



## Resilience of Human-machine Systems to Cope with Increasing Challenges from Disasters

Tuesday, January 19, 2021

12:00 – 1:00 PM

Zoom Meeting

<https://zoom.us/j/91555852258?pwd=SmxHQWp3aml0OGhGVjU1NUx0cWxkdz09>

Meeting ID: 915 5585 2258

Passcode: IMSE2021

**Abstract:** Threats from natural disasters, industrial incidents, and public health crises impose significant challenges to individuals and organizations. To better cope with these challenges, resilience, an ability to adjust performance to changes and disturbances, has emerged as a key factor of successful management of the disasters. This seminar presents research projects on resilience of incident management teams and human workers in oil and gas industries, and challenges to psychological resilience during the current COVID-19 pandemic. First, resilience of incident management teams is analyzed through two lenses of work-as-imagined and work-as-done. Second, this seminar presents human workers' interactions with operating procedures used in oil and gas industries, a representative example of work-as-imagined. Third, impacts of the COVID-19 pandemic on college students' mental health are also presented. Implications of the findings and plans for future efforts to enhance resilience of the human-machine systems are also discussed.

**Biography:** Changwon Son is a Ph.D. candidate in the Department of Industrial and Systems Engineering at Texas A&M University. Changwon obtained his master's degree in Safety Engineering at the Mary Kay O'Connor Process Safety Center, Texas A&M University, with a focus on human factors in chemical safety. Also, Changwon has seven years of professional experience as a safety engineer at Hyundai Heavy Industry, the world's largest shipbuilding company. His current research is focused on resilience engineering for human-machine systems such as disaster response, oil and gas, and healthcare.