

References

- Adams, W.C. 1993. Measurement of Breathing Rate and Volume in Routinely Performed Daily Activities, Final Report. Contract No. A033-205. Sacramento, Calif.: California State Air Resources Board, Research Division.
- Akland, G. Personal communication from G. Akland, Research Triangle Institute, to P. Jenkins, California Air Resources Board, January 8, 1999.
- Ali, J., L. Rodrigues, and M. Moodie. 1997. U.S. Chemical-Biological Defense Guidebook. Alexandria, Va.: Jane's Information Group.
- Alvarez, A.J., M.P. Buttner, and L.D. Stetzenbach. 1995. PCR for bioaerosol monitoring: sensitivity and environmental interference. *Applied Environmental Microbiology* 61: 3639–3644.
- Battelle Memorial Institute. 1997. Lexington Area Travel Data Collection Test, Final Report: Global Positioning Systems for Personal Travel Surveys. Columbus, Ohio: Battelle Memorial Institute.
- Battelle Memorial Institute. 1999. Heavy Duty Truck Activity Data, Final Report. Columbus, Ohio: Battelle Memorial Institute.
- Belgrader, P., W. Benett, D. Hadley, G. Long, R. Mariella, Jr., F. Mailanovich, S. Nasarabadi, W. Nelson, J. Richards, and P. Stratton. 1998. Rapid pathogen detection using a microchip PCR array instrument. *Clinical Chemistry* 44: 2191–2194.
- Berry, P. 1998. Biological Integrated Detection System. Presentation by P. Berry, U.S. Army SBCCOM Edgewood Chemical and Biological Center, to the principal investigator and members of the Advisory Panel on Strategies to Protect the Health of Deployed U.S. Forces, Task 2.2: Technology and Methods for Detection and Tracking of Exposures to a Subset of Harmful Agents, Aberdeen Proving Ground, Maryland, November 23, 1998.
- Bertolini, R., M.D. Lebowitz, R. Saracci, and D. Savitz. 1995. Setting Priorities in Environmental Epidemiology. Ann Arbor, Mich.: CRC/Lewis.
- Beyer, W., P. Glockner, J. Otto, and R. Bohm. 1995. A nested PCR method for the detection of *Bacillus anthracis* in environmental samples collected from former tannery sites. *Microbiological Research* 150: 179–186.

- Boyle, R.E. 1998a. U.S. Chemical Warfare: A Historical Perspective. Contract No. LG-1597. Albuquerque, N.M.: Sandia National Laboratories.
- Boyle, R.E. 1998b. Biological Warfare: A Historical Perspective. Contract No. LG-1597. Albuquerque, N.M.: Sandia National Laboratories.
- Brauer, M., R.D. Hirtley, A.C. Hall, and T.R. Yip. 1999. Monitoring personal fine particle exposure with a particle counter. *Journal of Exposure Analysis and Environmental Epidemiology* 9(3): 228–236.
- Buttner, M.P., A.J. Alvarez, L.D. Stetzenbach, and G.A. Toranzos. 1997. PCR Detection of Airborne Microorganisms. Pp. 145–158 in *Environmental Applications of Nucleic Acid Amplification Techniques*, G.A. Toranzos, ed. Lancaster, Pa.: Technomic Publishing Company.
- Cano-Ruiz, J.A., D. Kong, R.B. Balas, and W.W. Nazaroff. 1993. Removal of reactive gases at indoor surfaces combining mass transport and surf. *Atmospheric Environment*. Part A: General Topics 27(13): 2039–2050.
- Cohen, M.A., and MR. Cotey. 1997. The use of a hand-held pen computer for field data entry. *Applied Occupational Environmental Hygiene* 12: 792–795.
- Colome, S.D., J.D. Spengler, and S. McCarthy. 1982. Comparisons of elements and inorganic compounds inside and outside of residences. *Environment International* 8: 197–212.
- Colome, S.D., N.Y. Kado, P. Jaques, and M. Kleinman. 1992. Indoor-outdoor air pollution relations: particulate matter less than 10 μm in aerodynamic diameter (PM_{10}) in homes of asthmatics. *Atmospheric Environment* 26A(12): 2173–2178.
- Corn, M. 1971. Dose to the respiratory tract from personal, occupational, and community air pollutants. *Environmental Letters* 9(1): 29–39.
- Coutant, R.W., and D.R. Scott. 1982. Applicability of passive dosimeters for ambient air monitoring of toxic organic compounds. *Environmental Science and Technology* 16: 410–413.
- Daisey, J.M., K.R.R. Mahanama, and A.T. Hodgson. 1998. Toxic volatile organic compounds in simulated environmental tobacco smoke: emission factors for exposure assessment. *Journal of Exposure Analysis and Environmental Epidemiology* 8(3): 313–334.
- Davey, H.M., and D.B. Kell. 1997. Fluorescent brighteners: novel strains for the flow cytometric analysis of microorganisms. *Cytometry* 28: 311–315.
- DoD (U.S. Department of Defense). 1994. Report of the Defense Science Board Task Force on Persian Gulf War Health Effects. Washington, D.C.: Defense Science Board, Office of the Under Secretary of Defense for Acquisition and Technology.
- DoD. 1997a. U.S. Demolition Operations at the Khamisiyah Ammunition Storage Point: Case Narrative. Washington, D.C.: U.S. Department of Defense Office of the Special Assistant for Gulf War Illnesses.
- DoD. 1997b. Joint Warfighting Science and Technology Plan. Washington, D.C.: U.S. Department of Defense.
- DoD. 1998a. Department of Defense Nuclear/Biological/Chemical (NBC) Defense. Annual Report to Congress. Washington, D.C.: U.S. Department of Defense.
- DoD. 1998b. Unit Chemical and Biological Defense Readiness Training. Audit Report. Washington, D.C.: U.S. Department of Defense Inspector General.
- DoD. 1999a. Department of Defense Nuclear/Biological/Chemical (NBC) Defense. Annual Report to Congress. Washington, D.C.: U.S. Department of Defense.
- DoD, 1999b. Chemical/Biological Warfare. Available on line at: <http://www.gulflink.osd.mil/dsbrpt/warfare.html>
- DoD. 1999c. CHCS II – PIC (Personal Information Carrier). Available on line at: <http://www.cba.ha.osd.mil/projects/fltp/pic/pic-main.htm>
- DOE (U.S. Department of Energy). 1998. Proceedings of the Chemical and Biological Non-proliferation Program Summer Meeting. McLean, Va.: Mitretek.

