
Thomas E. Bernard

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Professor

Department of Environmental and Occupational Health
(Chair from 11/03 to present; Professor from 8/95; Associate Professor from 4/89 to 8/95)

Education

Ph.D. in Occupational Health, University of Pittsburgh, Pittsburgh, PA (1975)
M.S. / B.S. in Mechanical Engineering, Carnegie Mellon University, Pittsburgh, PA (1972 / 70)

Major Activities

Heat Stress. Investigations on the effects of protective clothing on the level of heat stress, and on the benefits of personal cooling systems. Applications of alternative methods of heat stress evaluation in work environments based on heat balance analysis techniques and on assessment of physiological strain. Implementation of integrated programs of heat stress management. Development of a personal monitor for heat strain assessment.

Ergonomics. Development of ergonomics surveillance tool for MSDs. Promotion of a framework for analyzing short-cycle manufacturing jobs that systematically examines strength, fatigue and cumulative trauma. Implementation of job analysis tools to better match the needs of the users from personnel on the floor to engineers designing new jobs. Articulation of three methods to predict the metabolic demands of work.

Teaching. Graduate-level courses in industrial ergonomics, physical agents and controls in industrial hygiene, and safety engineering and administration. Contribute to classes in occupational health, environmental health and behavioral sciences. Supervise student research. Routinely instruct in professional development courses.

Recognition

Certified Safety Professional (20170, 5/08)
Certified Industrial Hygienist (6346, 7/94)
Certified Professional Ergonomist (088, 6/93)
Registered Professional Engineer (Pennsylvania PE-029166-E, 3/80)
Certified in Public Health (5567, 8/10)
Member, American Industrial Hygiene Association (AIHA)
Member, American Conference of Governmental Industrial Hygienists (ACGIH)
ACGIH Physical Agents TLV Committee (5/99, Vice Chair 2003-05, Chair 2006-08)
Board of Directors, *Journal of Occupational and Environmental Hygiene* (2009 – 2010)
Safety and Occupational Health Study Section, NIOSH (2000 – 2006; ad hoc to present)
NIOSH SBIR Special Emphasis Review Panel (2000 – 2006; ad hoc to present)
W. W. Clyde Chair, College of Engineering, University of Utah (Fall 2002)
USF Health Leadership Institute (2008)
USF President's Award for Faculty Excellence (2003)
USF College of Public Health Outstanding Teacher Award, 1993, 1996, 2003
Westinghouse Signature Award of Excellence, 1985 and 1987
3 patents and 1 patent disclosure

Previous Employment

Westinghouse Electric Corporation, Research and Development Center (1978 - 1989)

United States Bureau of Mines, Pittsburgh Research Center (1976 - 1978)

Pennsylvania State University (1974-1975)

University of Pittsburgh (1971-1974)

Publications (past 10 years)

Bernard, T. E., C. D. Ashley, J. D. Trentacosta, V. Kapur, S. M. Tew. Critical heat stress evaluation of clothing ensembles with different levels of porosity. *Ergonomics* 53(8): 1048-1058, DOI: 10.1080/00140139.2010.494736

Bernard, T. E., F. V. Wilder, M. Aluoch, P. E. Leaverton. Job-related osteoarthritis of the knee, foot, hand, and cervical spine. *Journal of Occupational and Environmental Medicine* 52:33-38, 2010

Bernard, T. E., C. D. Ashley. Short-term heat stress exposure limits based on wet bulb globe temperature adjusted for clothing and metabolic rate. *Journal of Occupational and Environmental Hygiene* 6:632-638, 2009.

Caravello, V, E. A. McCullough, C. D. Ashley, T. E. Bernard. Apparent evaporative resistance at critical conditions for five clothing ensembles. *European Journal of Applied Physiology* 104:361-367, 2008

Ashley, C. D., C. Luecke, S. Schwartz, M. Islam M, T. E. Bernard. Heat strain at the critical WBGT and the roles of clothing, metabolic rate and gender. *International Journal of Industrial Ergonomics* 38:640-644, 2008

Bernard, T. E., V. Caravello, S. W. Schwartz, C. D. Ashley. WBGT clothing adjustment factors for four clothing ensembles and the effects of metabolic demands. *Journal of Occupational and Environmental Hygiene* 5:1-5, 2008.

Ashley, C. D., T. E. Bernard. Effects of hoods and flame retardant fabrics on WBGT clothing adjustment factors. *Journal of Occupational and Environmental Hygiene* 5:59-62, 2008.

