



PUBLICATIONS LIST

APRIL 2003

Papers that summarize research by CBE and affiliated institutions have appeared in the following journals, trade magazines, and conference proceedings.

Tang, Shan, C. Federspiel and D. Auslander, 2003, "Pulsed Type Ultrasonic Anemometer Based on a Double FFT Procedure," *Proceedings for 2003 IEEE Sensors*, October 21-41, Toronto, Canada. **NEW**

Federspiel, C. C. and L. Villafana, 2003, "Design of an EMCS/CMMS User Interface for Building Occupants," *ASHRAE Transactions*, 113(2). **NEW**

Federspiel, C. C. and L. Villafana, 2003, "Design of a Maintenance and Operations Recommender", *ASHRAE Transactions*, 113(2). **NEW**

Federspiel, C. C. and L. Villafana, 2003, "A Tenant Interface for Energy and Maintenance Systems," *CHI 2003 Conference on Human Factors in Computing Systems*, Fort Lauderdale, FL, April, 2003. **NEW**

Bauman, F. and A. Daly. 2003. "Underfloor Air Distribution (UFAD) Design Guide." Final draft complete and approved by ASHRAE, January. Pending publication by ASHRAE.

Oguro, M., E., Arens, R.de Dear, H. Zhang, and T. Katayama, 2002, "Convective Heat Transfer Coefficients and Clothing Insulations for Parts of the Clothed Human Body under Airflow Conditions," *Journal of Architectural Planning and Environmental Engineering*, AIJ, No.561, pp. 21-29, November.

Lin, C., C. Federspiel, and D. Auslander, 2002, "Multi-Sensor Single-Actuator Control of HVAC Systems," *International Conference for Enhanced Building Operations*, Richardson, TX, October.

Wang, D. E., Arens, T. Webster, and M. Shi, 2002, "How the Number and Placement of Sensors Controlling Room Air Distribution Systems Affect Energy Use and Comfort," *International Conference for Enhanced Building Operations*, Richardson, TX, October.

Federspiel, C.C., Q. Zhang, and E. Arens, 2002, "Model-Based Benchmarking with Application to Laboratory Buildings," *Energy and Buildings*, Vol.34, Issue 3, pp. 203-214.

Douglas, S., F. Bauman, and K. Powell, 2002, "Baseline Field Study of Block 225: Capitol Area East End Complex," Interim Report to California State Department of General Services and California Energy Commission, August.

Karalar, T., 2002, "An Acoustical Digital Anemometer," Masters Thesis, Department of Electrical Engineering and Computer Science, UC Berkeley, June.

Webster, T., F. Bauman, J. Reese, 2002, "Underfloor Air Distribution: Thermal Stratification," *ASHRAE Journal*, May.

Federspiel, C., G. Liu, M. Lahiff, D. Faulkner, D. Dibartolomeo, W. Fisk, P. Price, and D. Sullivan, 2002, "Worker Performance and Ventilation: Analyses of Individual Data for Call-Center Workers," *Proceedings, Indoor Air 2002*, Monterey, CA, June.

Fisk, W. J., P. Price, D. Faulkner, D. Sullivan, D. Dibartolomeo, C. Federspiel, G. Liu, and M. Lahiff, 2002, "Worker Performance and Ventilation: Analyses of Time-Series Data for a Group of Call-Center Workers," *Proceedings, Indoor Air 2002*, Monterey, CA, June.

- Webster, T., F. Bauman, J. Reese and M. Shi, 2002, "Thermal Stratification Performance of Underfloor Air Distribution (UFAD) Systems," *Proceedings, Indoor Air 2002*, Monterey, CA, June.
- Huizenga, C., K. Laeser, E. Arens, 2002, "A Web-Based Occupant Satisfaction Survey for Benchmarking Building Quality," *Proceedings, Indoor Air 2002*, Monterey, CA, June.
- Morgan, C., R. de Dear, and G.S. Brager, 2002, "Climate, Clothing and Adaptation in the Built Environment," *Proceedings, Indoor Air 2002*, Monterey, CA, June.
- Fisk, W.J., G. Brager, M. Brook, H. Burge, J. Cole, J. Cummings, H. Levin, V. Loftness, T. Logee, M.J. Mendell, A. Persily, S. Taylor, J. Zhang, 2002, "A Priority Agenda for Energy-Related Indoor Environmental Quality Research," *Proceedings, Indoor Air 2002*, Monterey, CA, June. (pending)
- Federspiel, C. C., H. Li, D. Auslander, D. Lorenzetti, A. Gadgil, 2002, "Modeling Transient Contaminant Transport in HVAC Systems and Buildings," *Proceedings, Indoor Air 2002*, Monterey, CA, June. (pending)
- Martin, R. M., C. Federspiel, D. Auslander, 2002, "Supervisory Control for Energy Savings and Thermal Comfort in Commercial Building HVAC Systems," *AAAI Spring Symposium on Information Refinement and Revision for Decisionmaking: Modeling for Diagnostics, Prognostics, and Prediction*, Stanford University, March.
- Martin, R. M., C. C. Federspiel, and D. M. Auslander, 2002, "Responding to Thermal Sensation Complaints in Buildings," *ASHRAE Transactions*, 112 (1), January.
- J. Rabaey, E. Arens, C. Federspiel, A. Gadgil, D. Messerschmitt, W. Nazaroff, K. Pister, S. Oren, P. Varaiya., 2001, "Smart Energy Distribution and Consumption: Information Technology as an Enabling Force," CITRIS White Paper.
- Oguro, M., E. Arens, H. Zhang, K. Tsuzuki, and T. Katayama, 2001, "Measurement of Projected Area Factors for Thermal Radiation Analysis on Each Part of the Human Body," *Journal of Architectural Planning and Environmental Engineering*, AIJ, No.547, pp. 17-25, September.
- Oguro, M., E. Arens, H. Zhang, K. Tsuzuki, and T. Katayama, 2001, "Measurement of Projected Area Factors for Each Part of a Sitting Person," *Engineering Science Reports*, Kyushu University, Vol.23 No.2, pp. 197-206, September.
- Federspiel, C. C., S. D. Lanning, H. Li, and D. M. Auslander, 2001, "Coordinated Control of HVAC Systems," *Proceedings of the International Conference for Advanced Building Operations*, Austin, TX, July 16-19.
- Lanning, S., C. C. Federspiel, and D. M. Auslander, 2001, "The Impact of Phase Modulation on the Performance of Pulse-Width Modulated Controls," *Proceedings of the 2001 American Control Conference*, June.
- Oguro, M., E. Arens, R. deDear, H. Zhang, and T. Katayama, 2001, "Evaluation of the Effect of Air Flow on Clothing Insulation and Total Heat Transfer Coefficient for Each Part of the Clothed Human Body," *Journal of Architectural Planning and Environmental Engineering*, AIJ, No.549.
- Olesen, B.W., de Dear, R., and Brager, G.S., 2001, "Status and New Developments in Indoor Thermal Environmental Standards," *Journal of the Human-Environment System*, vol 5, no.1.
- Lehrer, D., 2001, "Building a Case for Building Performance," *Line Online*, AIA San Francisco Chapter, August, 2001.
- Zhang, H., C. Huizenga, E. Arens, and T. Yu, 2001, "Considering Individual Physiological Differences in a Human Thermal Model," *Proceedings of the International Thermal Physiology Symposium*, Wollongong, Australia, September 2001.

de Dear, R.J. and Brager, G.S. 2001, "The Adaptive Model of Thermal Comfort and Energy Conservation in the Built Environment", *International Journal of Biometeorology*, Vol. 45, No. 2, pp. 100-108, July.

