

CHANGWON SON

Assistant Professor
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Texas Tech University
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EDUCATION

- 2016-2021 **Ph.D., Industrial Engineering**
Wm Michael Barnes '66 Department of Industrial and Systems Engineering
Texas A&M University, College Station, TX
Dissertation: 'A multifaceted approach to understanding resilience of incident management teams'
Faculty Advisors: Farzan Sasangohar and S. Camille Peres
- 2014-2016 **M.Sc., Safety Engineering**
Mary Kay O'Connor Process Safety Center, Department of Chemical Engineering
Texas A&M University, College Station, TX
Thesis: 'A Study of Safety Culture Assessment Framework for Process Industries and Its Application to a Bayesian Belief Network Analysis'
Faculty Advisor: M. Sam Mannan
- 2000-2008 **B.Sc., Industrial Engineering**
Hanyang University, Seoul, South Korea
- 2005-2006 **Exchange Student, Mechanical Engineering**
Pittsburg State University, Pittsburg, KS

ACADEMIC POSITIONS

- 2021-Present **Assistant Professor**, Department of Industrial, Manufacturing, & Systems Engineering
Texas Tech University (TTU), Lubbock, TX
- 2021-Present **Director**, Safety, Human factors, And Resilience Engineering (SHARE) Lab, TTU
(<https://www.thesharelab.org>)
- 2016-2021 **Research Assistant**, Wm Michael Barnes '64 Department of Industrial and Systems Engineering, Texas A&M University (TAMU), College Station, TX
- 2014-2021 **Research Assistant**, Mary Kay O'Connor Process Safety Center, TAMU, College Station, TX

AWARDS, HONORS, & FELLOWSHIPS

- 2022 **Early-Career Research Fellowship**, National Academies of Sciences, Engineering, and Medicine (NASEM) Gulf Research Program (GRP) Offshore Energy Safety Track

- 2020 **Outstanding PhD Student Award**, Industrial and Systems Engineering Department, TAMU
- 2020 **National Ergonomics Month Best Educational Resource for K-12**, Human Factors and Ergonomics Society (HFES)
- 2020 **Student Member with Honors**, HFES
- 2020 **Council of Technical Group Student Presenter Award**, the 64th HFES Annual Meeting
- 2020 **Emerging Leader**, HFES
- 2019 **Best Student Paper**, the 63rd HFES Annual Meeting Safety Technical Group
- 2019 **Student Presentation Competition Winner**, the 2019 Resilience Week
- 2018 **Graduate Student Research and Presentation Travel Award**, TAMU
- 2018 **Outstanding Graduate Student Service Award**, Industrial and Systems Engineering Department, TAMU
- 2018 **Texas Safety Foundation Steve Halliburton HSE Scholarship**, American Society of Safety Engineers
- 2017 **Young Talent**, Resilience Engineering Association
- 2016 **Best Poster Presentation Award**, Inaugural Texas A&M Conference on Energy
- 2014 **Award of Excellence Performance**, Hoegh LNG Carriers Project
- 2013 **Safety Excellence Award**, Brunei Gas LNG Carriers Project
- 2010 **Safety Excellence Award**, Eni Norge Goliath FPSO Project
- 2007 **Dean's Scholastic Honors**, Pittsburg State University
- 2006 **All A Scholastic Honors**, Pittsburg State University
- 2005 **Scholarship of Academic Excellence, Honor**, Hanyang University
- 2005 **Scholarship of Academic Excellence, Top**, Hanyang University

FUNDING

Research Grants and Contracts

- 2022-2023 Source: **US Department of Transportation (DOT)**
 Title: Center for Next Generation Convergent Transportation Safety (C-NGCTS)
 Amount: **\$40,273 (pending)**
 Role: **Co-PI** (Center PI: Venky Shankar)
- 2023-2025 Source: **National Science Foundation, Disaster Resilience Research Grant (DRRG)**
 Title: A Hierarchical Common Operating Picture during Wildland-Urban Interface Fires based on Cognitive Systems Approaches
 Amount: **\$202,315 (pending)**
 Role: **Principal Investigator**
- 2022-2024 Source: **National Academies of Science, Engineering, and Medicine (NASEM) Gulf Research Program (GRP)**
 Title: Supporting Hispanic Adolescents' Resilience in Mental Health through Tele-counseling and Virtual Reality
 Amount: **\$998,504 (not funded)**
 Role: **Project Director** (PIs: Pina-Watson, B., Dodd, S. L. and Cho, S.)

