

HAL LEVIN BIOGRAPHY (partially updated, April 2013)

EDUCATION

1959-1961	Cornell University, Ithaca, NY
1961-1966, 1969	University of California, Berkeley
1964	B. Arts
1969	B. Architecture (Honors)

PROFESSIONAL POSITIONS

1972-present	Principal Building Ecology Research Group, Santa Cruz, California Hal Levin & Associates, Santa Cruz, California
2008-	Executive Director, International Society of Indoor Air Quality and Climate (ISIAQ).
2007-	Editor and Publisher, BuildingEcology.com
2005-	President, Indoor Air Institute, Inc.
1999-2005	President, Indoor Air 2002, Inc
2000-2005	Architect/Engineer/Scientist, Indoor Environment Department, Lawrence Berkeley National Laboratory, University of California, Berkeley.
1991-1997	Editor and Publisher <i>Indoor Air BULLETIN</i> , Indoor Air Information Service Inc., Santa Cruz, California
1988-1991	Editor <i>Indoor Air Quality Update</i> , Cutter Information Corp., Arlington, Massachusetts.
1978-1988	Research Specialist Center for Environmental Design Research, College of Environmental Design, University of California, Berkeley
1973-1978	Hal Levin Building Design and Construction Boulder Creek, California
1971-1972	Associate Building Systems Development Inc., San Francisco, California
1969-1971	Research Associate Organization for Social and Technological Innovation, Inc. (OSTI) San Francisco, California, and Cambridge, Massachusetts
1968	Project Director Peace Corps Escondido Training Center, Escondido, California
1966-1968	Volunteer Architect Peace Corps, Colombia, South America
1965	Architectural Draftsman and Designer Barbachano, Ivanitsky and Associates, El Cerrito, California
1964	Assistant Construction Superintendent Beneficial Standard Life Insurance Co. and M. Gottlieb, Los Angeles

ACADEMIC, RESEARCH, AND TEACHING APPOINTMENTS (List of courses taught available on request)

- 2009 – 2012 Instructor
School of Public Health, Harvard University, Boston, Massachusetts
- 2000-2005 Scientist
Lawrence Berkeley National Laboratory, University of California, Berkeley, California
- 1992,1993 Instructor in Summer Session
Graduate School of Design, Harvard University, Cambridge, Massachusetts
- 1978-1989 Research Specialist III
Center for Environmental Design Research, College of Environmental Design
University of California, Berkeley
- 1990, 1992 Instructor
University Extension, University of California, Berkeley
- 1989 Instructor
University Extension, University of California, San Francisco
- 1979-1983 Lecturer, Adjunct Lecturer
Board of Studies in Environmental Studies, College Eight
University of California, Santa Cruz
- 1978-1983 Lecturer, Visiting Lecturer
Department of Architecture, College of Environmental Design
University of California, Berkeley
- 1978 Lecturer in Summer Session
University of California, Santa Cruz
- 1973 Instructor
University Extension, University of California, Davis

PROFESSIONAL AND PUBLIC SERVICE

- 2012-2013 Co-Chair, ASHRAE IAQ 2013 conference
- 2008-2011 International Scientific Advisory Committee, Indoor Air 2011, Austin, TX
- 2010 International Scientific Advisory Committee, IAQVEC 2010, Syracuse, NY, 2010
- 2009 International Scientific Advisory Committee, Healthy Buildings 2009, Syracuse, NY.
September.
- 2008- International Scientific Advisory Committee, Sustainable Buildings World Congress,
Melbourne, Australia, September 2008.
- 2007- Executive Director, International Society of Indoor Air Quality and Climate
- 2005- President and Chief Executive Officer, Indoor Air Institute, Inc.
- 2008 External Review Panel, World Health Organization Guideline: Ventilation for control of infectious agents
in health care facilities.
- 2007-2008 Working Group Member, World Health Organization Environmental Health Office for Europe, IAQ
Guidelines: Moisture and Mold in Buildings (tentative title).

2007-2008 International Advisor, Indoor Air 2008, Copenhagen, Denmark, August 2008.

2007-2008 International Scientific Advisory Committee, Sustainable Buildings 2008, Melbourne, Australia, September 2008.

2007-2008 International Advisor, COBEE 2008, International Conference on Buildings and Environment, China, July 2008.

2006-2007 Chairman, Environmental Health Committee, American Society of Heating, Refrigerating, and Air-conditioning Engineers, Inc. (ASHRAE).

2003-2005 International Advisor, Sustainable Buildings 2005, Tokyo, Japan, September 2005.

2002-2005 International Advisor, Indoor Air 2005, Tenth International Conference on Indoor Air Quality and Climate. (held in Beijing, China, September 2005)

1999-2002 President, Indoor Air 2002, Ninth International Conference on Indoor Air Quality and Climate. (held in Monterey, California, July 2002)

1999-2000 International Advisor, Healthy Buildings 2000, Helsinki, Finland, August 2000.

1997-2000 Vice President for Practice, International Society of Indoor Air Quality and Climate (ISIAQ))

1997-1999 International Advisor, Indoor Air '99, Edinburgh, Scotland, August 1999.

1997-1998 International Advisor: EPIC '98, Lyon, France, November 1998.

1995-7 Program Committee, Healthy Buildings/IAQ'97, Bethesda, Maryland, September 1997

1994-1996 International Advisor, Indoor Air '96, Nagoya, Japan, July 1996.

1994-1995 International Advisor, Healthy Buildings '95, Milano, Italy, September, 1995.

1994 International Advisor, Healthy Buildings '94, Budapest, Hungary, August 22-25, 1994.

1993 International Advisor, Indoor Air '93, Helsinki, Finland, July 4-8, 1993

1985- American Society for Testing and Materials (ASTM)
 Chair , Subcommittee D22.05 on Indoor Air (1985-)
 Member, Committee D22 on Sampling and Analysis of Atmospheres
 Member, Committee E6 on Building Performance
 Member, Committee E50 on Environmental Assessment.

1993-1996 American Institute of Architects Committee on the Environment (COTE)
 Member, Environmental Resource Guide Review Council

1993-1994 Oak Ridge National Laboratory Life Sciences Symposium
 Member, Organizing Committee, "Indoor Air Quality and Human Health Revisited," March, 1994.

