conservation, Amherst, Massachusetts, 1981.
5. Nero A.V. and Nazaroff W.W., Distribution of indoor radon concentrations and source magnitudes, International Symposium on Indoor Air Quality, Health and Energy Conservation, Amherst, Massachusetts, 1981.
6. Nero A.V., Berk J.V., Boegel M.L., Hollowell C.D., Ingersoll J.G., and Nazaroff W.W., Radon daughter exposures in energy efficient buildings, *Proceedings of Specialist Meeting on the Assessment of Radon and Daughter Exposure and Related Biological Effects*, Clemente G.F., et al., eds., RD Press, Salt Lake City, 1982, pp. 144-152.
7. Nazaroff W.W., Boegel M.L., and Nero A.V., Measuring radon source magnitude in residential buildings, *International Meeting on Radon and Radon Progeny Measurements - Proceedings*, U.S. EPA Report EPA 520/5-83/021, Washington, D.C., 1983, pp. 101-124.
8. Sextro R.G., Nazaroff W.W., Offermann F.J., and Revzan K.L., Measurement of indoor aerosol properties and their effects on radon progeny concentrations, American Association of Aerosol Research, Annual Meeting, 1983.
9. Grimsrud D.T., Nazaroff W.W., and Revzan K.L., Continuous measurement of radon entry and removal in a single family house, Air Pollution Control Association, 76th Annual Meeting, Atlanta, Georgia, 1983.

10. Nazaroff W.W. and Nero A.V., Transport of radon from soil into residences, *INDOOR AIR: Radon, Passive Smoking, Particulates and Housing Epidemiology*, Vol. 2, Berglund B., et al., eds., Swedish Council for Building Research, Stockholm, 1984, pp. 15-20.
11. Sextro R.G., Offermann F.J., Nazaroff W.W., and Nero A.V., Effects of aerosol concentrations on radon progeny, First International Aerosol Conference, Minneapolis, 1984.
12. Nazaroff W.W., and Cass G.R., Mathematical modeling of pollutants in indoor air: The role of homogeneous chemistry, Symposium on Indoor Air Quality, American Chemical Society, Anaheim, 10-11 September 1986.
13. Cass G.R., and Nazaroff W.W., Protection of collections from damage due to air pollution, Western Museums Conference, San Marino, California, 26 September 1986.
14. Nazaroff W.W., The trouble with radon, Toxic Substances Seminar Series, University of California, Riverside, 10 February 1987.
15. Nazaroff W.W., Indoor radon: Occurrence, measurement and mitigation, Site Assessments and Environmental Audits in Property and Real Estate Transactions, short course, American Society of Civil Engineers, San Francisco Section, 26 April 1989.
16. Nazaroff W.W., Radon concentration in homes, health risks and public policy, Radon in Homes: Dangerous or Not, University of Kansas Medical Center, Kansas City, 15 June 1989.
17. Nazaroff W.W., Indoor air quality, American Association for Aerosol Research, tutorial lecture, Reno, 9 October 1989.
18. Nazaroff W.W., Gadgil A.J., Kong D., and Schiller G.E., Deposition of unattached ^{218}Po and ^{212}Pb from natural convection enclosure flow: Predictions of spatial variability, American Association for Aerosol Research, Reno, 10 October 1989.
19. Nazaroff W. W., Protection of museum collections from soiling due to the deposition of airborne particles, Distinguished Aerosol Research Lecture Series, San Jose State University, San Jose, 29 March 1990.
20. Gadgil A.J., Kong D., and Nazaroff W.W., Numerical simulations of loss mechanisms of unattached ^{218}Po in a differentially heated square cavity, American Association for Aerosol Research, Philadelphia, 19 June 1990.
21. Nazaroff W. W., Radon fundamentals, Professional Enrichment Program, Health Physics Society 35th Annual Meeting, Anaheim, 25 June 1990.
22. Nazaroff W. W., A scientist's view of indoor air quality, Symposium on Indoor Air Quality, Santa Clara County Bar Association, Santa Clara, 13 September 1990.
23. Nazaroff W.W., Indoor air quality, American Association for Aerosol Research, tutorial lecture, Traverse City, Michigan, 7 October 1991.
24. Sextro R.G., Gross E. and Nazaroff W.W., Determination of emissions profiles for indoor particle phase environmental tobacco smoke, American Association for Aerosol Research, Traverse City, Michigan, 10 October 1991.
25. Nazaroff W.W., Hung W.-Y., and Gadgil A.J., Indoor exposure to environmental tobacco smoke: Regional particle deposition in human lungs, American Association for Aerosol Research, Traverse City, Michigan, 11 October 1991.
26. Little J.E., Daisey J.M., Nazaroff W.W., and Sextro R.G., Indoor exposures to volatile organic compounds from pressure-driven flow of contaminated soil-gas, International Society of Exposure Analysis, Atlanta, 18-21 November 1991.
27. Nazaroff W.W., Recent progress in understanding indoor air pollutant dynamics, Department Seminar, Mechanical Engineering Department, University of Minnesota, 29 April 1992.
28. Nazaroff W.W., Remarks on federal regulation of radon in drinking water, Association of California Water Agencies, Indian Wells, California, 20 May 1992.