- 2018-2019 Source: **Texas Sea Grant**, Grants-In-Aid of Graduate Research Program
 Title: Identifying Sources of Resilience in a Large-scale Disaster Management through Dynamic Team Interaction
 Amount: **\$1,950 (funded)**
 Role: **Principal Investigator**
- 2017-2018 Source: **Aggies Commit Research Grant**, Office of Graduate and Professional Studies, TAMU
 Title: Resilient Performance of Incident Responders during Hurricane Harvey
 Amount: **\$1,400 (funded)**
 Role: **Principal Investigator**

Other Supports

- 2022-2023 Source: **Early-Career Research Fellowship, Offshore Energy Safety Track, Gulf Research Program, NASEM**
 Amount: **\$75,000 (funded)**
 Role: Research Fellow

PUBLICATIONS

(SHARE Lab member in bold; †=advised by Son; ‡=co-advised by Son; *=corresponding author)

Refereed Journal Articles (accepted or published)

- [J.09] Wang, X., Hegde, S., **Son, C.**, Keller, B., Smith, A., & Sasangohar, F.* (2020). Investigating Mental Health of US College Students During the COVID-19 Pandemic: Cross-Sectional Survey Study. *Journal of Medical Internet Research*, 22(9), e22817. DOI: 10.2196/22817
- [J.08] **Son, C.**, Hegde, S., Smith, A., Wang, X., & Sasangohar, F.* (2020). Effects of COVID-19 on College Students Mental Health in the US: An Interview-survey Study. *Journal of Medical Internet Research*, 22(9), e21279. DOI: 10.2196/21279
- [J.07] Moon, J. Sasangohar, F.*, **Son, C.**, & Peres, S. C. (2020). Cognition in Crisis Management Teams: An Integrative Analysis of Definitions. *Ergonomics*, 63(10), 1240-1256. DOI: 10.1080/00140139.2020.1781936
- [J.06] **Son, C.**, Sasangohar, F.*, Peres, S. C., & Moon, J. (2020). Muddling through troubled water: resilient performance of incident management teams during Hurricane Harvey. *Ergonomics*, 63(6), 643-659. DOI: 10.1080/00140139.2020.1752820
- [J.05] **Son, C.**, Larsen, E. P., Sasangohar, F.*, & Peres, S. C. (2020). Opportunities and challenges for resilient hospital incident management: Case study of a hospital's response to Hurricane Harvey. *Journal of Critical Infrastructure Policy*, 1(1), 81-104. DOI: 10.18278/jcip.1.1.7
- [J.04] **Son, C.**, Sasangohar, F.*, Peres, S. C., Neville, T. J., & Moon, J. (2020). Investigating Resilience in Emergency Management: An Integrative Review of Literature. *Applied Ergonomics*, 87, 103114. DOI: 10.1016/j.apergo.2020.103114
- [J.03] **Son, C.**, Sasangohar, F.*, Peres, S. C., Neville, T. J., & Moon, J. (2020). Evaluation of Work-as-Done in Information Management of Multidisciplinary Incident Management Team via Interaction Episode Analysis. *Applied Ergonomics*, 84, 103031. DOI: 10.1016/j.apergo.2019.103031.
- [J.02] **Son, C.**, Sasangohar, F.*, Rao, A., & Larsen, E. P. (2019). Resilient Performance of Emergency Department: Patterns, Models and Strategies. *Safety Science*, 120, 362-373. DOI: 10.1016/j.ssci.2019.07.010.

- [J.01] **Son, C.**, Sasangohar, F.*, Peres, S. C., Neville, T. J., Moon, J., & Mannan, M. S. (2018). Modeling an Incident Management Team as a Joint Cognitive System. *Journal of Loss Prevention in the Process Industries*, 56, 231-241. DOI: 10.1016/j.jlp.2018.07.021.

Manuscripts in progress (in preparation, under review, or in revision)

- [M.06] **Son, C.**, Sasangohar, F.*, Peres, S. C., & Moon, J. (in revision). Analyzing work-as-imagined and work-as-done of incident management teams using Interaction Episode Analysis. *Theoretical Issues in Ergonomics Science*.
- [M.05] **Son, C.**, Hegde, S., Markert, C., Zahed, K., Sadeghi, M., & Sasangohar, F.* (under review). Use of a Mobile Biofeedback Application to Provide Health Coaching for Stress Self-Management: Findings from a Pilot Quasi-Experiment. *JMIR Formative Research*.
- [M.04] Moon, J., Sasangohar, F.*, Peres, S. C., **Son, C.** (in revision). Naturalistic observations of multiteam interaction networks: Implications for cognition in crisis management teams, *Ergonomics*.
- [M.03] **Dos Santos, V. M.†***, de Carvalho, P. V. R., Burns, C., **Son, C.**, Vidal, M. C. R., & Jatoba, A. (under review). Assessing the potential of health systems for resilient performance: a case study in patient referral prioritization, *PLoS ONE*.
- [M.02] **Son, C.*** (under 2nd review). Disaster Ergonomics: A Human Factors Approach to Address Escalating Challenges from Disasters, *Cognition, Technology, & Work*.
- [M.01] **Son, C.*** (in preparation). New Cups for New Wine: a novel framework to measure procedural task performance based on Safety-II principles, *Theoretical Issues in Ergonomics Science*.

