

Susan M. Watkins
Professor Emeritus
Email: smw11@cornell.edu

Biographical Statement:

Susan Watkins joined the Cornell faculty in 1967. She taught flat pattern design and clothing construction in her early years at Cornell, but as the College moved from educating students to manage a family into preparing them for professions in the apparel industry, she began to introduce projects and develop courses in the more functional aspects of clothing. In 1984, she wrote the textbook, *Clothing: the Portable Environment*, the first textbook written to establish functional apparel design as an area of study in academia. She spent much of her time at Cornell establishing this area in various levels of the department curriculum and influencing its adoption across the country and around the world.

In her teaching, Professor Watkins worked to develop a multi-disciplinary problem-solving design process that would help students engage in apparel design from a comprehensive approach. In this process, heavy emphasis was placed on user needs, requiring designers to have a fuller understanding of the user, the activity and the environment before beginning to design. Her research focused on a wide range of functional apparel topics, including the design of chemically protective clothing, firefighting apparel, pressure garments for pilots, protective equipment for ice hockey, items of protective apparel for various branches of the military, clothing and accessories for nursing home residents, and braces for post-injury rehabilitation. As often as possible, both undergraduate and graduate students were involved in her research projects. Her former students have held jobs in the aerospace industry and at US Army and Navy research facilities. They have been head designers with major outdoor sportswear companies; lawyers specializing in product litigation; and designers of protective sports equipment. They have also formed private consulting firms, working on a wide variety of protective clothing items.

In addition to introducing functional clothing courses at a variety of different levels in the apparel curriculum, Professor Watkins also taught courses in flat pattern design and clothing construction, apparel textiles, clothing through the life cycle, drawing the clothed figure and research methods in apparel design.

Current activities:

After retirement, Professor Watkins established the consulting company, *Portable Environments, LLC*. She has worked on firefighting gear, chemical protection, military ensembles, ballistics protection for women, extreme cold weather gear for outdoor sportswear companies, among other projects. She has helped lawyers prepare cases involving personal injury and protective clothing, has written a number of encyclopedia entries about various aspects of functional

clothing and is a frequent reviewer of papers for professional journals and applications to government granting agencies.

Education:

M.S., 1967, Textiles and Clothing
B.S., 1965, Consumer Services in Business

Honors:

2014 Honorary Doctor of Science, University of Minnesota

2003 Biography in *Encyclopedia of Human Ecology* (Miller, J., Lerner, R., Schlumberg, L. and Anderson, P., eds., Santa Barbara: ABC-CLIO, Inc.) Volume 2, pp. 705-708.

2000 Mack and Effie Campbell Tyner Eminent Scholar Chair, Florida State University.

1991 Fellow, International Textile and Apparel Association

Selected publications:

Books:

Watkins, S. and Dunne, L., Functional Clothing Design: from Sportswear to Spacesuits. London: Bloomsbury Publishing. Forthcoming January, 2015.

Watkins, S., Clothing: The Portable Environment. Ames, Iowa: the Iowa State University Press, 1984, 1995. (both versions published also in Japanese and Korean)

Selected juried publications

Watkins,S, Wormser,L, Whitley, P and Forster,E. The design of arm pressure covers to alleviate pain in high G maneuvers. Aviation Space and Environmental Medicine, May,1998. Vol.69#5, pp. 461-467.

Ashdown, S. P. and Watkins, S. M., "Concurrent Engineering in the Design of Protective Clothing: Interfacing with Equipment Design," Performance of Protective Clothing: Fifth volume. ASTM STP 1237, James S. Johnson and S.Z. Mansdorf, Eds., American Society for Testing and Materials, Philadelphia, 1995.

Ashdown, S. and Watkins, S. "Movement Analysis as the Basis for the Development and Evaluation of a Protective Coverall Design for Asbestos Abatement." In James P. McBriarty and Norman W. Henry, Eds., Performance of Protective Clothing, 4th Volume, ASTM STP 1133. Philadelphia: ASTM, 1992.

Ashdown, S. and Watkins, S. "Analysis of Task-Related Movement of Asbestos Abatement Crews as a Basis for the Design of Protective Coveralls." ACPTC

Proceedings, 1990, p. 96.

Watkins, S.M. and Langan, Leonora, "Pressure of Menswear on the Neck in Relation to Visual Performance," Human Factors, 1987, 29(1): pp.67-71.

Watkins, S.M., "The Design and Development of Protective Equipment for Ice Hockey," Home Economics Research Journal, March, 1977, 5(3): pp.154-166.

Watkins, S.M., "Apparel/Product Systems for Coal Mining," Journal of Home Economics, January, 1977, 69(1), pp.24-27.

Selected non-juried publications

Watkins, S., Pillemer, K. and Gerner, J., "Apparel Approaches to Patient Safety and Autonomy: Alternatives to the Use of Restraints" in The Connection (newsletter of the Department of Human Development and Family Studies at Cornell University) fall, 1992.

"Designing Movement into Protective Apparel," in the Proceedings of the Second International High Performance Fabrics Conference. St. Paul, MN: Industrial Fabrics Association International, 1992, (pp. 118-132).

Sawicki, J., Mond, C., Schwope, A., and Watkins, S., "Limited-use Chemical Protective Clothing for EPA Superfund Activities," Environmental Protection Agency Project Summary, EPA/600/SR-92/014, Feb. 1992.

Gerner, J. and Watkins, S.M., "Responsibility for Product Safety: Legal and Ethical Issues." Human Ecology Forum, 1989, 17, (3): pp. 2-7.

Watkins, S.M., "Padding Against Injury." College Athletic Management, 1989, 1 (1) pp. 25-27.

Watkins, S.M., (1987) Stitchless Sewing: New Production Methods May Change the Apparel of the Future. Human Ecology Forum. 16 (2), pp. 9-12.

Watkins, S.M., "Body-Powered Clothing: Keeping Warm in Winter Cities," Proceedings of the Winter Cities Forum '86, Edmonton, Alberta: the Winter Cities Conference Corporation, 1986.

Watkins, S.M., "Clothing: the Portable Environment," Proceedings of the Annual Agricultural Outlook Conference, Washington, D.C.: USDA, December 3-5, 1984, pp.342-350.

Watkins, S.M., "An Apparel Designer Looks at the Fencing Jacket," American Fencing, January/February, 1975.