

Mark P. Modera



Mark P. Modera is the Director of the UC Davis Western Cooling Efficiency Center (WCEC), and is a Professor in the Civil and Environmental Engineering and Mechanical and Aerospace Engineering departments at UC Davis. Mark also holds the Sempra Utilities Chair in Energy Efficiency, and is a Fellow of the American Society of Heating Refrigerating and Air Conditioning Engineers.

Dr. Modera joined the WCEC from Carrier Corp., and from Lawrence Berkeley National Laboratory (LBNL). Dr. Modera was a Principal Investigator at LBNL on many research projects, and developed a new research program focused on thermal energy distribution in buildings.

His publications cover a large range of research interests, including:

diagnostic tools for heat and mass transfer properties (e.g. dynamic thermal performance of buildings and components, air tightness, soil permeability), air flow modeling and measurement, energy efficiency policy, simulation tools and simplified models for buildings, wood combustion (efficiency, pollution production, third-world cook stoves), aerosol production and transport, and indoor air quality.

While at LBNL, Mark developed an aerosol-based duct sealing process, and he subsequently established Aero seal, Inc. to commercialize the technology. Aero seal's technical success and market promise became recognized by Carrier Corporation, who bought the business in 2001 and retained Mark to help manage it. Mark's broad experience in research, business, entrepreneurship, education, and regulatory environments ideally qualifies him for his current position, leading the WCEC in its mission of partnering to advance energy-efficient cooling systems.

WORK EXPERIENCE

DATES	EMPLOYER	POSITION
FROM: 9/2011 TO: Present	University of California at Davis Davis, CA 95618	Professor, Mechanical and Aerospace Engineering Department
FROM: 6/2009 TO: Present	University of California at Davis Davis, CA 95618	Professor, Civil and Environmental Engineering Department
FROM: 12/2008 TO: Present	University of California at Davis Davis, CA 95618	Sempra Energy Chair in Energy Efficiency
FROM: 8/2008 TO: 8/2011	University of California at Davis Davis, CA 95618	Adjunct Professor, Mechanical and Aerospace Engineering Department
FROM: 1/2008 TO: Present	University of California at Davis 1450 Drew Ave. Suite 100 Davis, CA 95618	Director, Western Cooling Efficiency Center
FROM: 6/2004 TO: 12/2007	Carrier-Aero seal 7310 W. Morris St. Indianapolis, IN 46231	Vice President
FROM: 2/2003 TO: 6/2004	Carrier-Aero seal 6304 Thompson Rd Syracuse, NY 13221	General Manager

FROM: 9/2001 TO: 2/2003	Carrier-Aeroseal 7310 W. Morris St. Indianapolis, IN 46231	Vice President
FROM: 05/1980 TO: 01/2008	Lawrence Berkeley National Laboratory University of California Berkeley, California 94720	Staff Scientist (Principal Investigator starting in 1987)
FROM: 01/1997 TO: 09/2001	AEROSEAL Inc. 75 Fairview Ave Piedmont, CA 94610	Founder, President and Director of Engineering
FROM: 08/1981 TO: 06/1982	Laboratoire de Physique du Batiment Université de Liège Liege, BELGIUM	Visiting Researcher

EDUCATION

DATES OF ATTENDANCE	UNIVERSITY	LOCATION	MAJOR	DEGREE	DATE
09/1974 – 06/1978	The Cooper Union	New York, NY	Mechanical Engineering	B.E.	06/1978
09/1978 – 05/1980	UC Berkeley	Berkeley, CA	Mechanical Engineering	M.S.	05/1980
03/1985 – 06/1989	Royal Institute of Technology	Stockholm, Sweden	Mechanical Engineering	PhD	06/1989

PROFESSIONAL ACTIVITIES

California Professional Mechanical Engineer License # M23823
American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)
American Society for Testing and Materials (ASTM)
Board of Advisors, California Clean Energy Fund
Board of Directors, Aeroseal, LLC