Peer-reviewed Papers in Conference Proceedings

- [C.18] Markert, C., Zahed, K., Sasangohar, F., Hegde, S., & **Son, C.** (2022). Using a Mobile Biofeedback Application to Provide Health Coaching for Stress Self-Management: A Pilot Study. *Proceedings of the 66th Human Factors and Ergonomics Society Annual Meeting*.
- [C.17] **Dos Santos, V. M.†** & **Son, C.*** (2022). Virtual Reality Team Simulation for Emergency Management Research—A Literature Review. *Proceedings of the 66th Human Factors and Ergonomics Society Annual Meeting*.
- [C.16] Ashraf, A., **Son, C.**, Peres, S. C., & Sasangohar, F. (2021). Navigating operating procedures in everyday work in a petrochemical facility: A comparative analysis of WAI and WAD. *Proceedings of the 65th Human Factors and Ergonomics Society Annual Meeting*, 65(1), 623-627. DOI: 10.1177/1071181321651210
- [C.15] **Son, C.**, Sasangohar, F., Peres, S. C., & Moon, J. (2020). Designing an emergency management simulation testbed to investigate incident management team performance. *Proceedings of the 64th Human Factors and Ergonomics Society Annual Meeting*, 64(1), 1881-1885. DOI: 10.1177/1071181320641453
- [C.14] **Son, C.**, Peres, S. C., & Sasangohar, F. (2020). Developing a novel operator performance measure for procedural tasks based on Safety-II perspective. *Proceedings of the 64th Human Factors and Ergonomics Society Annual Meeting*, 64(1), 1755-1759. DOI: 10.1177/1071181320641425
- [C.13] Moon, J., Sasangohar, F., Peres, S. C., & **Son, C.** (2020). Interactive Team Cognition in Incident Action Planning: A Network Approach to Assess Work-As-Done Within and Between Multidisciplinary Crisis Management Teams. *Proceedings of the 64th Human Factors and Ergonomics Society Annual Meeting*, 64(1), 861-862. DOI: 10.1177/1071181320641199
- [C.12] Hegde, S., Zahed, K., **Son, C.**, Markert, C., & Sasangohar F. (2020). Facilitating the Practice of Biofeedback Via Mobile Applications and Wearable Devices for Self-Management of Mental