29. Baughman A.V., Nazaroff W.W., Gadgil A.J., and Sextro R.G., Mixing of a point source pollutant within an isolated room, paper 92-79.09, Air & Waste Management Association 85th Annual Meeting, Kansas City, Missouri, 21-26 June 1992.
30. Lin T.-F., Little J.C., and Nazaroff W.W., Gas-phase sorption kinetics of benzene and water onto soil, Hazardous Waste Conference, Center for Bioengineering and Pollution Control, University of Notre Dame, Indiana, August 31-September 4, 1992.
31. Cano-Ruiz J.A., Modera M.P., and Nazaroff W.W., Indoor ozone concentrations: Ventilation rate impacts and mechanisms of outdoor concentration attenuation, 13th Air Infiltration and Ventilation Centre Conference: Ventilation for Energy Efficiency and Optimum Indoor Air Quality, Nice, France, 15-18 September 1992.
32. Sasse A.G.B.M., Nazaroff W.W., and Gadgil A.J., Thermophoretic removal of particles from laminar flow between parallel plates and concentric tubes, American Association for Aerosol Research, San Francisco, California, 12-16 October 1992.
33. Sasse A.G.B.M., Nazaroff W.W., and Gadgil A.J., Influence of radioactive decay on the measurement of ^{218}Po diffusivity using the two-filter method, American Association for Aerosol Research, San Francisco, California, 12-16 October 1992.
34. Thatcher T.L., and Nazaroff W.W., Experimental study of particle deposition from natural convection flow onto surfaces, American Association for Aerosol Research, San Francisco, California, 12-16 October 1992.
35. Xu M., Sextro R.G., Nematollahi M., Gadgil A.J., and Nazaroff W.W., Deposition of tobacco smoke particles in a low ventilation room, American Association for Aerosol Research, San Francisco, California, 12-16 October 1992.
36. Nazaroff W.W., Investigations of gas-phase contaminant transport through soil, Environmental Engineering Science Seminar, California Institute of Technology, Pasadena, CA, 27 January 1993.
37. Garbesi K., Sextro R.G. and Nazaroff W.W., A field study of the scale dependence of soil permeability to air, American Geophysical Union, Spring Meeting, Baltimore, May 1993, *EOS*, **74(16)**: 142, 1993.
38. Cano-Ruiz J.A., and Nazaroff W.W., Removal of reactive gases at indoor surfaces: Combining mass transport and surface kinetics, in *Indoor Air '93: Proceedings of the 6th International Conference on Indoor Air Quality and Climate, Vol. 2*, Saarela K., Kalliokoski P., and Seppänen O. (Eds.), Indoor Air '93, Helsinki, 555-560, 1993.
39. Garbesi K., Sextro R.G., Fisk W.J., and Nazaroff W.W., Toward resolving the model-measurement discrepancy of radon entry into houses: A study of the scale dependence of soil permeability to air, in *Indoor Air '93: Proceedings of the 6th International Conference on Indoor Air Quality and Climate, Vol. 4*, Kalliokoski P., Jantunen M., and Seppänen O. (Eds.), Indoor Air '93, Helsinki, 575-580, 1993.
40. Drescher A.C., Nazaroff W.W., and Gadgil A.J., Computed tomography and infrared absorption: Development of a new technique for the study of indoor air pollutant transport and dispersion, in *Indoor Air '93: Proceedings of the 6th International Conference on Indoor Air Quality and Climate, Vol. 5*, Seppänen O., Railio J., and Säteri J. (Eds.), Indoor Air '93, Helsinki, 217-222, 1993.
41. Sasse A.G.B.M., Gadgil A.J., and Nazaroff W.W., New developments in predicting convective air flow in enclosures: Benchmark solutions, in *Indoor Air '93: Proceedings of the 6th International Conference on Indoor Air Quality and Climate, Vol. 5*, Seppänen O., Railio J., and Säteri J. (Eds.), Indoor Air '93, Helsinki, 359-364, 1993.
42. Miller-Leiden S., Wadhwa A., and Nazaroff W.W., Effects of interchamber mixing, ventilation and filtration on lung dose from environmental tobacco smoke particles, in *Indoor Air '93: Proceedings of the 6th International Conference on Indoor Air Quality and Climate, Vol. 6*,