HONORS AND AWARDS

Distinguished Service Award, American Society of Heating, Refrigeration and Air Conditioning Engineers, 2013
Fellow, American Society of Heating, Refrigeration and Air Conditioning Engineers, 2012
Sempra Energy Chair in Energy Efficiency, 2009
Sempra Energy Distinguished Scholar in Energy Efficiency, 2008
Lawrence Berkeley National Laboratory Technology Transfer Award, 2003
DOE Energy100 Award, 2000
DOE Energy@23 Award, 2000
Best of What's New Award, Popular Science Magazine, 1996
Technology Transfer Award, Lawrence Berkeley Laboratory, 1989
Full Tuition Scholarship, The Cooper Union, 1974-1978

New York State Regents Scholarship, 1974-1978

Dean's Honor List, The Cooper Union, 1976, 1977, 1978

PATENTS

U.S. Patent No. 4,635,469, Methods and Apparatus for Measuring the Tightness of Enclosures

U.S. Patent No. 5,522,930, Method and Device for Producing and Delivering an Aerosol for Remote Sealing and Coating

U.S. Patent No. 5,980,984, Method for Sealing Remote Leaks in an Enclosure Using an Aerosol

U.S. Patent No. 6,923,072, Method and Device for Measuring Airflows through HVAC Grilles

U.S. Patent No. 7,156,320, Method and Apparatus for Duct Sealing Using a Clog-Resistant Insertable Injector

U.S. Patent Application Pub US 2010/0212346 A1, Wicking Condensate Evaporator for an Air Conditioning System

PAPERS AND BOOKS PUBLISHED

1. LOW PRESSURE AIR-HANDLING SYSTEM LEAKAGE IN LARGE COMMERCIAL BUILDINGS: DIAGNOSIS, PREVALENCE, AND ENERGY IMPACTS, Modera, M.P., Wray, C.P. and Dickerhoff, D.J., HVAC&R Journal, Volume 20, Issue 5, 2014, pages 559-569 (2014)
2. RECENT APPLICATIONS OF AEROSOL SEALING IN BUILDINGS, HARRINGTON, C. AND MODERA, M.P., INTL. JOURNAL OF VENTILATION VOLUME 12 NUMBER 4 ISSN 1473 – 3315, PP. 345-358, MARCH (2014)
3. DEVELOPMENT OF TEST PROTOCOL FOR DIRECT EVAPORATIVE CONDENSER AIR PRE-COOLERS, Theresa Pistoichini, Perry Young, and Mark Modera, ASME Journal of Thermal Science Engineering Applications, TSEA-13-1068 DOI: 10.1115/1.4025569 (2013)
4. AN INVESTIGATION OF COUPLING EVAPORATIVE COOLING AND DECENTRALIZED GRAYWATER TREATMENT IN THE RESIDENTIAL SECTOR, Erica R. McKenzie, Theresa E. Pistoichini, Frank J. Loge, Mark P. Modera, Building and Environment (2013) pp. 215-224
5. MODELING AND DESIGN ANALYSIS OF A REGENERATIVE INDIRECT EVAPORATIVE HEAT EXCHANGER USING AN EFFECTIVENESS METHOD, Zhijun Liu, William Allen, Mark Modera, ASHRAE Transactions 119(2) (2013)
6. SIMPLIFIED THERMAL MODELING OF INDIRECT EVAPORATIVE HEAT EXCHANGERS, Zhijun Liu, William Daniel Allen, Mark P Modera, HVAC&R Research Journal, Volume 19, Number 3 (2013) DOI:10.1080/10789669.2013.763653
7. SWIMMING POOLS AS HEAT SINKS FOR AIR CONDITIONERS: CALIFORNIA FEASIBILITY ANALYSIS Curtis Harrington, Mark Modera Energy and Buildings 59 (2013) 252–264
8. ADVANCING DEVELOPMENT OF HYBRID ROOFTOP PACKAGED AIR CONDITIONERS: TEST PROTOCOL AND PERFORMANCE CRITERIA FOR THE WESTERN COOLING CHALLENGE J.M. Woolley and M.P. Modera, ASHRAE Trans. 117(I) 2011
9. WATER-USE EFFICIENCY FOR ALTERNATIVE COOLING TECHNOLOGIES IN ARID CLIMATES T. Pistoichini and M.P. Modera, Energy and Buildings 43 (2011) 631–638
10. SWIMMING POOLS AS HEAT SINKS FOR AIR CONDITIONERS: MODEL DESIGN AND EXPERIMENTAL VALIDATION FOR NATURAL THERMAL BEHAVIOR OF THE POOL J. Woolley, C. Harrington and M.P. Modera, Building and Environment Volume 46, Issue 1, January 2011, Pages 187-195
11. FIXING DUCT LEAKS IN COMMERCIAL BUILDINGS M. P. Modera, ASHRAE Journal 47(6):22-30, June 2005
12. ASHRAE STANDARD 152 & DUCT LEAKS IN HOUSES M. P. Modera, ASHRAE Journal 47(3):28-33, March 2005
13. EXPERIMENTAL INVESTIGATION OF AEROSOL DEPOSITION ON SLOT AND JOINT TYPE LEAKS F.R. Carrié and Modera, M.P., Journal of Aerosol Science 33 (2002) 1447-1462.

