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EDUCATION

Ph.D. in Construction Engineering, MICHIGAN STATE UNIVERSITY, East Lansing, MI, 2012

- Dissertation: *Investigation of Interpersonal Cooperation in Construction Project Teams: An Agent-Based Modeling Approach*

Master of Science, Business Administration, TIANJIN UNIVERSITY, Tianjin, China, 2008

- Thesis: *A Study of Employee Performance Evaluation System*

Bachelor of Arts, Business Administration, TIANJIN UNIVERSITY, Tianjin, China, 2004

- Thesis: *A Mathematical Model of Enterprise Resource Management*

Bachelor of Engineering, Civil Engineering, TIANJIN UNIVERSITY, Tianjin, China, 2004

- Thesis: *Automated FEA-based Structural Design using Visual Basic and ANSYS (APDL)*

ACADEMIC EXPERIENCE

Professor, UNIVERSITY OF FLORIDA, Gainesville, FL 2023-

- Department of Civil and Coastal Engineering
- Department of Mechanical and Aerospace Engineering (Affiliate and Graduate Faculty)
- Department of Industrial and System Engineering (Affiliate)

Associate Professor, UNIVERSITY OF FLORIDA, Gainesville, FL 2019-2023

- Department of Civil and Coastal Engineering
- Department of Mechanical and Aerospace Engineering (Affiliate and Graduate Faculty)
- Department of Industrial and System Engineering (Affiliate)

Assistant Professor, TEXAS A&M UNIVERSITY, College Station, TX 2015-2019

- Department of Construction Science

Assistant Professor, UNIVERSITY OF TEXAS AT SAN ANTONIO, San Antonio, TX 2013-2015

- Department of Construction Science

INDUSTRY EXPERIENCE

Kiewit Faculty Scholar

Kiewit Offshore Services, INC., Corpus Christi, TX 2017

- Faculty intern at Kiewit Offshore Services in the summer.

Consultant

ZACHRY HOLDINGS, INC., San Antonio, TX 2014-2017

- Providing consulting service in risk management.

Senior Production and Cost Analyst

ZACHRY HOLDINGS, INC., San Antonio, TX 2011-2013

- Oversaw productivity tracking systems (CMIS and Qtrax) for monthly projection reviews.

Project Manager

TIANJIN FREE TRADE ZONE ADMIN COMMITTEE, China 2007-2008

- Spearheaded all efforts of public agencies, investors, lawyers, and accounting firms for large infrastructure and commercial projects including Tianjin Free Trade Zone (TJFTZ) and Tianjin.

PUBLICATIONS

Peer-Reviewed Journal Papers

** Denotes students under my supervision; * Denotes Corresponding Author.

- [1] You, H.**, Zhou, T.**, **Du, J.*** (2025). “Temporal Binding Foundation Model for Material Property Recognition via Tactile Sequence Perception.” *arxiv.org/abs/2501.14934*
- [2] Uthai, T.**, Zhou, T.**, Ye, Y.**, You, H.**, **Du, J.*** (2025). “Haptics-Based Robot Teleoperation for Soft Object Manipulation.” *ASCE Journal of Construction Engineering and Management* (in press).
- [3] You, H.**, Ye, Y.**, Zhou, T.**, Du, J.** (2025). “Force-Based Robotic Imitation Learning: A Two-Phase Approach for Construction Assembly Tasks.” *Available at SSRN 5113792*
- [4] Xu, F.**, Zhou, T.**, Nguyen, T.**, Bao, H.**, Lin, C.**, and **Du, J.*** (2025). “Integrating augmented reality and LLM for enhanced cognitive support in critical audio communications.” *ELSEVIER International Journal of Human-Computer Studies*, 194, 103402.
- [5] Abdullah, A., Chen, R., Blow, D., Uthai, T.**, **Du, J.**, and Md Jahidul Islam. (2025) “Human-Machine Interfaces for Subsea Telerobotics: From Soda-straw to Natural Language Interactions.” *arXiv preprint arXiv:2412.01753* (2024).

- [6] Ye, Y.** , You, H.** , and **Du, J.*** (2024) “Real-Time Muscle-Level Haptic Feedback for Enhanced Welding Learning: An sEMG-Based Approach.” *ASCE Journal of Construction Engineering and Management*, 150(12), p.04024178.
- [7] You, H.** , Zhou, T.** , Zhu, Q.** , Ye, Y.** , and **Du, J.*** (2024). “Embodied AI for dexterity-capable construction Robots: DEXBOT framework”. *ELSEVIER Advanced Engineering Informatics*, 62, 102572. (Impact Factor: 7.862)
- [8] Xu, F.** , Zhou, T.** , Nguyen, T.** , **Du, J.*** (2024). “Augmented reality in team-based search and rescue: Exploring spatial perspectives for enhanced navigation and collaboration”. *ELSEVIER Safety Science*. 176, p.106556. (Impact Factor: 6.392)
- [9] Ye, Y.** , Xia, P.** , Xu, F.** , **Du, J.*** (2024). “Enhance Kinesthetic Experience in Perceptual Learning for Welding Motor Skill Acquisition with Virtual Reality and Robot-based Haptic Guidance”. *IEEE Transactions on Haptics* vol. 17, no. 4, pp. 771-781
- [10] Zhou, T.** , Ye, Y.** , Zhu, Q.** , Vann, W.** , Du, J.* (2024). “Neural dynamics of delayed feedback in robot teleoperation: insights from fNIRS analysis”. *Frontiers in Human Neuroscience* 18, 1338453. (Impact Factor: 2.4)
- [11] Upasani, S., Srinivasan, D.* , Zhu, Q.** , **Du, J.**, Leonessa, A. (2024). “Eye-tracking in physical human-robot interaction: Mental workload and performance prediction”. *Human Factors*, 66 (8), 2104-2119. (Impact Factor: 3.8)
- [12] Xia, P.** , Zhou, T.** , Ye, Y.** , and **Du, J.*** (2024). “Human Autonomy Teaming for ROV Shared Control”. *ASCE Journal of Computing in Civil Engineering*. 38 (4), 04024015 (Impact Factor: 4.64)
- [13] Park, J., Ye, Y.** , **Du, J.**, and Srinivasan, D. (2024). “Virtual Reality Simulation of Exoskeleton-Assistance For Manual Material Handling.” *IEEE Access*. vol. 12, pp. 105470-105480
- [14] Ye, Y.** , Zhou, T.** , Zhu, Q.** , Vann, W.** , and **Du, J.*** (2024). “Brain functional connectivity under teleoperation latency: a fNIRS study.” *Frontiers in Neuroscience*, 18, 1416719.
- [15] You, H.** , Xu, F.** , Ye, Y.** , Xia, P.** , and **Du, J.*** (2023). “Adaptive LiDAR scanning based on RGB information”. *ELSEVIER Automation in Construction*. (160) p105337. (Impact Factor: 10.517)
- [16] Xu, F.** , Nguyen, T.** , and **Du, J.*** (2023). “Augmented Reality for Maintenance Tasks with ChatGPT for Automated Text-to-Action”. *ASCE Journal of Construction Engineering and Management*. 150 (4), 04024015. (Impact Factor: 5.213)
- [17] **Du, J.***, Vann, W.** , Zhou, T.** , Ye, Y.** , Zhu, Q.** (2024) “Sensory Manipulation as A Countermeasure to Robot Teleoperation Delays: System And Evidence.” *Nature Scientific Reports* 14 (1), 4333. (Impact Factor: 4.9)
- [18] Wu, J.** , Ye, Y.** , **Du, J.***. (2024) “Autonomous Drones in Urban Navigation: Autoencoder Learning Fusion for Aerodynamics”. *ASCE Journal of Construction Engineering and Management*. Forthcoming. (Impact Factor: 5.213)