1990-1994 American Institute of Architects Committee on the Environment (COTE)
 Member, Steering Group (Founding Member)
 Chair, Building Ecology/Air Quality Task Group

1991 U. S. Environmental Protection Agency
 Member, Steering Group, Large Buildings Assessment and Evaluation Study (BASE)

- 1986- American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc. (ASHRAE, Inc.)
Elected as a Fellow of the Society, June 2002
- Chair: Guideline Project Committee 10P, Criteria for Achieving Acceptable Indoor Environments 1991 - present
- Chair and Founding Member, TG2.BIE, Task Group on Buildings' Impacts on the Environment, 1997 – 2002
- Chair, Carbon Calculation Tool Project Committee, 2006-present
- Member:
- Standing Standard Project Committee 62: Ventilation for Acceptable Indoor Air Quality
 - Standing Standard Project Committee 55 – Environmental Conditions for Human Comfort
 - Technical Committee 2.1 Human Physiology and Environment
 - Technical Committee 4.10 Indoor Environmental Calculations
 - Environmental Health Committee (Chair, 2006-7)
 - Long Range Planning Subcommittee, Environmental Health Committee (Chair)
 - IAQ '91/Healthy Buildings Committee
 - IAQ/ '92 Committee
 - IAQ '93 Committee
 - IAQ '94 Committee
 - IAQ '95 Committee
 - IAQ/Healthy Buildings '97 Organizing Committee
 - IAQ '98 Committee
 - IAQ 'XX Committee
 - IAQ 2001 Committee
 - IAQ 2004 Committee
 - IAQ 2007 Committee
 - IAQ 2010 Committee
 - ASHRAE Distinguished Lecturer
 - Building Performance Metrics Steering Group
- 1987- 1999 Monterey Bay Unified Air Pollution Control District
Member, Advisory Committee,
Chair: 1990 – 1995
- 1987-1991 Santa Cruz County Hazardous Materials Advisory Commission
Member
- 1985 National Institute of Building Sciences (NIBS), Washington, DC
Asbestos Task Force,
Member Steering Committee
- 1985 U. S. EPA
Workgroup Guidance for Controlling Asbestos-Containing Materials in Buildings ("The Purple Book").
Member
- 1977-1985 California State Board of Architectural Examiners
Member 1977-1985
President: 1983, 1984
Secretary: 1982
Examination Committee Chair: 1980 - 1985
Enforcement Committee Chair: 1979 - 1980
- 1984 California Council, American Institute of Architects Symposium:
Technical Advisor
"Indoor Pollution; The Architect's Response." November 9-10, San Francisco.

- 1984 National Institute of Building Sciences, Washington, DC
Member, Steering Committee
Task Force on Asbestos in Schools and Public Buildings
- 1984- 1990 Environmental Council Board of Directors, Santa Cruz
Member
- 1983 California Council, American Institute of Architects.
Member, Committee on Indoor Pollution,
- 1982-1987 Santa Cruz Regional Group, Sierra Club
Member Executive Committee, 1982-1989
Chair, Conservation Committee, 1985-87
- 1982-1986 Western Limits Neighborhood Association, Santa Cruz.
Chairperson
- 1980 Task Force on Enforcement of Building and Appliance Standards, California Energy Commission.
Member
- 1980-1981 Santa Cruz County Grand Jury
Member
- 1980-1984 United Stand Santa Cruz
Chairperson
- 1978-1980 Professional Conduct Committee, National Council of Architectural Registration Boards.
Member
- 1977- 1978 Santa Cruz County Committee on Alternative Standards for Owner-Built and Occupied Dwellings.
Chairperson
- 1976-1980 Board of Directors, Pataphysical Broadcasting Foundation, Santa Cruz, California.
Member, Vice President.
- 1975- 1993 KUSP-FM, Santa Cruz, California.
Programmer, Latin America folk and jazz music

PROFESSIONAL AFFILIATIONS

American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc. (Fellow)

ASTM (American Society for Testing and Materials) (Fellow)

International Academy of Indoor Air Sciences (Fellow)

International Society of Indoor Air Quality and Climate (Founding Member, 1997-2000: Vice President - Practice)

International Society of Exposure Science (formerly International Society of Exposure Analysis)

Northern California Solar Energy Association

HONORS AND AWARDS

Distinguished Service Award, ASHRAE, 2013

Environmental Health Award, American Society of Heating, Refrigerating, and Air-conditioning Engineers, Inc., 2008.

All-Star Game Player, San Jose Men's Senior Baseball League, July 2007.

Fellow, American Society of Heating, Refrigerating, and Air-conditioning Engineers, Inc. 2002

Outstanding Performance Award, Lawrence Berkeley National Laboratory. 2002.

Study Visit Grant, NATO Committee on the Challenges of Modern Society, Secretariat for Scientific and Environmental Affairs, 1996. Pilot Study on Indoor Air Quality, Final Meeting, 6-10 October 1996.

Most Valuable Player, Los Angeles Dodgers Adult Baseball Camp, Vero Beach, Florida, February, 1994.

Award of Merit, Honorary Fellow, American Society for Testing and Materials, 1994

Member, International Academy of Indoor Air Sciences, 1993-

Conservationist of the Year, Sierra Club -- Santa Cruz Regional Group, 1988

PROJECTS (Partial list)

PI: Update of California Energy Commission Indoor Environmental Quality Roadmap

Co-PI: Microbiology of the Built Environment, funded by Alfred P. Sloan Foundation

Consultant, Indoor Environment Division, U.S. Environmental Protection Agency, Washington, DC.

Consultant, Service Employees International Union Local 1000, Sacramento, California.

Consultant, Google, Inc., Mountain View, California: Indoor air quality.

Consultant, Westat Corporation, Analysis of California Air Resources Board Portable Classroom Study.

Consultant, SMWM Architects: State of California Capitol Area West End Project Design Criteria.

Advisory Committee Member, California Department of Health Services Indoor Air Program, Emissions Testing.

Consultant, World Health Organization Regional Office for Europe, Children's Health and Environment. European Legislation Review and Analysis.

Consultant, University of Alberta, School of Public Health: Children's Health and Environment, European Legislation Review.

Consultant, University of British Columbia, Children's Health and Environment: Gray Literature Search.

Group Facilitator, National Institute of Building Sciences, Report to Access Board on Operations and Maintenance for Multiple Chemical Sensitivity.

Consultant, Americans for Non-Smokers' Rights, ASHRAE Ventilation Standards development process.

Consultant, Indoor Air Quality Monitoring, Capitol Area East End Complex (four new California State office buildings). Under contract to Public Health Institute, Berkeley, in collaboration with the California Department of Health Services.

Oversight and coordination of the preparation of five post-conference journal special issues or supplements based on papers expanded from presentations at Indoor Air 2002. Two are published, one is about to go to the publisher, and two more should be published within the next three months.

Consultant, Indoor Environment Division, U.S. Environmental Protection Agency, Guideline Specifications for Indoor Environmental Quality

Consultant, Laguna Honda Hospital Redevelopment Project, San Francisco, CA.

Consultant, Advisory Committee, State of California Department of Health Services material emissions testing program.