(40% contribution)

14. SEALING DUCTS IN LARGE COMMERCIAL BUILDINGS WITH AEROSOLIZED SEALANT PARTICLES
M. P. Modera, O. Brzozowski, D. J. Dickerhoff, W. W. Delp, W. J. Fisk, R. Levinson, D. Wang,
Energy and Buildings (2002) 34 (7) 705-714.
(60% contribution)
15. EFFECTS OF AIRFLOW INFILTRATION ON THE THERMAL PERFORMANCE OF INTERNALLY INSULATED DUCTS
Ronnen Levinson, Woody Delp, Darryl Dickerhoff and Mark Modera,
Energy and Buildings Volume 32, Issue 3 345-354 (2000).
(30% contribution)
16. DUCT SYSTEMS IN LARGE COMMERCIAL BUILDINGS: PHYSICAL CHARACTERIZATION, AIR LEAKAGE, AND HEAT CONDUCTION GAINS
William J Fisk, Woody Delp, Rick Diamond, Darryl Dickerhoff, Ronnen Levinson, Mark Modera, Matty Nematollahi, Duo Wang
Energy and Buildings, Volume 32:1 (2000) 109-119.
(20% contribution)
17. PARTICLE DEPOSITION IN A TWO-DIMENSIONAL SLOT FROM A TRANSVERSE STREAM
F.R. Carrié and Modera, M.P.
Aerosol Science and Technology 28:235-246 (1998).
(40% contribution)
18. INDOOR AIR QUALITY IMPACTS OF VENTILATION DUCTS: OZONE REMOVAL AND EMISSIONS OF VOLATILE ORGANIC COMPOUNDS
G.C. Morrison, W.W. Nazaroff, J. A. Cano-Ruiz, A.T. Hodgson, M. P. Modera
J.Air & Waste Manage. Assoc. 48:941-952 (1998).
(20% contribution)
19. FIELD INVESTIGATION OF DUCT SYSTEM PERFORMANCE IN CALIFORNIA LIGHT COMMERCIAL BUILDINGS
W. W. Delp, N. Matson, D. J. Dickerhoff, D. Wang, R. C. Diamond, M. P. Modera
ASHRAE Trans. 104(II) 1998.
(30% contribution)
20. EXTERIOR EXPOSED DUCTWORK: DELIVERY EFFECTIVENESS AND EFFICIENCY
W. W. Delp, N. Matson, M. P. Modera
ASHRAE Trans. 104(II) 1998. (35% contribution)
21. FIELD MEASUREMENTS OF THE INTERACTIONS BETWEEN FURNACES AND FORCED AIR DISTRIBUTION SYSTEMS
Walker, I.S. and Modera, M.P.
ASHRAE Trans. 104(I) 1998.
(40% contribution)
22. CAN A NEW DUCT TEST TAKE THE PRESSURE?
M.P. Modera, and J. Byrne,
Home Energy, January/February 1997
(50% contribution).
23. IMPACTS OF RESIDENTIAL DUCT INSULATION ON HVAC ENERGY USE AND LIFE-CYCLE COSTS TO CONSUMERS
E.B. Treidler, M.P. Modera, R.D. Lucas, and J.D. Miller
ASHRAE Trans. 102(I) 1996.
(40% contribution)
24. THERMAL PERFORMANCE OF RESIDENTIAL DUCT SYSTEMS IN BASEMENTS
E.B. Treidler and M.P. Modera
ASHRAE Trans. 102(I) 1996.
(50% Contribution)
25. FIELD COMPARISON OF ALTERNATIVE TECHNIQUES FOR MEASURING AIR DISTRIBUTION SYSTEM LEAKAGE
M.P. Modera
ASTM Special Technical Publication STP 1255, American Society for Testing and Materials, Philadelphia.
26. SKIN-TEMPERATURE AND EVAPORATIVE HEAT-LOSS VARIATIONS FOR MEN AND WOMEN IN THERMAL COMFORT
M.P. Modera ASHRAE Trans. 99(II) 1993.