- Duan, N. 1982. A model for human exposure to air pollution. *Environmental International* 8: 305–309.
- Eisenberg, J.N.S., and T.E. McKone. 1998. Decision tree method for the classification of chemical pollutants: incorporation across chemical variability and within chemical uncertainty. *Environmental Science and Technology* 32: 3396–3404.
- EPA (Environmental Protection Agency). 1982. Particulate Matter and Sulfur Oxides, Air Quality Criteria. EPA/600/8-82-029. Research Triangle Park, N.C.: Environmental Protection Agency.
- EPA. 1986a. Second Addendum to Air Quality Criteria for Particulate Matter and Sulfur Oxides. EPA/600/8-86/020f. Research Triangle Park, N.C.: Environmental Protection Agency.
- EPA. 1986b. Guidelines for the Health Risk Assessment of Chemical Mixtures. *Federal Register* 51: 34014–34025.
- EPA. 1992a. Lead: Air Quality Criteria. Research Triangle Park, N.C.: Environmental Protection Agency.
- EPA. 1992b. Guidelines for Exposure Assessment: Notice. *Federal Register* 57(104): 22888–22938.
- EPA. 1993. Staten Island/New Jersey Urban Air Toxics Assessment Report. R-93-001. Washington D.C.: Environmental Protection Agency.
- EPA. 1996a. Particulate Matter: Air Quality Criteria. EPA/600/AP-95/001a,c. Research Triangle Park, N.C.: Environmental Protection Agency.
- EPA. 1996b. Exposure Factors Handbook. Vol. 3. Activity Data. Update to the 1989 Exposure Factors Handbook. Washington, D.C.: Environmental Protection Agency.
- EPA. 1997. Consolidated Human Activity Database, NERC (National Exposure Research Laboratory) Vol. 1.0. Washington, D.C.: Environmental Protection Agency.
- ERDEC (Edgewood Research, Development and Engineering Center). 1996. Military Unique Material Safety Data Sheets. Available on line at: <http://www.sbcom.apgea.army.mil/RDA/ecbc/services/msds/index.htm>
- Fouchet, P., C. Jayat, Y. Hechard, M.H. Ratinaud, and G. Frelat. 1993. Recent advances in flow cytometry in fundamental and applied microbiology. *Biochemistry and Cell Biology* 78: 95–109.
- Freeman, N.C.G., J.M. Waldman, and P. Liroy. 1991. Design and evaluation of a location and activity log used for assessing personal exposure to air pollutants. *Journal of Exposure Analysis and Environmental Epidemiology* 1(3): 327–338.
- Friedman, N.A., and D.R. Meldrum. 1998. Capillary tube resistive thermal cycling. *Analytical Chemistry* 70: 2997–3002.
- GAO (Government Accounting Office). 1998. Chemical Weapons: DoD Does Not Have a Strategy to Address Low-Level Exposures. Washington, D.C.: General Accounting Office.
- Gard, E., J. Mayer, B.D. Morrical, T. Dienes, D. Fergenson, and K.A. Prather. 1997. Real-time analysis of individual atmospheric aerosol particles: design and performance of a portable ATOFMS. *Analytical Chemistry* 69(20): 83–4091.
- Garner, H.R., B. Armstrong, and D.M. Lininger. 1993. High-throughput PCR. *Biotechniques* 14: 112–115.
- GEO-CENTERS and Life Systems. 1997. Deployment Toxicology Research and Development Master Plan. Contract No. DAMD 17-93-C-3006. Ft. Detrick, Md.: U.S. Army Center for Environmental Health Research.
- Gratt, L.B. 1996. Air Toxic Risk Assessment and Management. N.Y.: Van Nostrand Reinhold.
- Green, M.K., M.M. Vestling, M.V. Johnston, B.S. Larssen. 1998. Distinguishing small molecular mass differences of proteins by mass spectrometry. *Analytical Biochemistry* 260: 204–211.

- Grimshaw, C., C. Gleason, E. Chojnicki, and J. Young. 1997. Development of an equilibrium immunoassay using electrochemiluminescent detection from a novel recombinant protein product and its application to pre-clinical product development. *Journal of Pharmaceutical and Biomedical Analysis* 16: 605–612.
- Hanna, S.R., G.A. Briggs, and R.P. Hosker, Jr. 1982. *Handbook on Atmospheric Diffusion*. DOE/TIC-11223. Oak Ridge, Tenn.: Technical Information Center, U.S. Department of Energy.
- Harteveld, J.L.N., M.S. Nieuwenhuizen, and E.R.J. Wils. 1997. Detection of staphylococcal enterotoxin B employing a piezoelectric crystal immunosensor. *Biosensors and Bioelectronics* 12(7): 661–667.
- Haskell, W.L., M.C. Yee, A. Evans, and P.J. Irby. 1993. Simultaneous measurement of heart rate and body motion to quantitate physical activity. *Medical Science Sports Exercise* 25(1): 109–115.
- Haskew, N., S. Reynolds, and D. Gettelfinger. 1995. Pen-based technology used in an industrial hygiene walk-through survey. *Applied Occupational Environmental Hygiene* 10: 231–232.
- Heller, J. 1998. Joint Environmental Surveillance Overview. Presentation by J. Heller, U.S. Army CHPPM, to principal investigator and staff of the Strategies to Protect the Health of Deployed U.S. Forces, Task 2.2: Technology and Methods for Detection and Tracking of Exposures to a Subset of Harmful Agents, National Research Council, Washington, D.C., August 3, 1998.
- Herman, L.M.F., M.J.M. Vaerewijck, and R.J.B. Moermans. 1997. Identification and detection of *Bacillus sporothermodurans* spores in 1, 10, and 100 milliliters of raw milk by PCR. *Applied Environmental Microbiology* 63: 3139–3143.
- Heylin, M. 1999. Chemicals and bombs: a worrisome combination. *Chemical and Engineering News* 77(24): 27.
- Howard, P.H. 1989. *Handbook of Fate and Exposure Data for Organic Chemicals*. Vol. 1. Large Production and Priority Pollutants. Chelsea, Mich.: Lewis Publishers.
- Ibrahim, M.S., R.S. Lofts, P.B. Jahrling, E.A. Henchal, V.W. Weedn, M.A. Northrup, and P. Belgrader. 1998. Real-time microchip PCR for detecting single-based differences in viral and human DNA. *Analytical Chemistry* 70: 2013–2017.
- Investor's Business Daily. September 29, 1999. High Tech Dog Tags Will Carry Medical Information on Soldiers. Page A2. Available on line at: http://www.investors.com/web_editor/today
- IOM (Institute of Medicine). 1999. *Strategies to Protect Deployed U.S. Forces: Medical Surveillance, Record Keeping, and Risk Reduction*. Medical Follow-up Agency. Washington, D.C.: National Academy Press.
- Jayne, J.T., D. Leard, P. Davidovits, X. Zhang, K.A. Smith, C.E. Kolb, and D.R. Worsnop. 1998. Aerosol mass spectrometer for size and composition analysis of submicron particles. *Journal on Aerosol Science* 29: s111–s112.
- JCS (Joint Chiefs of Staff). 1996. *Joint Vision 2010*. Washington, D.C.: Joint Chiefs of Staff. Available on line at: <http://www.dtic.mil/jv2010/jvpub.htm>
- Jenkins, P.L., T.J. Phillips, E.J. Mulberg, and S.P. Hui. 1992. Activity patterns of Californians: use of and proximity to indoor pollutant sources. *Atmospheric Environment* 26A(12): 2141–2148.
- Johnson, T.R., 1995. Recent advances in the estimation of population exposure to mobile source pollutants. *Journal of Exposure Analysis Environmental Epidemiology* 5: 551–571.