Consultant, University of California, Office of the President,
IAQ Research Agenda development project., LBNL.

Consultant, Capital Area East End Complex, Block 225 (Department of Education Building), State of California.,

Consultant (with Mark Mendell), US Department of Education, Summary of On-Going Federal Research into the Effects of Indoor Air Quality in Schools on the Health or Performance of Students and Teachers

Consultant, Green Specification for Office Workstation Solicitation for Offers, State of California.

Instructor, Advanced Course in Indoor Air Quality, Copenhagen, Denmark, Sponsored by Nordic Institute of Occupational Health.

Consultant, "Healthy Buildings," Helsinki, Finland. National Program in Finland sponsored by National Technology Agency, Helsinki, Finland.

Consultant, Urban Solutions, Tokyo, Japan. Indoor air quality measurement alternatives and strategies for building operation. February 1999.

Consultant, Helsinki University of Technology, Helsinki, Finland. Report on Indoor Air Quality and Climate in the Construction Process. 1998-99.

Consultant and Keynote Lecturer, Institute of Industrial Sciences, University of Tokyo. Indoor air quality and sustainable design in developing and developed countries. January 1999.

Consultant, National Sanitation Foundation International, Indoor Air and Human Health.

Consultant, the Built Environment Consultancy, Research Architecture Related to Building Ecology and Ecologically Sustainable Design. Protocol for Healthy and Environmentally Sustainable Built Environment, Government of Queensland, Australia. December 1998-June 1999. Life Cycle Assessment of Building Materials and Sustainable Design.

Consultant: American Lung Association of Oklahoma, Review of ALA of Minnesota Health House Advantage proposal for Tulsa residential construction.

Consultant: Urban Solutions Co., Ltd., Tokyo, Japan. Informative report on IAQ sensors for commercial buildings in the U.S. and Europe.

Consultant: Esherick, Homsey, Dodge and Davis, Architects, San Francisco. Presentation and review of IAQ in school design projects. (January 1999)

Consultant, the Built Environment Consultancy, Research Architecture Related to Building Ecology and Ecologically Sustainable Design. Protocol for Healthy and Environmentally Sustainable Built Environment, Government of Queensland, Australia. April - June 1998. Life Cycle Assessment of Flooring Materials.

Consultant, New Headquarters Building Design, American Lung Association of Oklahoma (in progress). Planned 15,000 sq. ft. office, clinic, and educational building to be a model of good design for indoor and ambient air quality.

Consultant, Coffee Creek Community Design and Development Planning for Sustainability, William McDonough + Partners, Architects. One square mile community planned for 25,000 residents to be a model of environmentally sound planning and design.

Consultant, Protocol for Healthy and Environmentally Sustainable Built Environment, Government of Queensland, Australia. July 1997. Forum speaker and participant to develop protocol for national initiative by Government of Queensland.

Consultant, Indoor Air Quality, Childcare Center, Monsanto Corp., St. Louis. William McDonough + Partners, Architects.

Consultant, Architects' "Sustainable" Office Building, HDR Architects, Omaha, Nebraska,. Assisting architects to define sustainability criteria and to address indoor air quality issues.

Consultant, Indoor air quality. Nike Headquarters Europe, William McDonough + Partners, Architects.

Consultant, Addition to School of Architecture, University of Virginia, Charlottesville, VA, Steven Holl Architects, New York. (incomplete)

Consultant, Oberlin College Environmental Studies Building Facility, , William McDonough Architects. (under construction). Designed to be an extremely low net-annual-energy consumption building with sensitive selection of building materials to optimize environmental performance.

Consultant, Southern California Gas Company, Proactive Indoor Air Quality Operation and Maintenance Program Development and Implementation. Proposed program of on-going operation and maintenance to sustain good indoor air quality design and construction.

Consultant, Development of Indoor Environmental Quality Guidelines and Manual, City of Oakland, California in collaboration with Indoor Environmental Engineering, San Francisco (in progress).

Consultant, Indoor Air Quality and Sustainable Design, Chattanooga Trade Center, William McDonough Architects. (incomplete).

Consultant: Indoor Air Quality Peer Review Consultant, Office Building for Office of the President, University of California, Oakland, California. 350,000 sq. ft. office building in downtown Oakland. Occupied April 1998.

Consultant: U.S. General Services Administration, "Green Courthouse Project." Washington, DC, November 14, 1996. One-day charette to develop guidance for "green office buildings" for the federal government.

NATO Pilot Study on Indoor Air Quality: Working Group for Final Report, Erice, Sicily, Italy, October 6-9, 1996.

Instructor: "Sick Building Syndrome - Measurement and Evaluation." August 26-30, 1996, Charlottenlund, Copenhagen, Denmark. NIVA -Nordic Institute for Advanced Training in Occupational Health.

Consultant: Indoor Air Quality and Building Ecology, Napa County Criminal Courthouse, Napa, California, for Michael Ross and Charles Drulis, Architects and Planners, Sonoma, California.

Sustainable Building Design Criteria, for U. S. EPA Office of Research and Development.. Providing multi-media environmental impact analysis of buildings' components, construction, and their operation as part of Building Economic and Environmental System, a computer-based model to provide design advice on material selection and design options.

Consultant, Indoor Air Quality and Sustainable Design, Monticello High School, Albemarle County, Virginia, for William McDonough + Partners, Charlottesville, VA. (complete)

Training Seminar, Indoor Air Quality, Panasonic USA, Garden Grove, California, October 1995.

Consultant, Sustainable Design for Research Facility, Montana State University, Bozeman, MT. for BNIM Architects, Kansas City.

Indoor Environmental Quality and Sustainable Design Consultation, Office Building Project, The Gap, San Bruno, CA, for William McDonough Architects. (In progress)

Indoor Air Quality Design Consultation: San Francisco Main Library. Pei Cobb Freed Partners and Simon Martin-Vegue Winkelstein Moris, Associated Architects. 560,000 square foot new library building, opened April, 1996. (1991-1996)

Consultant, Johnson Controls, Inc., Quality Building Environments Workshop, January 1996.

Training Seminar, "Indoor Environmental Quality," Texas State Building Service Commission, May 19, 1995 for Center for Maximum Building Potential, Austin, TX.

Consultant, Sustainable Design for Grand Canyon National Park, for National Park Service, Construction Engineering Research Laboratory (U. S. Dept of Defense), and Western Area Power Administration, Sept-Oct 1994.

Expert Witness, U. S. Department of Labor .OSHA Proposed Indoor Air Quality Rule, (Federal Register April 5, 1994), Prepared and presented testimony for Department of Labor.

