Human Factors in the Real World: Contexts, Issues, and Applications

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Abstract: Human factors is a scientific field concerning how people interact with software, hardware, environmental features, and each other. This presentation offers information about our educational backgrounds and paths to applied human factors work, in addition to discussions about how we utilize our education, training, and experience in the applied realm. Our discussion covers both proactive safety work and reactive forensic work. The former focuses on using human performance principles to help control and mitigate safety risk. The latter focuses on applying the scientific literature, and sometimes empirical testing, to matters of litigation in the context of expert analysis and testimony. We encourage and look forward questions about our backgrounds, past and current work, Exponent as a potential place to have a fulfilling applied scientific and engineering career, and more!

Bio: Dr. Coelho is a human factors, safety, and risk management professional with experience in several industries, including aviation, aerospace, on-shore and off-shore oil and gas, chemical, marine, mining, construction, manufacturing, utilities, and rail. A cognitive neuroscientist whose research focuses on human motor control, he applies a uniquely interdisciplinary expertise in cognitive and physical behavior to issues such as warnings and labels, human error and reliability, decision making, safety in design, human-machine interfacing, and ergonomics. He addresses human performance in operations, maintenance, emergency, and consumer contexts. Dr. Coelho also provides expert analysis and testimony in cases involving premises liability, personal injury, and product liability, among others. Dr. Coelho earned his Ph.D. at Penn State and started his applied professional career as a human factors design engineer supporting the International Space Station Program at NASA Johnson Space Center.

Bio: Dr. LoVoi has expertise in human cognition, attention, and perception with an emphasis on color perception, attention, and signal detection and response. With a background in cognitive neuroscience, Dr. LoVoi has used a combination of behavioral measurements, electrophysiological recordings, and neuroimaging to examine cognitive and perceptual processes and how they shape behavior. Dr. LoVoi applies her expertise in perceptual and attentional processes to investigate how humans interact with products and the environment, including transportation accidents and slips, trips, and falls. Dr. LoVoi earned her Ph.D. in Psychology at The Graduate Center, CUNY with an emphasis in cognitive neuroscience.