Bauman, F., and T. Webster. 2001. "Outlook for Underfloor Air Distribution." *ASHRAE Journal*, Vol. 43, No. 6, June, pp. 18-27.

Federspiel, C. C., J. E. Seem, and K. H. Drees, 2001, Chapter 12, "Controlling Building Functions," *Indoor Air Quality Handbook*, Eds. J. Spengler, J. M. Samet, and J. F. McCarthy, McGraw-Hill.

Federspiel, C. C., 2001, Chapter 56, "Estimating the Frequency and Cost of Responding to Building Complaints," *Indoor Air Quality Handbook*, Eds. J. Spengler, J. M. Samet, and J. F. McCarthy, McGraw-Hill.

Brager, G.S., and R.J. de Dear. 2001. "Climate, Comfort & Natural Ventilation: A new adaptive comfort standard for ASHRAE Standard 55." Proceedings, Moving Thermal Comfort Standards into the 21st Century, Windsor, UK, April 2001.

Huizenga, C., H. Zhang and E. Arens, 2001, "A Model of Human Physiology and Comfort for Assessing Complex Thermal Environments", *Building and Environment*, Vol. 36, pp. 691-699.

Federspiel, C. C., R. Martin, and D. Auslander, 2001, "Responding to Thermal Sensation Complaints in Buildings," CBE Summary Report, April.

Brager, G.S., and R.J. de Dear. 2000. "A Standard for Natural Ventilation." *ASHRAE Journal*, October 2000.

Federspiel, C. C., 2000, "Predicting the Cost and Frequency of Hot and Cold Complaints in Buildings," *International Journal of HVAC&R Research*, 6(4), 217-234.

Webster, T., Bauman, F., and F. Ring. 2000. "Supply Fan Energy Use in Pressurized Underfloor Air Distribution Systems." Center for the Built Environment, University of California, Berkeley, October.

Ring, E., and G.S. Brager. 2000. "Occupant Comfort, Control, and Satisfaction in Three California Mixed-mode Office Buildings.", *Proceedings of the ACEEE Summer Study on Energy Efficiency in Buildings*, American Council for an Energy Efficient Economy, August.

Brager, G.S., E. Ring, and K. Powell. 2000. "Mixed-mode Ventilation: HVAC Meets Mother Nature." *Engineered Systems*, pp.60-70, May.

Federspiel, C., 2000, "Indoor Air Quality in Commercial Buildings," *Commercial Buildings Magazine*, May 2000.

Bauman, F., V. Inkarojrit, and H. Zhang. 2000. "Laboratory Test of the Argon Personal Air-Conditioning System (APACS)." Center for Environmental Design Research, University of California, Berkeley, April.

Federspiel, C. C., Q. Zhang, and E. Arens. 1999. "Laboratory Field Studies/Performance Feedback," CEDR-05-99.

Bauman, F., P. Pecora, and T. Webster. 1999. "How Low Can You Go? Air Flow Performance of Low-Height Underfloor Plenums." Center for the Built Environment, University of California, Berkeley, October.

Bauman, F., 1999. "Underfloor Air Distribution: A Promising Technology for Commercial Buildings in the 21st Century." Capital News, Capital Chapter of the International Facility Management Association (IFMA), Dec. 1999 / Jan. 2000.

Bauman, F., K. Tsuzuki, H. Zhang, T. Stockwell, C. Huizenga, E. Arens, and A. Smart., 1999. "Experimental Comparison of Three Individual Control Devices: Thermal Manikin Tests." Final Report. Center for Environmental Design Research, University of California, Berkeley, April.

- Bauman, F. 1999. "Giving Occupants What They Want: Guidelines for Implementing Personal Environmental Control in Your Building." *Proceedings, World Workplace 1999*, Vol. 1, pp. 447-459, Los Angeles, CA, October.
- Huizenga, Charlie, H. Zhang, T. Duan, and E.A. Arens. 1999. "An Improved Multinode Model of Human Physiology and Thermal Comfort." *Proceedings of Building Simulation '99*, International Building Performance Simulation Association, Kyoto, Japan, September.
- Huizenga, Charlie, D. Arasteh, E. Finlayson, R. Mitchell, B. Griffith. 1999. "Therm 2.0: A Building Component Model for Steady State Two Dimensional Heat Transfer." *Proceedings of Building Simulation '99*, International Building Performance Simulation Association, Kyoto, Japan, September.
- Tsuzuki, K., E.A. Arens, F.S. Bauman, and D.P. Wyon. 1999. "Individual Thermal Comfort Control with Desk-Mounted and Floor-Mounted Task/Ambient Conditioning (TAC) Systems." *Proceedings of Indoor Air '99*, Volume 2, pages 368-373, Edinburgh, Scotland, August 8-13.
- Fountain, M.E., E.A. Arens, T.Xu, F.S. Bauman, and M.Oguru. 1999. "An Investigation of Thermal Comfort at High Humidities". *ASHRAE Transactions*, Vol 105 (2), pp. 94-103
- Federspiel, C. C., Q. Zhang, C. Huizenga, T. Webster, and E. Arens. 1999. *Laboratory Energy Performance Measurements*, CEDR-02-1999.
- Federspiel, C. C., 1999. "Air-Change Effectiveness: Theory and Calculation Methods," *Indoor Air*, 9, 47-56.
- Webster, T, Ring, E., Huizenga, C., Bauman, F. and Arens, E., 1999. "Reducing Fan Energy in Built-up Fan Systems." Final Report: Phase III, Berkeley, CEDR-03-99.
- Webster, T, Ring, E., Huizenga, C., Zhang, Q., Bauman, F., and Arens, E., 1999. "Commercial Thermal Distribution Systems: Reducing Fan Energy in Built-up Fan Systems," Final Report: Phase IV, Berkeley, CEDR-04-99.
- Bauman, F.S., T.G. Carter, A.V. Baughman, and E.A. Arens. 1998. "Field Study of the Impact of a Desktop Task/Ambient Conditioning System in Office Buildings." *ASHRAE Transactions*, Vol 104 (1). .
- Brager, G.S., and R.J. de Dear. 1998. "Thermal Adaptation in the Built Environment: A Literature Review." *Energy and Buildings*, Vol. 27, No. 1, pp. 83-96.
- Carter, G., Huizenga, C., Pecora, P., Webster, T., Bauman, F. and Arens, E., May 1998. "Reducing Fan Energy in Built-up Fan systems," Final Report: Phase II." Berkeley, CEDR-02-98.
- de Dear, R.J., and G.S. Brager. 1998. "Towards an Adaptive Model of Thermal Comfort and Preference." *ASHRAE Transactions*, Vol 104 (1), pp. 145-167.
- Federspiel, C. C., 1998. "Flow Control with Electric Actuators," *Proceedings of 7th IFAC Symposium on Artificial Intelligence in Real-Time Control*, Grand Canyon National Park, Arizona, October 5-8, 1998.
- Chace, J., Fountain, M., Grundon, T., and Benton, C., 1998. "Effective Market Transformation from Energy Centers," *Proceedings of the ACEEE 1998 Summer Study on Energy Efficiency in Buildings*, Pacific Grove, CA, August.
- Federspiel, C. C., 1998, "Predicting the Frequency of Hot and Cold Complaints in Buildings," *Proceedings of the 1998 ACEEE Summer Study on Energy Efficiency in Buildings*, Pacific Grove, CA; also submitted to *International Journal of HVAC&R Research*.
- Federspiel, C. C., 1998, "Conditions for the Input-Output Relation of Perfect-Mixing Processes to be First-Order with Application to Building Ventilation Systems," *Journal of Dynamic Systems, Measurement and Control*, 120(2), 170-176.
- Federspiel, C. C., 1998, "Statistical Analysis of Unsolicited Thermal Sensation Complaints in Buildings," *ASHRAE Transactions*, 104(1).

