

# CHANGWON SON

## *Curriculum Vitae*

Ph.D. Student, Graduate Research Assistant  
The Department of Industrial and Systems Engineering, Texas A&M University  
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## EDUCATION

- |              |   |               |
|--------------|---|---------------|
| <b>Ph.D.</b> | Industrial and System Engineering (Human & Organizational Systems)<br>Texas A&M University, College Station, Texas, USA<br>Dissertation (tentative): Human Factors Methods to enhance resilience of emergency operations.<br>Faculty Advisor: Dr. Farzan Sasangohar<br>Co-Advisor: Dr. S. Camille Peres | 2016 - (2020) |
| <b>M.S.</b>  | Safety Engineering, Artie McFerrin Department of Chemical Engineering<br>Texas A&M University, College Station, Texas, USA<br>Thesis: A Study of Safety Culture Assessment Framework and Its Application to Bayesian Belief Network Analysis.<br>Faculty Advisor: Dr. M. Sam Mannan<br>GPA: 3:8 / 4.0   | 2014 - 2016   |
| <b>B.S.</b>  | Industrial Engineering<br>Hanyang University, Seoul, South Korea<br>GPA: 3.5 / 4.0<br>* Non-Degree Exchange Student Program   | 2000 - 2007   |
|              | Mechanical Engineering<br>Pittsburg State University, Pittsburg, Kansas, USA<br>GPA: 3.9 / 4.0  | 2006 - 2007   |

## RESEARCH EXPERIENCES

**Research Graduate Assistant** August 2016 - Present

Applied Cognitive Ergonomics (ACE) Lab, Texas A&M University  
Faculty Advisor: Dr. Farzan Sasangohar, Department of Industrial and Systems Engineering  
Co-advisor: Dr. S. Camille Peres, School of Public Health

### Research Projects:

- Resilient Human Factors Engineering
  - Examines human factors and ergonomic method to make more resilient emergency operations using high-fidelity training program and facility.
- OESI (Ocean Energy Safety Institute) human factors and ergonomics research initiative.
  - Identifies research opportunities to improve offshore drilling and production industries.
  - Performs cooperative research effort on major offshore HFE issues.

**Research Graduate Assistant**

August 2014 - Present

Mary Kay O'Connor Process Safety Center, Texas A&M University  
 Faculty Advisor: Dr. M. Sam Mannan

**Research Project:**

- **Thesis:** Safety culture assessment framework and its application to Bayesian Belief Network analysis.

**Engineering Co-op**

June – December 2016

Baker Engineering and Risk Consultants  
 Mentor: Dr. Devin Averett

**Research Project:**

- Binary Interaction Parameter (BIP) regression to improve vapor-liquid equilibrium of polar mixtures.

**PUBLICATIONS****Conference Proceedings**

1. **Son, C.,** Halim, S.Z., Koirala, Y. and Mannan, M.S. (2017). Impact of Redefining the Engineering Design Cycle to Incorporate Human Factors and Ergonomics and The Business Case for Industry Change. IChemE Hazards XXVII. (in progress).

**Posters / Presentations**

1. **Son, C.,** Marengo-Ramirez, C. and Mannan, M.S. (2016). Safety culture assessment framework and its application to a Bayesian Belief Network analysis. Inaugural Texas A&M Conference on Energy. College Station, TX. September 27, 2016.  
**Winner of the ‘Best Poster Presentation Award’**
2. **Son, C.,** Sasangohar, F., Peres, S.K. (2017). Towards More Resilient Performance of Emergency Department. Poster Presentation at HFES 2017 International Symposium on Human Factors and Ergonomics in Healthcare. New Orleans, LA. (accepted).

**AWARDS AND SCHOLARSHIPS**

<b>Best Poster Presentation Award</b> , Inaugural Texas A&M Conference on Energy	2016
<b>Award of Excellence Performance</b> from Hoegh LNG AS	2014
<b>Safety Excellence Award</b> from Brunei Gas Carriers	2013
<b>Safety Excellence Award</b> from Eni Norge AS	2010
<b>Dean’s Scholastic Honors</b> , Pittsburg State University	Spring, 2007
<b>All A Scholastic Honors</b> , Pittsburg State University	Fall 2006
<b>Scholarship of Academic Excellence</b> , Honor, Hanyang University	Fall 2005
<b>Scholarship of Academic Excellence</b> , Top, Hanyang University	Spring 2005

**PROFESSIONAL CERTIFICATES AND MEMBERSHIPS****Certifications**

UK NEBOSH International General Certificate (No.: 00109476/293242) 2011  
Korean Industrial Safety Engineer (No.: 09203090024W) 2010

### Memberships

Human Factors and Ergonomic Society (HFES), Student Member 2016 – Present  
HFES Texas A&M University Student Chapter, Member 2016 – Present

## LEADERSHIP AND SERVICES

**President**, Hyundai Heavy Industries English Conversation Club 2010 – 2014  
**President**, Korean Student Association, Pittsburg State University Spring 2007  
**President**, Seoul Pine Tree Club (Intercollegiate English Conversation Club) Fall 2004  
**Infant Sergeant**, Brigade 103, Korean Army Oct 2001 – Dec 2003

## EMPLOYMENT HISTORY

### Employment

**Hyundai Heavy Industries**, Ulsan, South Korea January 2008 – August 2014

- HSE Manager in Shipbuilding Safety Department
  - Served in multiple ship/offshore facility construction projects.
  - Investigated major fatality and high consequence events using root cause analysis.
  - Developed computer-aided safety systems: e-Permit-to-work, GPS-based Crane Collision Prevention System.
  - Formed a corporate safety climate questionnaire and conducted survey.
  - Led safety audit to subcontractors and vendors based on OHSAS 18001.

**Baker Engineering and Risk Consultants**, Houston, TX, USA June 2015 – December 2015

- Process safety engineering co-op
  - Conducted facility siting studies (FSS) and quantitative risk analyses (QRA).