Indoor Environmental Quality and Sustainable Design Consultation, Overland Park Justice Center, Overland Park, Kansas, for Gould Evans Associates, P. A., Architects. 1994.

Training Seminar, "Indoor Environmental Quality and Global Environmental Issues," National Parks Service, Denver, Colorado. (1993)

Sustainable Design and Indoor Environmental Quality Consultation, Office Building Project, S. W. Johnson Company, Racine, WI

Indoor Environmental Quality Consultation, Office Building Project, Rodale Press, for William McDonough Architects.

Sustainable Design and Indoor Environmental Quality Consultation, Coors Field, Denver Metropolitan Stadium Authority, Denver, CO. 1993

Organizing and Final Report Co-author: Workshop on Criteria and Procedures for Indoor Air Quality Standards and Guidelines, International Academy of Indoor Air Sciences, Berlin. Resulted in paper presented at international conference held in Helsinki, 1993.

Program Review: "Prototype for Danish IAQ Declaration of Building Materials; Methods for Carpets, Paints, and Sealants." Danish Building Research Institute and Danish National Institute of Occupational Health, Copenhagen, Denmark. Review and comments on proposed national product labeling program, now in place.

Indoor Air Quality Consultation, Corporate IAQ Strategies, Hellmuth, Osaka, and Kassabaum, Architects, St. Louis. 1993.

Indoor Air Quality Design Consultation: Offices of Heinz Foundation, William McDonough Architects, Pittsburgh, Pennsylvania. (1992-1993). Tenant improvements for penthouse office including innovative IAQ solutions.

NATO Pilot Study on Indoor Air Quality: Working Group for Final Report, Civitavecchia, Italy, September 20-28, 1992.

Indoor Air Quality and Sustainable Design Consultation: WalMart Store, Lawrence, KS, BSW Architects, Tulsa, OK. ±120,000 square feet, (1992-3). Completed and widely-recognized for several innovative features.

Indoor Air Quality Design Consultation: Design Competition (Finalist), Department of Ecology Building, State of Washington, Olympia. Vaivoda Thompson Architects, Portland, Oregon. (1991)

Indoor Air Quality Design Consultation: "Clean Space," EPA Headquarters Facility, Crystal City, Virginia. (EPA). EPA has leased space, part of which has been set aside for chemically sensitive individuals. EPA retained services of Hal Levin & Associates to evaluate the indoor air quality in the space on the basis of the design, materials, HVAC system, intended use, location, and other variables. Recommendations were made for remediation of some of the most significant sources of potential indoor air contamination.

Indoor Air Quality Design Consultation: KQED, Public Radio and TV, San Francisco. A 3-story concrete shell is being remodeled to house the studios and offices this non-profit broadcast organization. Consultation included advising the owner, architect and engineer regarding the design, construction procedures, and operation of the facility.

Indoor Air Quality Consultation Regarding Product Development: Collins & Aikman, Dalton, Georgia. This carpet manufacturer retained Hal Levin & Associates for product emissions testing and advice regarding their product line that is marketed as an environmentally friendly product.

Quantifying Materials Use and Estimating Volatile Organic Chemical Emissions in U. S. Buildings (American Scientific International Inc., EPA). This study developed estimates of potential source strengths of various building components in three building types in order to estimate occupant exposure to volatile organic chemicals.

"IAQ Update '89, Current Issues in Indoor Air Quality," 2-day symposium held in Washington, DC, September 25-26, 1989. Sponsored by Cutter Information Corp, Arlington, MA.

Indoor Air Quality Consultation: Corporate Strategies, Arthur Gensler and Associates, San Francisco.

Indoor Air Quality Consultation: Design Review, Office Building for Boehringer International, Arthur Gensler and Associates, New York.

Indoor Air Quality Consultation: Pre-Design Study, Design, Construction, Operations, United States Environmental Protection Agency Headquarters Facility, Project 1992, Washington, DC.

Indoor Air Quality Consultation: Design for South Coast Air Quality Management District Headquarters Facility, Kurt Meyer Partners, Architects, Los Angeles. Office and Laboratory facilities for headquarters of nation's largest non-federal pollution control agency.

Indoor Air Quality Consultation: Design, Construction, Operations, AT&T Corporate Center, Chicago, Illinois, Stein & Company, AT&T, SOM Chicago, 1985-1986. 1.6 million square foot high rise commercial office building.

Consultant (principal author) "Indoor Air Quality for Designers." Indoor Air Division, Office of Air and Radiation, U.S. Environmental Protection Agency, Washington, DC (in progress).

Materials Use and Chemical Emissions in Typical Building Types (Office Research and Development, U.S. EPA).

Indoor Air Quality Consultation for Design, Construction, Operations, Pacific Bell Administrative Facility, San Ramon, California, 1.75 million square feet, (Pacific Bell, SOM San Francisco), 1983-1985. First reported emissions testing in conjunction with new building design. Ventilation and occupancy strategies.

Air Quality Evaluation for PCBs, Comptroller of the Currency, U. S. Department of Treasury, One Market Plaza, San Francisco, 1983.

Indoor Air Quality Consultation on State Office Building Design, Office of the State Architect, Department of General Services, State of California. 1981-83.

Air Quality Evaluation for Pentachlorophenol, Private Residences, Omaha, Nebraska; Sacramento California.

Air Quality Evaluation for Chlordane and Heptachlor, Private Residences: Santa Clara, Fairfield, California.

Air Quality Evaluation for PCBs, Private Residence, Santa Cruz, California.

Expert Witness, Litigation involving indoor air pollution in private residences, office buildings, and schools.

PUBLICATIONS AND PROFESSIONAL REPORTS (through May 2011)

Levin, H. 2011. Building Ecology: Linking Microbial Ecology with Indoor Environment and Building Science. In Proceedings of Indoor Air 2011, 12th International Conference on Indoor Air Quality and Climate, Austin, TX, June 5-12, 2011