- Webster, T., P. Benenson, and W. L. Carroll. 1998. "FEMP Technical Assessment Report: Duty Cycling Controllers Revisited," LBNL 41754, Lawrence Berkeley National Laboratory, June.
- Webster, T. and W. L. Carroll. 1998. "Technology Installation Review: Energy Savings in Refrigerated Walk-in Boxes," DOE/EE-0170, US DOE/FEMP New Technology Demonstration Program (NTDP).
- Arens, E., T. Xu, K. Miura, H. Zhang, M. Fountain, and F. Bauman. 1997. "A Study of Occupant Cooling by Personally Controlled Air Movement." *Energy and Buildings*, Vol. 27, No. 1, pp. 45-59.
- Federspiel, C. C. and J. D. Wenger, 1997, "Control and Performance Analysis of Ventilation Systems," Proceedings of *Healthy Buildings/IAQ '97*, Washington D.C., 2, 529-534.
- Federspiel, C. C., 1997. "Estimating the Inputs of Gas Transport Processes in Buildings," *IEEE Transactions on Control System Technology*, 5(5), 480-489.
- Federspiel, C. C., 1997, "Damper Authority Estimation and Adaptive Flow Control," Proceedings of *CLIMA 2000*, Brussels, Belgium.
- Federspiel, C. C., 1997, "Flow Control with Electric Actuators," *International Journal of Heating, Ventilating, Air-Conditioning, and Refrigeration Research*, 3(3), 265-289.
- Huizenga, C., and G. Carter. 1997. "A Toolkit for Evaluating Chiller Plant Retrofits." *Proceedings of the Cool Sense National Integrated Chiller Retrofit Forum*. San Francisco, CA, September.
- de Dear, R., E. Arens, H. Zhang, and M. Oguro. 1997. "Convective and Radiative Heat Transfer Coefficients for Individual Body Segments." *International Journal of Biometeorology*, Vol. 40, No. 3, pp. 141-156.
- Carter, G., C. Huizenga, T. Webster, F. Bauman, and E. Arens. 1998. "Reducing Fan Energy in Built-Up Fan Systems." Report to California Institute for Energy Efficiency. Center for Environmental Design Research, University of California, Berkeley, April.
- Fisk, W.J., D. Faulkner, D. Sullivan, and F.S. Bauman. 1997. "Air Change Effectiveness and Pollutant Removal Efficiency During Adverse Conditions." *Indoor Air*, Vol. 7, No. 1.
- Bauman, F., A. Baughman, G. Carter, and E. Arens. 1997. "A Field Study of PEM (Personal Environmental Module) Performance in Bank of America's San Francisco Office Buildings." Center for Environmental Design Research, University of California, Berkeley, April.
- Benton, C., and A. Kwok. 1997. "The Vital Signs Project: Dissemination Activities." *Proceedings of the 21st National Passive Solar Conference*, American Solar Energy Society, Boulder, CO, March.
- Akimoto, T., F.S. Bauman, C.C. Benton, and E.A. Arens. 1996. "Field Study of a Desktop-Based Task Conditioning System." *Transactions of AIJ (Architectural Institute of Japan)*, No.490, December, pp. 35-46.
- Bauman, F.S., and E.A. Arens. 1996. "Task/Ambient Conditioning Systems: Engineering and Application Guidelines." Center for Environmental Design Research, University of California, Berkeley, October, 67 pp.
- Federspiel, C. C., 1996, "Air-Change Effectiveness," *Indoor Air BULLETIN*, 3(10), 14.
- Federspiel, C. C., and Seem, J. E., 1996, "Temperature Control in Large Buildings," Chapter 70, *CRC Control Handbook*, Ed. W. S. Levine, CRC Press.
- Federspiel, C. C., 1996, "Ventilation Performance Evaluation Using Passively Generated Carbon Dioxide as a Tracer Gas," Proceedings of *17th AIVC Conference: Optimum Ventilation and Air Flow Control in Buildings*, Gothenburg, 1, 15-23.
- Federspiel, C. C., 1996, "The Effect of Recirculation on Air-Change Effectiveness," Proceedings of *17th AIVC Conference: Optimum Ventilation and Air Flow Control in Buildings*, Gothenburg, Sweden, 1, 355-363.
- Federspiel, C. C., 1996, "On-Demand Ventilation Control: A New Approach to Demand-Controlled Ventilation," Proceedings of *INDOOR AIR '96*, Nagoya, Japan, 3, 935-940.