- [19] Wu, J.** , Ye, Y.** , **Du, J.***. (2024) “Multi-Objective Reinforcement Learning for Autonomous Drone Navigation in Urban Areas With Wind Zones.” *ELSEVIER Automation in Construction* 158 (2024): 105253. (Impact Factor: 10.517)
- [20] Xu, F.** , Zhou, T.** , You, H.** , **Du, J.*** (2024). “Improving Indoor Wayfinding with AR-Enabled Egocentric Cues: A Comparative Study.” *ELSEVIER Advanced Engineering Informatics*, 59, 102265. (Impact Factor: 7.862)
- [21] Zhou, T.** , Xia, P.** , Ye, Y.** , and **Du, J.*** (2023). “Embodied Robot Teleoperation Based on High-Fidelity Visual-Haptic Simulator: Pipe-Fitting Example”. *ASCE Journal of Construction Engineering and Management*. 149 (12), 04023044. (Impact Factor: 5.213)
- [22] Xia, P.** , You, H.** , and **Du, J.*** (2023). “Visual-Haptic Feedback for ROV Subsea Navigation Control”. *ELSEVIER Automation in Construction*. (154) p104987. (Impact Factor: 10.517)
- [23] Xia, P.** , You, H.** , Ye, Y.** , and **Du, J.*** (2023). “ROV Teleoperation via Human Body Motion Mapping: Design and Experiment”. *ELSEVIER Computers in Industry*. (150) p103959. (Impact Factor: 11.245)
- [24] You, H.** , Xu, F.** , and **Du, J.*** (2023). “Improved Boundary Identification of Stacked Objects with Sparse LiDAR Augmentation Scanning.” *ASCE Journal of Construction Engineering and Management*, 149(11), 04023104. (Impact Factor: 5.213)
- [25] Zhou, T.** , Xia, P.** , Zhu, Q.** , and **Du, J.*** (2023). “Cognition-Driven Navigation Assistive System for Emergency Indoor Wayfinding (CogDNA): Proof of Concept and Evidence”. *ELSEVIER Safety Science*. 162, p.106100. (Impact Factor: 6.392)
- [26] Upasani, S., Srinivasan, D.* , Zhu, Q.** , **Du, J.** and Leonessa, A.(2023). “Eye-Tracking in Physical Human–Robot Interaction: Mental Workload and Performance Prediction.” *Human Factors*, p.00187208231204704.
- [27] Ye, Y** , You, H.** , and **Du, J.*** (2023). “Improved Trust in Human-Robot Collaboration with ChatGPT”. *IEEE Access*. (2023) 11. (Impact Factor: 3.557)
- [28] You, H.** , Ye, Y** , Zhou, T.** , Zhu, Q.** and **Du, J.*** (2023). “Robot-Enabled Construction Assembly with Automated Sequence Planning Based on ChatGPT: RoboGPT”. *Buildings*. 13(7), 1772. (Impact Factor: 3.557)
- [29] Hu, D., Li, S.* , **Du, J.**, and Cai, J. (2023). “Automating Building Damage Reconnaissance to Optimize Drone Mission Planning for Disaster Response.” *ASCE Journal of Computing in Civil Engineering*. 37(3): 04023006. (Impact Factor: 4.64)
- [30] Zhou, T.** , Zhu, Q.** , Ye, Y.** , and **Du, J.*** (2023). “Humanlike Inverse Kinematics for Improved Spatial Awareness in Construction Robot Teleoperation: Design and Experiment”. *ASCE Journal of Construction Engineering and Management*. 149 (7), 04023044. (Impact Factor: 5.213)

- [31] Ye, Y.**, Xia, P.**, Zhou, T.**, and **Du, J.*** (2023). “Spatial Memory of BIM and Virtual Reality: A Mental Mapping Study”. *ASCE Journal of Construction Engineering and Management*. 149 (7), 04023042. (Impact Factor: 5.213)
- [32] Ye, Y.**, Zhou, T.**, and **Du, J.*** (2023). “Robot-Assisted Immersive Kinematic Experience Transfer for Welding Training”. *ASCE Journal of Computing in Civil Engineering*. 37 (2) p04023002. (Impact Factor: 4.64)
- [33] Xia, P.**, Xu, F.**, Song, Z., Li, S., and **Du, J.*** (2023). “Sensory Augmentation for Subsea Robot Teleoperation”. *ELSEVIER Computers in Industry*. (145) p103836. (Impact Factor: 11.245)
- [34] Chen, J., Li, N.*, Shi, Y., **Du, J.** (2023). “Cross-Cultural Assessment of the Effect of Spatial Information on Firefighters’ Wayfinding Performance: A Virtual Reality-based Study”. *ELSEVIER International Journal of Disaster Risk Reduction*. (84) p103486. (Impact Factor: 4.842)
- [35] Vann, W**, Zhou, T.**, Zhu, Q.**, **Du, J.*** (2023). “Enabling Automated Facility Maintenance from Articulated Robot Collision-Free Designs”. *ELSEVIER Advanced Engineering Informatics*. (55) p101820. (Impact Factor: 7.862)
- [36] Wang, X., Han, W., **Du, J.**, Dai, F., and Zhu, Z.* (2023). “An Eye Gaze-Aided Virtual Tape Measure for Smart Construction”. *Canadian Journal of Civil Engineering*. (2023) May.
- [37] Zhu, Q.**, Zhou, T.**, **Du, J.*** (2022). “Haptics-Based Force Balance Controller for Tower Crane Payload Sway Controls”. *ELSEVIER Automation in Construction*. (144) p104597. (Impact Factor: 10.517)
- [38] Hu, D., Chen, L., **Du, J.**, Cai, J., and Li, S. (2022). “See through Disaster Rubble in 3D with Ground Penetrating Radar and Interactive Augmented Reality for Urban Search and Rescue”. *ASCE Journal of Computing in Civil Engineering*. 36 (5). P.04022021 (Impact Factor: 4.64).
- [39] Ye, Y.**, Shi, Y.**, Srinivasan, D., **Du, J.*** (2022). “Sensation Transfer for Immersive Exoskeleton Motor Training”. *ELSEVIER Automation in Construction*. (141) 104411. (Impact Factor: 10.517)
- [40] Xu, F.**, Xia, P.**, **Du, J.*** (2022). “Robotic Cross-Platform Sensor Fusion and Augmented Visualization for Large Indoor Space Reality Capture” *ASCE Journal of Computing in Civil Engineering* 36 (6), 04022036. (Impact Factor: 4.64).
- [41] Xia, X., Zhou, T.**, **Du, J.**, Li, N. (2022). “Human Motion Prediction for Intelligent Construction: A Review”. *ELSEVIER Automation in Construction* (142) 104497. (Impact Factor: 10.517)
- [42] Ye, Y.**, Shi, Y.**, Xia, P.**, Kang, J., Mehta, R., **Du, J.*** (2022). “Cognitive Characteristics in Firefighter Wayfinding Tasks: An Eye-Tracking Analysis”. *ELSEVIER Advanced Engineering Informatics*. 53 (2022): 101668. (Impact Factor: 5.603).
- [43] Li, N., **Du, J.**, Gonzales, V., Chen, J., (2022). “Methodology for Extended Reality-Enabled Experimental Research in Construction Engineering and Management”. *ASCE Journal of Construction Engineering and Management*. 148 (10). 04222106 (Impact Factor: 4.64).

- [44] Zhou, T.**, Wang, Y.**, Zhu, Q.**, **Du, J.*** (2022). “Human Hand Motion Prediction based on Feature Grouping and Deep Learning: Pipe Skid Maintenance Example”. *ELSEVIER Automation in Construction*. (138) 104232 (Impact Factor: 10.157)
- [45] Xia, P.**, Xu, F.**, Zhou, T.**, **Du, J.*** (2022). “Human Robot Performance Benchmarking in Emergency Structural Inspection”. *ASCE Journal of Construction Engineering and Management*. 148.8 (2022): 04022070 (Impact Factor: 4.443)
- [46] Mehta, R, Moats, J., Gabbard, J., Srinivasan, D., **Du, J.**, Leonessa, A., Burks, G., Stephenson, A., and Fernandes, R. (2022). “Human - Centered Intelligent Training for Emergency Responders.” *AI Magazine*. 43, no. 1 (2022): 83-92.
- [47] Zhu, Q.**, Zhou, T.**, Du, J.* (2022). “Collaborative Robot Planning for Active Collision Avoidance in Modular Construction: Pipe Skids Example”. *ASCE Journal of Construction Engineering and Management*. 148 (10). (Impact Factor: 4.443)
- [48] Shi, Y.**, Johnson, C., Xia, P.**, Kang, J., Tyagi, O., Mehta, R., **Du, J.*** (2022). “Neural Basis Analysis of Firefighters’ Wayfinding Performance via Functional Near- Infrared Spectroscopy (fNIRS)”. *ASCE Journal of Computing in Civil Engineering*. 36 (4), 04022016. (Impact Factor: 4.64).
- [49] Zhou, T.**, Zhu, Q.**, Shi, Y.**, **Du, J.*** (2022). “Construction Robot Teleoperation Safeguard based on Real-Time Human Hand Motion Prediction”. *ASCE Journal of Construction Engineering and Management*. 148 (7), 04022040. (Impact Factor: 4.443)
- [50] Wang, Y., Zhong, L., **Du, J.**, Gao, J. and Wang, Q., (2022). “Identifying the shifting sources to predict the dynamics of COVID-19 in the US.” *Chaos: An Interdisciplinary Journal of Nonlinear Science*, 32(3), p.033104. (Impact Factor: 3.642)
- [51] Tyagi, O., Hopko, S., Kang, J., Shi, Y., **Du, J.** and Mehta, R.K., (2021). “Modeling Brain Dynamics During Virtual Reality-Based Emergency Response Learning Under Stress”. *Human Factors*. p.00187208211054894 (Impact Factor: 2.888).
- [52] Zhu, Q.**, Zhou, T.**, **Du, J.*** (2021). “Upper-Body Haptic System for Snake Robot Teleoperation in Pipelines.” *ELSEVIER Advanced Engineering Informatics*. 51 (2022): 101532. (Impact Factor: 5.603)
- [53] Deng, H., **Du, J.**, Gao, J., Wang, Q. (2021). “Network percolation reveals adaptive bridges of the mobility network response to COVID-19.” *PLoS ONE* 16(11): e0258868. <https://doi.org/10.1371/journal.pone.0258868>
- [54] Ke, J., **Du, J.**, Luo, X. (2021). “The Effect of Noise Content and Level on Cognitive Performance Measured by Electroencephalography (EEG)”. *ELSEVIER Automation in Construction*. (130) 103836 (ISSN: 0926-5805, Impact Factor: 7.7)
- [55] Zhu, Q.**, Shi, Y.**, **Du, J.*** (2021). “Wayfinding Information Cognitive Load Classification Based on Functional Near-Infrared Spectroscopy”. *ASCE Journal of Computing in Civil Engineering* (35) 5. (Impact Factor: 4.64).