Gonzalez, N. W., T. E. Bernard, N. L. Carroll, M. A. Bryner, J. P. Zeigler. Maximum sustainable work rate for five protective clothing ensembles with respect to moisture vapor transmission rate and air permeability. *Journal of Occupational and Environmental Hygiene* 3:80-86, 2006

Drinkaus, P, R. Sesek, D. S. Bloswick, C. Mann, T. Bernard. Job level risk assessment using task level ACGIH hand activity TLV scores: A pilot study. *International Journal of Occupational Safety and Ergonomics* 11:263-281, 2005

Drinkaus, P, D. S. Bloswick, R. Sesek, C. Mann, T. Bernard. Job level risk assessment using task level Strain Index scores: A pilot study. *International Journal of Occupational Safety and Ergonomics* 11:141-152, 2005

Bernard, T. E., C. L. Luecke, S. W. Schwartz, K. S. Kirkland, C. D. Ashley. WBGT clothing adjustments for four clothing ensembles under three relative humidity levels. *Journal of Occupational and Environmental Hygiene* 2:251-256, 2005.

Fogleman, M., L. Fakhrzadeh, T. E. Bernard. The relationship between outdoor thermal conditions and acute injury in an aluminum smelter. *International Journal of Industrial Ergonomics* 35:47-55, 2005

Menzel, N. N., S. M. Brooks, T. E. Bernard, A. Nelson. The physical workload of nursing personnel: association with musculoskeletal discomfort. *International Journal of Nursing Studies* 41:859-867, 2004

Drinkaus, P., R. Sesek, D. Bloswick, T. Bernard, R. Walton, B. Joseph, G. Reeve, J. Hall-Counts. Comparison of ergonomic risk assessment outputs from Rapid Upper Limb Assessment and the Strain Index for tasks in automotive assembly plants. *Work* 21:165-172, 2003

Cortés-Vizcaino, C. and T. E. Bernard. Effects on heat stress of a flame-retardant ensemble for aluminum smelters. *American Industrial Hygiene Association Journal* 61:873-876, 2000.

Logan, P. W. and T. E. Bernard. Heat stress and strain in an aluminum smelter. *American Industrial Hygiene Association Journal* 60:659-665, 1999.

Bernard, T. E.. Heat stress and protective clothing: an emerging approach from the United States. *Annals of Occupational Hygiene* 43:321-327, 1999.

Barker, D. W., S. Kini and T. E. Bernard. Thermal characteristics of clothing ensembles for use in heat stress analysis. *American Industrial Hygiene Association Journal* 60:32-37, 1999

O'Connor, D. J. and T. E. Bernard. Continuing the search for WBGT clothing adjustment factors. *Applied Occupational and Environmental Hygiene* 14:119-125, 1999.

Bernard, T. E and M. Pourmoghani. Prediction of workplace WBGT. *Applied Occupational and Environmental Hygiene* 14:126-134, 1999.

Bernard, T. E and F. Matheen. Evaporative resistance and sustainable work under heat stress conditions for two cloth anticontamination ensembles. *International Journal of Industrial Ergonomics* 23:557-564, 1999.

Bernard, T. E and R. L. Cross. Heat stress management: Case study in an aluminum smelter. *International Journal of Industrial Ergonomics* 23:609-620, 1999.

Book Chapters

Bernard, T. E. Occupational Heat Stress. In Bhattacharya, A. and J. McGlothlin (eds), *Occupational Ergonomics*. 2nd ed. New York: xxx, 2011. <<submitted>>

Larrañaga, M. D. and T. E. Bernard. Heat Stress. In V. E. Rose and B. Cohrssen (ed), *Patty's Industrial Hygiene and Toxicology*, 6th ed., Vol. 3, New York: John Wiley and Sons, 2011.

S. N. Chengalur, S. H. Rodgers, T. E. Bernard (ed.). *Kodak's Ergonomic Design for People at Work*. New York: John Wiley, 2004.

Bernard, T. E. and F. N. Dukes-Dobos. Heat Stress. In Anna, D (ed), *Chemical Protective Clothing*, 2nd ed. Fairfax: AIHA Press, 2002.

Bernard, T. E. Thermal Stress. In Plog, B (ed), *Fundamentals in Industrial Hygiene*, 5th ed. Chicago: National Safety Council, 2002.

Bernard, T. E. Environmental Considerations: Heat and Cold. In Roitman, J. L. et al. (ed), *ACSM's Resource Manual for Guidelines for Exercise Testing and Prescription*, 4th ed., Baltimore: Williams & Wilkins, 2002.

Ramsey, J. D. and T. E. Bernard. Heat Stress. In Harris, R. E. (ed), *Patty's Industrial Hygiene and Toxicology*, 5th ed., New York: John Wiley and Sons, 2000.

Bernard, T. E. Occupational Heat Stress. In Bhattacharya, A. and J. McGlothlin (eds), *Occupational Ergonomics*. New York: Marcel Dekker, 1996.

Funded and Pending Research as Principal Investigator

Provided on request