- Seppänen O., Ilmarinen R., Jaakkola J.J.K., Kukkonen E., Säteri J., and Vuorelma H. (Eds.), *Indoor Air '93*, Helsinki, 509-514, 1993.
43. Sasse A.G.B.M., Nazaroff W.W., and Gadgil A.J., Multilevel acceleration applied to modeling of pollutant transport and deposition, American Association for Aerosol Research, Oak Brook, Illinois, 11-15 October 1993.
 44. Sasse A.G.B.M., Thatcher T., and Nazaroff W.W., Particle deposition from natural convection flow onto enclosure surfaces, American Association for Aerosol Research, Oak Brook, Illinois, 11-15 October 1993.
 45. Sextro R.G., Xu M., Nematollahi M., Nazaroff W.W., Gadgil A.J., and Daisey J.M., The effects of indoor environmental and source conditions on the size distribution of environmental tobacco smoke particles, American Association for Aerosol Research, Oak Brook, Illinois, 11-15 October 1993.
 46. Xu M., Sextro R.G., Nematollahi M., Gadgil A.J., Nazaroff W.W., and Thatcher T., Determination of ETS particle density from measuring electrical mobility and aerodynamic size, American Association for Aerosol Research, Oak Brook, Illinois, 11-15 October 1993.
 47. Sasse A.G.B.M., deRuijter A.G., and Nazaroff W.W., How smooth is smooth enough? Role of surface roughness in particle deposition, American Association for Aerosol Research, Oak Brook, Illinois, 11-15 October 1993.
 48. Nazaroff W.W., Controlling exposure to environmental tobacco smoke, Tobacco-Related Disease Research Program, San Francisco, California, 2-3 December 1993.
 49. Garbesi K., Sextro R.G., and Nazaroff W.W., Soil physics study to explain large model-measurement discrepancies of radon entry into houses, American Geophysical Union, Fall Meeting, San Francisco, December 1993, *EOS* **74(43)**: 261-262, 1993.
 50. Nazaroff W.W., Indoor air quality: Radon, Department of Civil Engineering, University of Nevada, Reno, 31 March 1994.
 51. Wampler D.A., Litvak A., Miller-Leiden S., Gadgil A.J., and Nazaroff W.W., Effectiveness of smokeless ashtrays, paper 94-TA25A.01, Air & Waste Management Association 87th Annual Meeting, Cincinnati, Ohio, 19-24 June 1994.
 52. Nazaroff W.W., Pollutant mixing in indoor air, 1994 CIEE Annual Conference, California Institute for Energy Efficiency, Berkeley, California, 25-27 July 1994.
 53. Lobascio C., Derby M.W., Nazaroff W.W., Nicas M., and Macher J.M., Effectiveness of portable HEPA-filter units in controlling airborne tuberculosis transmission, Fourth International Aerosol Conference, Los Angeles, California, August 28-September 2, 1994; also presented as Efficacy of portable filter air cleaners as tested by nonviable and viable aerosols, TB Control in the Workplace: Science, Implementation, and Prevention Policy, 1994 Annual Conference of The Society for Occupational and Environmental Health, Rockville, Maryland, 1-3 December 1994; abstract published in *Infection Control and Hospital Epidemiology*, **15**, 771, 1994.
 54. Thatcher T.L., and Nazaroff W.W., Experimental study of the effect of surface roughness on particle deposition from buoyant flow, Fourth International Aerosol Conference, Los Angeles, California, August 28-September 2, 1994.
 55. Lin T.F., and Nazaroff W.W., Transport of vinyl chloride within activated carbon: Predicting isotherms and breakthrough curves from a single kinetic sorption experiment, Proceedings of the 7th IUAPPA Regional Conference on Air Pollution and Waste Issues, Taipei, 2-4 November 1994, Vol. I, pp. 363-370.
 56. Nazaroff W.W., Controlling indoor air quality, SC Johnson Wax, Racine, Wisconsin, 10 November 1994.
 57. Nazaroff W.W., Air quality issues into the 21st century, tutorial lecture in "Cleaning the Environment: Opportunities from the Physical Viewpoint," American Physical Society, San Jose, California, 19 March 1995.

58. Riley W.J., Gadgil A.J., and Nazaroff W.W., Estimating the impact on radon entry rate of steady wind-induced ground pressures: Predictions with wind tunnel experiments and a k-ε turbulence model, International Symposium on the Natural Radiation Environment VI, Montreal, Quebec, 5-9 June 1995.
59. Miller-Leiden S., Lobascio C., and Nazaroff W.W., Engineering controls for reducing tuberculosis transmission, Engineering Solutions to Indoor Air Quality Problems, Air & Waste Management Association, Research Triangle Park, NC, 24-26 July 1995.
60. Thatcher T.L., and Nazaroff W.W., Experimental study of particle deposition within enclosures from buoyancy-driven flow, American Association for Aerosol Research, Pittsburgh, Pennsylvania, 9-13 October 1995.
61. Garbesi K., Owens J. A., Sextro R. G., Robinson A. L., and Nazaroff W. W., Accumulated evidence of the scale dependence of soil permeability to air: Technique, field measurements, and implications, American Geophysical Union, Fall Meeting, San Francisco, CA, 12 December 1995.
62. Nazaroff W.W., Engineering indoor air quality: Towards relaxing the assumption of perfect mixing, University of Texas, Austin, 27 March 1996 (Betty M. Smith Distinguished Lecture); Illinois Institute of Technology, 24 April 1996.
63. Van Loy M.D., Nazaroff W.W., Lee V.C., Gundel L.A., Sextro R.G., and Daisey J.M., Investigation of the fate of nicotine in a stainless-steel chamber, paper 96-WA61.04, Air & Waste Management Association 89th Annual Meeting, Nashville, TN, 24-28 June 1996.
64. Nazaroff W.W., Harley R.A., and Morrison G.C., Preventing accidental deaths caused by carbon monoxide emissions from motor vehicles, in *Indoor Air '96: Proceedings of the 7th International Conference on Indoor Air Quality and Climate*, Vol. 2, Yoshizawa Y., Kimura K., Ikeda K., Tanabe S., and Iwata T. (Eds.), Organizing Committee of the 7th International Conference of Indoor Air Quality and Climate, Tokyo, Japan, pp. 357-362, 1996.
65. Miller-Leiden S., and Nazaroff W.W., Manipulating building factors to reduce ETS exposure from household smoking, in *Indoor Air '96: Proceedings of the 7th International Conference on Indoor Air Quality and Climate*, Vol. 4, Yoshizawa Y., Kimura K., Ikeda K., Tanabe S., and Iwata T. (Eds.), Organizing Committee of the 7th International Conference of Indoor Air Quality and Climate, Tokyo, Japan, pp. 45-50, 1996.
66. Nazaroff W.W., Lectures on indoor air quality: (1) Mathematical modeling of indoor air quality: Principles, applications, and challenges; (2) Controlling indoor aerosols: Tuberculosis and environmental tobacco smoke; (3) Particle deposition from natural convection flow; (4) Tracer techniques for studying indoor air pollutant transport and dispersion , Korea Academy of Industrial Technology, Seoul, Korea, 12-13 November 1996.
67. Nazaroff W.W., Progress in understanding indoor aerosols: Particle deposition and exposure control, Department of Mechanical Engineering, Seoul National University, Seoul, Korea, 13 November 1996.
68. Nazaroff W.W., Mathematical modeling of indoor air quality: Principles, applications, and challenges, 10th annual meeting of Korea Air Cleaning Research Association, Seoul, Korea, 15 November, 1996 (invited); Environmental Engineering Department, National Cheng Kung University, Tainan City, Taiwan, 4 December 1996; Department of Energy Engineering, Technical University of Denmark, Lyngby, Denmark, 10 December 1996.
69. Nazaroff W.W., and Miller S.L., Controlling indoor aerosols: Tuberculosis and environmental tobacco smoke, 1996 International Conference on Aerosol Science and Technology, Chinese Association for Aerosol Research, Chungli, Taiwan, 5-7 December 1996 (invited).
70. Nazaroff W.W., and Thatcher T.L., Particle deposition from natural convection flow, 1996 International Conference on Aerosol Science and Technology, Chinese Association for Aerosol Research, Chungli, Taiwan, 5-7 December, 1996 (invited).