- Levin, H. 2011. National Programs to Assess IEQ Effects of Building Materials and Products. In Proceedings of Indoor Air 2011, 12th International Conference on Indoor Air Quality and Climate, Austin, TX, June 5-12, 2011.
- Persily, A. and Levin H., 2011. Ventilation Measurements in IAQ Studies: Problems and Opportunities. In Proceedings of Indoor Air 2011, 12th International Conference on Indoor Air Quality and Climate, Austin, TX, June 5-12, 2011.
- Levin, H., 2010. Natural Ventilation: A Sustainable Solution to Infection Control in Healthcare Settings? Proceedings of ASHRAE IAQ 2010, Kuala Lumpur, November 2010.
- Levin, H. 2010. Buildings and Sustainability: Exploring the Connections. Presented as a Keynote Address. Proceedings of 2010 AIVC meeting, October 2010, Seoul, Korea.
- Levin, H. 2010. National Programs to Assess IEQ Effects of Building Materials and Products. Prepared for the U.S. Environmental Protection Agency, Washington, DC.
- Levin, H. 2010. Natural Ventilation. Presented as part of Harvard School of Public Health course on Design and Engineering to control Airborne Infectious Disease Transmission in Healthcare Facilities.
- Levin, H. 2010. Indoor climate and climate change—a perspective on research needs. Presented at IOM Workshop: Climate Change, Indoor Air Quality and Public Health, Berkeley, California - 14 July 2010
- Levin, H. 2010. Indoor Material Labeling: A U.S. Perspective. Presented at the Conference of the European Commission – Joint Research Centre 7-8 June 2010, Somma Lombardo, Italia..
- Levin, H. 2009. Climate change: informing building design and operation with calculation of greenhouse gas (GHG) emissions. Proceedings, Healthy Buildings 2009, Syracuse, NY.
- Levin, H. 2009. Climate Change and GHG Emissions Implications for Building Environmental Control. Proceedings, Healthy Buildings 2009, Syracuse, NY.
- Girman, JR, Phillips, TR, and Levin, H., 2009. Critical Review: How Well Do House Plants Perform as Indoor Air Cleaners? Proceedings, Healthy Buildings 2009, Syracuse, NY.
- Levin, H. 2008. Calculating Buildings' Greenhouse Gas Emissions. Proceedings, SB08 -Sustainable Buildings 2008 World Congress, Melbourne, Australia.. Sept 21-25, 2008.
- Levin, H. 2008. The Big Indoor Air Emissions Threat – Secondary Emissions. Proceedings, SB08 – World Sustainable Buildings Conference, Melbourne, Sept 21-25, 2008
- Levin, H. 2008. Indoor Climate and Climate Change, Proceedings, Indoor Air 2008, Copenhagen, Denmark.
- Levin, H., 2007. Target Resource & Emissions Budgets for Healthy & Sustainable Buildings, *Proceedings: ASHRAE IAQ2007*, 15 October 2007, Baltimore, MD. Plenary Lecture. Atlanta, GA: American Society of Heating, Refrigerating, and Air-conditioning Engineers, Inc.
- Levin, H. and Mudarri, D., 2007. “National Expenditures for IAQ Problem Prevention or Mitigation.” *Proceedings: ASHRAE IAQ2007*, 15 October 2007, Baltimore, MD. Atlanta, GA: American Society of Heating, Refrigerating, and Air-conditioning Engineers, Inc.
- Levin H, 2007. Natural Ventilation for Prevention of Airborne Contagion: Conclusions Overgeneralized. *PLoS Med* 4(5): e189. doi:10.1371/journal.pmed.0040189.
- Levin, H., 2006. “Indoor Environmental Quality.” Editorial, *Building Research & Information*. September.
- Levin, H, and AT Hodgson, 2006. “VOC Concentrations of Interest in North American Offices and Homes. Healthy Buildings 2006, Lisbon, Portugal, June 4-8, 2006.
- Nazaroff, W.W, and H Levin, 2006. “Climate-Change Mitigation: Challenges and Opportunities in California’s Residential Building Sector.” Healthy Buildings 2006, Lisbon, Portugal, June 4-8, 2006.

Levin, H, 2006. "Environmental Impacts of Technologies for Sustainable Buildings." Healthy Buildings 2006, Lisbon, Portugal, June 4-8, 2006.

Alevantis, L.E., H. Levin, R. Miller, J.M. Waldman, and D. Mudarri, 2006. Lessons Learned from Product Testing, Source Evaluation, and Air Sampling from a Five-Building Sustainable Office Complex. Healthy Buildings 2006, Lisbon, Portugal, June 4-8, 2006.

Alevantis, L., R. Miller, H. Levin, and J. Waldman. 2006. Long Term Building Air Measurements for VOCs & Aldehydes at a California Five-Building Sustainable Office Complex. California Department of Health Services. Final Report, submitted to the US Environmental Protection Agency through the Public Health Institute. available at: http://www.cal-iaq.org/VOC/East_End_Study_2006-09.htm.

Levin, H, 2005. "Indoor Environment and Sustainable Buildings." Presented at "Sustainable Buildings 2005," Tokyo, Japan, September 26-29.

Levin, H, Roffi, A., and Tallacchini, M, 2005. "Collection and analysis of selected governance instruments (GIs) related to children's health and environment: from OECD countries in the World Health Organization European Region: review of legislation, phases I and II Final Report. Submitted to WHO Regional Office for Europe and the University of Alberta. September.

Levin, H, 2005. "Integrating Indoor Air and Design for Sustainability." Presented at 10th International Conference on Indoor Air Quality and Climate, "Indoor Air 2005," Beijing, China, September 4-9.

Levin, H, 2005. "National Expenditures for IAQ Problem Prevention or Mitigation." LBNL Report #58694. Lawrence Berkeley National Laboratory, University of California, Berkeley. Accessible on line at <http://eetd.lbl.gov/ied/IEDpubs.html>.

Levin, H, 2004. "Indoor Source Emissions Testing: State of the Science and the Art." "ASTM Conference on Indoor Emissions Testing—Methods and Interpretation, Sponsored by Committee D22 Air Quality and Subcommittee D22.05 on Indoor Air, October 4-5, 2004, Washington, DC.

Levin, H., 2004. "Quality Indoor Environments and Sustainable Buildings -- Can We Have Them Both?" Closing the loop: post occupancy evaluation The next steps. 29th April - 2nd May 2004, Cumberland Lodge, Windsor, United Kingdom

Alevantis; L. E. R. Miller; and H. Levin. 2004. California Building Material Emissions Study, Proceedings ASTM Conference on Indoor Emissions, Testing: Methods and Interpretation. October 4-5, 2004, Washington, DC.

Levin, H., 2003. "Designing for People: What Do Building Occupants Really Want?" *Proceedings: "Healthy Buildings 2003,"* Singapore, Singapore, December 2003. Volume 1, pp. 11-28

Levin, H., 2003. "Sustainable Buildings: The Low Energy Path to Good Indoor Air Quality." 2003. *Proceedings: ISHVAC 2003, The 4th International Symposium on Heating, Ventilation, and Air Conditioning*, Beijing, China, October 2003. Volume 1: pp. 8-17.

Levin, H., "VOC Source strengths in pre- and post-occupancy periods of a new California state office building." International Society of Exposure Analysis, Stresa, Italy, September 21-25, 2003.

Levin, H. and Alevantis, L., 2003. "California Indoor Air Quality Specifications for Open Office Systems Furniture and Building Materials." *Proceedings, EPA/A&WMA Indoor Air Quality: Problems and Engineering Solutions.* Raleigh, NC, July 26, 2003.