- Johnston, M.V. 1999. On-Line Chemical Analysis of Airborne Particulate Matter. Presentation by M.V. Johnston, University of Delaware, to the principal investigator and members of the Advisory Panel on Strategies to Protect the Health of Deployed U.S. Forces, Task 2.2: Technology and Methods for Detection and Tracking of Exposures to a Subset of Harmful Agents, National Research Council, Washington, D.C., January 11, 1999.
- JSMG (Joint Service Materiel Group). 1998. Joint Service Nuclear Biological and Chemical Defense Research, Development and Acquisition Plan. Washington, D.C.: U.S. Department of Defense.
- Kai, E., S. Sawata, K. Ikebukuro, T. Iida, T. Honda, and I. Karube. 1997. Novel DNA detection system of flow injection analysis. Part 2. The distinctive properties of a novel system employing PNA (peptide nucleic acid) as a probe for specific DNA detection. *Nucleic Acids Symposium Series* 37: 321-322.
- Kaufmann, R. 1995. Matrix-assisted laser desorption ionization (MALDI) mass spectrometry: a novel analytical tool in molecular biology and biotechnology. *Journal of Biotechnology* 41(2-3): 155-175.
- Klepeis, N.E., A.M. Tsang, and J.V. Behar. 1996. Analysis of the National Human Activity Pattern Survey (NHAPS) Respondents from a Standpoint of Exposure Assessment. Contract No. 68-01-7325. Washington, D.C.: Environmental Protection Agency.
- Knechtges, P. 1998. Deployment Environmental Health Surveillance Research Development Testing and Evaluation Overview. Presentation by P. Knechtges, U.S. Army CEHR, to principal investigator and staff of the Strategies to Protect the Health of Deployed U.S. Forces, Task 2.2: Technology Methods for Detection and Tracking of Exposures to a Subset of Harmful Agents. Washington, D.C., National Research Council, August 3, 1998.
- Koontz, M.D., W.C. Evans, and C.R. Wilkes. 1998. Development of a Model for Assessing Indoor Exposure to Air Pollutants. Contract No. ARBA933-257. Sacramento, Calif.: California State Air Resources Board, Research Division.
- Koster, H., K. Tnag, D.J. Fu, A. Braun, D. van den Boom, C.L. Smith, R.J. Cotter, and C.R. Cantor. 1996. A strategy for rapid and efficient DNA sequencing by mass spectrometry. *Natural Biochemistry* 14: 1123-1128.
- Krahmer, M.K., A. Fox, A. Saraf, and L. Larsson. 1998. Total and viable airborne bacterial load in two different agricultural environments using gas chromatography-tandem mass spectrometry and culture: a prototype study. *American Industrial Hygiene Association Journal* 59: 524-531.
- Krzyzanowski, M. (ed.). 1998. Assessment of Exposure to Indoor Pollutants. Copenhagen: World Health Organization.
- Krzyzanowski, M., J.J. Quackenboss, and M.D. Lebowitz. 1990. Chronic respiratory effects of indoor formaldehyde exposure. *Environmental Research* 52: 117-125.
- Kuske, C.R., K.L. Banton, D.L. Adorada, P.C. Stark, K.K. Hill, and P.J. Jackson. 1998. Small-scale DNA sample preparation method for field PCR detection of microbial cells and spores in soil. *Applied Environmental Microbiology* 64: 2463-2472.
- Lange, J.L., P.S. Thorne, and N. Lynch. 1997. Application of flow cytometry and fluorescent *in situ* hybridization for assessment of exposures to airborne bacteria. *Applied Environmental Microbiology* 63: 1557-1563.
- Larsson, L., and A. Saraf. 1997. Use of gas chromatography-ion trap tandem mass spectrometry for the detection and characterization of microorganisms in complex samples. *Molecular Biotechnology* 7: 279-287.
- Layton, D.W. 1993. Metabolically consistent breathing rates for use in dose assessments. *Health Physics* 64(1): 23-36.