71. Miller-Leiden S., Branoff S., and Nazaroff W. W., The contribution of environmental tobacco smoke to the exposure of Californians for sixteen toxic air contaminants, presented at the annual meeting of the Society For Risk Analysis and International Society of Exposure Analysis, New Orleans, LA, 8-12 December, 1996.
72. Nazaroff W.W., Indoor Air Quality (seminar series): (1) Issues in indoor air quality; (2) Understanding the source of indoor radon; (3) Tracer techniques for studying indoor air pollutant transport and dispersion; (4) Controlling indoor aerosols: Tuberculosis and environmental tobacco smoke; and (5) Mathematical modeling of indoor air quality: Principles, applications and challenges, Faculty of Civil Engineering, Technion, Haifa, Israel, January-May 1997.
73. Nazaroff W.W., Understanding the source of indoor radon, Faculty of Engineering, Tel Aviv University, Tel Aviv, Israel, 19 February 1997.
74. Van Loy M.D., Nazaroff W.W., and Daisey J.M., Sorptive interactions of gas-phase environmental tobacco smoke components with carpet, paper 97-MP3.05, Air & Waste Management Association 90th Annual Meeting, Toronto, Canada, 8-13 June 1997.
75. Van Loy M.D., Nazaroff W.W., and Daisey J.M., Implications of nicotine interactions with indoor surfaces on its use as a marker for environmental tobacco smoke, Engineering Solutions to Indoor Air Quality Problems, Air & Waste Management Association, Research Triangle Park, NC, 21-23 July 1997.
76. Morrison G.C. and Nazaroff W.W., Ozone removal in ventilation system ducts, Engineering Solutions to Indoor Air Quality Problems, Air & Waste Management Association, Research Triangle Park, NC, 21-23 July 1997.
77. Nazaroff W.W., Particles in indoor air, American Association for Aerosol Research, tutorial lecture, Denver, Colorado, 13 October 1997.
78. Nazaroff W.W., Tracer gas techniques: Development and application for indoor air quality research, Department of Mechanical Engineering, University of Colorado, Boulder, 15 October 1997; Environmental chemistry/environmental sciences seminar, Departments of Chemistry, Soil & Environmental Sciences, Environmental Toxicology, and the Statewide Air Pollution Research Center, University of California, Riverside, 4 November 1997.
79. Nazaroff W.W., Preventing nosocomial tuberculosis transmission in health-care settings: An environmental engineering perspective, 40th Annual Biological Safety Conference, American Biological Safety Association, La Jolla, California, 21 October 1997 (invited).
80. 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.
81. Nazaroff W.W., Reducing particle exposures by air filtration, Workshop of the Committee on Asthma and Indoor Air, National Academy of Sciences, Institute of Medicine, Washington DC, 22 March 1999 (invited).
82. Nazaroff W.W. and Lai A.C.K., Emissions characterization for indoor air quality engineering, First NSF International Conference on Indoor Air Health: Impacts, Issues and Solutions, Denver, CO, 3-5 May 1999 (invited).
83. Nazaroff W.W., Miller S.L., and Lai A.C.K., Modeling pollutant dynamics and exposure: Examples from environmental tobacco smoke, First NSF International Conference on Indoor Air Health: Impacts, Issues and Solutions, Denver, CO, 3-5 May 1999 (invited).
84. Nazaroff W.W. and Miller S.L., Californians' particle exposure from environmental tobacco smoke, Third Colloquium on Particulate Matter and Human Health, Durham, NC, 6-8 June 1999.

