

Katia M. Costa-Black, PhD

Consultant at BSI EHS Services and Solutions & Adjunct Professor at New York University, Graduate Program in Ergonomics and Biomechanics



Katia's research and consulting practices reflect her passion for and extensive experience with system ergonomics and work retention and reintegration strategies. With a background in physical therapy and a formal education/training in industrial engineering/ergonomics, she has completed consulting assignments to support many organizations (from both the private and public sectors) in the implementation of different types of prevention programs – whether focused on injury prevention or managing illnesses/injuries and presenteeism in the workplace. In addition to her role as a consultant with BSI, she also teaches ergonomics at the Graduate Program in Ergonomics and Biomechanics, New York University. In a career spanning 20 years, she has collaborated with public and occupational health researchers and key stakeholders from around the globe and continues to be an active advocate for research-to-practice strategies that effectively reduce the burden of workplace injuries and work-limiting disabilities, as well as for supporting implementation of cutting-edge workplace strategies for healthier workplaces.

The value of “system-oriented ergonomics” in supporting healthy workplaces

There is compelling evidence that a preventive ergonomic program, well integrated into management systems and with a good employee engagement strategy, can be cost-effective and reduce the burden of workplace injuries. More promising yet are system-oriented ergonomic programs that offer a very ambitious framework for interpreting the influence of physical-environment characteristics on human performance and well-being. Despite widespread recognition of what ergonomics can offer in the realm of health and well-being in the workplace, much of what is known about the value of ergonomics is about the Return-On-Investment related to the operationalization of “safe working conditions” or injury prevention strategies. Outside this spectrum, the value of investment on optimizing task/job design and on participatory ergonomic programs is not well-known. This presentation imparts how a purposeful, participatory, and system-oriented approach to ergonomics can lead to various positive impacts beyond financial gains, mainly by focusing on improvements of socio-technical systems, optimum design of tasks/work/processes, and on proactively motivating people and organizations to embrace healthy working conditions and behavior. Issues such as psychosocial health in the workplace in relation to performance motivators, social-ethical value related to participatory ergonomics, and the social value of system engineering design will be discussed to depict the true value of ergonomics in the context of Total Worker Health.