- Layton, D.W., T.E. McKone, J.P. Knezovich, and J.J. Wong. 1993. Assessment of Exposures to Genotoxic Substances. Pp. 29–63 in *Methods for Genetic Risk Assessment*. Ann Arbor, Mich.: Lewis Publishers.
- Lebowitz, M.D. 1995. Exposure assessment needs in studies of acute health effects. *Journal of the Science of the Total Environment* 168: 109–117.
- Lebowitz, M.D. 1998. Air Pollutant Exposures and Potential Health Effects among Persian Gulf War Veterans. Pp. 208–215 in *Report of the Special Investigation Unit on Gulf War Illnesses*. Washington, D.C.: U.S. Senate Committee on Veterans' Affairs.
- Lebowitz, M.D. 1999. Sampling Strategies for Tracking Potential Exposures to Deployed Personnel. Presentation by M.D. Lebowitz, University of Arizona College of Medicine, to the principal investigator and members of the Advisory Panel on Strategies to Protect the Health of Deployed U.S. Forces, Task 2.2: Technology and Methods for Detection and Tracking of Exposures to a Subset of Harmful Agents, National Research Council, Washington, D.C., January 11, 1999.
- Lebowitz, M.D., J.J. Quackenboss, M.L. Soczek, M. Kollander, and S.D. Colome. 1989. The new Standard Environmental Inventory questionnaire for estimation of indoor concentrations. *Journal of the Air Pollution Control Association* 39: 1411–1419.
- Letz, R., and P.B. Spengler. 1984. Estimated distribution of personal exposure to respirable particles. *Environmental Monitoring and Assessment* 4: 351–359.
- Lindqvist, R., B. Norling, and S.T. Lambertz. 1997. A rapid sample preparation method for PCR detection of food pathogens based on buoyant density centrifugation. *Letters in Applied Microbiology* 24: 306–310.
- Lioy, P.J. 1999. Exposure analysis and assessment in the twenty-first century. *Inhalation Toxicology* 11(6-7): 623–636.
- Lioy, P.J., L. Wallace, and E. Pellizzari. 1991. Indoor/outdoor and personal monitor and breath analysis relationships for selected volatile organic compounds measured at three homes during New Jersey TEAM-1987. *Journal of Exposure Analysis and Environmental Epidemiology* 1(1): 45–61.
- Lioy, P.J., and E. Pellizzari. 1996. Conceptual framework for designing a national survey of human exposure. *Journal of Exposure Analysis and Environmental Epidemiology* 5(3): 425–444.
- Lippman, M. In press. Collection and use of personal exposure and human biological-marker information for assessing risks to deployed U.S. forces in hostile environments. In *Workshop Proceedings of the Strategies to Protect the Health of Deployed U.S. Forces: Assessing Health Risks to Deployed U.S. Forces*. Washington, D.C.: National Academy Press.
- Little, J.C., J.M. Daisey, and W.W. Nazaroff. 1992. Transport of subsurface contaminants into buildings. *Environmental Science and Technology* 26(11): 2058–2066.
- Lopez, N.I., M.J. Pettinari, and B.S. Mendez. 1996. Monitoring by PCR amplification of the polyphosphate kinase gene added to natural water samples. *Microbiologia* 12: 557–562.
- Maszle, D.R. 1998. In Search of the Wild Oncomelania: Biomedical Imaging on a Landscape Scale. Unpublished manuscript. Division of Environmental Health Sciences, School of Public Health, University of California, Berkeley.
- McBride, S.J., W. Ott, P. Switzer, and L. Hildemann. 1997. A Quantification of the Proximity Effect in Personal Exposure to Indoor Air Pollutants. Paper presented at the 7th Annual Meeting of the International Society of Exposure Analysis, November 2–5, 1997, Research Triangle Park, North Carolina.

- McDonald, K. 1998. GPS Technologies. Presentation by K. McDonald, Sat Tech Systems, to the principal investigator and members of the Advisory Panel of the Strategies to Protect the Health of Deployed U.S. Forces, Task 2.2: Technology and Methods for Detection and Tracking of Exposures to a Subset of Harmful Agents, Beckmann Center, Irvine, California, December 9, 1998.
- McKone, T.E. and J.I. Daniels. 1991. Estimating human exposure through multiple pathways from air, water, and soil. *Regulatory Toxicology and Pharmacology* 13: 36–61.
- McKone, T.E., and R.L. Maddalena. 1997. Soil contamination and human exposure: a comprehensive assessment framework. *International Journal of Toxicology* 16: 319–337.
- McLachlan, M.S. 1995. Bioaccumulation of hydrophobic chemicals in agricultural food chains. *Environmental Science and Technology* 30: 252–259.
- Moschandreas, D.J. 1981. Exposure to pollutants and daily time budgets of people. *Academic Medicine* 57: 845–859.
- Moschandreas, D.J. 1998. IIT. Personal Communication from D.J. Moschandreas, Illinois Institute of Technology, with P. Jenkins, California Air Resources Board, December 21, 1998.
- Moschandreas, D.J., and S.M. Gordon. 1991. Volatile Organic Compounds in the Indoor Environment: Review of Characterization Methods and Indoor Air Quality Studies. Pp. 121–153 in *Organic Chemistry of the Atmosphere*, L.D. Hansen and D.J. Eatough, eds. N.Y.: CRC Press.
- Moschandreas, D.J., G.G. Akland, and S.M. Gordon. 1993. Miniaturization and field testing of the total, isolated by microenvironment exposure (TIME) sensor. Pp. 5-1–5-17 in *Proceedings of the 6th International Conference on Indoor Air Quality and Climate*, Vol. 3. Ottawa, Canada: International Society of Indoor Air Quality and Climate.
- Moschandreas, D.J., G.G. Akland, and S.M. Gordon. 1994. The measurement and decomposition of total exposure using the total-isolated-by-microenvironment-exposure (TIME) monitor. *Journal of Exposure Analysis and Environmental Epidemiology* 4(3): 395–407.
- National Defense Panel. 1997. *Transforming Defense: National Security in the 21st Century*. Available on line at: <http://www.dtic.mil/ndp>
- National Science and Technology Council. 1998. *A National Obligation: Planning for Health Preparedness of the Military, Veterans, and Their Families After Future Deployments*. Washington, D.C.: Executive Office of the President.
- Nazaroff, W.W., and G.R. Cass. 1986. Mathematical modeling of chemically reactive pollutants in indoor air. *Environmental Science and Technology* 20(9): 924–934.
- NIH (National Institutes of Health). 1994. The Persian Gulf experience and health: NIH Technology Assessment Workshop Panel. *Journal of the American Medical Association* 272(5): 391–396.
- Noble, C., and K.A. Prather. 1996. Real-time measurement of correlated size and composition profiles of individual atmospheric aerosol particles. *Environmental Science and Technology* 30: 2667–2680.
- Northrup, M.A., B. Benett, D. Hadley, P. Landre, S. Lehew, J. Richards, and P. Stratton. 1998. A miniature analytical instrument for nucleic acids based on micromachined silicon reaction chambers. *Analytical Chemistry* 70: 918–922.
- NRC (National Research Council). 1981a. *Formaldehyde and Other Aldehydes*. Board on Toxicology and Environmental Health Hazards, National Research Council. Washington, D.C.: National Academy Press.
- NRC. 1981b. *Indoor Pollutants*. Board on Toxicology and Environmental Health Hazards, National Research Council. Washington, D.C.: National Academy Press.
- NRC. 1985a. *Epidemiology and Air Pollution*. Board on Environmental Studies and Toxicology, National Research Council. Washington, D.C.: National Academy Press.