- [56] Abujelala, M., Karthikeyan, R., Tyagi, O., **Du, J.**, Mehta, R. (2021). “Brain Activity-Based Metrics for Assessing Learning States in VR under Stress among Firefighters: An Explorative Machine Learning Approach in Neuroergonomics”. *Brain Sciences* (11)7, 885
- [57] Zhu, Q.**, Shi, Y.**, **Du, J.***, Wei, P.** (2021). “Neurobehavioral Assessment of Force Feedback Simulation in Industrial Robotic Teleoperation”. *ELSEVIER Automation in Construction*. (126) 103674 (Impact Factor: 7.700)
- [58] Shi, Y.**, Kang, J., Xia, P.**, Tyagi, O., Mehta, R., and **Du, J.*** (2021). “Spatial Knowledge and Firefighters’ Wayfinding Performance: A Virtual Reality Search and Rescue Experiment”. *ELSEVIER Safety Science* (Impact Factor: 4.877)
- [59] Zhou, T.**, Zhu, Q.**, **Du, J.*** (2020). “Intuitive Robot Teleoperation for Civil Engineering Operations with Virtual Reality and Deep Learning Scene Reconstruction”. *ELSEVIER Advanced Engineering Informatics*. (46) 101170. (Impact Factor: 5.603)
- [60] Shi, Y.**, **Du, J.***, Zhu, Q.** (2020). “The Impacts of Engineering Information Format on Task Performance: Gaze Scanning Pattern Analysis”. *ELSEVIER Advanced Engineering Informatics*. (46) 101167. (Impact Factor: 5.603)
- [61] Shi, Y.**, Zhu, Y., Mehta, R. and **Du, J.*** (2020). “A Neurophysiological Approach to Assess Training Outcome under Stress: A Virtual Reality Experiment of Industrial Shutdown Maintenance using Functional Near-Infrared Spectroscopy (fNIRS)”. *ELSEVIER Advanced Engineering Informatics*. (46) 101153. (Impact Factor: 5.603)
- [62] Shi, Y.**, and **Du, J.***, Worthy, D. (2020). “The Impact of Engineering Information Formats on Learning and Execution of Construction Operations: A Virtual Reality Pipe Maintenance Experiment”. *ELSEVIER Automation in Construction*. (119) 1033637 (Impact Factor: 7.700)
- [63] **Du, J.***, Zhao, D., Issa, R., and Singh, N.** (2020). “BIM for Improved Project Communication Networks: Empirical Evidence from Email Logs”. *ASCE Journal of Computing in Civil Engineering* (34) 5. (Impact Factor: 4.64).
- [64] Mo, Y., Zhao, D.*, **Du, J.**, Syal, M., Aziz, A., and Li, H. (2020). “Automated Staff Assignment for Building Maintenance using Natural Language Processing”. *ELSEVIER Automation in Construction*. 113 (2020): 103150. (Impact Factor: 7.700)
- [65] Shi, Y.**, **Du, J.***, and Ragan, E. (2020). “Review Visual Attention and Spatial Memory in Building Inspection: Toward a Cognition-driven Information System”. *ELSEVIER Advanced Engineering Informatics*. (44) 101061. (Impact Factor: 5.603)
- [66] **Du, J.***, Zhu, Q.**, Shi, Y.**, Wang, Q., Lin, Y., and Zhao D.** (2020). “Cognition-Digital Twins (Cog-DT) for Personalized Information Systems of Smart Cities – A Proof of Concept”. *ASCE Journal of Management in Engineering*. 36 (2), 04019052. (Impact Factor: 7.184)
- [67] Ligmann-Zielinska, A., Siebers, P., Maglioccia, N., Parker, D., Grimm, V., **Du, J.**, Cenek, M., Radchuk, V., Arbab, N., Li, S., Berger, U., Paudel, R., Robinson, D., Jankowski, P., An, L., Ye, X. (2019). “‘One size does not fit all’: a roadmap of purpose-driven mixed-method pathways for sensitivity analysis of agent-based models”. *Journal of Artificial Societies and Social Simulation (JASSS)*. 23 (1). (Impact Factor: 2.222)

- [68] Shi, Y.**, **Du, J.***, Ahn, C., Ragan, E. (2019). “Impact Assessment of Reinforced Learning Methods on Construction Workers’ Fall Risk Behavior using Virtual Reality”. *ELSEVIER Automation in Construction* 104 (2019) 197-214. (Impact Factor: 7.700)
- [69] Yiu, Y.**, **Du, J.***, and Mahapatra, R. (2019). “Evolutionary Heuristic A* Search: Pathfinding Algorithm with Self-Designed and Optimized Heuristic Function”. *International Journal of Semantic Computing*, 13(01), 5-23.
- [70] Basavaraju, A., **Du, J.**, Zhou, F., and Ji, J*. (2019). “A Machine Learning Approach to Road Surface Anomaly Assessment using Smartphone Sensors”. *IEEE Sensors*. vol. 20, no. 5, pp. 2635-2647. (Impact Factor: 3.301)
- [71] Zhang, J.**, **Du, J.***, Yiu, J. and Ligmann-Zielinska, A. (2019). “Improved Global Sensitivity Analysis for Critical Factor Analysis with Intercorrelated Inputs: Power Plant Cost Example”. *ASCE Journal of Computing in Civil Engineering*. 33(4). (Impact Factor: 4.64).
- [72] **Du, J.***, Zhao, D., Zhang, O. (2018). “Impacts of Human Communication Networks on Collective Optimism Bias: A Human Subject Experiment”. *Construction Management and Economics*, 2018 (10), 1-17. (Impact Factor: 3.80)
- [73] **Du, J.***, Wang, Q., and Shi, Q. (2018). “Experience Based Decision under Imperfect Information – Information Continuum and Aggressive Cost Estimating in Capital Projects”. *Engineering, Construction and Architectural Management* (Vol. 26 No. 6, pp. 1151-1170). (Impact Factor: 3.18)
- [74] **Du, J.***, Zou, Z.**, Shi, Y.**, and Zhao, D. (2018). “Zero Latency: Real-time Synchronization of BIM data in Virtual Reality for Collaborative Decision-Making”. *ELSEVIER Automation in Construction*, 2018 (85), 51-64. (Impact Factor: 7.700). **List of Most Cited Papers.**
- [75] Akhavan, A., Phillips, N., **Du, J.**, Chen, J., Sadeghinassr, B., and Wang, Q.*(2018). “Accessibility Inequality in Houston.” *IEEE Sensors Letters*. 2018 Nov 22. (Impact Factor: 3.301)
- [76] Jiang, Y., Zhao, D.*, Sanderford, A., and **Du, J.** (2018). “Effects of Bank Lending on Urban Housing Prices for Sustainable Development: A Panel Analysis of Chinese Cities”. *Sustainability*, 10 (3), 642. (Impact Factor: 3.251)
- [77] Rincon, J.**, Fernandez-Solis, J., Lavy, S., **Du, J.** (2018). "Stakeholder ‘Autonomous Agent’ Affecting Last Planner System Performance in Texas". *ASCE Journal of Management in Engineering*. 35.1 (2018): 04018050. (ISSN: 0742-597X, Impact Factor: 7.184)
- [78] **Du, J.***, Shi, Y.**, Zou, Z.**, and Zhao, D. (2017). “A Cloud-based Multiuser Virtual Reality Headset System for Project Communication of Remote Members”. *ASCE Journal of Construction Engineering and Management*, 144 (2). (Impact Factor: 4.443)
- [79] Zhao, D.*, McCoy, A.P., **Du, J.**, Agee, P. and Lu, Y. (2017). “Interaction Effects of Building Technology and Resident Behavior on Energy Consumption in Residential Buildings”. *ELSEVIER Energy and Buildings*, 134, 223-233. (Impact Factor: 5.879)
- [80] Olabisi, L.S.*, Saweda L.T., Rivers, L., Ligmann-Zielinska, A., **Du, J.**, Denny, R., Marquart-Pyatt, S., and Sidibé, A. (2017) “Using Participatory Modeling Processes to Identify Sources of Climate Risk in West Africa.” *Environment Systems and Decisions* (2017): 1-10. (Impact Factor: 2.41)