27. SOIL GAS ENTRY INTO AN EXPERIMENTAL BASEMENT: MODEL-MEASUREMENT COMPARISONS AND SEASONAL EFFECTS
K. Garbesi, R.G. Sextro, W.J. Fisk, M.P. Modera, K.L. Revzan
Environmental Science and Technology Vol 27, No. 3, pp. 466-473.
(30% Contribution)
28. STATISTICAL UNCERTAINTIES ASSOCIATED WITH MULTIPLEXED SAMPLING WITH A CONTINUOUS RADON MONITOR
M.P. Modera, Y. Bonnefous,
Health Physics Vol. 64 No. 3, pp. 291-299, 1993.
(40% Contribution)
29. CHARACTERIZING THE PERFORMANCE OF RESIDENTIAL AIR DISTRIBUTION SYSTEMS
M.P. Modera
Energy and Buildings Vol. 20, No. 1, pp. 65-75 (1993).
30. INVESTIGATION OF A FAN PRESSURIZATION TECHNIQUE FOR MEASURING INTER-ZONAL AIR LEAKAGE
M.P. Modera, M.K. Herrlin
Air Change Rate and Air Tightness in Buildings, ASTM STP 1067, M.H. Sherman, Ed.,
American Society for Testing and Materials, Philadelphia, 1990, pp. 183-193.
(60% Contribution)
31. THE EFFECTS OF WIND ON RESIDENTIAL BUILDING LEAKAGE MEASUREMENTS
M.P. Modera, D.J. Wilson
Air Change Rate and Air Tightness in Buildings, ASTM STP 1067, M.H. Sherman, Ed.,
American Society for Testing and Materials, Philadelphia, 1990, pp. 132-145.
(60% Contribution)
32. RESIDENTIAL DUCT SYSTEM LEAKAGE: MAGNITUDE, IMPACTS AND POTENTIAL FOR REDUCTION
M.P. Modera
ASHRAE Trans. 95(II) 1989.
33. SIGNAL ATTENUATION DUE TO CAVITY LEAKAGE
M.H. Sherman and M.P. Modera
Journal of the Acoustical Society of America 84, December 1988.
(35% Contribution)
34. REDUCING EMISSIONS FROM WOOD STOVES BY REDUCING WOOD SURFACE AREA
M.P. Modera, F. Peterson
ASHRAE Trans. 94(I) 1988.
(90% Contribution)
35. IN-SITU WOOD HEAT MONITORING: EVALUATION OF MEASURED HEAT OUTPUT AND FIELD EFFICIENCY
R. Yoder, M.P. Modera, G. Spolek
ASHRAE Trans. 94(I) 1988.
(40% Contribution)
36. LOW FREQUENCY MEASUREMENT OF THE LEAKAGE OF ENCLOSURES
M.H. Sherman, M.P. Modera
Review of Scientific Instruments 57 (7), July 1986
(50% Contribution)
37. IMPACTS OF VENTILATION STRATEGIES ON ENERGY USE IN SINGLE- FAMILY RESIDENCES
D. Hekmat, H.E. Feustel, M.P. Modera
Energy and Buildings, 9 (1986) 239-251.
(20% Contribution)
38. MONITORING THE HEAT OUTPUT OF A WOOD STOVE WITH SURFACE TEMPERATURE PROBES
M.P. Modera
Heat Transfer Engineering, Vol. 7, Nos. 1-2, p. 25-35, July 1986.
39. BELUEFTUNG VON WOHNGBAEUDEN
D. Hekmat, H.E. Feustel, M.P. Modera