- NRC. 1985b. *Health Hazards*, 3 vols. Board on Toxicology and Environmental. National Research Council. Washington, D.C.: National Academy Press.
- NRC. 1988. *Submarine Air Quality: Monitoring the Air in Submarines: Health Effects in Divers of Breathing Submarine Air under Hyperbaric Conditions*. Board on Environmental Studies and Toxicology, National Research Council. Washington, D.C.: National Academy Press.
- NRC. 1991a. *Human Exposure Assessment for Airborne Pollutants: Advances and Opportunities*. Board on Environmental Studies and Toxicology, National Research Council. Washington, D.C.: National Academy Press.
- NRC. 1991b. *Frontiers in Assessing Human Exposure to Environmental Toxicants*. Board on Environmental Studies and Toxicology, National Research Council. Washington, D.C.: National Academy Press.
- NRC. 1992. *Guidelines for Developing Spacecraft Maximum Allowable Concentrations for Space Station Contaminants*. Board on Environmental Studies and Toxicology, National Research Council. Washington, D.C.: National Academy Press.
- NRC. 1994a. *Science and Judgment in Risk Assessment*. Board on Environmental Studies and Toxicology, National Research Council. Washington, D.C.: National Academy Press.
- NRC. 1994b. *Health Effects of Permethrin-Impregnated Army Battle-Dress Uniforms*. Board on Environmental Studies and Toxicology, National Research Council. Washington, D.C.: National Academy Press.
- NRC. 1995. *Commercial Multimedia Technologies for Twenty-First Century Army Battlefields: A Technology Management Strategy*. Board on Army Science and Technology, National Research Council. Washington, D.C.: National Academy Press.
- NRC. 1996. *Permissible Exposure Levels for Selected Military Fuel Vapors*. Board on Environmental Studies and Toxicology, National Research Council. Washington, D.C.: National Academy Press.
- NRC. 1997a. *Energy-Efficient Technologies for the Dismounted Soldier*. Board on Army Science and Technology, National Research Council. Washington, D.C.: National Academy Press.
- NRC. 1997b. *Technical Assessment of the Man-in-Simulant Test (MIST) Program*. Board on Army Science and Technology, National Research Council. Washington, D.C.: National Academy Press.
- NRC. 1997c. *Review of Acute Human Toxicity Estimates for Selected Chemical Warfare Agents*. Board on Environmental Studies and Toxicology, National Research Council. Washington, D.C.: National Academy Press.
- NRC. 1997d. *Toxicity of Smokes and Obscurants*. Board on Environmental Studies and Toxicology, National Research Council. Washington, D.C.: National Academy Press.
- NRC. 1999a. *Strategies to Protect Deployed U.S. Forces: Analytical Framework for Assessing Risk*. Board on Environmental Studies and Toxicology, National Research Council. Washington, D.C.: National Academy Press.
- NRC. 1999b. *Strategies to Protect Deployed U.S. Forces: Force Protection and Decontamination*. Division of Military Science and Technology, Commission on Engineering and Technical Systems, National Research Council. Washington, D.C.: National Academy Press.
- NRC. 1999c. *Waste Incineration and Public Health*. Board on Environmental Studies and Toxicology, National Research Council, Washington, D.C.: National Academy Press.
- Ott, W. 1982. Concepts of human exposure to air pollution. *Environmental International* 7: 179–186.
- Ott, W.R. 1995. Human exposure assessment. *Journal of Exposure Analysis and Environmental Epidemiology* 5: 449–472.

- Ott, W., J. Thomas, D. Mage, and L. Wallace. 1988. Validation of the simulation of human activity and pollutant exposure (SHAPE) model using paired days from the Denver, Colorado, carbon monoxide field study. *Atmospheric Environment* 22: 2101–2113.
- Ott, W., P. Switzer, S. McBride, L. Hildemann, and S. Wien. 1997. Modeling the Proximity Effect from a Continuously Emitting Indoor Source by Random Component Superposition. Presentation at the 7th Annual Meeting of the International Society of Exposure Analysis, November 2–5, 1997.
- Pasquill, F. 1961. The estimation of the dispersion of windborne material. *Meteorological Magazine* 90: 33–49.
- Pate, R.R. 1993. Physical activity assessment in children and adolescents. *Critical Review of Food Science and Nutrition* 33(4-5): 321–326.
- Pellizzari, E.D., ed. 1991. Exposure Assessment. *Journal of Exposure Analysis and Environmental Epidemiology* 1(1, 2).
- Pellizzari, E.D., P. Liroy, and J. Quackenboss. 1995. Population-based exposure measurements in EPA Region 5: a Phase I field study in support of the National Human Exposure Assessment Survey. *Journal of Exposure Analysis and Environmental Epidemiology* 5(3): 327–358.
- Perez, F.G., M. Mascini, I.E. Tothill, and A.P. Turner. 1998. Immunomagnetic separation with mediated flow injection analysis amperometric detection of viable *Escherchia coli* O157. *Analytic Chemistry* 70: 2380–2386.
- Persian Gulf Veterans Coordinating Board. 1997. The Persian Gulf Veterans Coordinating Board Action Plan with Respect to the Findings and Recommendations of the Presidential Advisory Committee on Gulf War Veteran's Illnesses Final Report. Washington, D.C.: U.S. Department of Justice.
- Perry, R., and I.L. Gee. 1993. Indoor/Outdoor Air Quality Factors with Respect to VOC Emissions from Vehicles. Pp. 189–194 in *Proceedings of the Indoor Air Conference*. Research Triangle Park, N.C.: Research Triangle Institute.
- Pirkle, J.L., L.L. Needham, and K. Sexton. 1995. Improving exposure assessment by monitoring human tissues for toxic chemicals. *Journal of Exposure Analysis and Environmental Epidemiology* 5: 405–424.
- Pyun, J.C., H. Beutel, J.U. Meyer, and H.H. Ruf. 1998. Development of a biosensor for *E. coli* based on a flexural plate wave (FPW) transducer. *Biosensors Bioelectron* 13: 839–845.
- Quackenboss, J.J., J.D. Spengler, M.S. Knarek, and R. Letz. 1986. Personal exposure to nitrogen dioxide: relationship to indoor/outdoor air quality and activity patterns. *Environmental Science and Technology* 20: 775.
- Quackenboss, J.J., M. Krzyzanowski, and M.D. Lebowitz. 1991. Exposure assessment approaches to evaluate respiratory health effects of particulate matter and nitrogen dioxide. *Journal of Exposure Analysis and Environmental Epidemiology* 1: 83–107.
- Resta, J. 1998. Joint Deployment Environmental Surveillance. Presentation by J. Resta, U.S. Army CHPPM, to the principal investigator of the Strategies to Protect the Health of Deployed U.S. Forces, Task 2.2: Technology and Methods for Detection and Tracking of Exposures to a Subset of Harmful Agents, National Research Council, Washington, D.C., August 3, 1998.
- Rigler, R., Z. Foldes-Papp, F.J. Meyer-Almes, C. Sammet, M. Volcker, and A. Schnetz. 1998. Fluorescence cross-correlation: a new concept for polymerase chain reaction. *Journal of Biotechnology* 63: 97–109.
- RIVM (Rijksinstituut Voor Volksgezondheid en Milieuhygiene [National Institute of Public Health and Environmental Protection]). 1989. Indoor environment. Pp. 243–254 in *A National Environmental Survey 1985–2010, Concern for Tomorrow*. Bilthoven, The Netherlands: National Institute of Public Health and Environmental Protection.