Hodgson, A.T.; Levin, H.. 2003. Classification of measured indoor volatile organic compounds based on noncancer health and comfort considerations.. LBNL-53308. www.lbl.gov.

Hodgson, A.T.; Levin, H. 2003. Volatile organic compounds in indoor air: A review of concentrations measured in North America since 1990. LBNL-51715. www.lbl.gov.

Mendell, Mark J. and Levin, Hal, 2002. Summary of On-Going Federal Research into the Effects of Environmental Quality in Schools on the Health or Performance of Students and Teachers. Prepared for the U.S. Department of Education, Washington, DC.

L.E. Alevantis; and H. Levin. 2002. "California's Sustainable Building Efforts in State Government: Indoor Air Quality Specifications for Open Office Systems Furniture and Building Materials". Role of Human Exposure Assessment in Urban Air Quality Management. EUR 21052. Kryzanowski M., Jantunen M., Bartonova A., Oglesby L., Kephelopoulos S., and Kotzias D. eds. Italy: European Commission, pp. 129-136.

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“Testing for Chemical Emissions from Indoor Sources –U.S. Policy, State-of-the-Art Practice, and Issues,” Workshop on Emissions Testing, Brussels, Belgium -7 October 2005.

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“Sustainable Communities: Learning from the Dutch,” Illinois Institute of Technology, September 30-October 1, 2004.

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- “Systematic Evaluation and Assessment of Building Environmental Performance,” Keynote lecture, Forum Directions for a Healthy Sustainable Built Environment, Brisbane, Australia, July 22-24, 1997.
- “Introduction to Socio-Ecological Indicators for Evaluating the Environmental Impact of Buildings” ASHRAE Seminar, Boston, July 1, 1997.
- “Systematic Evaluation and Assessment of Building Environmental Performance,” Keynote lecture at 2nd International Buildings and Environment Conference, Paris, France, June 9-12, 1997.
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- “Towards Sustainable Buildings,” CIBSE-ASHRAE Group, London, England, June 6, 1997.
- “Sustainable Design: Myth or Fantasy?” Green Product Night, Chicago chapters of AIA and CSI. April 22, 1997, Chicago, Illinois.
- “Buildings and Environment - Declaration of Interdependence - ASHRAE’s Role in Addressing the Impacts of Buildings on the Environment” Forum at ASHRAE Winter Meeting, Philadelphia, PA, January 28, 1997.
- “Designing Healthy Buildings.” Ball State University, School of Architecture. November 20, 1996.
- “Best sustainable indoor air quality practices in commercial buildings.” Third International Green Building Conference and Exposition - 1996. San Diego, California, November 17-19, 1996.
- “Designing Healthy Buildings: Strategies and Issues.” Keynote Lecture, “Buildings for Healthy Living,” Czech International Conference. Prague, April 21-24, 1996.
- Building Performance, Indoor Air Quality, and Worker Productivity, NRC Colloquium: Building Performance and Worker Productivity: Issues in Research and Practice Washington, DC March 1, 1996.
- “Building Ecology” Quality Building Environments Workshop, January 16, 1996, Johnson Controls, Inc., Milwaukee, WI.
- “Introduction to Building Ecology,” Lecture to First-Year Students, School of Architecture, University of Virginia, Charlottesville, VA. November 21, 1995.
- “Scoping U.S. Buildings Inventory Flows and Environmental Impacts in Life Cycle Assessment.” Levin, H, Presented at SETAC 2nd World Congress, Vancouver, BC, Canada, November 6-8, 1995.
- “Building Ecology: An Architect’s Perspective On Healthy Buildings” presented at the Fourth International Conference on Healthy Buildings, Milan, Italy, September, 1995.
- “Healthy Buildings Seminar: Indoor Air Quality and Sustainable Design,” one-day seminar for State of Texas General Services Commission, Austin, August 18, 1995.
- “A Journalist’s Perspective.” Presented at IAQ and the GOP: Indoor Air Quality and the New Congress” Seminar at ASHRAE Annual Meeting, June 26, 1995, San Diego.

"Indoor Air Quality by Design,": one-day seminar for State of Texas General Services Commission, Austin, May 19, 1995.

"Emissions Testing and Indoor Air Quality," Keynote presentation at "Indoor Air Quality, Ventilation, and Energy Conservation in Buildings, Montreal, Canada, May 9-12, 1995.

Levin, H., "Emissions Test Data and IAQ," presented at the Canadian Task Force on Materials Emissions, Montréal, Québec, Canada, May 9, 1995.

"Scoping U.S. Buildings Inventory Flows and Environmental Impacts in Life Cycle Assessment." Levin, H, A. Boerstra, and S. Ray., Presented at SETAC Impacts Assessment Work Group, Alexandria, VA., April 19, 1995.

"Building Design and Material Selection." Keynote address for presentation at "Indoor Air, An Integrated Approach," Queensland, Australia, November 27 - December 1, 1994.

"Screening and Selecting Building Materials and Products Based on Their Emissions of VOCs," ASTM Symposium, Characterization of Sources and Sinks of Indoor Air Pollutants, Washington, DC Sept. 26-28, 1994.

"Material Selection," Workshop Presented at Healthy Buildings '94, Budapest, Hungary, August 22-25, 1994. (presented jointly with Peder Wolkoff, Danish National Institute of Occupational Health.)

"Combined Effects," Workshop Presented at Healthy Buildings '94, Budapest, Hungary, August 22-25, 1994.

Panelist, "Vision 2000" (Environmental Policy Workshop), SW Johnson & Sons, Inc. Worldwide Environmental Council. Washington, DC, June 1, 1994.

"ASHRAE Standard 62-1989R, Critical Review and Update," IAQ Symposium, American Industrial Hygiene Association Annual Meeting, Anaheim, CA, May 22, 1994.

Moderator and Panelist, "Indoor Air Quality by Design," San Diego Chapter, Construction Specifications Institute, May 19, 1994.

"Indoor Air Quality By Design," 8th Annual National Symposium on Indoor Pollution, University of Tulsa Continuing Education Seminar, Tulsa, Oklahoma, March 14-15, 1994.

"Indoor Air Quality for Facility Managers." Two day professional development course sponsored by International Facility Managers Association, San Diego, CA, February 22-23, 1994.

"Indoor Air Quality by Design," Finnish Society of Architects, Helsinki, Finland, July 5, 1993.

"A Review of Indoor Air Quality Control Strategies," Institute for Environmental and Occupational Medicine, Aarhus University, Aarhus, Denmark. March 25, 1993.

"Indoor Air Quality Control Strategies." Danish Building Research Institute, Hørsholm, Denmark, March 21, 1993.