- Federspiel, C. C., 1996, "The Effect of Recirculation on Air-Change Effectiveness Calculations," Proceedings of *INDOOR AIR '96*, Nagoya, Japan, 3, 971-976.
- Fountain, M., and C. Huizenga. 1996. "A Thermal Comfort Prediction Tool." *ASHRAE Journal*, Vol. 38, No. 9, September, pp. 39-42.
- Bauman, F., E. Arens, C. Huizenga, T. Akimoto, K. Miura, T. Xu, and H. Zhang. 1996. "The Impact of Humidity Standards on Energy Efficient Cooling in California." Center for Environmental Design Research, University of California, Berkeley, August.
- Huizenga, C., and R. DeDear. 1996. "Final Report: Multinode Thermoregulatory Comfort Model Development." Prepared for the US Army Research Institute of Environmental Medicine. Center for Environmental Design Research, University of California, Berkeley, July.
- Benton, C., M. Hydeman, J. Chace, C. Huizenga, and R. Marcial. 1996. "Taking a Building's Vital Signs: A Lending Library of Handheld Instruments." *Proceedings of the ACEEE 1996 Summer Study on Energy Efficiency in Buildings*, American Council for an Energy-Efficient Economy, Vol. 5, July, 12 pp.
- Huizenga, C., W. Van Liere, and F. Bauman. 1996. "Development of Low-Cost Monitoring Protocols for Evaluating Energy Use in Laboratory Buildings." Center for Environmental Design Research, University of California, Berkeley, June.
- Bauman, F.S. 1996. "Task/Ambient Conditioning Systems: Technology Assessment and Engineering Guidelines." *Proceedings of the 3rd International Conference on Energy and Environment: Towards the Year 2000*, Capri, Italy, 6-8 June, pp. 31-42.
- Fountain, M., G. Brager, and R. de Dear. 1996. "Expectations of Indoor Climate Control." *Energy and Buildings*, Vol. 24, pp. 179-82.
- Baughman, A., and E. Arens. 1996. "Indoor Humidity and Human Health -- Part I: Literature Review of Health Effects of Humidity-Influenced Indoor Pollutants." *ASHRAE Transactions*, Vol. 101, Pt. 1, 1996.
- Arens, E., and A. Baughman. 1996. "Indoor Humidity and Human Health -- Part II: Buildings and their Systems." *ASHRAE Transactions* Vol. 101, Pt. 1, 1996.
- Bauman, F., (ed.) 1995. "Proceedings: Workshop on Task/Ambient Conditioning Systems in Commercial Buildings, San Francisco, CA, 4-5 May 1995." Center for Environmental Design Research, University of California, Berkeley, October.
- Federspiel, C. C., 1995, "On-Demand Control of Ventilation Systems," Proceedings of the *1995 American Control Conference*, pp. 4341-4346.
- Finlayson, E.U., D. Arasteh, C. Huizenga, et. al. 1995. "Advancements in Thermal and Optical Simulations of Fenestration Systems: The Development of WINDOW 5." *Proceedings, Thermal Performance of the Exterior Envelopes of Buildings VI*, Clearwater, FL, December.
- Finlayson, E.U., D. Arasteh, C. Huizenga, et. al. 1995. "THERM 1.0: A PC Program for Analyzing the Thermal Performance of Fenestration Products." Windows and Daylighting Group, LBL Report #37371, Lawrence Berkeley Laboratory, Berkeley, CA, September.
- Xu, T., E. Arens, and F. Bauman. 1995. "The Effects of High-Level Air Humidity on Subjective Perception of Comfort." *Proceedings of the 2nd International Symposium on Heating, Ventilation, and Air Conditioning*, 25-27 September, Beijing, China, Vol. 1, pp.81-91.
- Xu, T., and E. Brown. 1995. "Estimating loss of spray paint particles onto undesired target by measuring droplet size distribution." *Proceedings of the 2nd International Symposium on Heating, Ventilation and Air Conditioning*, 25-27 September, Beijing, China, Vol 2, pp.453-461.

- Bosselmann, P., E. Arens, K. Dunker, and R. Wright. 1995. "Urban Form and Climate: Case Study, Toronto." *Journal of the American Planning Association*, Vol. 61 No. 2, pp 226-239.
- Arens, E., F. Bauman, A. Baughman, M. Fountain, K. Miura, T. Xu, H. Zhang, and T. Akimoto. 1995. "Comfort and Health Considerations: Air Movement and Humidity Constraints, Final Report - Phase II, Part I." Center for Environmental Design Research, University of California, Berkeley, July.
- Benton, C., and A. Kwok. 1995. "The Vital Signs Project: Work in Progress." *Proceedings of the 20th National Passive Solar Conference*, American Solar Energy Society, Boulder, CO, July, 6 pp.
- Huang, Y.J., and H. Zhang. 1995. "Analysis of Climatic Conditions and Preliminary Assessment of Alternative Cooling Strategies for Houses in California Transition Climate Zones." Lawrence Berkeley Laboratory Report LBL-36177, July, 115 pp.
- Fountain, M., and C. Huizenga. 1995. "A Thermal Sensation Model For Use By The Engineering Profession." Final Report, ASHRAE RP-781, Environmental Analytics, Piedmont, CA, June.
- Bauman, F., C. Huizenga, T. Xu, and T. Akimoto. 1995. "Thermal Comfort with a Variable Air Volume (VAV) System." Center for Environmental Design Research, University of California, Berkeley, June.
- Arasteh, D., E.U. Finlayson, M. Rubin, J. Sadlier, C. Huizenga, and D. Curcija. 1995. "Recent Technical Improvements to the WINDOW Computer Program." *Proceedings, 1995 Window Innovations Conference*, Toronto, June.
- Bauman, F.S., E.A. Arens, S. Tanabe, H. Zhang, and A. Baharlo. 1995. "Testing and Optimizing the Performance of a Floor-Based Task Conditioning System." *Energy and Buildings*, Vol. 22, No. 3, pp. 173-186.
- Arens, E., M. Fountain, T. Xu, K. Miura, H. Zhang, and F. Bauman. 1995. "A Study of Occupant Cooling by Two Types of Personally Controlled Air Movement." *Proceedings, Pan Pacific Symposium on Building and Urban Environmental Conditioning in Asia*. Nagoya University, Nagoya, Japan, 16-18 March.
- Benton, C., and R. Marcial. 1995. "On the Energy Conservation Front." *PLACES*, Vol. 9, No. 3, Winter, 2 pp.
- Federspiel, C. C., 1994, "First-Order Models of the Gas Transport in Multi-Zone Ventilation Systems," in *Dynamic Systems and Control 1994*, ASME publication no. DSC-Vol. 55-2, Ed. C. J. Radcliffe, pp. 653-661.
- Federspiel, C. C., 1994, "Identification and Inversion of Gas Transport Processes in Buildings," *Proceedings of the 1994 American Control Conference*, 929-936.
- Federspiel, C. C. and Asada, H. 1994, "User-Adaptable Comfort Control for HVAC Systems," *Journal of Dynamic Systems, Measurement and Control*, 116(3), 474-486.
- Fountain, M., G. Brager, E. Arens, F. Bauman, and C. Benton. 1994. "Comfort Control for Short-Term Occupancy." *Energy and Buildings*, Vol. 21, pp. 1-13.
- Bauman, F., E. Arens, M. Fountain, C. Huizenga, K. Miura, T. Xu, T. Akimoto, H. Zhang, D. Faulkner, W. Fisk, and T. Borgers. 1994. "Localized Thermal Distribution for Office Buildings; Final Report - Phase III." Center for Environmental Design Research, University of California, Berkeley, July, 115 pp.
- Fountain, M., E. Arens, R. de Dear, F. Bauman, and K. Miura. 1994. "Locally Controlled Air Movement Preferred in Warm Isothermal Environments." *ASHRAE Transactions*, Vol. 100, Pt. 2, 14 pp.
- de Dear, R., and M. Fountain. 1994. "Field Experiments on Occupant Comfort and Office Building Thermal Environments in a Hot-Humid Climate." *ASHRAE Transactions*, Vol. 100, Pt. 2.
- Benton, C., and A. Kwok. 1994. "Field Methods for Architectural Curricula: the Vital Signs Project." *Proceedings, 19th National Passive Solar Conference*, American Solar Energy Society, Boulder, CO, June, 6 pp.