85. Morrison G.C. and Nazaroff W.W., Ozone uptake on carpets: Implications for indoor air quality, paper 99-51, Air & Waste Management Association 92nd Annual Meeting, St. Louis, MO, 20-24 June 1999.
86. Thatcher T.L., Nazaroff W.W. and Sextro R.G., Determining transfer factors for outdoor aerosol plumes entering buildings, in *Indoor Air 99 — Proceedings of the 8th International Conference on Indoor Air Quality and Climate*, BRE, Garston, Watford, UK, Vol. 5, pp. 331-332, 1999.
87. Sippola M.R., Nazaroff W.W. and Thatcher T.L., Particle deposition from turbulent duct flow, in *Indoor Air 99 — Proceedings of the 8th International Conference on Indoor Air Quality and Climate*, BRE, Garston, Watford, UK, Vol. 2, pp. 24-29, 1999.
88. Liu D.L. and Nazaroff W.W., Modeling particle penetration through cracks in building envelopes, in *Indoor Air 99 — Proceedings of the 8th International Conference on Indoor Air Quality and Climate*, BRE, Garston, Watford, UK, Vol. 4, pp. 1055-1059, 1999.
89. Morrison G.C. and Nazaroff W.W., Emissions of odorous oxidized compounds from carpet after ozone exposure, in *Indoor Air 99 — Proceedings of the 8th International Conference on Indoor Air Quality and Climate*, BRE, Garston, Watford, UK, Vol. 4, pp. 664-669, 1999.
90. Sohn M.D., Lai A.C.K., Smith B.V., Sextro R.G., Feustel H.E. and Nazaroff W.W., Modeling aerosol behavior in multizone indoor environments, in *Indoor Air 99 — Proceedings of the 8th International Conference on Indoor Air Quality and Climate*, BRE, Garston, Watford, UK, Vol. 4, pp. 785-790, 1999.
91. Lai A.C.K., Thatcher T.L. and Nazaroff W.W., Inhalation transfer factors for assessing human health risks from air pollutant sources, in *Indoor Air 99 — Proceedings of the 8th International Conference on Indoor Air Quality and Climate*, BRE, Garston, Watford, UK, Vol. 5, pp. 193-198, 1999.
92. Klepeis N.E., Apte M.G., Gundel L.A., Nazaroff W.W., and Sextro R.G., Characterizing ETS emissions from cigars: Chamber measurements of nicotine, particle mass, and particle size, in *Indoor Air 99 — Proceedings of the 8th International Conference on Indoor Air Quality and Climate*, BRE, Garston, Watford, UK, Vol. 2, pp. 903-908, 1999.
93. Nazaroff W.W., Particles in indoor air, American Association for Aerosol Research, tutorial lecture, Tacoma, Washington, 11 October 1999.
94. Lai A.C.K., Miller S.L., and Nazaroff W.W., Effectiveness of methods for reducing residential ETS exposure, American Association for Aerosol Research, Tacoma, Washington, 11-15 October 1999.
95. Lai A.C.K., and Nazaroff W.W., Modeling particle deposition from turbulent flow onto smooth and rough surfaces, American Association for Aerosol Research, Tacoma, Washington, 11-15 October 1999.
96. Klepeis N.E., Nazaroff W.W., and Sextro R.G., Determining size-resolved particle emission profiles for sources of environmental tobacco smoke, PM 2000: Particulate Matter and Health — The Scientific Basis for Regulatory Decision Making, Air & Waste Management Association, Charleston, SC, 24-28 January 2000.
97. Nazaroff W.W., Heterogeneous transformations in indoor air: Deposition, sorption, and redox reactions, Environmental Fluid Mechanics & Hydrology Seminar, Stanford University, 14 February 2000.
98. Nazaroff W.W., How do physical and chemical processes affect human exposure to airborne particles? Particulate Pollution: Research and Policy Issues, First Annual Spring Symposium, Center for Occupational and Environmental Health, University of California, 7 April 2000.
99. Nazaroff W.W., Chemistry and physics of indoor air pollutants, CGE Workshop: Thermal and Airflow Simulations in Buildings, Conférence de Grandes Ecoles, Berkeley, CA, 13-17 April 2000.