"Indoor Air Quality By Design." Technical University of Denmark, Lyngby, Denmark, March 21, 1993.

Indoor Air Quality Fundamentals, "Healthy Buildings and Materials," Part II of "Building Connections," A Series of Three National Videoconferences, American Institute of Architects, March 4, 1993.

Indoor Air Quality: The Challenge of Designing Healthy Environments, Smithsonian Institution Campus on The Mall, Co-Sponsored with the American Institute of Architects, February 25, 1993.

"Indoor Air Quality for Facility Managers." Two day professional development course sponsored by International Facility Managers Association. Tempe, Arizona, February 12-13, 1993.

"Indoor Air Quality and the Built Environment." presented at "Designing Healthy Buildings," sponsored by the American Institute of Architects Committee on the Environment and Building Performance and Regulations Committee. UCLA, Los Angeles, November 13, 1992.

- "Indoor Air Quality,; presented at International Facilities Management Association Executive Seminar, Palm Springs, California, November 6, 1992.
- "Indoor Air Quality by Design." Professional Development Course, (one day). Harvard University Graduate School of Design, Cambridge, Massachusetts. August 5, 1992.
- "Indoor Air Quality for Facility Managers." Two day professional development course sponsored by International Facility Managers' Association. Boston, Massachusetts, July 15-16, 1992.
- "Indoor Air Quality by Design." ASHRAE Annual Meeting, Seminar on Indoor Air Quality. Baltimore, Maryland, June 30, 1992.
- "Indoor Air Quality by Design." American Institute of Architects, Professional Development Seminar, 1992 Annual convention, Boston Massachusetts, June 22, 1992.
- "Building Epidemiology and Investigations -- Approaches and Results (U.S. Experience)." Lecture at "Chemical, Microbiological, Health and Comfort Aspects of Indoor Air Quality -- State of the Art in SBS". Five-day course at the Commission of the European Communities, Joint Research Centre, Environment Institute, Ispra, Italy, March 23-27, 1992.
- "Controlling Sources of Indoor Air Pollution" Lecture at "Chemical, Microbiological, Health and Comfort Aspects of Indoor Air Quality -- State of the Art in SBS". Five-day course at the Commission of the European Communities, Joint Research Centre, Environment Institute, Ispra, Italy, March 23-27, 1992.
- "Healthy Buildings -- Where Do We Stand, Where Should We Go?" Lecture at "Chemical, Microbiological, Health and Comfort Aspects of Indoor Air Quality -- State of the Art in SBS". Five-day course at the Commission of the European Communities, Joint Research Centre, Environment Institute, Ispra, Italy, March 23-27, 1992.
- "Materials Use and Chemical Emission in Typical Building Types," Presented at International Society for Exposure Assessment, Atlanta, GA, November 17-20, 1991.
- "Emissions Impossible: Toward Healthy Building Materials." Presented at "Beyond the Boundaries," Elgin Winter Garden, Toronto, October 10, 1991.
- Overview Lecture: "Architecture of Healthy Buildings." ASHRAE IAQ '91 -- "Healthy Buildings". Washington, DC, September 4-8, 1991. Sponsored by American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc.
- "Design Solution for Indoor Air Quality," presented at University of California Summer Institute on Occupational and Environmental Health. August, 1991.
- Indoor Air Quality for Facility Managers, Two-day course for the International Facilities Management Association, San Francisco, June 1991.
- "Design Solutions to Indoor Air Quality Problems," Presented at Indoor Air Pollution course, sponsored by the University of Tulsa; Tulsa, Oklahoma, May, 1991.
- "Proper Selection of Building Materials." Presented at Sick Building Syndrome Course, Nordic Institute of Advanced Studies in Occupational Health, Copenhagen, Denmark, October 16 - 20, 1989.
- "How to Control Indoor Air Quality." Presented at Vision Pacific '89, sponsored by the California Council, American Institute of Architects (CC/AIA), San Francisco, October 6, 1989.
- "IAQ Update '89, Current Issues in Indoor Air Quality," Two-day symposium, Washington, DC Sponsored by Cutter Information Corp, Arlington, Massachusetts, September 25-26, 1989.
- "Control of Indoor Air Quality," one-day continuing education course, sponsored by Institute for Business Designers; San Francisco, September 9, 1989.
- "Sick Building Syndrome: Review and Exploration of Causation Hypotheses and Control Methods." Presented at "IAQ 89, The Human Equation: Health and Comfort." April 17-20, 1989, San Diego, California. Sponsored by

the American Society for Heating, Refrigerating and Air-Conditioning Engineers, Inc. (ASHRAE) and the Society for Occupational and Environmental Health.

"Design Solutions to Indoor Air Quality Problems," Presented at Indoor Air Pollution course, sponsored by the University of Tulsa; Oklahoma City, May 9, 1989.

"Solutions to Indoor Air Quality Problems," Presented at Annual Meeting, National Institute of Building Sciences, November 17-18, 1988, Washington, DC

"Sick Building Syndrome: An Architectural Perspective" Work and Mental Health, San Francisco, April 16, 1988. Sponsored by Departments of Medicine and Psychiatry, School of Medicine, Univ. of California, San Francisco.

"The Edifice Complex: What Makes People Sick in Buildings; and, How Can It Be Avoided?" Policy Forum on Indoor Air, Washington, DC, September 29, 1987. Sponsored by EPA Office of Air and Radiation.

"Designing a Building to Improve Indoor Air Quality," Indoor Air Quality Symposium, September 22-24, 1987, Atlanta, Georgia. Sponsored by Georgia Tech Research Institute.

"What Architects Can Do to Improve Indoor Air Quality," Invited Plenary Lecture at Indoor Air '87, the 4th International Conference on Indoor Air Quality and Climate Berlin, August 1987.

"Tight-Building Syndrome," at Business Managers & Facilities Planners Workshop: Energy Management: A Necessary Skill, September 30, 1986, San Francisco; Sponsored by PG&E.

"Air Pollution: It's Indoors Too," Office Worker Safety and Health Seminar, September 19, 1986, Washington, DC; Service Employees International Union.

"Solar Design and Indoor Air Quality," at Meeting on Indoor Air Quality, April 5, 1986, Berkeley; Sponsored by Northern California Solar Energy Association.

"Indoor Pollution," San Joaquin Chapter, American Institute of Architects, February 12, 1986; Fresno, California.

Panelist: "Contradictions and Opportunities: A Discussion of What's Going On in Architectural Education," California Council of Architectural Education, Pomona, November 3, 1984.

"Design of Office Buildings Based on Lessons Learned from California's Innovative State Office Building Program," (Jointly with B. Wasserman); at Research and Design 85: Architectural Applications of Design and Technology Research, Los Angeles, March 14-18, 1985.

