Occupational Health-2013

OMICS Group Conferences
Accelerating Scientific Discovery

2nd International Conference and Exhibition on
Occupational Health & Safety

May 21-22, 2013 DoubleTree by Hilton Beijing, China

Occupational safety and Sociotechnical systems: Using systems and ergonomics concepts to improve your program

Patrick Patterson

Texas Tech University, USA

Abstract

Most Sociotechnical systems, including those containing safety elements, stress the importance of understanding the human role which requires interrelating with other parts of a system in an optimum way. We are entering a time of increased need for strong occupational safety programs at all levels- nations, industries, and for the individual worker. The primary concern of a safety system continues to be dealing with identifying and controlling hazards through suitable analysis, design, and management. Some basic strategies will be necessary to support reaching these goals of safe, and productive, work environments. By looking at work environment improvement through the compound lenses of systems and ergonomics, we can better create foundational strength for both new and mature programs at all levels. Seven system and ergonomics concepts are offered as aids in achieving world-class occupational safety programs by accounting for human interactions within industrial systems. They are: build safety into products and processes; recognize tradeoffs; hazards transcend failures; user/employee ergonomics training; participatory ergonomics; people-centered design; and management commitment. Major challenges to safety programs in the future will, for example, include dealing with new forms of work systems and changing workforce demographics (e.g., increasing numbers of women, disabled, aged, and so forth). These will demand a fresh look to ensure our systems still provide a safe and productive work environment. In many parts of the world, we are already seeing these changes- and more; the need for improved safety programs is immediate.

Biography

Dr. Patrick Patterson received his Ph.D. from Texas A&M University in 1984. He is a professional engineer, a certified professional ergonomist, and a Fellow of the Institute of Industrial Engineers. Dr. Patterson has served as Chair of the Council of Industrial Engineering Academic Department Heads and as Chair of the Product Design Technical Group of the Human Factors and Ergonomics Society. His research and teaching interests include safety engineering, interaction design, cognitive ergonomics, and errors in complex systems. He has published over 75 articles, given more than 100 speeches, and presented more than 30 workshops, on these topics.