- Health. *Proceedings of the 64th Human Factors and Ergonomics Society Annual Meeting*, 64(1), 1491-1492. DOI: 10.1177/1071181320641356
- [C.11] Mendonza, A. M., Liu, S. C., Dumlao, S. V., Hendricks, J. W., **Son, C.**, Sasangohar, F., & Peres, S. C. (2020). Where Two Ends Meet: Operator and Stakeholder Perceptions of Procedures. *Proceedings of the 64th Human Factors and Ergonomics Society Annual Meeting*, 64(1), 1350-1354. DOI: 10.1177/1071181320641322
- [C.10] **Son, C.**, Peres, S. C., & Ade, N. (2019). Reflecting Abstraction Hierarchy of a Chemical Processing System on Standard Operating Procedures. *Proceedings of the 63rd Human Factors and Ergonomics Society Annual Meeting*, 63(1), 1806-1810. DOI: 10.1177/1071181319631400 (**Best Student Paper, HFES Safety Technical Group**)
- [C.09] **Son, C.**, Sasangohar, F., Peres, S. C., & Moon, J. (2019). Orchestrating through Whirlwind: Identified Challenges and Resilience Factors of Incident Management Teams during Hurricane Harvey. *Proceedings of the 63rd Human Factors and Ergonomics Society Annual Meeting*, 63(1), 899-903. DOI: 10.1177/1071181319631265
- [C.08] Moon, J., Sasangohar, F., Peres, S. C., Neville, T. J., & **Son, C.** (2019). Investigating Incident Management Teams as Cognitive Systems of Systems via Network Analysis of Real Time Interactions. *Proceedings of the 63rd Human Factors and Ergonomics Society Annual Meeting*, 63(1), 1955-1956. DOI: 10.1177/1071181319631263
- [C.07] **Son, C.**, Peres, S. C., Ade, N., & Sasangohar, F. (2019). A Dilemma on Procedure Compliance: Reflection of Ecological Approach on Standard Operating Procedures. *Proceedings of 2019 Mary Kay O'Connor Process Safety Center International Symposium*.
- [C.06] Neville, T. J., Peres, S. C., Ade, N., **Son, C.**, Bagaria, P., Quddus, N., & Mannan, M. S. (2018). Assessing Procedure Adherence Under Training Conditions in High Risk Industrial Operations. *Proceedings of the 62nd Human Factors and Ergonomics Society Annual Meeting*, 62(1), 1604–1604. DOI: 10.1177/1541931218621362
- [C.05] Moon, J., Sasangohar, F., Peres, S. C., Neville, T. J., & **Son, C.** (2018). Modeling Team Cognition in Emergency Response via Naturalistic Observation of Team Interactions. *Proceedings of the 62nd Human Factors and Ergonomics Society Annual Meeting*, 62(1), 1801-1802. DOI: 10.1177/1541931218621408
- [C.04] **Son, C.**, Sasangohar, F., Peres, S. C., & Mannan, M. S. (2018). An Episode as a Trace of Resilient Performance in Large-Scale Incident Management Systems. *Proceedings of the 62nd Human Factors and Ergonomics Society Annual Meeting*, 62(1), 787–787. DOI: 10.1177/1541931218621178
- [C.03] **Son, C.**, Moon, J., Sasangohar, F., & Peres, S. C. (2018). An Episode as a Trace of Resilient Performance in Multi-Agency Incident Management Systems. *Proceedings of the 15th International Conference on Information Systems for Crisis Response and Management*, 942-948.
- [C.02] **Son, C.**, Sasangohar, F., & Peres, S. C. (2017). Redefining and Measuring Resilience in Emergency Management Systems. *Proceedings of the Human Factors and Ergonomics Society Annual Meeting*, 61(1), 1651–1652. DOI: 10.1177/1541931213601899
- [C.01] **Son, C.**, Halim, S. Z., Koirala, Y., & Mannan, M. S. (2017). Incorporating Human Factors Engineering Methods in the System Life Cycle of Offshore Oil and Gas Industries. *Proceedings of Institution of Chemical Engineers Symposium Series: Hazards 27*, 162.

PRESENTATIONS (presenter underlined)

Conference Presentations

- [P.32] **Son, C.** (2022, October). Exploring a new opportunity for making a safer future plant: a smart procedure system based on Industry 4.0. *Oral presentation at 2022 Mary Kay O'Connor Safety & Risk Conference*, College Station, TX.
- [P.31] **Peres, S. C.**, Zahabi, M., Sasangohar, F., Murphy, R., **Son, C.**, Hendricks, J., Ashraf, A., Aguilar Reyes, C. I., & Jei, A. (2022, March). Adaptive Procedures: Adjusting and accommodating changing conditions, worker states, and task attributes. *Poster presentation at the 25th Annual 2022 Applied Ergonomics Conference*, Orlando, FL.
- [P.30] **Dos Santos, V. M.†**, De Carvalho, P. V. R., Burns, C., Vidal, M. C. R., **Son, C.**, & Jatoba, A. (2022, March). A Framework to Assess Resilience in Health Care Patient Prioritization. *Poster presentation at 2022 International Symposium on Human Factors and Ergonomics in Health Care*, New Orleans, LA.
- [P.29] **Son, C.** (2021, October). Disaster Ergonomics: Growing threats from disasters and increasing needs for a human factors approach. *Oral presentation at 2021 Mary Kay O'Connor Process Safety Symposium*, College Station, TX
- [P.28] **Wang, X.**, **Son, C.**, Sasangohar, F., & Moon, J. (2021, July). Lessons Learned from Teaching Various Industrial Engineering Courses During the COVID-19 Pandemic. *Oral presentation at 2021 American Society for Engineering Education Annual Conference & Exposition* (virtual).
- [P.27] **Son, C.**, Sasangohar, F., & Peres, S. C. (2021, June). Qualitative and quantitative analysis of work-as-imagined and work-as-done of incident management teams using interaction episodes. *Oral presentation at the 21st Triennial Congress of the International Ergonomics Association* (virtual).
- [P.26] **Quddus, N.**, **Son, C.**, Halim, S. Z., & Behie, S. (2021, April). Practical Approaches for Integrating Pandemic Preparedness and Response into Business Continuity and Risk Management Planning of Critical Infrastructure Operations. *Oral presentation at 2021 American Institute of Chemical Engineers Annual Meeting* (virtual).
- [P.25] **Son, C.**, Peres, S. C., & Sasangohar, F. (2020, October). Developing a Novel Operator Performance Measure for Procedural Tasks Based on Safety-II Perspective. *Oral presentation at the 64th Human Factors and Ergonomics Society Annual Meeting* (virtual).
- [P.24] **Son, C.**, Sasangohar, F., & Peres, S. C. (2020, October). Designing an Emergency Management Simulation Testbed to Investigate Incident Management Team Performance. *Oral presentation at the 64th Human Factors and Ergonomics Society Annual Meeting* (virtual).
- [P.23] **Son, C.**, Peres, S. C., & Sasangohar, F. (2020, October). Two Views of Evaluating Procedural Task Performance:
A Transition from Safety-I to Safety-II Approach. *Oral presentation at the 2020 Mary Kay O'Connor Process Safety Symposium*, (virtual).
- [P.22] **Son, C.**, Peres, S. C., & Sasangohar, F. (2020, August). New Wine in New Cups: Measuring Operator Performance for Safety-II Perspective. *Poster presented at the 16th Global Congress on Process Safety* (virtual).
- [P.21] **Son, C.**, Larsen, E. P., & Sasangohar, F. (2020, May). A Safety-II Perspective towards Hospital Incident Management during Hurricane Harvey. *Poster presentation at the 2020 International Symposium on Human Factors and Ergonomics in Health Care* (virtual).
- [P.20] **Son, C.**, Sasangohar, F., Peres, S. C., & Moon, J. (2020, February). Characteristics of resilient incident management teams during an extreme event: A case study of Hurricane Harvey. *Poster presented at the 2nd Texas Disaster Management Symposium*, College Station, TX.
- [P.19] **Son, C.**, Sasangohar, F., Peres, S. C., & Moon, J. (2019, November). Resilience Traits of Incident Management Teams During Hurricane Harvey: A Qualitative Analysis from a Joint Cognitive Systems Perspective. *Oral presentation at 2019 Resilience Week*, San Antonio, TX. **(Winner of the Student Competition)**