- [81] Denny, R. C., Marquart-Pyatt, S. T.*, Ligmann-Zielinska, A., Olabisi, L. S., Rivers, L., **Du, J.**, and Liverpool-Tasie, L. S. O. (2017). “Food Security in Africa: a Cross-Scale, Empirical Investigation using Structural Equation Modeling”. *Environment Systems and Decisions* (2017): 1-17. (Impact Factor: 2.41)
- [82] Whitley, C. T., Rivers III, L.*, Mattes, S., Marquart-Pyatt, S. T., Ligmann-Zielinska, A., Olabisi, L. S., and **Du, J.** (2017). “Climate-Induced Migration: Using Mental Models to Explore Aggregate and Individual Decision-Making”. *Journal of Risk Research*, 1-17. (Impact Factor: 1.931)
- [83] He, S.**, **Du, J.***, and Huang, J. (2017). “A Singular Value Decomposition Feature Extraction (SVDfE) for Cost Prediction”. *ASCE Journal of Computing in Civil Engineering*, 31.5 (2017): 04017043. (Impact Factor: 4.64)
- [84] Liu, R.*, **Du, J.**, Issa, R., and Giel, B. (2016). “BIM Cloud Score: Building Information Model and Modeling Performance Benchmarking”. *ASCE Journal of Construction Engineering and Management*, 04016109. (Impact Factor: 4.443)
- [85] **Du, J.***, and El-Gafy, M. (2016). “A Cloud Based Shareable Library of Cooperative Behaviors in Construction Project Teams for Agent Based Modeling”. *ELSEVIER Automation in Construction*, (2016) 62. 89-100. (Impact Factor: 7.700)
- [86] Shi, Y.**, **Du, J.***, Lavy, S., Zhao, D. (2016). “A Multiuser Shared Virtual Environment for Facility Management”. *Procedia Engineering*, (145), 120-127. (Impact Factor: 1.369)
- [87] Zhao, D.*, McCoy, A., **Du, J.** (2016). “An Empirical Study on the Energy Consumption in Residential Buildings after Adopting Green Building Standards”. *Procedia Engineering*, (145), 766-773. (Impact Factor: 1.369)
- [88] **Du, J.***, El-Gafy, M., and Zhao, D. (2015). “Optimization of Change Order Administrative Process by Object-Oriented Discrete Event Simulation: A Case Study”. *ASCE Journal of Construction Engineering and Management*, (2015): 05015018. (Impact Factor: 4.443)
- [89] Zhao, D.*, McCoy, A., Kleiner, B., **Du, J.**, and Smith-Jackson, T. (2015). “Decision-Making Chains in Electrical Safety for Construction Workers”. *ASCE Journal of Construction Engineering and Management*, 142.1 (2015): 04015055. (Impact Factor: 4.443)
- [90] **Du, J.***, Kim, B., and Zhao, D. (2015). “Cost Performance as a Stochastic Process: EAC projection by Markov Chain Simulation”. *ASCE Journal of Construction Engineering and Management*, (2015): 04016009. (Impact Factor: 4.443)
- [91] **Du, J.*** and Arika Ligmann-Zielinska (2015). “The Volatility of Data Space: Topology Oriented Sensitivity Analysis”. *PLOS ONE*. 10.9 (2015): e0137591. (Impact Factor: 3.24)
- [92] **Du, J.*** and El-Gafy, M. (2015). “Organizational Learning Enabled by Human Computation: Example of Conceptual Estimating”. *Journal of Information Technology in Construction (ITcon)*, Vol. 20, pg. 275-294. (Impact Factor: 1.94)

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- [94] **Du, J.***, and El-Gafy, M. (2014). “Using Agent Based Modeling to Investigate Goal Incongruence Issues in Proposal Development - Case Study of an EPC Project”. *ASCE Journal of Management in Engineering*. 10.1061, 05014025. (Impact Factor: 7.184)
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- [102] **Du, J.*** and Zhao, L. M., (2008). “The Limitations of Principal Component Analysis in Comprehensive Evaluation”. *Journal of Inner Mongolia Agricultural University*, 2008 No.1
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- [104] **Du, J.***, (2007). “A Graphic Model for Evaluating and Developing Employee Performance and Its Empirical Study”. *International Journal of Business and Management*, 2007 No.5
- [105] **Du, J.*** and Zhao, L. M., (2006). “A Vector Analysis Model of Employee Performance”. *Journal of Dalian University of Technology*, Vol.27 No.4

Peer-Reviewed Conference Proceedings

** Denotes students under my supervision; * Denotes Corresponding Author.

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- [107] You, H.**, Xu, F.**, Ye, Y.**, Du, J.** (2024). “Adaptive Scanning for Improved Stacked Object Detection with RGB and LiDAR”. *ASCE Construction Institute Construction Research Congress 2024*. Des Moines, IA
- [108] Wu, J.**, Ye, Y.**, Du, J.** (2024). “Multi-Objective Reinforcement Learning for Autonomous Drone Navigation in Urban Area”. *ASCE Construction Institute Construction Research Congress 2024*. Des Moines, IA
- [109] Xu, F.**, Zhou, T.**, Ye, Y.**, Du, J.** (2024). “Augmented Telepresence: Enhancing Robot Arm Control with Mixed Reality for Dexterous Manipulation”. *ASCE Construction Institute Construction Research Congress 2024*. Des Moines, IA
- [110] Ye, Y.**, Xu, F.**, & Du, J.* (2023). “Collaborative Virtual Training with Embodied Physics and Haptic Feedback: Construction Manual Material Handling as an Example”. *The 2023 ASCE International Conference on Computing in Civil Engineering (i3CE)*. Corvallis, OR.
- [111] Xia, P.**, You, H.**, Zhou, T.**, & Du, J.* (2023). “Human Body Motion and Hand Gesture Control for Remotely Operated Vehicle (ROV) Teleoperation”. *The 2023 ASCE International Conference on Computing in Civil Engineering (i3CE)*. Corvallis, OR.
- [112] Zhou, T.**, Xia, P.**, Ye, Y.**, & Du, J.* (2023). “Haptic Augmentation System for Construction Robot Teleoperation”. *The 2023 ASCE International Conference on Computing in Civil Engineering (i3CE)*. Corvallis, OR.
- [113] Ye, Y.**, Xu, F.**, & Du, J.* (2023). “Stacked Object Clustering with Adaptive Scanning and Density Centralized Voting”. *The 2023 ASCE International Conference on Computing in Civil Engineering (i3CE)*. Corvallis, OR.
- [114] Xu, F.**, Moats, J., Gabbard, J., & Du, J.* (2023). “Indoor Navigation Systems via Augmented Reality and Reality Capture: From Exocentric to Egocentric Spatial Perspective”. *The 2023 ASCE International Conference on Computing in Civil Engineering (i3CE)*. Corvallis, OR.
- [115] Uthai, T.**, You, H.**, & Du, J.* (2023). “Deep Learning–Based Automation of Road Surface Extraction from UAV-Derived Dense Point Clouds in Large Scale Environment”. *The 2023 ASCE International Conference on Computing in Civil Engineering (i3CE)*. Corvallis, OR.
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- [122] Xia, P.**, Xu, F.**, Zhu, Q.**, Du, J.* (2022). “Human Robot Comparison in Rapid Structural Inspection”. *2022 Construction Research Congress (CRC 2022)*.
- [123] Zhou, T.**, Wang, Y.**, Du, J.* (2022). “Human Intent Prediction in Human-Robot Collaboration – A Pipe Maintenance Example”. *2022 Construction Research Congress (CRC 2022)*.
- [124] Shi, Y.**, Du, J.* (2022). “DesktopEye: A Desktop-Based Eye-Tracking System for 3D Model Review Analysis”. *2022 Construction Research Congress (CRC 2022)*.
- [125] Ye, Y.**, Shi, Y.**, & **Du, J.*** (2021). “Spatial Memory of Building Layout via 2D, 3D and Virtual Reality”. *The 2021 ASCE International Conference on Computing in Civil Engineering (i3CE)*.
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- [127] Xu, F.**, Zhu, Q.**, Li, S., Song, Z. & **Du, J.*** (2021). “VR-based Haptic Simulator for Subsea Robot Teleoperations”. *The 2021 ASCE International Conference on Computing in Civil Engineering (i3CE)*.
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- [130] Xu, F.**, Zhu, Q.**, **Du, J.*** (2021). “Haptic Simulator for Underwater Robot Controls – Underwater Welding Example”. *The 2021 ASCE International Conference on Computing in Civil Engineering (i3CE)*.

- [131] Zhou, T.** , Zhu,Q.** , **Du, J.*** (2021). “Human-Like Bilateral Robotic Arm Controls for Remote Pipe Maintenance”.*The 2021 ASCE International Conference on Computing in Civil Engineering (i3CE)*.
- [132] Kang, J., Tyagi, O., Shi, Y., **Du, J.**, & Mehta, R. K. (2021). “Learning Under Stress in Virtual Reality-based Emergency Scenarios”. *In Proceedings of the Human Factors and Ergonomics Society Annual Meeting* (Vol. 64, No. 1, pp. 1702-1702). Sage CA: Los Angeles, CA: SAGE Publications.
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- [134] Xu, F.** , Pu, G.** , Wei, P.** , Aribes, A.** , Boultinghouse, J.** , Dinh, N.** , & **Du, J.*** (2021). *Seeing Through Walls: Real-Time Digital Twin Modeling of Indoor Spaces. 2021 Winter Simulation Conference (WSC 2021)*.
- [135] Zhu, Q.** , **Du, J.*** (2020). “Neural Functional Analysis in Virtual Reality Simulation: Example of a Human-Robot Collaboration Tasks”. *IEEE Winter Simulation Conference (WSC 2020)*.
- [136] Zhu, Q.** , Wei, P.** , Shi, Y.** , **Du, J.*** (2020). “Cognitive Benefits of Human-Robot Collaboration in Complex Industrial Operations: A Virtual Reality Experiment”. *2020 ASCE Construction Research Congress (CRC 2020)*.
- [137] Shi, Y.** , **Du, J.***, Zhu, Q.** , Liu, X.** (2020). “The Impact of Engineering Information Formats on Workers’ Cognitive Load in Working Memory Development”. *2020 ASCE Construction Research Congress (CRC 2020)*.
- [138] Shi, Y.** , Zheng, Y.** , **Du, J.***, Zhu, Q.** , Liu, X.** (2020). “The Impact of Engineering Information Complexity on Working Memory Development of Construction Workers”. *2020 ASCE Construction Research Congress (CRC 2020)*.
- [139] Wang, Y., Wang, Q.* , **Du, J.**, and Lin, Y. (2020). “Comparison and Quantification of Cognitive Load generated by Sternberg Test using EEG Signals”. *2020 ASCE Construction Research Congress (CRC 2020)*.
- [140] Shi, Y.** , and **Du, J.*** (2019). “Simulation of Spatial Memory for Human Navigation Based on Visual Attention in Floorplan Review.” *IEEE Winter Simulation Conference (WSC) 2019*.
- [141] Shi, Y.** , **Du, J.***, Zhu, Q.** , and Liu, X.** (2019). “The Impact of Engineering Information Formats on Workers’ Cognitive Load in Working Memory Development.” *2020 Construction Research Congress (CRC)*.
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- [143] Zhu, Q.** , Wei, P.** , Shi, Y.** , and **Du, J.*** (2019) “Cognitive Benefits of Human-Robot Collaboration in Complex Industrial Operations: A Virtual Reality Experiment.” *2020 Construction Research Congress (CRC)*.