Heizung, Lueftung, Haustechnik, Vol. 35, No. 9, 1985
(20% Contribution)

40. MONITORING THE HEAT OUTPUT OF A WOOD STOVE
M.P. Modera
Energy and Buildings, 8 (1985) 79-80(Research Note).
41. AC PRESSURIZATION: A NEW TECHNIQUE FOR LEAKAGE AREA MEASUREMENT
M.P. Modera and M.H. Sherman
ASHRAE Trans. 91(II), June 1985
(60% Contribution)
42. TECHNICAL DESCRIPTION: THE ENVELOPE THERMAL TEST UNIT
M.P. Modera
ASHRAE Trans. 91(I), January 1985
43. INSTRUMENTATION FOR THE IN-SITU MEASUREMENT OF BUILDING ENVELOPES
R.A. Grot, M.P. Modera, J.B. Fang, H. Park
ASHRAE Trans. 91(II), January 1985.
(30% contribution)
44. IN-SITU MEASUREMENT OF WALL THERMAL PERFORMANCE: DATA INTERPRETATION AND APPARATUS DESIGN RECOMMENDATIONS
M.P. Modera, M.H. Sherman, and S.G. de Vinuesa
ASTM Special Technical Publication STP 922, Thermal Insulation Materials and Systems,
Dallas, TX, December, 1984.
(50% contribution)
45. COMPARISON OF MEASURED AND PREDICTED INFILTRATION USING THE LBL INFILTRATION MODEL
M.H. Sherman, M.P. Modera
ASTM Special Technical Publication STP 904, Measured Air Leakage, April 1984.
(50% contribution)
46. DETERMINING THE U-VALUE OF A WALL FROM FIELD MEASUREMENTS OF HEAT FLUX AND SURFACE TEMPERATURE
M.P. Modera, M.H. Sherman, R.C. Sonderegger
ASTM Special Technical Publication STP 885, Heat Flow Sensors, September 1983.
(60% contribution)
47. A DETAILED EXAMINATION OF THE LBL INFILTRATION MODEL WITH THE MOBILE INFILTRATION TEST UNIT
M.P. Modera, M.H. Sherman, and P.A. Levin, ASHRAE Trans. 89(II).
(40% contribution)
48. A PREDICTIVE AIR INFILTRATION MODEL--LONG-TERM FIELD TEST VALIDATION
M.P. Modera, M.H. Sherman, and D.T. Grimsrud
ASHRAE Trans. 88 (I), July 1982.
(40% contribution)
49. IN-SITU MEASUREMENTS OF RESIDENTIAL ENERGY PERFORMANCE USING ELECTRIC CO-HEATING
R.C. Sonderegger, P.E. Condon, M.P. Modera
ASHRAE Trans., 86(I) 1980, January 1980.
(30% contribution)

BOOKS PUBLISHED

50. AIRFLOW PERFORMANCE OF BUILDING ENVELOPES, COMPONENTS AND SYSTEMS
Mark P. Modera and Andrew K. Persily, Editors, ASTM Special Technical Publication STP 1255 (1995)
American Society for Testing and Materials, Philadelphia.
(50% editorial contribution)