- Robinson, J.P. 1985. The validity and reliability of diaries versus alternative time use measures. Pp. 33–62 in *Time, Goods, and Well-Being*, F.T. Juster and F.P. Stafford, eds. Ann Arbor, Mich.: University of Michigan Survey Research Center.
- Rodes, C., R. Kamens, and R. Weiner. 1995. Experimental considerations for the study of contaminant dispersion near the body. *Air and Industrial Hygiene Association Journal* 56: 535–545.
- Rodes, C.E., T.M. Peters, P.A. Lawless, and L. Wallace. 1996. Aerosol sampling biases in personal exposure measurements. Paper K3.03 presented at the Joint SRA/ISEA Conference, Session K3: Exposure to Particulate Matter, New Orleans, Louisiana, December 12, 1996.
- Rose, J.B. In press. Future Health Assessment and Risk Management Integration for Infectious Diseases and Biological Weapons for Deployed United States Forces. In *Workshop Proceedings of the Strategies to Protect the Health of Deployed U.S. Forces: Assessing Health Risks to Deployed U.S. Forces*. Washington, D.C.: National Academy Press.
- Rostker, B. 1997a. Testimony before the House Government Reform and Oversight Committee, Subcommittee on Human Resources and Intergovernmental Relations. Available on line at: http://www.gulfink.osd.mil/ct_rostker.html
- Rostker, B. 1997b. Testimony before the Senate Veteran's Affairs Committee. Available on line at: http://www.gulfink.osd.mil/ct_sva.html
- Rostker, B. 1999. Leadership and Policy Perspective. Presentation by B. Rostker, Undersecretary of the Army to the Department of Defense Nuclear, Biological, and Chemical Symposium and Exhibition, Aberdeen Proving Ground, Maryland, June 22, 1999.
- Sandery, M., T. Stinear, and C. Kaucner. 1996. Detection of pathogenic *Yersinia enterocolitica* in environmental waters by PCR. *Journal of Applied Bacteriology* 80: 327–332.
- Sawata, S., E. Kai, K. Ikebukuro, T. Lida, T. Honda, and I. Karube. 1997. Novel detection system of flow injection analysis. Part 1. The existence of significant relation between secondary structure of DNA and sensitivity in signal detection. *Nucleic Acids Symposium Series* 37: 247–248.
- Schnoor, J.L. 1985. *Modeling Chemical Transport in Lakes, Rivers, and Estuarine Systems*. Vol. 2. Environmental Exposures from Chemicals. Boca Raton, Fla.: CRC Press.
- Schutz, Y., and A. Chambaz. 1997. Could a satellite-based navigation system (GPS) be used to assess the physical activity of individuals on earth? *European Journal of Clinical Nutrition* 51(5): 338–339.
- Seo, K.H., R.E. Brackett, J.F. Frank, and S. Hilliard. 1998. Immunomagnetic separation and flow cytometry for rapid detection of *Escherchia coli* O157:H7. *Journal of Food Production* 61: 812–816.
- Sexton, K., and P.B. Ryan. 1988. Assessment of Human Exposure to Air Pollution: Methods, Measurements, and Models. Pp. 207–238 in *Air Pollution, the Automobile and Public Health*, Watson, A.Y., O. Ranees, eds. Washington, D.C.: National Academy Press.
- Sexton, K., S.G. Selevan, D.K. Wagener, and J.A. Lybarger. 1992. Estimating human exposures to environmental pollutants: availability and utility of existing databases. *Archives of Environmental Health* 47(6): 398–407.
- Sexton, K., M.A. Callahan, E.F. Bryan, C.E. Saint, and W.P. Wood. 1995a. Informed decisions about protecting and promoting public health: rationale for a national human exposure assessment survey. *Journal of Exposure Analysis and Environmental Epidemiology* 5: 233–256.
- Sexton, K., D.E. Kleffman, and M.A. Callahan. 1995b. An introduction to the National Human Exposure Assessment Survey (NHEXAS) and related Phase I field studies. *Journal of Exposure Analysis and Environmental Epidemiology* 5: 229–232.