"Pentachlorophenol and Indoor Air: Sealing Exposed Pressure-Treated Wood and Improving Ventilation to Reduce Airborne Concentrations. at Research and Design 85: Architectural Applications of Design and Technology Research, Los Angeles, March 14-18, 1985.

"A Report on indoor Pollution Research and Its Potential and Actual Applications in Architectural Practice." at Research and Design 85: Architectural Applications of Design and Technology Research, Los Angeles, March 14-18, 1985.

"Introduction to Case Study Presentations;" "Case Studies: Three California Buildings;" "Indoor Pollution: Implications for Architectural Practice;" and, "Workshop on Specifying Products." Indoor Pollution: The Architect's Response, Symposium of the California Council, American Institute of Architects, San Francisco, November 9-10, 1984.

Panelist: "Social Responsibility in Architecture Education," Architects, Designers & Planners for Social Responsibility, CCAIA Convention, Long Beach, October 12, 1984.

"Pentachlorophenol in Indoor Air: The Effectiveness of Sealing Exposed Pressure-Treated Wood Beams and Improving Ventilation in Office Buildings to Address Public Health Concerns and Reduce Occupant Complaints." 3rd International Conference on Indoor Air Quality and Climate. Stockholm, Sweden; August 20-24, 1984.

- "Indoor Pollution and Asbestos in Buildings," Task Force on Asbestos, National Institute of Building Sciences, Washington Plaza Hotel, May 30, 1984.
- "Indoor Pollution and the Office Environment," San Francisco Chapter, Institute of Business Designers, May, 16, 1984.
- "Indoor Pollution," California Consumer Federation, Los Angeles. May 5, 1984.
- Panelist, "Indoor pollution." Workspace '84, San Francisco, April 1984.
- "Indoor Pollution." Current Developments in Workers' Compensation, Seyfarth, Shaw, Fairweather & Geraldson, Century Plaza Hotel, Los Angeles, February 15, 1984.
- "Energy and Health," Golden Gate Energy Center, San Francisco, Feb. 17, 1983.
- "The Environment of Clinical Ecology - Physical Aspects of Building Ecology." 16th Advanced Seminar, Society for Clinical Ecology, Banff, Alberta, Canada, October 3-8, 1982.
- "Epidemiology, Toxicology, and Architectural Factors of Indoor Pollution: Towards an Ecology of Building;" and, "Architectural Recommendations for Control and Eradication of Indoor Pollution." The Immunotoxicity of Foodborne Phenolics and Atmospheric Pollutants: Laboratory and Clinical Correlates, Brigham Young University, Provo, Utah, September 23-25, 1982.
- "Indoor Pollution," Hidden Health Hazards in Our Environment, University of California, Berkeley, March 6-7, 1982.
- Conference Moderator, "Background and Overview," "Equipment and Furnishings," "Building Configuration and Design Considerations." Seminar "On Indoor Environmental Quality and Health - Toward an Ecology of Building." Sponsored by the Architects in Government Committee, American Institute of Architects. Univ. of California, Berkeley, February 26, 1982.
- "Professional Issues," Univ. of California Appropriate Technology Conference, UC Santa Cruz, June 30, 1981.
- "Indoor Pollution and Solar Residential Design," Northern California Solar Energy Association, University of California, Santa Cruz, June 13, 1981.
- "State Energy Policy and the Contributions of Architects," Third Annual Energy Conference, California Council, the American Institute of Architects, Lake Tahoe, California, September 7-9, 1980.
- "Humanizing Technology: Architecture for People," Appropriate Technology Symposium, College Eight, Univ. of California, Santa Cruz, June 5, 1979.
- Panelist, "Housing, Community Development and Appropriate Technology," Appropriate Technology, UC and Public Service, UC Davis, March 14, 1979.
- Moderator/Facilitator, "The Economic and Political Context of Decentralization, Self Determination, and Appropriate Technology," San Jose State U, March 2-4, 1979.
- Conference Moderator, "Self-Help in Housing, A Celebration," College of Environmental Design, University of California, Berkeley, February 22, 1979.
- "Warning: Wurster Hall May be Hazardous to Your Health." Center for Planning and Development Research, UC Berkeley, October 25, 1978.
- "Owner-Built Housing." Conference on Participatory Design, University of California, Santa Cruz, July 1978.

REFERENCES

References will be supplied upon request.

Supplement: ACADEMIC AND TEACHING APPOINTMENTS

List of Courses Taught and Research Activities

- 1992, 1993 Harvard University, Cambridge, Massachusetts
Instructor in Summer Session, Graduate School of Design,
“Indoor Air Quality by Design” Two-day (1993) and One-day (1992) course providing an overview of indoor air quality intended primarily for design professional.
- 1978-1989 University of California, Berkeley
Research Specialist, Center for Environmental Design Research, College of Environmental Design
Projects include the following:
Earthquake hazard mitigation in older wood-frame dwellings (Funded by National Science Foundation).
Self-help housing grants program, California Department of Housing and Community Development.
Investigation of indoor pollution issues in California schools (funded by Rosenberg Foundation).
Pilot study of energy consumption, indoor environmental quality and user-environment interactions in office environments (funded by a grant from the University-wide Energy and Resource Group)
Investigation of contamination in State office buildings (funded by Office of the State Architect).
Investigation of performance of state office buildings relative to their design intent. (funded by University wide Energy and Resources Group)
- 1990, 1992 University of California, Berkeley
Instructor, University Extension,
Indoor Air Quality
- 1989 University of California, San Francisco
Instructor, University Extension,
“Mental Health”
- 1979-1983 University of California, Santa Cruz.
Lecturer, Adjunct Lecturer, Board of Studies in Environmental Studies, College Eight
Courses included the following:
“Appropriate Technology in Environmental Design” (4 times)
“Resource Conserving Architecture” (studio) (2 times)
“Housing Policy”
“Building Ecology”
“Alternative Energy and Appropriate Technology” (2 times)
“People and Environment”
“Drawing Tools for Environmental Design”
Research included the following:
Alternative energy and appropriate technology in the design of a new campus college (funded by the University-wide Energy and Resources Group)
- 1978-1983 University of California, Berkeley
Lecturer, Visiting Lecturer, Department of Architecture, College of Environmental Design
“Building Ecology”
“Appropriate Technology in Architecture”
“Self-Help Housing in Architecture”
- 1978 University of California, Santa Cruz
Lecturer in Summer Session
Course: “Introduction to the Built Environment.”
- 1973 University of California, Davis
Instructor, University Extension,
“How Not to Use Federal Housing Subsidies for Low-Income Housing”