100. Nazaroff W.W., Indoor chemistry and physics: Implications for exposure and risk, Indoor Air Quality: Risk Reduction in the 21st Century, California Environmental Protection Agency/Air Resources Board and California Department of Health Services, Sacramento, CA, 3-4 May 2000.
101. Nazaroff W.W., Dust accumulation on indoor surfaces: Towards a mechanistic understanding, The Dirt on Dust, SC Johnson, Racine, Wisconsin, 13-14 July 2000.
102. Nazaroff W.W., Effectiveness of air cleaning technologies, in *Proceedings of Healthy Buildings 2000*, O. Seppänen and J. Säteri, eds., SIY Indoor Air Information Oy, Helsinki, Finland, Vol. 2, pp. 49-54, 2000.
103. Singer B.C., Hodgson A.T., Hotchi T., Hawley E.L., Daisey J.M., and Nazaroff W.W., Emission factors of vapor-phase ETS compounds in a simulated real-world environment, 10th Annual Conference of the International Society of Exposure Analysis, Monterey, CA, 24-27 October 2000.
104. Riley W.J., McKone T.E., and Nazaroff W.W., Estimating indoor exposures to particles of outdoor origin: Development of a modeling framework, 10th Annual Conference of the International Society of Exposure Analysis, Monterey, CA, 24-27 October 2000.
105. Nazaroff W.W., and Lai A.C.K., Estimating pollutant doses from motor vehicles and environmental tobacco smoke using inhalation transfer factors, 10th Annual Conference of the International Society of Exposure Analysis, Monterey, CA, 24-27 October 2000.
106. Klepeis N.E. and Nazaroff W.W., Simulating indoor concentrations of size-resolved particles: Emission factors and deposition rates for ETS, 10th Annual Conference of the International Society of Exposure Analysis, Monterey, CA, 24-27 October 2000.
107. Sippola M.R. and Nazaroff W.W., Particle deposition from turbulent duct flow, American Association for Aerosol Research, St. Louis, Missouri, 6-10 November 2000.
108. Thatcher T.L., Lai, A.C.K., Moreno-Jackson R., Sextro R.G. and Nazaroff W.W., Experimental determination of size resolved particle deposition rates as a function of room furnishing and room air velocity, American Association for Aerosol Research, St. Louis, Missouri, 6-10 November 2000.
109. Liu, D.L. and Nazaroff W.W., Investigation of particle penetration through cracks in building envelopes, American Association for Aerosol Research, St. Louis, Missouri, 6-10 November 2000.
110. Lai, A.C.K. and Nazaroff W.W., Experimental measurement of particle deposition onto rough vertical surfaces, American Association for Aerosol Research, St. Louis, Missouri, 6-10 November 2000.
111. Nazaroff W.W., A perspective on "New Technologies and Cultural Heritage," US-Italian Bilateral Workshop on New Technology and Cultural Heritage, Venice, Italy, 23-24 April 2001.
112. Nazaroff W.W., Pollutant-surface interactions: Recent progress, US-Italian Bilateral Workshop on New Technology and Cultural Heritage, Venice, Italy, 23-24 April 2001.
113. Nazaroff W.W., Rethinking exposure assessment using dose fractions, Chairman Air Pollution Seminar Series, California Air Resources Board, Sacramento, California, 23 May 2001.
114. Nazaroff W.W., Progress in understanding heterogeneous transformations in indoor environments, International Centre for Indoor Environment and Energy, Technical University of Denmark, Lyngby, 11 June 2001.
115. Nazaroff W.W., Progress in understanding and controlling exposure to environmental tobacco smoke, Department of Ergonomics and Aerosol Technology, Lund University, Sweden, 7 August 2001; also presented at Department of Environmental and Occupational Medicine, University of Århus, Denmark, 13 August 2001.

116. Nazaroff W.W., Particle deposition in cracks, ducts, and rooms, Workshop on Air Pollutant Dynamics in Buildings, Laboratoire d'Etude des Phénomènes de Transfert Appliqués au Bâtiment (LEPTAB), University of La Rochelle, France, 20-21 August 2001.
117. Nazaroff W.W., Interactions of gaseous pollutants with indoor surfaces: Some new findings, Workshop on Air Pollutant Dynamics in Buildings, Laboratoire d'Etude des Phénomènes de Transfert Appliqués au Bâtiment (LEPTAB), University of La Rochelle, France, 20-21 August 2001.
118. Nazaroff W.W., The future of indoor pollutant dynamics, Workshop on Air Pollutant Dynamics in Buildings, Laboratoire d'Etude des Phénomènes de Transfert Appliqués au Bâtiment (LEPTAB), University of La Rochelle, France, 20-21 August 2001.
119. Nazaroff W.W., Indoor aerosols, American Association for Aerosol Research, tutorial lecture, Portland, Oregon, 15 October 2001.
120. Liu, D.-L. and Nazaroff W.W., Particle penetration through building cracks: Effect of materials, American Association for Aerosol Research, Portland, Oregon, 15-19 October 2001.
121. Sippola M.R. and Nazaroff W.W., Particle deposition in HVAC systems: Experimental measurement, American Association for Aerosol Research, Portland, Oregon, 15-19 October 2001.
122. Singer B.C., Hodgson A.T. and Nazaroff W.W., Improved estimates of exposure to toxic organic vapors in environmental tobacco smoke based on toxic-to-tracer ratios measured under realistic conditions, International Society for Exposure Analysis, Charleston, SC, 4-8 November 2001.
123. Marshall J.D., Riley W.J., McKone T.E. and Nazaroff W.W., Estimating exposure to motor vehicle emissions: A dose fraction approach, International Society for Exposure Analysis, Charleston, SC, 4-8 November 2001.
124. Nazaroff W.W., Heath G.A., Hoats A.S., and Marshall J.D., Environmental health implications of electricity generation choices: Pollutants of concern and exposure issues, The Haagen-Smit Symposium, 2nd Annual Meeting, California Air Resources Board, Lake Arrowhead, California, 9-12 April 2002.
125. Nazaroff W.W., Coming of age: The first quarter century of the indoor air sciences, remarks presented at the opening ceremony of Indoor Air 2002: The 9th International Conference on Indoor Air Quality and Climate, Monterey, California, 30 June 2002.
126. Sippola M.R. and Nazaroff W.W., Modeling particle deposition in ventilation ducts, in *Indoor Air 2002: Proceedings of the 9th International Conference on Indoor Air Quality and Climate*, H. Levin, ed., Indoor Air 2002, Santa Cruz, California, Vol. 1, pp. 515-520, 2002.
127. Siegel J.A. and Nazaroff W.W., Modeling particle deposition on HVAC heat exchangers, in *Indoor Air 2002: Proceedings of the 9th International Conference on Indoor Air Quality and Climate*, H. Levin, ed., Indoor Air 2002, Santa Cruz, California, Vol. 1, pp. 521-526, 2002.
128. Liu D.-L. and Nazaroff W.W., Particle penetration through windows, in *Indoor Air 2002: Proceedings of the 9th International Conference on Indoor Air Quality and Climate*, H. Levin, ed., Indoor Air 2002, Santa Cruz, California, Vol. 1, pp. 862-867, 2002.
129. Singer B.C., Hodgson A.T. and Nazaroff W.W., Effect of sorption on exposures to organic gases from environmental tobacco smoke, in *Indoor Air 2002: Proceedings of the 9th International Conference on Indoor Air Quality and Climate*, H. Levin, ed., Indoor Air 2002, Santa Cruz, California, Vol. 2, pp. 138-143, 2002.
130. Klepeis N.E. and Nazaroff W.W., Characterizing size-specific ETS particle emissions, in *Indoor Air 2002: Proceedings of the 9th International Conference on Indoor Air Quality and Climate*, H. Levin, ed., Indoor Air 2002, Santa Cruz, California, Vol. 2, pp. 162-167, 2002.
131. Nazaroff W.W. and Singer B.R., Inhalation of hazardous air pollutants from environmental tobacco smoke in US residences, in *Indoor Air 2002: Proceedings of the 9th International*