- [P.18] **Son, C.**, Sasangohar, F., Peres, S. C., & Moon, J. (2019, October). Orchestrating through Whirlwind: Resilience Factors of Incident Management Teams during Hurricane Harvey. *Oral presentation at the 63rd Human Factors and Ergonomics Society Annual Meeting*, Seattle, WA.
- [P.17] **Son, C.**, Peres, S. C., & Ade, N. (2019, October). Reflecting Abstraction Hierarchy of a Chemical Processing System on Standard Operating Procedures. *Oral presentation at the 63rd Human Factors and Ergonomics Society Annual Meeting*, Seattle, WA.
- [P.16] **Moon, J.**, Sasangohar, F., Peres, S. C., Neville, T. J., & **Son, C.** (2019, October). Investigating Incident Management Teams as Cognitive Systems of Systems via Network Analysis of Real Time Interactions. *Oral presentation at the 63rd Human Factors and Ergonomics Society Annual Meeting*, Seattle, WA.
- [P.15] **Son, C.**, Sasangohar, F., Peres, S. C., & Moon, J. (2019, September). Resilience Functions of Incident Management Teams during Hurricane Harvey: A Qualitative Study. *Oral presentation at 2019 Resilience Rising Symposium of Hazard Reduction & Recovery Center*, College Station, TX.
- [P.14] **Son, C.**, Ade, N., Peres, S. C., & Neville, T. J. (2019, April). Analyzing Standard Operating Procedures using Abstraction Hierarchy: Implications for Designing Procedures. *Poster presented at the 15th Global Congress on Process Safety*, New Orleans, LA.
- [P.13] **Son, C.**, Larsen, E. P., & Sasangohar, F. (2019, April). A Comparison Between Government and Hospital Incident Management Teams during Hurricane Harvey. *Poster presented at the 15th Southwest Regional (Houston) Human Factors and Ergonomics Society Annual Symposium*, Houston, TX.
- [P.12] **Son, C.**, Sasangohar, F., Peres, S. C., & Moon, J. (2019, April). Resilience Factors of Incident Management Teams during Hurricane Harvey. *Poster presented at the 15th Southwest Regional (Houston) Human Factors and Ergonomics Society Annual Symposium*, Houston, TX.
- [P.11] **Son, C.**, Sasangohar, F., Peres, S. C., Moon, J., Neville, T. J., & Larsen, E. P. (2019, March). Same Disaster, Different Response: A Comparison Between Government and Hospital Incident Management Teams during Hurricane Harvey. *Poster presented at the 2019 International Symposium on Human Factors and Ergonomics in Health Care*, Chicago, IL.
- [P.10] **Son, C.**, Sasangohar, F., Peres, S. C., & Neville, T. J. (2018, October). Representing ‘Work-As-Done (WAD)’ of Communication and Information Flow in an Incident Management Team. *Oral presentation at the 2018 MKOPSC International Symposium*, College Station, TX.
- [P.09] **Son, C.**, Sasangohar, F., Peres, S. C., Moon, J., & Neville, T. J. (2018, September). An Interaction-based Episode as ‘Work-As-Done’ in a Multidisciplinary Incident Management Team: A Trace of Resilient Performance. *Oral presentation at the 62nd Human Factors and Ergonomics Society Annual Meeting*, Philadelphia, PA.
- [P.08] **Son, C.**, Sasangohar, F., Peres, S. C., Moon, J., & Neville, T. J. (2018, April). Representing Work-As-Done (WAD) of Communication and Information Flow in an Incident Management Team. *Poster presented at the 14th Southwest Regional (Houston) Human Factors and Ergonomics Society Annual Symposium*, Houston, TX.
- [P.07] **Moon, J.**, **Son, C.**, Sasangohar, F., Peres, S. C., & Neville, T. J. (2018, April). Modeling team cognition for coordinated decision-making in emergency response via naturalistic observation of interactions. *Poster presented at the 14th Southwest Regional (Houston) Human Factors and Ergonomics Society Annual Symposium*, Houston, Texas.
- [P.06] **Son, C.**, Moon, J., Sasangohar, F., Peres, S. C., & Mannan, M. S. (2018, March). Extracting Episodes as a Trace of Resilient Performance of Multi-Agency Incident Management Systems. *Poster presented at the 2018 International Symposium on Human Factors and Ergonomics in Healthcare*, Boston, MA.