- Spear, R.C. 1998. GPS Applications. Presentation by R.C. Spear, University of California, Berkeley, to the principal investigator and members of the Advisory Panel on Strategies to Protect the Health of Deployed U.S. Forces, Task 2.2: Technology and Methods for Detection and Tracking of Exposures to a Subset of Harmful Agents, Beckman Center, Irvine, California, December 9, 1998.
- Spear, R.C., W.J. Popendorf, J.T. Leffingwell, T.H. Milby, J.E. Davies, and W.J. Spencer. 1977. Field workers' response to weathered residues of parathion. *Journal of Occupational Medicine* 19(a): 406-410.
- Spengler, J.D., D.W. Dockery, W.A. Turner, J.M. Wolfson, and B.G. Ferris, Jr. 1981. Long-term measurements of respirable sulfates and particles inside and outside homes. *Atmospheric Environment* 15: 23-30.
- Spengler, J.D., R.D. Treitman, T.D. Tosteson, D.T. Mage, and M.L. Soczek. 1985. Personal exposure to respirable particulates and implications for air pollution epidemiology. *Environmental Science and Technology* 19: 700-707.
- Stedman, D.R. 1999. Chemical Detection Technologies/Vapor Phase. Presentation by D.R. Stedman, University of Denver, to the principal investigator and members of the Advisory Panel on Strategies to Protect the Health of Deployed U.S. Forces, Task 2.2: Technology and Methods for Detection and Tracking of Exposures to a Subset of Harmful Agents, National Research Council, Washington, D.C., January 11, 1999.
- Stock, T.H., and M.T. Morandi. 1989. Comparative evaluation of self-reported and independently observed activity patterns in an air pollution health effects study in human activity patterns. Pp. 5-1-5-17 in the Proceedings of the Research Planning Conference on Human Activity Patterns, T.H. Stark, ed. Washington, D.C.: Environmental Protection Agency.
- Suzuki, K., N. Okamoto, S. Watanabe, and T. Kano. 1992. Chemiluminescent microtiter method for detecting PCR amplified HIV-1 DNA. *Journal of Virological Methods* 38: 113-122.
- Turner, B. 1970. A Workbook of Atmospheric Dispersion Estimates, U.S. Environmental Protection Agency. AP-26. Washington, D.C.: Government Printing Office.
- Tyagi, S., and F.R. Kramer. 1996. Molecular beacons: probes that fluoresce upon hybridization. *National Biotechnology* 14: 303-308.
- U.S. Air Force. 1999. Air Force Programs in Collective Protection/Decontamination, Contamination Avoidance, and Individual Protective Equipment. Available on line at: <http://www.poseidon.brooks.af.mil/www/yac/YACN/yacn1.htm>
- U.S. Army. 1991. Kuwait Oil Fire Health Risk Assessment. No. 39-26-L192-91. Washington, D.C.: Department of the Army.
- U.S. Army. 1992. Chemical and Biological Contamination Avoidance. Field Manual 3-3. Washington, D.C.: Department of the Army.
- U.S. Army. 1993. Training in Units. Army Regulation 350-41. Washington, D.C.: Department of the Army.
- U.S. Army. 1994. NBC Warning and Reporting System. Field Manual 3-7. Washington, D.C.: Department of the Army.
- U.S. Army. 1998. TRADOC Pamphlet 525-20, U.S. Army Operations Concept for Nuclear, Biological, and Chemical (NBC) Defense, as of May 15, 1998 with sections updated to August 11, 1998. Washington, D.C.: Department of the Army.
- U.S. Army CHPPM (Center for Health Promotion and Preventive Medicine). 1999. Short Term Chemical Exposure Guidelines for Deployed Military Personnel. USACHPPM TG 230A. Ft. Detrick, Md.: U.S. Army Center for Health Promotion and Preventive Medicine.

- U.S. Army SBCCOM. 1998. Contamination Avoidance. Presentations by employees of the U.S. Army SBCCOM Edgewood Chemical and Biological Center, to the principal investigator and advisory panel of the Strategies to Protect the Health of Deployed U.S. Forces, Task 2.2: Technology and Methods for Detection and Tracking of Exposures to a Subset of Harmful Agents, Edgewood, Maryland, November 23–24, 1998.
- U.S. Army and U.S. Marine Corps. 1993. NBC Reconnaissance, DA FM3-19, FMFM 11-20. Washington, D.C.: Department of the Army and U.S. Marine Corps.
- U.S. Army and U.S. Marine Corps. 1996. Chemical Operations Principles and Fundamentals. Field Manual 3-100 and Marine Corps Warfighting Publication 3-3.7.1. Washington, D.C.: Department of the Army/U.S. Marine Corps.
- U.S. Army, U.S. Navy, and U.S. Air Force. 1990. Potential Military Chemical/Biological Agents and Compounds. Field Manual 3-9, Navy Publication P-467, and Air Force Manual 355-7. Washington, D.C.: Department of the Army/Department of the Navy/Department of the Air Force.
- U.S. Congress. 1994. Public Law, 103-160, Item 502(51) Sec. 1701. Conduct of the Chemical and Biological Defense Program. Washington, D.C.: Government Printing Office.
- U.S. Navy. 1999a. Contamination Avoidance Systems. Available on line at: <http://www.cbd.navy.mil>
- U.S. Navy. 1999b. The Navy Environmental Health Center. Available on line at: <http://www-nehc.med.navy.mil/index.htm>
- U.S. Navy. 1999c. The Naval Health Center Toxicology Detachment. Available on line at: <http://www.navy.al.wpafb.af.mil>
- U.S. Senate. 1992. Congressional Report on Environmental Aftermath of the Gulf War. S. Prt. 102-84. Washington, D.C.: Government Printing Office.
- U.S. Senate. 1998. Report of the Special Investigation Unit on Gulf War Illnesses. U.S. Senate Committee on Veterans' Affairs. S. Prt. 105-39. Washington, D.C.: Government Printing Office.
- Van Loy, M.D., V.C. Lee, L.A. Gundel, J.M. Daisey, R.G. Sextro, and W.W. Nazaroff. 1997a. Dynamic behavior of semivolatile organic compounds in indoor air. *Environmental Science and Technology* 31(9): 2554–2561.
- Van Loy, M.D., W.W. Nazaroff, and J.M. Daisey. 1997b. Sorptive Interactions of Gas-Phase Environmental Tobacco Smoke Components with Carpet. Paper no. 97-MP 3.05 in Proceedings of the 1997 Air and Waste Management Association's 90th Annual Meeting and Exhibition. Pittsburgh, Pa.: Air and Waste Management Association.
- Visscher, W., R.W. Whitmore, M. Kollander, and F. Brenner. 1989. Principles of questionnaire design and methods of administration. Pp. 14-1–14-10 in Proceedings of the Research Planning Conference on Human Activity Patterns, T. Starks, ed. Washington, D.C.: Environmental Protection Agency.
- Waldman, J.M., S.M. Bilder, N.C.G. Freeman, and M. Friedman. 1993. A portable datalogger to evaluate recall-based time-user measures. *Journal of Exposure Analysis and Environmental Epidemiology* 3(1): 39–48
- Wallace, L.A. 1992. Recent field studies of personal and indoor exposures to environmental pollutants. *Annals of the New York Academy of Sciences* 641: 7–16.
- Wallace, L.A. 1993. A decade of studies of human exposure: what have we learned? *Risk Analysis* 13: 135–139.
- Wallace, L.A. 1987a. The TEAM Study: Summary and Analysis, Vol. 1. 600/6-87/002a. Washington, D.C.: Environmental Protection Agency.
- Wallace, L.A. 1987b. The Total Exposure Assessment Methodology (TEAM) Study. 3(600): 6-87/002a, b, c. Washington, D.C.: Environmental Protection Agency.