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- [145] Shi, Y.,** **Du, J.***, Sargunam, S.**, Ragan, E., and Zhu, Q.** (2019). “First Responders’ Spatial Working Memory of Large-scale Buildings: Implications of Information Format”. *The 2019 ASCE International Conference on Computing in Civil Engineering (i3CE)*.
- [146] Zhu, Q.**, **Du, J.***, Shi, Y., Wang, Q., and Lin, Y. (2019). “Participatory and Evolutionary Fire Simulation via a Sensitive Control of Key Scenery Parameters”. *The 2019 ASCE International Conference on Computing in Civil Engineering (i3CE)*.
- [147] **Du, J.***, Li, Z.**, and Wang, C. (2019). “Automated Road Damage Recognition based on the Sparse Coding Analysis of Vehicle Vibrations”. *2019 Conference of The Transportation Consortium of South-Central States (Tran-SET)*.
- [148] Yiu, Y.,** **Du, J.***, and Mahapatra, R. (2018). “Evolutionary Heuristic A* Search: Heuristic Function Optimization via Genetic Algorithm”. *2018 IEEE International Conference on Artificial Intelligence and Knowledge Engineering (AIKE)*.
- [149] Shi, Y.**, **Du, J.***, Tang, P. (2018). “Characterizing the Role of Communications in Teams Carrying Out Building Inspection”. *2018 Construction Research Congress (CRC)*.
- [150] Shi, Y.**, **Du, J.***, Ragan, E., Choi, K. (2018). “Social Influence on Construction Safety Behaviors: A Multi-user Virtual Reality Experiment”. *2018 Construction Research Congress (CRC)*.
- [151] Mo., Y., Zhao, D.*, and **Du, J.** (2018), “Data-driven Approach to Scenario Determination for VR-based Construction Safety Training”. *2018 Construction Research Congress (CRC)*.
- [152] **Du, J.***, Zou, Z.**, Shi, Y.**, and Zhao, D. (2017). “Simultaneous Data Exchange Between BIM and VR for Collaborative Decision-Making”. *2017 International Workshop on Computing in Civil Engineering (IWCCE2017)*. Seattle, WA.
- [153] Mo, Y., Zhao, D.*, McCoy, A., **Du, J.**, and Agee, P. (2017). “Latent Relationship between Construction Cost and Energy Efficiency in Multifamily Green Buildings.” *2017 International Workshop on Computing in Civil Engineering (IWCCE2017)*. Seattle, WA.
- [154] **Du, J.***, Shi, Y.**, Mei, C., Quarles, J. and Yan, W. (2016). “Communication by Interaction: A Multiplayer VR Environment for Building Walkthrough”. *Proceedings of the 2016 ASCE Construction Research Congress (CRC2016)*. San Juan, Puerto Rico. May 31- June 2, 2016.
- [155] Zhou, Y.**, **Du, J.***, Shi, Q., Horlen, J. (2016). “Directive versus empowering leadership in temporary project teams: An Agent Based Modeling Approach”. *Proceedings of the 2016 ASCE Construction Research Congress (CRC2016)*. San Juan, Puerto Rico. May 31- June 2, 2016.
- [156] Kalasapudi, V., Tang, P.*, **Du, J.** (2016). “Automatic Correlated Vibration Pattern Analysis for Rapid Remote Scour Assessment of Civil Infrastructures”. *Proceedings of the 2016 ASCE Construction Research Congress (CRC2016)*. San Juan, Puerto Rico. May 31- June 2, 2016.

- [157] **Du, J. ***, and Ligmann-Zielinska, A. (2015). “The Evolution of Three Simulation Paradigms: System Dynamics, Discrete Event Simulation and Agent Based Modeling”. *Poster of the 2015 Winter Simulation Conference*, Huntington Beach, CA
- [158] Wang, Q. *, and **Du, J.** (2015). “A Scenario Simulation Study of Decentralization of Architecture, Engineering and Construction Companies”. *Proceedings of the 2015 Winter Simulation Conference*. Huntington Beach, CA
- [159] **Du, J. ***, and El-Gafy, M. (2015). “Implications of Micro-Management in Construction Projects – An Agent Based Modeling Approach”. *ASCE 2015 International Workshop of Computing in Civil Engineering*. Austin, TX.
- [160] **Du, J. ***, and Liu, R. (2015). “A Statistical Analysis of the Influences of Educational and Attitudinal Factors on the Academic Performance in a Construction Materials and Testing Class”. *51st ASC Annual Conference*. College Station, TX.
- [161] **Du, J. ***, and El-Gafy, M. (2014). “Modeling Organizational Behaviors of Construction Enterprises: An Agent Based Modeling Approach”. *Proceedings of the 2014 IEEE Winter Simulation Conference (WSC 2014)*, 3341-3362.
- [162] **Du, J. ***, Liu, R. and Hatipkarasulu, Y (2014). “Cloud Based Interactive Probabilistic Simulation for the AEC Industry”. *ASCE ICCCB 2014 conference*. Orlando, FL.
- [163] **Du, J. ***, and Liu, R. (2014). “On the Edge of Human Computation: Interactive Parametric Estimating Paradigm”. *ASCE ICCCB 2014 conference*. Orlando, FL.
- [164] Liu, R. *, **Du, J.**, and Issa, R. (2014). “Human Library for Emergency Evaluation in BIM-based Serious Game Environment”. *ASCE ICCCB 2014 conference*. Orlando, FL.
- [165] Liu, R. *, **Du, J.**, and Issa, R. (2014). “Cloud-based Deep Immersive Game for Human Egress Data Collection”. *2014 International Conference on Innovative Technologies in Construction (ITC 2014)*. Shenyang, China. **Best Paper Award**.
- [166] **Du, J. ***, Hatipkarasulu, Y and Liu, R. (2014). “Interactive Probability Simulation for Construction Engineering and Management”. *ASEE 2014 conference*. Indianapolis, IN.
- [167] **Du, J. ***, and Gunhan, S. (2014). “Developing a Statistical Model for Building Settlement Prediction”. *ASEE 2014 conference*. Indianapolis, IN.
- [168] Gunhan, S. *, Judie, Y. and **Du, J.** (2014). “Covering Advanced Construction Management Topics with Diverse Student Body”. *ASEE 2014 conference*. Indianapolis, IN.
- [169] Becker, T. C., Jaselskis, E. J. *, El-Gafy, M. and **Du, J.**, (2012) “Industry Practices for Estimating, Controlling and Managing Key Indirect Construction Costs at the Project Level”, *ASCE Construction Research Commission 2012 (CRC 2012)*. West Lafayette, Indiana.
- [170] **Du, J. ***, El-Gafy, M. and Ghanem, A., (2012) "Adding Value to Change Order Management Process Using Simulation Approach: A Case Study." *48th Associated Schools of Construction (ASC) Annual International Conference Proceedings*. Birmingham, UK

- [171] **Du, J.** and El-Gafy, M.*, (2010). “Towards an Agile Alignment: Exploring Implications of Social Aspects in Construction Organizations”. *2010 Engineering Project Organizations Conference (EPOC)*. South Lake Tahoe, California.
- [172] **Du, J.** and El-Gafy, M.*, (2010). “Examining Complex Adaptive Systems and Agent-Based Modeling for Improving Decision Makings in Construction Organizations”. *27th International Conference of CIB W078*. Cairo, Egypt.
- [173] **Du, J.** and El-Gafy, M.*, (2010). “Developing a Graph-based Bidding Decision Making Model using Information Visualization”. *2nd International Conference on Construction in Developing Countries (ICCIDC-II)*. Cairo, Egypt.
- [174] **Du, J.** and El-Gafy, M.*, (2010). “Analyzing construction performance using Agent Based Modeling”. *Second International Conference on Construction in Developing Countries (ICCIDC-II)*. Cairo, Egypt.
- [175] **Du, J.** and El-Gafy, M.*, (2010). “Virtual Organizational Imitation for Construction Enterprises (VOICE): Managing business complexity using Agent Based Modeling”. *ASCE Construction Research Commission 2010 (CRC 2010)*. Banff, Canada.

Book Chapter

- [176] Ligmann-Zielinska A.*, **Du, J.**, Rivers III L, Liverpool-Tasie S, Denny R C H, Wood A L, Sanga U, Marquart-Pyatt S, Breeze V, Paudel R, and Schmitt Olabisi L, (2017). “Principles of Participatory Ensemble Modeling to Study Complex Socioecological Systems in Innovations in Collaborative Modeling (Porter W F, Zhao J, Schmitt Olabisi L, McNall M, Eds.)” *Transformations in Higher Education: The Scholarship of Engagement Series*, Michigan State University Press.