- Benton, C.C., and G.S. Brager. 1994. "Sunset Building: Final Report -- A Study of Occupant Thermal Comfort in Support of PG&E's Advanced Customer Technology Test (ACT²) for Maximum Energy Efficiency." Center for Environmental Design Research, University of California, Berkeley, June 8, 76 pp.
- Arasteh, D., E.U. Finlayson, and C. Huizenga. 1994. "WINDOW 4.1: A PC Program for Analyzing Window Thermal Performance in Accordance with Standard NFRC Procedures." Windows and Daylighting Group, LBL Report #35298, Lawrence Berkeley Laboratory, Berkeley, CA, March.
- Tanabe, S., E. Arens, F. Bauman, H. Zhang, and T. Madsen. 1994. "Evaluating Thermal Environments By Using a Thermal Manikin with Controlled Skin Surface Temperature." *ASHRAE Transactions*, Vol. 100, Pt. 1, pp. 39-48.
- Arens, E.A., and F.S. Bauman. 1994. "Improving the Performance of Task Conditioning Systems." *Proceedings*, International Symposium: Issues on Task-Ambient Conditioning. Nagoya University, Nagoya, Japan, 11 January, pp. 77-94.
- Asada, H., Federspiel, C. C., and Liu, S., 1993, "Human-Centered Control in Robotics and Consumer Product Design," *Journal of Dynamic Systems, Measurement and Control*, 115(2B), 271-280.
- Fountain, M.E. 1993. "Locally Controlled Air Movement Preferred in Warm Environments." Ph.D. Dissertation, Department of Architecture, University of California, Berkeley, November, 196 pp.
- Fountain, M.E., and E.A. Arens. 1993. "Air Movement and Thermal Comfort." *ASHRAE Journal*, Vol. 35, No. 8, August, pp. 26-30.
- Grimsrud, D., C. Huizenga, M. Colman, et. al. 1993. "The Use of New Lighting Techniques in the University of Minnesota Building Energy Efficiency Project." Minnesota Building Research Center, June.
- Brager, G.S., M.E. Fountain, C.C. Benton, E.A. Arens, and F.S. Bauman. 1993. "A Comparison of Methods for Assessing Thermal Sensation and Acceptability in the Field." *Proceedings of Thermal Comfort: Past, Present and Future*, ed. Nigel Oseland. British Research Establishment, Watford, United Kingdom, 9-10 June.
- Bauman, F., and M. McClintock. 1993. "A Study of Occupant Comfort and Workstation Performance in PG&E's Advanced Office Systems Testbed." Final Report to PG&E Research and Development. Center for Environmental Design Research, University of California, Berkeley, May, 135 pp.
- Bauman, F., H. Zhang, E. Arens, and C. Benton. 1993. "Localized Comfort Control with a Desktop Task Conditioning System: Laboratory and Field Measurements." *ASHRAE Transactions*, Vol. 99, Pt. 2, pp. 733-749.
- Bauman, F., T. Borgers, P. LaBerge, and A. Gadgil. 1993. "Cold Air Distribution in Office Buildings: Technology Assessment for California." *ASHRAE Transactions*, Vol. 99, Pt. 2, pp. 109-124. Previously published by Center for Environmental Design Research, University of California, Berkeley, June 1992, 61 pp.
- Bauman, F., R. Helm, D. Faulkner, E. Arens, and W. Fisk. 1993. "Air Movement, Comfort, and Ventilation in Partitioned Workstations." *ASHRAE Journal*, Vol. 35, No. 3, March, pp. 42-50.
- Bauman, F., C. Benton, M. Fountain, and C. Huizenga. 1993. "Steelcase Integrated Comfort Study: Final Report." Center for Environmental Design Research, University of California, Berkeley, January, 84 pp.
- Bauman, F., G. Brager, E. Arens, A. Baughman, H. Zhang, D. Faulkner, W. Fisk, D. Sullivan, and T. Borgers. 1992. "Localized Thermal Distribution for Office Buildings; Final Report - Phase II." Center for Environmental Design Research, University of California, Berkeley, December, 220 pp.
- Federspiel, C. C. and H. Asada, 1992, "User-Adaptable Comfort Control for HVAC Systems," *Proceedings of the 1992 American Control Conference*, 2312-2319.