- [P.05] **Son, C.**, Peres, S. C., & Sasangohar, F. (2017, October). Conceptualizing Multiagency Emergency Management Systems. *Oral presentation at the 20th MKOPSC International Symposium*, College Station, TX.
- [P.04] **Son, C.**, Peres, S. C., & Sasangohar, F. (2017, October). Defining and Measuring Resilience in Emergency Management Systems. *Oral presentation at the 61st Human Factors and Ergonomics Society Annual Meeting*, Austin, TX.
- [P.03] **Son, C.**, Sasangohar, F., & Peres, S. C. (2017, June). Cognitive basis for defining and measuring resilience of emergency management systems. *Poster presented at the 13th Southwest Regional (Houston) Human Factors and Ergonomics Society Annual Symposium*, San Antonio, TX.
- [P.02] **Son, C.**, Bernat, M., & Sasangohar, F. (2017, March). Towards More Resilient Performance of Emergency Department. *Poster presented at the 2017 International Symposium on Human Factors and Ergonomics in Health Care*, New Orleans, LA.
- [P.01] **Son, C.**, Marengo-Ramirez, C., & Mannan, M. S. (2016, September). Safety culture assessment framework and its application to a Bayesian Belief Network analysis. *Poster presented at the Inaugural Texas A&M Conference on Energy*, College Station, TX. (**Winner of the Best Poster Presentation Award**)

Invited Talks/Colloquia

- [T.06] **Son, C.** (2022, Apr 8). New cups for new wine – designing an adaptive operating procedure based on a new safety paradigm. *Invited research talk at Wichita State University Human Factors Psychology Department* (virtual).
- [T.05] **Son, C.** (2021, May 28). A New Wine Has Aged and We Need New Cups to Measure it: A Novel Framework to Measure Procedural Task Performance Based on Safety-II Perspective. *Invited webinar at the Next Generation Advanced Procedures (NGAP) Consortium Webinar Series*.
- [T.04] **Son, C.** (2020, Oct 31). A novel approach toward analyzing work-as-imagined and work-as-done of an incident management team's information management activity. *2020 Institute of Industrial and Systems Engineers (IISE) Doctoral Colloquium* (virtual).
- [T.03] **Son, C.** (2019, Nov 7). A systems approach towards the procedure performance: the promise of abstraction hierarchy. *Invited webinar at the Next Generation Advanced Procedures (NGAP) Consortium Webinar Series*.
- [T.02] **Son, C.** (2019, Feb 28). Resilience in Emergency Management: A New Perspective on Safety of Complex Systems. *Invited presentation at Texas Chemical Council Process Safety Committee Meeting*, Pasadena, TX.
- [T.01] **Son, C.** (2015, Mar 12). Case Study: 2013 High-density Polyethylene Storage Silo Explosion Yeosu, South Korea. *Invited presentation at Mary Kay O'Connor Process Safety Center Steering Committee Meeting*, Houston, TX.