Magazine Articles

- [177] **Du, J.** (2015). “Facebook Timeline Tracks Century of Construction Technology”. *Engineering News-Record (ENR)*. <https://www.enr.com/articles/17215-facebook-timeline-tracks-century-of-construction-technology?v=preview>

Other Publications

- [178] **Du, J.** (2012). “Investigation of Interpersonal Cooperation in Construction Project Teams: An Agent-Based Modeling Approach”. Ph.D. Dissertation, Construction Management program at Michigan State University, East Lansing, MI.
- [179] **Du, J.** (2008). “A Study of Employee Performance Evaluation System”. Master’s Thesis, School of Management at Tianjin University, Tianjin, China.
- [180] **Du, J.** (2004). “A Mathematical Model of Enterprise Resource Management”. Bachelor Thesis, School of Management at Tianjin University, Tianjin, China.
- [181] **Du, J.** (2004). “Automatic FEA Based Structural Design Using Visual Basic and ANSYS (APDL)”. Bachelor Thesis, School of Civil Engineering at Tianjin University, Tianjin, China.

RESEARCH GRANTS

Funded (TOTAL: \$14.78 MILLION; MY PORTION: \$5.9 MILLION)

- **Co-PI:** “SCC-IRG Track 1: Strengthening Elderly Mobility in Urban Landscapes: Towards Age-Inclusive and Equitable Communities”.
 - 9/2024 – 8/2027
 - **National Science Foundation (NSF)**
 - \$1,600,000; Amount Attributed to me: \$426,757.

- **PI:** “Enabling Tactile Sensation in LLMs with Large Physics Modeling”.
 - 8/2024 – 12/2025
 - **Nvidia AI Technology Center (NVAITC)**
 - \$227,665; Amount Attributed to me: \$151,776.

- **PI:** “Bridging Lunar Delays: Simulated Sensory Sharing for Remotely Guided Ultrasound Examinations”.
 - 4/2024 – 2/2025
 - **UF Space Research Initiative Award**
 - \$80,000; Amount Attributed to me: \$80,000.

- **PI:** “Human-Robot Sensory Sharing for Swift Trust in Autonomy”.
 - 12/2022 – 11/2025
 - **Air Force Office of Scientific Research (AFOSR)**
 - \$599,322; Amount Attributed to me: \$599,322.

- **PI:** “FW-HTF-R/Collaborative Research: Human-Robot Sensory Transfer for Worker Productivity, Training, and Quality of Life in Remote Undersea Inspection and Construction Tasks”.
 - 09/2021 – 08/2025
 - **National Science Foundation (NSF)**
 - \$2,090,000; Amount Attributed to me: \$1,010,000.

- **PI:** “SearchAR: User Centered Adaptive Augmented Reality for Search and Rescue”.
 - 06/2021 – 05/2024
 - **National Institute of Standards and Technology (NIST)**
 - \$1,395,470. Amount Attributed to me: \$1,395,470.

- **PI:** “Sensory Manipulation as a Countermeasure to Robot Teleoperation Delays”.
 - 06/2021 – 05/2022
 - **The National Aeronautics and Space Administration (NASA)**
 - \$150,000; Amount Attributed to me: \$150,000.

- **PI:** “Collaborative Research: NRI: INT: ForceBot: Customizable Robotic Platform for Body-Scale Physical Interaction Simulation in Virtual Reality”.
 - 09/2020 – 08/2024
 - **National Science Foundation (NSF)**
 - \$312,985; Amount Attributed to me: \$312,985.

- **PI:** “RAPID: Collaborative Research: High-Frequency Decisional, Motivational and Sentimental Data Collection for Human Mobility Prediction during COVID-19”.
 - 05/2020 – 04/2021
 - **National Science Foundation (NSF)**
 - \$66,515; Amount Attributed to me: \$66,515.

- **Co-PI:** “Convergence Accelerator Phase I (RAISE): Learning Environments with Advanced Robotics for Next-Generation Emergency Responders (LEARNER)”.
 - 09/2019 – 08/2021
 - **National Science Foundation (NSF)**
 - \$999,327; Amount Attributed to me: \$127,129.
- **Co-PI:** “B2: Learning Environments with Augmentation and Robotics for Next-gen Emergency Responders (LEARNER)”.
 - 09/2020 – 08/2022
 - **National Science Foundation (NSF)**
 - \$4,998,274; Amount Attributed to me: \$649,988
- **PI:** “Collaborative Research: Personalized System for Wayfinding for First Responders”.
 - 06/2018 – 05/2022
 - **National Science Foundation (NSF)**
 - \$416,677; Amount Attributed to me: \$235,339.
- **PI:** “Cognition-driven Display for Navigation Activities (Cog-DNA): Personalized Spatial Information System Based on Information Personality of Firefighters”.
 - 06/2018 – 05/2022
 - **National Institute of Standards and Technology (NIST)**
 - \$463,413; Amount Attributed to me: \$265,576.
- **PI:** “Intelligent Building Inspection System based on Augmented Reality”.
 - 03/2020 – 02/2021
 - **C.A.P. Government, Inc.**
 - \$70,681; Amount Attributed to me: \$70,681.
- **PI:** “Hostile Intent Prediction based on Gaze Movement Trajectory in Indoor Navigation”.
 - 05/2018 – 04/2019
 - **TAMU T3 Seed Grant**
 - \$35,000; Amount Attributed to me: \$25,000.
- **Co-PI:** “Enhancing Flood Resiliency in an Underserved Neighborhood”.
 - 10/2017 – 09/2018
 - **TAMU Interdisciplinary Research Seed Grant**
 - \$25,000; Amount Attributed to me: \$5,000.
- **Co-PI:** “IBSS: Participatory Ensemble Modeling to Study the Multiscale Social and Behavioral Dynamics”.
 - 08/2014 – 07/2019
 - **National Science Foundation (NSF)**
 - \$999,793; Amount Attributed to me: \$187,695.
- **PI:** “Optimize Road Preventive Maintenance Decisions based on Running Vehicles’ Vibration Data”.
 - 05/2018 – 10/2019
 - **US DOT - TranSET**
 - \$100,000; Amount Attributed to me: \$50,000.
- **Co-PI:** “Building Information Modeling Supported Building Life Cycle Management: On the Edge of Total Information Management”.

- 09/2014 – 08/2015
- **Fiatech**
- \$68,220; Amount Attributed to me: \$20,000.
- **PI:** “Enhance Project Controls by Quantitative Approaches”.
 - 04/2014 – 08/2017
 - **Zachry Holdings, Inc.**
 - \$116,264; Amount Attributed to me: \$116,264.
- **PI:** “A Cloud-Based Benchmarking Tool for Building Information Modeling (BIM)”.
 - September 2014 – August 2015
 - **UTSA INTRA Grant.**
 - \$5,000; Amount Attributed to me: \$5,000

GRADUATE STUDENT SUPERVISION

| Name | Degree | Graduation (or estimate) | Topic | Role |
|----------------|---|--------------------------|---|-------|
| Ruitong Tian | PhD (UF) | May 2029 | Embodied AI for Construction Robotics | Chair |
| Xianyao Li | PhD (UF) | May 2029 | Embodied AI for Construction Robotics | Chair |
| Zhen Zhang | PhD (UF) | May 2028 | AI for Data Augmentation | Chair |
| Bowen Sun | PhD (UF) | May 2027 | Autonomous Drones | Chair |
| Thanakon Uthai | PhD (UF) | May 2026 | Robotic Soft Object Manipulation | Chair |
| Jiahao Wu | PhD (UF) | May 2026 | Autonomous Drones | Chair |
| Hengxu You | PhD (UF) | May 2025 | Embodied AI for Construction Robotics | Chair |
| Fang Xu | PhD (UF); Post-Doctoral Researcher at UF | May 2024 | Ground Robot for Augmented Reality | Chair |
| Ye Yang | PhD (UF); Assistant Professor, Northeastern University | May 2024 | Construction Exoskeleton | Chair |
| Pengxiang Xia | PhD (UF); Scientist, Huawei | May 2024 | Underwater robots | Chair |
| William Vann | PhD (UF); Assistant Professor, College of Central Florida | May 2023 | Robot-Assisted Training for Future Construction Workers | Chair |
| Tianyu Zhou | PhD (UF); Post-Doctoral Researcher at UF | May 2023 | Situational Awareness Enhancement in Civil Engineering Operations Via Deep Learning and Game Engine Development | Chair |