- Wallace, L.A., E.D. Pellizzari, T.D. Hartwell, V. Davis, L.C. Michael, and R.W. Whitmore. 1989. The influence of personal activities on exposure to volatile organic compounds. *Environmental Research* 50(1): 37–55.
- Waters, L.C., S.C. Jackson, N. Kroutchinina, J. Khandurina, R.S. Foote, and J.M. Ramsey. 1998. Microchip device for cell lysis, multiplex PCR amplification, and electrophoretic sizing. *Analytical Chemistry* 70: 158–162.
- Weschler, C., A.T. Hodgson, and J.D. Wooley. 1992. Indoor chemistry: ozone, volatile organic compounds, and carpets. *Environmental Science and Technology* 26: 2371–2377.
- WHO (World Health Organization). 1979. Monographs on the Evaluation of the Carcinogenic Risk to Chemicals to Humans: Vinyl Chloride and Polymers. IARC Monograph no.19. Geneva/Copenhagen: World Health Organization.
- WHO. 1982a. Estimating Human Exposure to Air Pollutants. Geneva/Copenhagen: World Health Organization.
- WHO. 1982b. Indoor Air Pollutants: Exposure and Health Effects. WHO/EURO Reports and Studies no. 78. Geneva/Copenhagen: World Health Organization.
- WHO. 1982c. World Health Organization International Agency for Research on Cancer. IARC Evaluation of the Carcinogenic Risk of Chemicals to Humans: Some Industrial Chemicals and Dyestuffs. IARC Monographs no. 29. Geneva/Copenhagen: World Health Organization.
- WHO. 1983. Evaluation of the Carcinogenic Risk of Chemicals to Humans: Polynuclear Aromatic Compounds. Part 1. Chemical, Environmental and Experimental Data. IARC Monographs no. 32. Geneva/Copenhagen: World Health Organization.
- WHO. 1989. Indoor Air Quality: Organic Pollutants. WHO/EURO Reports and Studies no. 111. Copenhagen: World Health Organization.
- WHO. 1993. Polychlorinated Biphenyls and Terphenyls. International Programme on Chemical Safety (IPCS). World Health Organization's Environmental Health Criteria 140 (2nd ed.) Geneva/Copenhagen: World Health Organization.
- Wilding, P., L.J. Kricka, J. Cheng, G. Hvichia, M.A. Soffner, and P. Fortina. 1998. Integrated cell isolation and polymerase chain reaction analysis using silicon microfilter chambers. *Analytical Biochemistry* 257: 95–100.
- Wiley, J.A., J.P. Robinson, T. Piazza, K. Garrett, K. Cirksena, Y.T. Cheng, and G. Martin. 1991a. Activity Patterns of California Residents, Final Report. May, 1991. Contract No. A6-177-33. Sacramento, Calif.: California State Air Resources Board.
- Wiley, J.A., J.P. Robinson, Y.T. Cheng, T. Piazza, L. Stork, and K. Pladsen. 1991b. Study of Children's Activity Patterns. Contract No. A773-149. Sacramento, Calif.: California State Air Resources Board.
- Wilkins, J.R., T.L. Bean, and G.L. Mitchell. 1997. Development and application of a pen-based computer program for direct entry of agricultural hazard data. *Applied Occupational Environmental Hygiene* 12: 105–110.
- Wilson, A.L., S.D. Colome, and Y. Tian. 1993. California Residential Indoor Air Quality Study. Vol. 1. Methodology and Descriptive Statistics. Prepared for Gas Research Institute, Pacific Gas and Electric Company and Southern California Gas Company. Irvine, Calif.: Integrated Environmental Services.
- Wu, L., J. Coombs, S. Malmstrom, and M. Glass. 1997. Simultaneous multianalyte nucleic acid detection for gastrointestinal bacterial pathogens using GeneSTART technology. *Clinical Laboratory of Medicine* 17: 129–145.
- Yang, R.S.H. In press. Health Risks and Preventive Research Strategy for Deployed U.S. Forces from Toxicological Interactions among Potentially Harmful Agents. In Workshop Proceedings of the Strategies to Protect the Health of Deployed U.S. Forces: Assessing Health Risks to Deployed U.S. Forces. Washington, D.C.: National Academy Press.

- Yershov, G., V. Barsky, A. Belgovskiy, E. Kirillov, E. Kreindlin, I. Ivanov, S. Parinov, D. Guschin, A. Crobishev, S. Dubiley, and A. Mirzabekov. 1996. DNA analysis and diagnosis on oligonucleotide microchips. *Proceedings of the National Academy of Sciences* 93: 4913–4918.
- Zartarian, V.G., W.R. Ott, and N. Duan. 1997. A quantitative definition of exposure and related concepts. *Journal of Exposure Analysis and Environmental Epidemiology* 7(4): 411–437.
- Zartarian, V.G., and J.O. Leckie. 1998. Dermal exposure: the missing link. *Environmental Science and Technology* 32(5): A134–A137.
- Zhitkovich, A., and M. Costa. 1998. *Environmental and Occupational Medicine* (3rd ed.) Philadelphia, Pa.: Lippincott-Raven.