Conference on Indoor Air Quality and Climate, H. Levin, ed., Indoor Air 2002, Santa Cruz, California, Vol. 2, pp. 477-482, 2002.

132. Webb A.M., Singer B.C. and Nazaroff W.W., Effect of gaseous ammonia on nicotine sorption, in *Indoor Air 2002: Proceedings of the 9th International Conference on Indoor Air Quality and Climate*, H. Levin, ed., Indoor Air 2002, Santa Cruz, California, Vol. 3, pp. 512-517, 2002.
133. Nazaroff W.W., Dispelling the haze: Reflections on the science and politics of environmental tobacco smoke, Energy and Resources Group, University of California, Berkeley, 30 October 2002.
134. Nazaroff W.W., Emissions, concentrations, and exposures: Shifting paradigms in air quality engineering, Environmental Engineering Program Seminar, University of California, Berkeley, 1 March 2003.
135. Heath G.A., Coulter-Burke S., McKone T.E. and Nazaroff W.W., Maximum individual intake fractions: Analysis of the US Army ZnCdS dispersion tests, International Society of Exposure Analysis, Stresa, Italy, 21-25 September 2003.
136. Marshall J.D., Deakin E., McKone T.E. and Nazaroff W.W., How would changes in urban form influence population inhalation of vehicle emissions? International Society of Exposure Analysis, Stresa, Italy, 21-25 September 2003.
137. Nazaroff W.W., Indoor aerosols, American Association for Aerosol Research, tutorial lecture, Anaheim, California, 20 October 2003; also presented at Centre for Indoor Environment and Energy, Technical University of Denmark, Lyngby, 31 October 2003.
138. Nazaroff W.W., Emissions-to-intake relationships for air pollution sources, American Association for Aerosol Research, plenary lecture, Anaheim, California, 22 October 2003.
139. Environmental tobacco smoke: Exposure, emissions, and dynamic behavior, Centre for Indoor Environment and Energy, Technical University of Denmark, Lyngby, 31 October 2003.
140. Chan W.R., Price P.N., Gadgil A.J., Nazaroff W.W., Loosmore G. and Sugiyama G., Evaluating shelter-in-place as part of an emergency operation plan, Symposium on Planning, Nowcasting, and Forecasting in the Urban Zone, 84th Annual Meeting of the American Meteorological Society, Seattle, WA, 13 January 2004.
141. Nazaroff W.W., Particulate matter in public buildings: Sources, concentrations, exposures, Workshop on Indoor Particulate Matter and Health, California Air Resources Board, Sacramento, California 19-20 February 2004.