- Federspiel, C. C., H. Asada, and L. Norford, 1992, "A Thermal Sensation Index for Real-Time Tuning and Energy-Optimal Control of Thermal Sensation," *Proceedings of the 8th Symposium on Building System in Hot and Humid Climates*, Texas A&M University.
- Huizenga, C., M. Colman, and J. Smith. 1992. "Evaluation of a Major Lighting Retrofit Project." Proceedings, 1992 ACEEE Summer Study on Energy Efficiency in Buildings, Washington, D.C.: American Council for an Energy Efficient Economy, Vol. 3, pp. 147-160.
- Brager, G.S. and N. AlSaiyad. 1992. "Teaching Climate-Energy Consciousness: A Collaborative Approach in the Architecture Design Studio." Proceedings, of the ASES National Passive Solar Conference, American Solar Energy Society, Vol. 17, June.
- Brager, G. 1992. "Using Laboratory-Based Models to Predict Comfort in Office Buildings." *ASHRAE Journal*, Vol. 34, No. 4, April, pp. 44-49.
- Ernest, D.R., F.S. Bauman, and E.A. Arens. 1992. "The Effects of External Wind Pressure Distributions on Wind-Induced Air Motion Inside Buildings." *Journal of Wind Engineering and Industrial Aerodynamics*, Vol. 41-44, pp. 2539-2550. Previously published in *Proceedings*, Eighth International Conference on Wind Engineering, London, Ontario, 8-12 July 1991.
- Brager, G.S. and F. Rifki. 1992. "Tools for Teaching Climate & Energy in the Design Studio." Proceedings, ACSA Technology Conference, American Collegiate Schools of Architecture, San Diego, CA, February.
- Bauman, F.S., D. Faulkner, E.A. Arens, W.J. Fisk, L.P. Johnston, P.J. McNeel, D. Pih, and H. Zhang. 1992. "Air Movement, Ventilation, and Comfort in a Partitioned Office Space." *ASHRAE Transactions*, Vol. 98, Pt. 1, 25 pp. Previously published as "Air Movement, Comfort, and Ventilation in Workstations." Center for Environmental Design Research, University of California, April, 1991, 67 pp.
- Ernest, D.R. 1991. "Predicting Wind-Induced Indoor Air Motion, Occupant Comfort, and Cooling Loads in Naturally Ventilated Buildings." Ph.D. Dissertation, Department of Architecture, University of California, Berkeley, 261 pp.
- Federspiel, C. C. and H. Asada, 1991, "Adaptive Control of Thermal Comfort Based on Human Responses and a Model of Human Thermal Sensation," presented at the 1991 ASME Winter Annual Meeting, also in *Control of Systems with Inexact Dynamic Models*, Eds. N. Sadegh and Y.-H. Chen, DSC-Vol. 33, ASME Book No. H00698, 161-168.
- Heinemeier, K.E., G.S. Brager, C.C. Benton, F.S. Bauman, and E.A. Arens. 1991. "Task/Ambient Conditioning Systems in Open-Plan Offices: Assessment of a New Technology." Center for Environmental Design Research, University of California, September, 80 pp.
- Arens, E., F. Bauman, L. Johnston, and H. Zhang. 1991. "Testing of Localized Ventilation Systems in a New Controlled Environment Chamber." *Indoor Air*, No. 3, pp. 263-281. Previously published in *Proceedings*, 11th AIVC Conference on Ventilation System Performance, Belgirate, Italy, 18-21 September 1990.
- Fisk, W., D. Faulkner, D. Pih, P. McNeel, F. Bauman, and E. Arens. 1991. "Indoor Air Flow and Pollutant Removal in a Room with Task Ventilation." *Indoor Air*, No. 3, pp. 247-262. Previously published in *Proceedings*, 11th AIVC Conference on Ventilation System Performance, Belgirate, Italy, 18-21 September 1990.
- Brager, G., T. Nero, and C.L. Tien. 1991. "Transport and Deposition of Indoor Radon Decay Products: Part 1 - Model Development and Validation." *Atmospheric Environment*, Vol. 25B, No. 3, pp. 343-358.
- Brager, G., and K. Revzan. 1991. "Transport and Deposition of Indoor Radon Decay Products: Part 2 - Influence of Environmental Conditions." *Atmospheric Environment*, Vol. 25B, No. 3, pp. 359-368.

- Benton, C., M. Fountain, S. Selkowitz, and J. Jewell. 1991. "Control System Performance in a Modern Daylighted Office Building." *Proceedings*, 22nd Session of the Commission Internationale De L'Eclairage, Melbourne, Australia, July. Previously published in *Proceedings*, VIII International Conference on Illumination, Varna, Bulgaria, May 1990.
- Bauman, F., K. Heinemeier, H. Zhang, A. Sharag-Eldin, E. Arens, W. Fisk, D. Faulkner, D. Pih, P. McNeel, and D. Sullivan. 1991. "Localized Thermal Distribution for Office Buildings: Final Report - Phase I." Center for Environmental Design Research, University of California, June, 81 pp.
- Bauman, F., L. Johnston, H. Zhang, and E. Arens. 1991. "Performance Testing of a Floor-Based Occupant-Controlled Office Ventilation System." *ASHRAE Transactions*, Vol. 97, Pt. 1, 13 pp.
- Fountain, M. 1991. "Laboratory Studies of the Effect of Air Movement on Thermal Comfort." *ASHRAE Transactions*, Vol. 97, Pt. 1.
- Ernest, D., F. Bauman, and E. Arens. 1991. "The Prediction of Indoor Air Motion for Occupant Cooling in Naturally Ventilated Buildings." *ASHRAE Transactions*, Vol. 97, Pt. 1, 14 pp.
- Bosselmann, P., E. Arens, K. Dunker, R. Wright et al. 1990. "Sun, Wind, and Pedestrian Comfort: A Study of Toronto's Central Area." Center for Environmental Design Research, University of California, December, 172 pp.
- Benton, C., and M. Fountain. 1990. "Successfully Daylighting a Large Commercial Building: A Case Study of Lockheed Building 157." *Progressive Architecture*, November.
- Benton, C. 1990. "Daylighting in the United States - Trends in Technology and Design." *Proceedings*, Second European Conference on Architecture, Commission of European Communities, Paris, France, September, 6 pp.
- Heinemeier, K., F. Bauman, G. Schiller, C. Benton, and E. Arens. 1990. "The Implications of Task Conditioning for Comfort and Energy." *Proceedings*, ACEEE 1990 Summer Study on Energy Efficiency in Buildings, Pacific Grove, CA, 26 August - 1 September.
- Busch, J.F. 1990. "From Comfort to Kilowatts: An Integrated Assessment of Electricity Conservation in Thailand's Commercial Sector." Ph.D. Dissertation, Energy and Resources Group, University of California, Berkeley, August, 308 pp.
- Heinemeier, K.E., G.E. Schiller, and C.C. Benton. 1990. "Task Conditioning for the Workplace: Issues and Challenges." *ASHRAE Transactions*, Vol. 96, Pt. 2, pp. 678-688.
- Benton, C. 1990. "Diminutive Design." *Lighting Design + Application*, Vol. 20, No. 5, May, 10 pp.
- Taha, H.G. 1990. "An Urban Micro-Climature Model for Site-Specific Building Energy Simulation: Boundary Layers, Urban Canyon, and Building Conditions." Ph.D. Dissertation, Department of Architecture, University of California, Berkeley, April, 265 pp.
- Schiller, G.E. 1990. "A Comparison of Measured and Predicted Comfort in Office Buildings." *ASHRAE Transactions*, Vol. 96, Pt. 1, 13 pp.
- Benton, C., F. Bauman, and M. Fountain. 1990. "A Field Measurement System for the Study of Thermal Comfort." *ASHRAE Transactions*, Vol. 96, Pt. 1, 11 pp.
- Busch, J. 1990. "Thermal Responses to the Thai Office Environment." *ASHRAE Transactions*, Vol. 96, Pt. 1, pp. 859-872.
- Hawaii State Energy Division and the Honolulu Chapter, American Institute of Architects. 1990. Hawaiian Design: Strategies for Energy Efficient Architecture. E. Arens, contributing editor, 59 pp.
- Arens, E., D. Ballanti, C. Bennett, S. Guldman, and B. White. 1989. "Developing the San Francisco Wind Ordinance and Its Guidelines for Compliance." *Building and Environment*, Vol. 24, No. 4, pp. 297-303.