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|---------------------|--|---------------|---|----------|
| Qi Zhu | PhD (UF); Research Scientist, NIST Communications Technology Laboratory | May 2022 | VR-Based Robotic Teleoperation System for Power Plant Maintenance and Operations | Chair |
| Yangming Shi | PhD (UF); Assistant Professor, Colorado School of Mines | Aug 2020 | VR-based Intelligent Information Systems for pipefitting operations | Chair |
| Jingjie Zhang | PhD (TAMU) | Aug 2020 | Improved Copula method for independent high-dimensional data analysis | Co-Chair |
| Yanchao Wang | PhD (Northeastern) | Aug 2021 | Personalized Information System for Wayfinding based on VR and EEG classification | Co-Chair |
| Robert Hernandez | M.S. (UF) | Aug 2020 | BIM for facilities management – U.S. Airforce case study I | Co-Chair |
| Morgan Webber | M.S. (UF) | Aug 2020 | BIM for facilities management – U.S. Airforce case study II | Co-Chair |
| Allison Pontal | M.S. (UF) | Aug 2020 | BIM for facilities management – U.S. Airforce case study III | Co-Chair |
| Nishith Singh | M.S. (TAMU) | April 2017 | Social Network Analysis for BIM- enabled project communication | Chair |
| Rolando Moreno | M.S. (TAMU) | April 2019 | VR-based training for pipe fitting workers | Chair |
| Jorge Rincon | M.S. (TAMU) | April 2017 | Stakeholder ‘Autonomous Agent’ Affecting Last Planner System Performance in Texas | Member |
| Min Ma | M.S. (TAMU) | Dec 2017 | Last Planner Systems for project management | Member |
| Dustin Han | M.S. (TAMU) | Dec 2017 | Hand Remapping method for Virtual Reality object interactions | Member |

PATENTS

- Du, J. “Method and Apparatus for Real-time Inter-locational Probabilistic Simulation” CHINA201310461382.3
- Du, J. “Method and Apparatus for Real-time Inter-locational Probabilistic Simulation” USPTO13929903
- Du, J., Zhu, Q., and Zhou, T. “Haptic System for Robot Teleoperation in Confined Spaces”. U.S. Patent Application No.63/366,092. Filed on June 9, 2022.
- Du, J., Xia, P., Xu, F., and Zhu, Q. “Haptic System for Robot Teleoperation of a Remotely Operated Vehicle”. U.S. Patent Application No.63/368,074. Filed on July 11, 2022.
- Du, J., Ye, Y. “Systems and Methods Remote Transferring of Sensation for Physical Motor Training”. U.S. Patent Application No.63/371,016. Filed on August 10, 2022.

- Du, J., Zhu, Q., Zhou, T. “Haptic Feedback System for Anti-Sway Control of a Payload”. U.S. Patent Application No.63/370,174. Filed on August 10, 2022.
- Du, J., Ye, Y., Xu, F., Xia, P., and You, H. “Adaptive LiDAR Scanning Based on RGB Information”. No. 63/670,334, filed July 12, 2024

TEACHING

- CGN 6905 – Advanced Construction Info Tech – Fall 24– Instructor Evaluation: 5.0/5.0
- CGN 4905 – Construction Modeling and Simulation – Fall 24 – Instructor Evaluation: 4.12/5.0
- CGN 6905 – Advanced Construction Info Tech – Fall 23– Instructor Evaluation: 4.45/5.0
- CGN 4905 – Construction Modeling and Simulation – Fall 23 – Instructor Evaluation: 4.34/5.0
- CGN 6905 – Advanced Construction Info Tech – Fall 22– Instructor Evaluation: 4.94/5.0
- CGN 4905 – Construction Modeling and Simulation – Fall 22 – Instructor Evaluation: 4.79/5.0
- CGN 6905 – Advanced Construction Info Tech – Fall 21– Instructor Evaluation: 4.47/5.0
- CGN 4905 – Construction Modeling and Simulation – Fall 21 – Instructor Evaluation: 4.58/5.0
- CGN 6905 – Advanced Construction Info Tech – Fall 21– Instructor Evaluation: 4.37/5.0
- CGN 4905 – Construction Modeling and Simulation – Fall 21 – Instructor Evaluation: 5.0/5.0
- CGN 6905 – Advanced Construction Info Tech – Fall 20– Instructor Evaluation: 4.45/5.0
- CGN 4905 – Construction Modeling and Simulation – Fall 20 – Instructor Evaluation: 5.0/5.0
- CGN 6905 – Advanced Construction Info Tech – Fall 19 – Instructor Evaluation: 4.70/5.0
- CGN 4905 – Construction Modeling and Simulation – Fall 19 – Instructor Evaluation: 4.57/5.0
- COSC 461 – Building Information Modeling – Fall 18 – Instructor Evaluation: 4.89/5.0; 4.78/5.0
- COSC 461 – Building Information Modeling – Spring 18 – Instructor Evaluation: 4.64/5.0; 4.55/5.0
- COSC 461 – Building Information Modeling – Fall 17 – Instructor Evaluation: 4.54/5.0
- COSC 461 – Construction Company Operation – Fall 17 – Instructor Evaluation: 4.46/5.0
- COSC 461 – Building Information Modeling – Spring 17 – Instructor Evaluation: 4.49; 4.51/5.0
- COSC 461 – Construction Company Operation – Fall 16 – Instructor Evaluation: 4.58/5.0
- COSC 461 – Building Information Modeling – Fall 16 – Instructor Evaluation: 4.70/5.0
- COSC 353 – Construction Project Management - Summer 16 - Instructor Evaluation: 4.49/5.0
- COSC 461 – Building Information Modeling - Spring 16 – Instructor Evaluation: 4.73/5.0
- COSC 443 – Industrial Capstone - Spring 16 – Instructor Evaluation: 4.57/5.0
- COSC 620 – Construction Company Operation - Fall 15 – Instructor Evaluation: 4.67/5.0
- COSC 642 – Construction Information Technology - Fall 15– Instructor Evaluation: 4.57/5.0
- CSM 2113 – Construction Materials and Methods - Spring 15– Teaching Evaluation: 4.83/5.0
- CSM 2143 – Construction Materials and Testing – Fall 14. Teaching Evaluation:4.5/5.0; 4.6/5.0
- CSM 4713 - Construction Capstone – Spring 14. Teaching Evaluation: 4.71/5.0
- CSM 3011 – Construction Industry Contemporary Issues – Spring 14. Teaching Evaluation: 4.5/5.0

INVITED PRESENTATIONS AND LECTURES

- Du, J. (2024). “The Future of Industrialized Construction”. Keynote at 2024 National Disaster Resilience Conference.
- Du, J. (2023). “Cognition-Drive UI for Complex Systems”. SAP Corporation Invited Speaker Series.
- Du, J. (2023). “Embodied Robotics for Construction”. Northeastern University Distinguished Seminar Series.

- Du, J. (2023). “Human-Robot Sensory Sharing for Future Industrial Operations”. 3rd ACC Workshop on Recent Advancement of Human Autonomy Interaction and Integration
- Du, J. (2023). “Embodied Robot Teleoperation for the Next-Gen Construction”. Kennesaw State University distinguished seminar series.
- Du, J. (2022). “Embodied Teleoperation via Human-Robot Sensory Transfer”. Keynote. The 2022 IEEE International Conference on Human-Machine Systems (ICHMS)
- Du, J. (2022). “Physical Embodiment in Robot Teleoperation”. NASA HOME (Habitats Optimized for Missions of Exploration) Space Technology Research Institute
- Du, J. (2022). “Human-Robot Collaboration: Envisioning the Future of Construction”. Seoul National University Distinguished Lecture series, South Korea
- Du, J. (2022). “Intelligent Construction Teleoperation Robot”. Kent State University Distinguished Lecture series
- Du, J. (2022). “Human-Robot Collaboration: Envisioning the Future of Construction”. Purdue University, Lyles of Civil and Environmental Engineering Industry Advisory Board
- Du, J. (2022). “Human-Robot Collaboration in Industrial Workplaces”. UF/IFAS Department of Agricultural and Biological Engineering
- Du, J. (2021). “Robot for Future Works”. Institute for Learning in Retirement at Oak Hammock.
- Du, J. (2020). “Personalized Wayfinding System for Firefighters”. CES 2020, Las Vegas, NV.
- Du, J. (2019). “Cog-DNA: Personalized Wayfinding System for Firefighters”. NIST PSCR 2019 Annual Conference. <https://youtu.be/bSyGr6sHQQw>
- Du, J. (2018). “Cognition-Driven Display for Navigation Activities: Cog-DNA”. National Public Safety Telecommunications Council (NPSTC). <https://youtu.be/Hf14xv2NLbQ>
- Du, J. (2018). “Cog-DNA: Personalized Wayfinding System for Firefighters”. NIST PSCR 2018 Annual Conference. https://cdnapisec.kaltura.com/index.php/extwidget/preview/partner_id/684682/uiconf_id/31013851/entry_id/1_1trod30r/embed/dynamic#t=28:40
- Du, J. (2018). “Vibrations, the Common Language of Internet of Things (IoT)”. TEDxTAMU. https://www.ted.com/talks/eric_jing_du_vibrations_the_common_language_of_internet_of_things_iots
- Du, J. (2018). “Human Carried Sensors to Study Navigational Behaviors”. Workshop on Wearable Sensors and Mobile Computing in Construction, IEEE Body Sensor Network (BSN)’18 Conference.
- Du, J. (2013). “Dr. Du Learning Moment – Series Seminars”. Zachry Holdings, Inc, San Antonio, TX, January 2013-August 2013.
- Du, J. (2012). “Project Management and Controls - Series Seminars”. Zachry Holdings, Inc, R.O.C.K.S. Lectures, San Antonio, TX, July 2012-August 2013.
- Du, J. (2011). “Data Mining and Statistical Methods in Construction Project Management and Controls”. Zachry Holdings, Inc, R.O.C.K.S. Speech, San Antonio, TX, July 2011.
- Du, J. and Wang, Q. (2010). “Agent Based Modeling and Its Integrated Development Environment”. Michigan State University, MSU-ABM group, East Lansing, MI, October 8, 2010.
- Du, J. (2010). “Towards an Agile Alignment: Exploring Implications of Social Aspects in Construction Organizations”. Engineering Project Organizations Conference, South Lake Tahoe, CA, November 4-7, 2010.
- Du, J. (2010). “Discrete Event Simulation and Its Applications in Construction Engineering and Management”. Michigan State University, Lecture Session of Complexity Based Simulation in Planning Design and Construction, East Lansing, MI, October, 2010.
- Du, J. (2009). “Risk Attitudes and US Construction Market: A Simulation Finding”. Michigan State University, MSU-ABM group, East Lansing, April 20, 2009.