Letters, Editorials, and Other Publications:

1. Nazaroff W.W., and Revzan K.L., Comment on "An evaluation of working level measurements using a generalized Kusnetz method" and "Evaluation and modification of working level measurement methods", *Health Physics*, **44**, 703-704, 1983.
2. Nazaroff W.W., Authors' reply, *Atmospheric Environment*, **20**, 1069, 1986.
3. Nazaroff W.W., Entry by pressure-driven flow or molecular diffusion? A reassessment of radon-222 concentrations measured in an energy-efficient house, *Health Physics*, **55**, 1005-1009, 1988.
4. Nazaroff W.W., and Cass G.R., Authors' reply: Particle deposition from a natural convection flow onto a vertical isothermal flat plate, *Journal of Aerosol Science*, **20**, 138-139, 1989.
5. Nazaroff W.W., Discussion: Thermophoresis in boundary layer flows, *Journal of Aerosol Science*, **21**, 827-828, 1990.
6. Nazaroff W.W., Welcome to a special issue on Engineering Solutions to Indoor Air Quality Problems, *Journal of the Air & Waste Management Association*, **46**, 805, 1996.
7. Nazaroff W. and Leovic K., Welcome to a special issue on Engineering Solutions to Indoor Air Quality Problems II, *Journal of the Air & Waste Management Association*, **48**, 897, 1998.

8. Nazaroff W.W., and Weschler C.J., Editorial: Indoor air and the public good, *Indoor Air*, **11**, 143-144, 2001.
9. Nazaroff B., Davidson C., Hering S., and Russell T., Remembering Glen Cass (1947-2001), *Particulars* (newsletter of the American Association for Aerosol Research), Fall 2001, p. 7.
10. Nazaroff W.W., Weschler C.J., and Corsi R.L., Indoor air chemistry and physics, *Atmospheric Environment*, **37**, 5451-5453, 2003.

Reports and Theses:

1. Wesely M.L., Nazaroff W.W., and Everett R.G., On the use of silicon photocells in the MAP3S turbidity network, *Radiological and Environmental Research Division Annual Report*, Report ANL-77-65, Part IV, Argonne National Laboratory, Argonne, 1977, pp. 118-124.
2. Boegel M.L., Nazaroff W.W., and Ingersoll J.G., *Instructions for Operating the Passive Environment Radon Monitor (PERM)*, Report LBID-073, Lawrence Berkeley Laboratory, Berkeley, 1979.
3. Nazaroff W.W., *A Residential Radon Daughter Monitor Based on Alpha Spectroscopy*, M.Eng. Thesis, University of California, Berkeley, 1980.
4. Moed B.A., Nazaroff W.W., Nero A.V., Schwehr M.B., and Van Heuvelen A., *Identifying Areas with Potential for High Indoor Radon Levels: Analysis of the National Airborne Radiometric Reconnaissance Data for California and the Pacific Northwest*, Report LBL-16955, Lawrence Berkeley Laboratory, Berkeley, 1984.
5. Cass G.R., Druzik J.R., Grosjean D., Nazaroff W.W., Whitmore P.M., and Wittman C.L., *Protection of Works of Art from Photochemical Smog*, GCI Scientific Program Report, Getty Conservation Institute, Marina del Rey, CA, 1988.
6. Nazaroff W.W., *Mathematical Modeling and Control of Pollutant Dynamics in Indoor Air*, Ph.D. Thesis, California Institute of Technology, Pasadena, 1989.
7. Nazaroff W.W., Moed B.A., Sextro R.G., Revzan K.L., and Nero A.V., *Factors Influencing Soil as a Source of Indoor Radon: Framework for Assessing Radon Source Potential*, Report LBL-20645, Lawrence Berkeley Laboratory, 1989.
8. Wooley J., Hodgson A.T., and Nazaroff W.W., *Release of 1,2-Propanediol and 2-Aminoethanol to the Atmosphere during use of Liquid Laundry Detergents*, final report, The Procter & Gamble Company, Cincinnati, OH, 1990.
9. Nero A.V., Gadgil A.J., Nazaroff W.W., and Revzan K.L., *Indoor Radon and Decay Products: Concentrations, Causes, and Control Strategies*, Report LBL-27798, Lawrence Berkeley Laboratory, 1990.
10. Nazaroff W.W., Ligocki M.P., Salmon L.G., Cass G.R., Fall T., Jones M.C., Liu H.I.H., and Ma T., *Protection of Works of Art from Soiling due to Airborne Particulates*, GCI Scientific Program Report, Getty Conservation Institute, Marina Del Rey, California, 1992.
11. Miller S.L., Branoff S., Lim Y., Liu D., Van Loy M.D., and Nazaroff W.W., *Assessing Exposure to Air Toxicants from Environmental Tobacco Smoke*, Contract 94-344, California Air Resources Board, Sacramento, CA, 1998.
12. Rabaey J., Arens E., Federspiel C., Gadgil A., Messerschmitt D., Nazaroff W., Pister K., Oren S., Varaiya P., *Smart Energy Distribution and Consumption: Information Technology as an Enabling Force*, CITRIS white paper, Center for Information Technology Research in the Interest of Society, University of California, Berkeley, <http://www.citris.berkeley.edu/SmartEnergy/SmartEnergy.html>, 2001.
13. Nazaroff W.W., and Amadei B., *New Technologies and Cultural Heritage: A US - Italian Bilateral Workshop*, Final report to the National Science Foundation, Award No. 0119379, March 2002.

14. Heath G.A., Hoats A.S., and Nazaroff W.W., *Air Pollutant Exposure Associated with Distributed Electricity Generation*, Contract 01-344, California Air Resources Board, Sacramento, CA, 2003.
15. Blumberg K., and Nazaroff W.W., *Air Quality Monitoring: The Potential Impact of Nanotechnology*, Environmental Engineering Program, University of California, Berkeley CA, 2003.