- Arens, E., and P. Bosselmann. 1989. "Wind, Sun and Temperature--Predicting the Thermal Comfort of People in Outdoor Spaces." *Building and Environment*, Vol. 24, No. 4, pp. 315-320.
- Schiller, G., E. Arens, F. Bauman, C. Benton, and M. Fountain. 1989. "Comfort Control for Hotel Occupancies." Center for Environmental Design Research, University of California, Berkeley, 131 pp.
- Nazaroff, W.W., A.J. Gadgil, and G.E. Schiller. 1989. "Deposition of Unattached ^{218}Po from Natural Convection Enclosure Flow: Predictions of Spatial Variability." *Proceedings*, Annual Meeting of the American Association for Aerosol Research, Reno, Nevada, October.
- Benton, C. 1989. "Physical Models in Daylighting Education and Practice." *Proceedings*, 1989 Illuminating Engineering Society Annual Conference, New York, August, 18 pp.
- Schiller, G., E. Arens, C. Benton, and F. Bauman. 1989. "A Field Study of Thermal Comfort in Office Buildings." *Proceedings*, CLIMA 2000 Second World Congress on Heating, Ventilating, Refrigerating and Air-Conditioning, Sarajevo-Yugoslavia, July, 14 pp. Previously published as "A Study of Occupant Responses to the Thermal Environments in Office Buildings." In *A New Frontier: Environments for Innovation, Proceedings*, International Symposium on Advanced Comfort Systems, Rensselaer Polytechnic Institute, Troy, NY, 1-3 May 1988.
- Benton, C., M. Warren, S. Selkowitz, and J. Jewell. 1989. "Lighting System Performance in an Innovative Daylighted Structure." *Proceedings*, 2nd International Daylighting Conference, Long Beach, California, May, 10 pp.
- Benton, C. 1989. "The Lockheed Building 157 Monitoring Project, Phase II: the Lighting Control System." Final Report to the Pacific Gas and Electric Company, LBL Project No. Z19-5-298-87, April, 73 pp.
- Schiller, G., E. Arens, C. Benton, and F. Bauman. 1989. "Anche Gli Utenti Hanno Diritto Alla Parola (Occupants Take the Floor)." *L'ARCA*, April, pp. 58-62.
- Schiller, G., and E. Arens. 1988. "Thermal Comfort in Office Buildings." *ASHRAE Journal*, Vol. 30, No. 10, October, pp. 26-32.
- Bosselmann, P., K. Dake, M. Fountain, L. Kraus, K. Lin, and A. Harris. 1988. "Sun, Wind, & Comfort: A Field Study of Thermal Comfort in San Francisco." Center for Environmental Design Research, University of California, Berkeley, September.
- Schiller, G. 1988. "A Numerical Model of Indoor Radon Decay Product Deposition." *Proceedings*, International Symposium on Building Systems: Room Air and Air Contaminant Distribution, Urbana, Illinois.
- Bauman, F.S., D.R. Ernest, and E.A. Arens. 1988. "The Effects of Surrounding Buildings on Wind Pressure Distributions and Natural Ventilation in Long Building Rows." *ASHRAE Transactions*, Vol. 94, Pt. 2, 26 pp. Previously published as "ASEAN Natural Ventilation Study: Wind Pressure Distributions on Long Building Rows in Urban Surroundings." Center for Environmental Design Research, University of California, Berkeley, February, 65 pp.
- Schiller, G., E. Arens, F. Bauman, C. Benton, M. Fountain, and T. Doherty. 1988. "A Field Study of Thermal Environments and Comfort in Office Buildings." *ASHRAE Transactions*, Vol. 94, Pt. 2, 27 pp.
- Benton, C., and F. Moore. 1988. "A Hands-On Daylighting Workshop for Architectural Educators and Professionals." *Proceedings*, 13th National Passive Solar Conference, American Solar Energy Society, Boston, Massachusetts, June, pp. 187-191.
- Bauman, F., and E. Arens. 1988. "The Development of a Controlled Environment Chamber for the Physical and Subjective Assessment of Human Comfort in Office Environments." In *A New Frontier: Environments for Innovation*, Ed: W. Kroner, *Proceedings: International Symposium on Advanced Comfort Systems for the Work Environment*, Rensselaer Polytechnic Institute, Troy, NY, 1-3 May, pp. 277-284.

- Doherty, T.J., and E.A. Arens. 1988. "Evaluation of the Physiological Bases of Thermal Comfort Models." *ASHRAE Transactions*, Vol. 94, Part 1, 15 pp.
- Chang, S.; E. Arens, and R. Gonzalez. 1988. "Determination of the Effect of Walking on the Forced Convective Heat Transfer Coefficient Using An Articulated Mannikin." *ASHRAE Transactions*, Vol. 94, Part 1, pp. 71-81.
- Schiller, G., E. Arens, F. Bauman, C. Benton, M. Fountain, T. Doherty, and K. Craik. 1988. "A Field Study of Thermal Environments and Comfort in Office Buildings: Final Report, ASHRAE 462-RP." Center for Environmental Design Research, University of California, Berkeley, CA, January, 169 pp.
- Benton, C., K. Papamichael, D. Arasteh, and S. Selkowitz. 1987. "Optical Analysis of a Tracking Skylight: - So-Luminaire." Final Report to the Southern California Edison Company, LBL Project K-154-5916, December, 108 pp.
- Kim, J.J. 1987. "Numerical Analysis of Daylighting in the Urban Environment." Ph.D. Dissertation, Department of Architecture, University of California, Berkeley, December, 134 pp.
- Benton, C., and F. Moore. 1987. "The Daylighting Network of North America." *Architectural Lighting*, Vol. 1, No. 5, May, pp. 44-47.
- Heinemeier, K.E., and H. Akbari. 1987. "Capabilities of In-Place Energy Management Systems for Remote Monitoring of Building Energy Performance - Case Studies." *ASHRAE Transactions*, Vol. 93, Pt. 2, 15 pp.
- Bauman, F., W. Place, B. Andersson, J. Thornton, and T.C. Howard. 1987. "The Experimentally Measured Performance of a Linear Roof Aperture Daylighting System." *ASHRAE Transactions*, Vol. 93, Pt. 1; also Lawrence Berkeley Laboratory Report No. 19590, 30 pp.
- Benton, C. 1986. "Daylighting Can Improve the Quality of Light and Save Energy." *Architectural Lighting*, Vol. 1, No. 1, November, pp. 46-48.
- Benton, C. 1986. "The Daylight Model Learning Curve: A Collection of Introductory Classroom Exercises." *Proceedings*, 2nd International Daylighting Conference, Long Beach, California, November, pp. 364-374.
- Arens, E., E. Lee, F. Bauman, and L. Flynn. 1986. "Development and Testing of a Program to Create Hourly Site-Specific Weather Data." *Proceedings*, 10th CIB Congress, International Council for Building Research, Washington, D.C., 21-26 September, pp. 2381-2388.
- Benton, C., M. Warren, S. Selkowitz, et al. 1986. "A Field Evaluation of Daylighting System Performance." *Proceedings*, 10th CIB Congress, International Council for Building Research, Washington, D.C., 21-26 September, pp. 3114-3121.
- Warren, M., C. Benton, S. Selkowitz et al. 1986. "Evaluation of Integrated Lighting System Performance in a Large Daylighted Office Building." *Proceedings of the Energy Efficiency in Buildings Conference*, American Council for an Energy-Efficient Economy, Santa Cruz, California, August, 14 pp.
- Arens, E., and N. Watanabe. 1986. "A Method for Designing Naturally Cooled Buildings Using Bin Climate Data." *ASHRAE Transactions*, Vol. 92, Pt. 2, 14 pp.
- Benton, C., B. Erwine, M. Warren, and S. Selkowitz. 1986. "Field Measurements of Light Shelf Performance in a Major Office Installation." *Proceedings of the 11th National Passive Solar Conference*, American Solar Energy Society, Boulder, Colorado, June, pp. 290-295.
- Arens, E., and J. Peterka. 1986. "Controlling the Wind Climate Around Buildings." *Civil Engineering Practice*, Vol 1, No. 1, March, 13 pp.
- Ubbelohde, S., C. Benton and J. McBride. 1986. "Experiencing Daylight." *Proceedings of the Annual Conference*, American Collegiate Schools of Architecture, New Orleans, Louisiana, March, 10 pp.