HONORS AND ACHIEVEMENTS

- 2023, Outstanding Reviewer, ASCE *Journal of Computing in Civil Engineering*
- 2022, NIST Public Safety Communication Research (PSCR) division research excellence award.
- 2022, Best Paper Award, 55th Annual Meeting of the Human Factors and Ergonomics Society (HFES).
- 2022, Best Paper Award, and Honorable Mention Award, Canadian Society of Civil Engineers (CSCE) Transforming Construction with Reality Capture Technologies (TCRC) conference.
- 2019 Outstanding Reviewer, ASCE *Journal of Construction Engineering and Management*.
- 2018 Outstanding Reviewer, ASCE *Journal of Construction Engineering and Management*.
- 2018 TAMU Montague CET Excellence Scholar for exemplary undergraduate teaching
- 2018 TAMU COSC Scholarly Work and Research Award
- 2017 Outstanding Reviewer, ASCE *Journal of Construction Engineering and Management*.
- 2015 Annual Best Paper Award. ASCE *Journal of Construction Engineering and Management*.
- 2014 Best Paper Award. *International Conference on Innovative Technologies in Construction (ITC 2014)*.
- 2014 Outstanding Research and Scholarship Award, CoA UTSA
- 2012 Phi-Kappa-Phi Honor Society Member
- 2012 Albert A. White Scholarship, Michigan State University
- 2012 Ed Gavin Memorial Scholarship, Michigan State University
- 2011 Ed Gavin Memorial Scholarship, Michigan State University
- 2010 Douglass C. Campbell Scholarship, Michigan State University
- 2009 Travel Funding Fellowship, Graduate School at Michigan State University
- 2009 Klomparens Fellowship, Michigan State University
- 2009 College Special Fellowship, Michigan State University
- 2009 Graduate Opportunity Fellowship (GOF), Michigan State University
- 2008 Graduate Opportunity Fellowship (GOF), Michigan State University
- 2008 Graduate School Summer Fellowship, Graduate School at Michigan State University
- 2006 School of Management Research Symposium, Session Chair, Tianjin University
- 2005 President of School of Management Graduate Student Association at Tianjin University
- 2003 Vice Chairman of Student Council at Tianjin University
- 2003 Student Leadership Scholarship, Tianjin University
- 2002 Student Leadership Scholarship, Tianjin University
- 2002 Three A's Student Scholarship, Tianjin University
- 2001 Three A's Student Scholarship, Tianjin University
- 2000-2004 Chairman of Student League in the School of Civil Engineering at Tianjin University

SERVICES

- **Vice Chair**, ASCE Visualization, Information Modeling and Simulation (VIMS) Committee, 2023 – present
- **Secretary**, ASCE Visualization, Information Modeling and Simulation (VIMS) Committee, 2021 – 2023
- **Member-at-Large**, ASCE Visualization, Information Modeling and Simulation (VIMS) Committee, 2019 – 2021
- **Voting member**, ASCE Visualization, Information Modeling and Simulation (VIMS) Committee, 2015 - 2019
- **Assistant Specialty Editor**, ASCE *Journal of Construction Engineering and Management*, 2017-present
- **Associate Editor**, *Buildings*, 2022 – present
- **Guest Editor**, *ELSEVIER Advanced Engineering Informatics*, 2019-2022; 2023-2025

- **Guest Editor**, *Data*, 2018-2020
- **Track Editor**, *ACM/IEEE Winter Simulation Conference (WSC)*, 2019 - present
- **Conference Organizing Member**, i3CE 2021; ASCE Construction Research Congress (CRC) 2020, 2019, 2018; *2017 International Workshop on Computing in Civil Engineering (IWCCE2017)*.
- **Search Committee Member**, TAMU (2), UF (6)
- **Committee Member**, TAMU COSC Technology committee, 2015-2019
- **Committee Member**, ASCE *ICSDEC 2016 conference*, 2015-2016
- **Committee Member**, UTSA Construction Science Scholarship Committee, 2013-2015
- **Reviewer**, *ELSEVIER Automation in Construction*, 2014- present
- **Reviewer**, *ELSEVIER Advanced Engineering Informatics*, 2017- present
- **Reviewer**, ASCE *Journal of Computing in Civil Engineering*, 2012-present
- **Reviewer**, ASCE *Journal of Urban Planning and Development*, 2011-present
- **Reviewer**, ASCE *Journal of Construction Engineering and Management*, 2014-present
- **Reviewer**, ASCE *Journal of Management in Engineering*, 2014-present
- **Reviewer**, ASEE Conference 2014, 2013- present
- **Reviewer**, ASCE *CRC Conference*, 2013- present
- **Reviewer**, ASCE *ICCCBE Conference*, 2013- present
- **Reviewer**, *Associated Schools of Construction (ASC) Annual Conference*, 2012-present
- **Reviewer**, *Engineering Project Organization Conference (EPOC)*, 2010-2011

PROFESSIONAL AFFILIATIONS

- AAAS (American Association for the Advancement of Science), Member, 2022 - Present
- ASCE (American Society of Civil Engineers), Member, 2014- Present
- ASCE Data Sensing and Analysis (DSA) Committee, Voting Member, 2016- Present
- ASCE Visualization, Information Modeling and Simulation (VIMS) Committee, Voting Member, 2016- Present; Secretary, 2020 – present.
- ACM (Association for Computing Machinery). Member, 2019 – present.
- CII (Construction Industry Institute), Academic Committee; Research Team Member (RT282)
- LCI (Lean Construction Institute), Student Member, 2010-2011
- EPOS (Engineering Project Organization Society), Charter Member, 2010-2014.

MEDIA COVERAGE

- “Human hands are astonishing tools. Here's why robots are struggling to match them” *BBC*
<https://www.bbc.com/future/article/20250121-why-hands-are-one-of-the-biggest-challenges-in-robotics>
- “[From space to emergency care, UF students push the boundaries of robotics](#)”. *UF News*
- “Tech Trends: Bringing VR and AR Into the ROV Control Room” *Hart Energy*.
<https://www.hartenergy.com/exclusives/tech-trends-bringing-vr-and-ar-rov-control-room-watch-206061>
- “Tech Allows ROV Pilots to ‘Feel’ the Sea” *Hart Energy*.
<https://www.hartenergy.com/exclusives/tech-allows-rov-pilots-feel-sea-206073>
- “A UF Professor Is Creating Robotic Dogs Trained to Assist First Responders” *NPR-WUFT*.
<https://www.wuft.org/news/2021/08/03/a-uf-professor-is-creating-robotic-dogs-trained-to-assist-first-responders/>

- “University of Florida's robot dogs aim to be first responders' best friend” *Gainesville Sun*.
- “Robots offer power, promise”. *The Villages Daily Sun*.
- “How a robot developed at UF could help first responders see through walls during rescues” *University of Florida*, <https://news.ufl.edu/2021/05/robo-dog/>
- “Training responders to use augmented reality, exoskeletons”. *Global Cycling Network*
- “Firefighters to Perform Search and Rescue Missions Using CoSci Prof’s VR Tech” – *Texas A&M University*, <https://today.tamu.edu/2018/06/05/firefighters-to-perform-search-and-rescue-missions-using-cosci-profs-vr-tech/>
- “CoSci prof’s proposed app would gauge effectiveness of 3-D models” – *Texas A&M University*, 2016. <https://one.arch.tamu.edu/news/2016/6/28/cosci-profs-app-gauge-effectiveness-3d-models/>
- “Facebook Timeline Tracks Century of Construction Technology” – *Engineering News-Record (ENR)* 2015. <http://www.enr.com/articles/17215-facebook-timeline-tracks-century-of-construction-technology?v=preview>
- “Aggies Post Timeline of Construction Tech Milestones” – *BuiltWorlds* 2015. <http://www.builtworlds.com/news/2015/10/7/facebook-timeline-tracks-century-of-construction-technology>
- “UTSA researcher working to end hunger in Africa through technology” – *San Antonio Business Journal* < <http://www.bizjournals.com/sanantonio/news/2014/08/07/utsa-researcher-working-to-end-hunger-in-africa.html> >
- “UTSA researcher awarded NSF grant to create computer models for food insecurity project” – *Phys.org* < <http://phys.org/wire-news/168800342/utsa-researcher-awarded-nsf-grant-to-create-computer-models-for.html> >
- “UTSA researcher awarded NSF grant to help increase Africa food security (UTSA - The University of Texas at San Antonio)” *World News Network* <http://article.wn.com/view/2014/08/06/UTSA_researcher_awarded_NSF_grant_to_help_increase_Africa_fo/>
- “UTSA researcher to create computer models to produce sustainable food security in the region” – *News-Medical.Net* < <http://www.news-medical.net/news/20140807/UTSA-researcher-to-create-computer-models-to-produce-sustainable-food-security-in-the-region.aspx> >