REPORTS

1. LABORATORY TESTING OF AEROSOL FOR ENCLOSURE AIR SEALING C. Harrington and M. P. Modera. National Renewable Energy Laboratory Report, DOE/GO-102012-3515, May 2012 (50% contribution)
2. LABORATORY AND FIELD TESTING OF AN AEROSOL-BASED DUCT SEALING TECHNOLOGY FOR LARGE COMMERCIAL BUILDINGS
F.R. Carrie, R. Levinson, T. Xu, D.J. Dickerhoff, W.J. Fisk, J. McWilliams, M.P. Modera, and D. Wang
Lawrence Berkeley National Laboratory Report, LBNL-44220 (1999).
(20% contribution)
3. IMPACT OF DUCT AIR-LEAKAGE ON VAV SYSTEM ENERGY USE
Ellen Franconi, Woody Delp and Mark Modera,
Accepted for publication in Energy and Buildings but not published
Lawrence Berkeley National Laboratory Report LBNL-42417 (1998).
(30% contribution)
4. THERMAL DISTRIBUTION LOSSES IN LIGHT COMMERCIAL BUILDINGS: WHAT WE NOW KNOW, AND WHERE WE NEED TO GO FROM HERE
Wm. Woody Delp, Jennifer McWilliams, Darryl J. Dickerhoff, Duo Wang, and Mark P. Modera
Lawrence Berkeley National Laboratory Report LBNL-42415 (1998).
(30% contribution)
5. ADVANCES IN THE DEVELOPMENT OF INTERNAL-ACCESS SEALING TECHNOLOGY FOR RESIDENTIAL AIR-DISTRIBUTION SYSTEMS
F.R. Carrié, M.P. Modera, D. Michel, D. Flechet, A. Larsen, M. Clement, and H. Lamblot
Lawrence Berkeley Laboratory Report LBL-35276 (1994).
(30% contribution).
6. NEW TECHNOLOGIES FOR RESIDENTIAL HVAC DUCTS
E.B. Treidler and M.P. Modera
Lawrence Berkeley Laboratory Report, LBL-35445 (1993).
(40% contribution)
7. THERMAL DISTRIBUTION IN SMALL BUILDINGS: A REVIEW AND ANALYSIS OF RECENT LITERATURE
J. Andrews and M.P. Modera
Brookhaven National Laboratory Report, BNL-52349 (1992).
(30% contribution)
8. RADON ENTRY INTO BASEMENTS: APPROACH, EXPERIMENTAL STRUCTURES, AND INSTRUMENTATION OF THE SMALL STRUCTURES RESEARCH PROJECT
W.J. Fisk, M.P. Modera, R.G. Sextro, K. Garbesi, H.A. Wollenberg, T.N. Narasimhan, T. Nuzum and Y.W. Tsang, Lawrence Berkeley Laboratory Report, LBL-31864 (1992).
(30% contribution)
9. ENERGY SAVINGS POTENTIAL FOR ADVANCED THERMAL DISTRIBUTION TECHNOLOGY IN RESIDENTIAL AND SMALL COMMERCIAL BUILDINGS
J. Andrews, and M.P. Modera
Lawrence Berkeley Laboratory Report, LBL-31042 (1991).
(50% contribution)
10. IMPROVING THE ENERGY EFFICIENCY OF RESIDENTIAL AIR DISTRIBUTION SYSTEMS IN CALIFORNIA: FINAL REPORT - PHASE I
M.P. Modera, D. Dickerhoff, R. Jansky, and B. Smith
Lawrence Berkeley Laboratory Report, LBL-30886 (1991).
(50% contribution)
11. ZONE CONDITIONING IN CALIFORNIA RESIDENCES
M.P. Modera