- Warren, M., C. Benton, S. Selkowitz et al. 1986. "Field Monitoring of Office Building Energy Consumption." Final Report to the Pacific Gas and Electric Company, LBL Project No. BG 83-42, February, 187 pp.
- Arens, E.; L. Berglund, and R. Gonzalez. 1986. "Thermal Comfort under an Extended Range of Environmental Conditions." *ASHRAE Transactions*, Vol. 92, Pt. 1, 8 pp.
- Bauman, F., W. Place, J. Thornton, and T.C. Howard. 1986. "An Integrating Window Pyranometer for Beam Daylighting Measurements in Scale-Model Buildings." *ASHRAE Transactions*, Vol. 92, Pt. 1, pp. 486-493; also Lawrence Berkeley Laboratory Report No. 19494, 13 pp.
- Arens, E., E. Lee, F. Bauman, and L. Flynn. 1985. "SITECLIMATE: A Program to Create Hourly Site-Specific Weather Data." *Proceedings*, ASHRAE/DOE/BTECC Conference on Thermal Performance of the Exterior Envelopes of Buildings III, Clearwater Beach, FL, 2-5 December, pp. 91-108.
- Barnaby, C.S, A. Gumerlock, C. Huizenga, R. Mitchell, and B.A. Wilcox. 1985. "The Effects of Thermal Mass Exterior Walls on Heating and Cooling Loads in Commercial Buildings." *Proceedings*, ASHRAE/DOE/BTECC Conference on Thermal Performance of the Exterior Envelopes of Buildings III, Clearwater Beach, FL, 2-5 December, pp. 1187-1224.
- Benton, C. 1985. "Experiential Exercises for Environmental Control System Courses." *Proceedings of the 10th National Passive Solar Conference*, American Solar Energy Society, Raleigh, North Carolina, October, pp. 188-193.
- Benton, C. 1985. "Daylighting Applications in the United States." *Proceedings of the NSF/INCERC Joint Romania-USA Seminar on Energy Use in Buildings*, Bucharest, Romania, September.
- Warren, M., C. Benton., S. Selkowitz et al. 1985. "Instrumentation for Evaluating Integrated Lighting System Performance." *Proceedings of the Field Data Acquisition for Building and Equipment Energy-Use Monitoring Workshop*, U.S. Department of Energy, Dallas, Texas, September, pp. 110-119.
- Bosselmann, P., E. Arens et al. 1984. "Sun, Wind and Comfort: A Study of Open Spaces and Sidewalks in Four Downtown Areas." Institute of Urban and Regional Development, University of California, Berkeley, December, 146 pp.
- Arens, E., and R. Pollock. 1984. "Boundary Layer Wind Tunnels: A Unique Tool for Planning and Design." *AEP Journal*, Vol. 10, No. 1, pp. 1-8.
- Schiller, G.E. 1984. "A Theoretical Convective-Transport Model of Indoor Radon Decay Products." Ph.D. Dissertation, Mechanical Engineering Department, University of California, Berkeley, July, 142 pp.
- Arens, E.; A. Blyholder, and G. Schiller. 1984. "Predicting Thermal Comfort of People in Naturally Ventilated Buildings." *ASHRAE Transactions*., Vol. 90, Pt. 1, 1984, 12 pp.
- Schiller, G., T. Nero, K. Revzan, and C.L. Tien. 1984. "Radon Decay-Product Behavior Indoors: Numerical Modeling of Convection Effects." *Proceedings*, Air Pollution Control Association Annual Meeting, San Francisco, California, January.
- Arens, E., et al. 1983. "Bioclimatic Chart." *Progressive Architecture*, April, p. 133.
- Bauman, F., A. Gadgil, R. Kammerud, E. Altmayer, and M. Nansteel. 1983. "Convective Heat Transfer in Buildings: Recent Research Results." *ASHRAE Transactions*, Vol. 89, Pt. 1A, pp. 215-233; also Lawrence Berkeley Laboratory Report No. 13883, 34 pp.
- Bauman, F., B. Andersson, W.L. Carroll, R. Kammerud, and N. Friedman. 1983. "Verification of BLAST by Comparison with Measurements of a Solar Dominated Test Cell and a Thermally Massive Building." *Journal of Solar Energy Engineering*, Vol. 105, pp. 207-216.

Arens, E. 1982. "On Considering Pedestrian Winds During Building Design." In *Wind Tunnel Modeling for Civil Engineering Application: Proceedings of the International Workshop on Wind Tunnel Modeling Criteria and Techniques in Civil Engineering Applications*. Gaithersburg, MD, April. Ed. T. Reinhold, Cambridge, England: Cambridge Univ. Press, pp. 8-26.

Arens, E. 1981. "Designing for an Acceptable Wind Environment." *Transportation Engineering Journal*, ASCE, Vol 107, No. TE 2, Proc. Paper 16132, March, pp. 127-141.

Nall, D., E. Arens and L. Flynn. 1981. "Abbreviation of Climate Data for Building Thermal Analysis Programs Using Representative Samples of Various Lengths." *ASHRAE Transactions*, Vol. 1, 1981, pp. 923-934.

Arens, E., R. Gonzalez, L. Berglund, P. McNall, and L. Zeren. 1980. "A New Bioclimatic Chart for Passive Solar Design." *Proceedings, 5th National Passive Solar Conference*, Amherst, MA, October 19-26, pp. 1202-1207.