MEDIA COVERAGE & FEATURES

- Ramsey, A. (2022). Engineering Faculty Member Named an Early-Career Research Fellow. **Texas Tech Today**, January 24, 2022. URL: <https://today.ttu.edu/posts/2022/01/Stories/Engineering-Faculty-Member-Named-an-Early-Career-Research-Fellow>
- KCBD (2022). TTU faculty member recognized by the National Academies' Gulf Research Program. **KCBD**, January 24, 2022. URL: <https://www.kcbd.com/2022/01/24/ttu-faculty-member-recognized-by-national-academies-gulf-research-program/>

3. Lubbock Avalanche-Journal. Texas Tech engineering faculty member named Early-Career Research Fellow. **Lubbock Avalanche-Journal**, January 27, 2022. URL: <https://www.lubbockonline.com/story/news/education/2022/01/27/texas-tech-engineering-faculty-member-named-early-career-research-fellow/9202286002/>

TEACHING EXPERIENCE

Texas Tech University

Instructor

- Fall, 2022 IE 5305, Cognitive Engineering (15 students)
IE 5305 Distance Section, Cognitive Engineering (8 students)
- Spring, 2022 IE 4306, Advanced Systems Safety Engineering (student evaluation: **4.90/5.0**, 34 students)
IE 5306, Advanced Systems Safety Engineering (student evaluation: **4.73/5.0**, 27 students)
IE 5306 Distance Section, Advanced Systems Safety Engineering (student evaluation: **4.88/5.0**, 23 students)

Texas A&M University

Instructor

- Fall, 2020 ISEN 302, Economic Analysis of Engineering Projects (88 students)

Teaching Certificates

- 2020 Center for the Integration of Research, Teaching, & Learning (CIRTL)
- 2017-2019 Center for Teaching Excellence (CTE), Academy for Future Faculty (AFF) Fellow Program

ADVISING & MENTORING EXPERIENCE

Texas Tech University

Dissertation/Thesis Advising

- 2022-Present Austin Vaughn (PhD, IE)
- 2022-Present Jessica Dedeaux (PhD, SYEM)
- 2022-Present Armina Rahman Mim (MS, SYEM)
- 2022-Present Luis Araiza (MS, IE)
- 2022-Present Seungyeon Baek (PhD, IE)
- 2021-Present Viviana Maura dos Santos (PhD, IE)
- 2021-Present Corey Shultz (PhD, SYEM)
- 2021-Present Folayemi Ogunfuye (MS, IE)

Dissertation/Thesis Committee Member

- 2022-Present Brian Jacobi (PhD, SYEM), Dissertation: "Impact of Smartphone Use in Undergraduate Engineering Programs on Industry 4.0".

2022 Ramy Hindiyeh (PhD, SYEM), Dissertation: “Identifying Critical Team Performance Measurement Output Variables that Characterize Overall Team Performance”.

Undergraduate Research Supervision (*IMSE students unless noted otherwise*)

2022 Mobisola Oyewole, Aaron Watson, Dylan A. Lopez, Maysen Brown, Linh Nguyen

2021 Nazeli Hannon, Shriya Satish (*Psychological Science*)

Texas A&M University

Undergraduate Research Supervision (*Industrial engineering students unless noted otherwise*)

2021 Alexandra Osborn (NSF REU), Pamela Navarrete, Ignacia Antoinette, Abigail Hyun-gee Jei, Mary Pinedo, Jainita Chauhan, Elyssa Ramos, Allison Chang, Kevin Mai, Joseph Cahill

2020 Jacob Palat, Cittely Fuentes, Jessica Farias Zanette, Minsoo Kim, Jainita Chauhan

2019 Vu Hoang Le, Katherine Renter, Anna Him, Kevin To, Lauren Luu (*Public Health*), Prisha Patel (*Public Health*)

2018 Trevor Hennington, Justin Wood, Jiahui Bian, Alec Smith, Nitesh Woona, Rohit Lilhare, Tudor Tutuianu, Sisley Yan (*Psychological Science*)

2017 Miha Bernat

PROFESSIONAL AFFILIATIONS & SERVICE

Journal and Conference Reviewer

2021-Present **Editorial Board Member**, Human Factors in Healthcare

2021-Present **Associate Editor**, Emergency Management Science and Technology

2022-Present **Reviewer**, IISE Transactions on Health Systems Engineering

2021-Present **Reviewer**, Applied Ergonomics

2021-Present **Reviewer**, Human Factors and Ergonomics in Manufacturing & Service Industries

2021-Present **Reviewer**, International Journal of Disaster Risk Reduction (IJDRR)

2021-Present **Reviewer**, Process Safety Progress

2021-Present **Reviewer**, Journal of American College Health (JACH)

2021-Present **Reviewer**, Journal of Community Psychology (JCOP)