- Lawrence Berkeley Laboratory Report, LBL-30475 (1990).
12. MONITORING AND MODELING FOR RADON ENTRY INTO BASEMENTS: A STATUS REPORT FOR THE SMALL STRUCTURES PROJECT
W.J. Fisk, S. Flexser, A.J. Gadgil, H.-Y. Holman, M.P. Modera, T.N. Narasimhan, T. Nuzum, K.L. Revzan, R.G. Sextro, A.R. Smith, Y.W. Tsang, and H.A. Wollenberg
Lawrence Berkeley Laboratory Report, LBL-27692 (1989).
(10% contribution)
 13. CHARACTERIZING THE DYNAMIC THERMAL PERFORMANCE OF A WALL USING PERIODIC EXCITATION
M.P. Modera
Lawrence Berkeley Laboratory Report, LBL-24113 (1988).
 14. A MODEL FOR PREDICTING AIR FLOW THROUGH VENTING SYSTEMS FOR MULTIPLE COMBUSTION APPLIANCES
D. Dumortier, M.P. Modera
Lawrence Berkeley Laboratory Report, LBL-23151 (1988).
(40% contribution)
 15. DEVELOPMENT AND IMPLEMENTATION OF SURVEY TECHNIQUES FOR ACCESSING IN-SITU APPLIANCE EFFICIENCIES
M.H. Sherman, R.F. Szydlowski, P.G. Cleary, M.P. Modera, and M.D. Levine
Lawrence Berkeley Laboratory Report, LBL-23455 (1987).
(20% contribution)
 16. FINAL REPORT: RESIDENTIAL AIR LEAKAGE DATABASE COMPILATION
M.P. Modera
Lawrence Berkeley Laboratory Report, LBL-23740 (1986).
 17. CORRELATING RADIANT FLUX MEASUREMENTS WITH WOODSTOVE HEAT OUTPUT
M.P. Modera
Final Report to Pacific Power and Light, Portland OR (1986).
 18. BUILDING ENERGY RETROFIT RESEARCH: MULTIFAMILY SECTOR MULTIYEAR PLAN - FY 1986 - FY 1991
R. Diamond, C. Goldman, M. Modera, M. Rothkopf, M. Sherman, and E. Vine
Lawrence Berkeley Laboratory Report, LBL-20165 (1985).
(15% contribution)
 19. ENERGY IMPACTS OF EFFICIENT REFRIGERATORS IN THE PACIFIC NORTHWEST
M.H. Sherman, M.P. Modera, D. Hekmat
Lawrence Berkeley Laboratory Report, LBL-19571 (1985).
(30% contribution)
 20. SIMPLIFIED METHODS FOR COMBINING MECHANICAL VENTILATION AND NATURAL INFILTRATION
M.P. Modera, F. Peterson
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(70% contribution)
 21. A ONE-CHANNEL MONITOR FOR WOOD STOVE HEAT OUTPUT
M. Modera, B.S. Wagner, J. Shelton
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(60% contribution)
 22. THE MOBILE INFILTRATION TEST UNIT--ITS DESIGN AND CAPABILITIES: PRELIMINARY EXPERIMENTAL RESULTS
A.K. Blomsterberg, M.P. Modera, D.T. Grimsrud
Lawrence Berkeley Laboratory Report, LBL-12259, January 1981.
(40% contribution)
 23. DETERMINATION OF IN-SITU PERFORMANCE OF FIREPLACES
M.P. Modera, R.C. Sonderegger

PRESENTATIONS AND PAPERS AT MEETINGS AND SEMINARS

1. ACHIEVING AND CERTIFYING BUILDING ENVELOPE AIR TIGHTNESS WITH AN AEROSOL-BASED AUTOMATED SEALING PROCESS Curtis Harrington and Mark Modera, Proceedings of 3rd AIVC TightVent Workshop on Building and Ductwork Airtightness, April 19, 2013, Washington DC
2. FIELD EXPERIENCE WITH SEALING LARGE-BUILDING DUCT LEAKAGE WITH AN AEROSOL-BASED SEALING PROCESS Mark Modera, Proceedings of 3rd AIVC TightVent Workshop on Building and Ductwork Airtightness, April 19, 2013, Washington DC
3. HVAC OPPORTUNITIES FOR NON-RESIDENTIAL BUILDINGS Mark Modera, California Statewide Emerging Technologies Program: Semi-Annual Open Forum, July 8, 2010 Monrovia, California
4. PERFORMANCE OF PACKAGED ROOFTOP SYSTEMS DESIGNED FOR WESTERN CLIMATES Mark Modera, ASHRAE Winter Meeting, Seminar 6, January 24, 2010, Orlando, Florida
5. GETTING TO NET ZERO BUILDINGS: PIER HVAC TECHNOLOGIES Mark Modera, Greenbuild International Conference and Expo, November 11, 2009, Phoenix, Arizona
6. EMERGING TECHNOLOGIES FOR COOLING THE WEST Mark Modera, Association of Energy Engineers West Coast Energy Management Congress, June 10, 2009, Long Beach, California
7. ZERO PEAK COOLING Mark Modera, ASHRAE Net Zero Energy Conference, March 30, 2009, San Francisco, California
8. ADVANCED COOLING STRATEGIES FOR HOT DRY CLIMATES Mark Modera, 5th Annual Southwest Regional Energy Efficiency Workshop, November 14, 2008, Denver, Colorado
9. MINIMIZING WATER USE IN NON-COMPRESSOR COOLING APPLICATIONS Mark Modera, ASHRAE Annual Meeting, Seminar 48, June 24, 2008, Salt Lake City, Utah
10. LARGE-BUILDING DUCT SEALING Mark Modera, GovEnergy Conference, August 6, 2007, New Orleans, Louisiana
11. VENTILATION SYSTEM LEAKAGE: OBSERVATIONS AND IMPACTS Mark Modera, ASHRAE Annual Meeting, Seminar 39, June 25, 2007, Long Beach, California
12. TESTING AND SEALING SUPPLY AND EXHAUST DUCTWORK Mark Modera, California Commissioning Collaborative, February 8, 2007, Sacramento, CA
13. METHODS TO TEST AND SEAL COMMERCIAL DUCTWORK FOR LEAKAGE Mark Modera, Pacific Gas & Electric Pacific Energy Center, Continuing Education Class, March 14, 2007, San Francisco, CA
14. INVESTIGATION OF LEAK SEALING FOR SUPPLY AND EXHAUST DUCTWORK Mark P. Modera, Proceedings of 3rd Industry Workshop - Energy Efficient Technologies for Buildings – New and Retrofits”, Co-sponsored by US DOD, US DOE, ASHRAE, IEA ECBCS Annex 46, Dallas, TX, January 25-26, 2007.
15. FIELD MEASUREMENTS OF AIR AND THERMAL- ENERGY DISTRIBUTION IN RESIDENCES Mark Modera, ASHRAE Annual Meeting, Seminar 8, June 26, 2005, Denver, Colorado
16. ASHRAE STANDARD 152: PAST, PRESENT, AND FUTURE Mark Modera, ASHRAE Winter Meeting, Seminar 49, February 9, 2005, Orlando, Florida

17. HOW IS DUCT SEALING EMERGING AS AN ENERGY EFFICIENCY TECHNOLOGY
Mark Modera, ACEEE Emerging Technologies Meeting, October 14, 2004, San Francisco, CA
18. RESIDENTIAL DUCT LEAKAGE
Mark Modera, Session TAM-12, Affordable Comfort National Meeting, April 27, 2004 Minneapolis MN
19. IMPACTS OF DUCT LEAKAGE
Mark Modera, ASHRAE Winter Meeting Public Session, January 26, 2004, Anaheim, California
20. PERFORMANCE DIAGNOSTICS OF THERMAL DISTRIBUTION SYSTEMS IN LIGHT COMMERCIAL BUILDINGS
Tengfang T. Xu, Mark P. Modera, and Remi F. Carrie Proceedings of ACEEE Summer Study, Pacific Grove, CA, August 2000, Lawrence Berkeley Laboratory Report, LBL-45080. (10% contribution)
21. FIELD INVESTIGATION OF DUCT SYSTEM PERFORMANCE IN CALIFORNIA LIGHT COMMERCIAL BUILDINGS (ROUND II)
W. W. Delp, N. Matson, D. J. Dickerhoff, D. Wang, R. C. Diamond, M. P. Modera Proceedings of ACEEE Summer Study, Pacific Grove, CA, August 1998 (20% contribution)
22. FIELD MEASUREMENTS OF EFFICIENCY AND DUCT RETROFIT EFFECTIVENESS IN RESIDENTIAL FORCED-AIR DISTRIBUTION SYSTEMS
D.A. Jump, I.S. Walker and M.P. Modera, Proceedings of ACEEE Summer Study, Pacific Grove, CA, August 1996, Lawrence Berkeley Laboratory Report, LBL-38537. (30% contribution)
23. ENERGY EFFECTIVENESS OF DUCT SEALING AND INSULATION IN MULTIFAMILY BUILDINGS
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