2021-Present **Reviewer**, PLOS One

2021-Present **Reviewer**, BMJ Open

2020-Present **Reviewer**, SAGE Open

2020-Present **Reviewer**, Journal of Medical Internet Research (JMIR)

2020-Present **Reviewer**, Journal of the American Medical Informatics Association (JAMIA)

2017-Present **Reviewer**, Proceedings of Human Factors and Ergonomics Society Annual Meetings

Grant/Proposal Reviewer

2022 **A review panelist**, Mission Daybreak, US Department of Veterans Affairs (VA)

Professional Memberships & Affiliations

2019-Present	Institute of Industrial and Systems Engineers (IISE) , Member
2018-Present	Information Systems for Crisis Response and Management (ISCRAM) , Member
2018-Present	Ergonomics Society of Korea (ESK) , Member
2016-Present	Human Factors and Ergonomics Society (HFES) , Member
2016-Present	Resilience Engineering Association (REA) , Member

Service to Profession

2023	Track Co-chair , Patient Safety, 2023 International Symposium of Human Factors in Health Care
2022-Present	Practitioner Engagement Committee , 2023 Global Conference of ISCRAM
2021-2022	Academic Review Committee , 2022 MKOPSC Safety & Risk Conference
2022	Guest Editor , REA Newsletter, February, 2022
2021-Present	Awards and Scholarships Committee Chair , Healthcare TG, HFES
2021	Session Chair , the 65 th HFES Annual Meeting, Baltimore, MD
2021	Panelist , the 65 th HFES Annual Meeting Student Career Development Day
2021	Guest Speaker , HFES TAMU Student Chapter Webinars on Academic Job Search
2020-Present	Student Outreach Officer , Augmented Cognition TG, HFES
2020	Session Chair, Co-Chair , the 64 th HFES Annual Meeting (virtual)
2019	Session Chair , the 63 rd HFES Annual Meeting, Seattle, WA.
2018	Session Co-chair , the 62 nd HFES Annual Meeting, Philadelphia, PA.
2018	Session Chair , 2018 HFES Healthcare Symposium, Boston, MA.

Service to Institution

2022	Dean's Representative , Final Doctoral Examination of Brittany Neilson (PhD candidate in Human Factors Psychology, TTU Psychological Sciences Department)
2022	Guest speaker , TTU Korean Student Association Academic Job Search Webinar
2022	Reviewer and Judge , TTU Undergraduate Research Conference (URC)
2022-Present	Faculty Co-advisor , Korean Student Association, TTU
2021-Present	Faculty Co-chair (co-advisor) , HFES Student Chapter, TTU
2021-Present	Undergraduate Student Recruiting Committee member , TTU IMSE Department

PROFESSIONAL DEVELOPMENT

2022	New Faculty Colloquium , IISE Annual Conference, Seattle, WA
2022	NSF CAREER Proposal Workshop , National Science Foundation (virtual)
2022	Research Development Workshop , TTU Office of Research & Innovation
2022	Early-Career Research Fellow Workshop , National Academies of Sciences, Engineering, and Medicine (NASEM) Gulf Research Program, Baton Rouge, LA

INDUSTRY EMPLOYMENT HISTORY

- 2015 **Engineering Co-op, Baker Engineering and Risk Consultants**, Houston, TX
- Conducted quantitative risk analyses (QRA) and facility siting studies (FSS).
 - Wrote technical proposals and reports for safety engineering consulting projects.
 - Conducted a research project to improve theoretical models of chemical release analysis software.
- 2008-2014 **Project HSE Manager, Hyundai Heavy Industries**, Ulsan, South Korea
- Held responsible for HSE issues in multiple ship/offshore platform 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.

CERTIFICATIONS

- 2020 **US Certified Safety Professional (CSP)** (No.:CSP-38445)
- 2011 **UK NEBOSH International General Certificate** (No.: 00109476/293242)
- 2010 **Korean Industrial Safety Engineer** (No.: 09203090024W)

LEADERSHIP, OUTREACH & COMMUNITY SERVICE

- 2022-Present **Public Relations Officer**, Korean Faculty Association, TTU
- 2017-2018 **Operating Officer**, Korean-American Scientists and Engineers Association, TAMU
- 2017-2018 **Coordination Officer**, Korean Student Association, TAMU
- 2016, 2017,2021 **Korean mask dance performer**, Korean Language School and CSISD Summer School
- 2016-2017 **Departmental Representative**, Texas A&M Energy Research Society
- 2010-2014 **President**, Hyundai Heavy Industries English Conversation Club
- 2007 **President**, Korean Student Association, Pittsburg State University
- 2004 **President**, Seoul Pine Tree Club (Intercollegiate English Conversation Club)
- 2001-2003 **Sergeant**, Brigade 103, Republic of Korean Army