

# Jin Zhu

Assistant Professor  
Civil and Environmental Engineering  
University of Connecticut  
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## RESEARCH INTEREST

### ❖ Societal challenge

Resilient infrastructure, resilient communities, smart cities, disaster response and recovery, sustainable socio-technical systems

### ❖ Research theory

Complex system science, network science, decision theory, behavioral science

### ❖ Research method

Dynamic network analysis, agent-based modeling, stochastic simulation, case study

## PROFESSIONAL AFFILIATIONS

UCONN Institute for Collaboration on Health, Intervention, and Policy (InCHIP)	2019-present
UCONN Sustainable Global Cities Initiative	2019-present
UCONN Engineering for Human Rights Initiative	2019-present
UCONN UTC Institute for Advanced Systems Engineering	2018-present

## ACADEMIC APPOINTMENT

<b>Assistant Professor</b> <i>Civil and Environmental Department</i> University of Connecticut	2017.08-present
<b>Postdoctoral Research Associate</b> <i>Zachry Department of Civil Engineering</i> Texas A&M University	2016.08-2017.07
<b>Graduate Assistant</b> <i>OHL School of Construction; Civil and Environmental Engineering Department</i> Florida International University	2010.08-2016.08
<b>Research Assistant</b> <i>Construction Management &amp; Real Estate Department</i> Southeast University, China	2009.08-2010.08

## EDUCATION

<b>Florida International University</b> <b>Doctor of Philosophy in Civil Engineering</b>	2016
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*Dissertation Title: “A System-of-Systems Framework for Assessment of Resilience in Complex Construction Projects”. Dissertation Advisor: Prof. Ali Mostafavi*

**Florida International University** 2015  
**Master of Public Administration**  
Graduate certificate in *Homeland Security and Emergency Management*

**Southeast University, China** 2009  
**Bachelor of Science in Construction Management**  
Minor in *Accounting*

## **HONORS AND AWARDS**

### **1. Honors and Awards in Teaching**

#### **Excellence in Teaching**

*University of Connecticut*

Congratulations Letter from Provost, 2021

#### **Excellence in Teaching**

*University of Connecticut*

Congratulations Letter from Provost, 2017

### **2. Honors and Awards in Research**

#### **Best Poster Runner-up**

*Winter Simulation Conference*

Best poster runner-up to the poster entitled “A Social-cost-based Dynamic Restoration Decision-making Modelling Framework for Power Distribution System”, 2020

#### **Featured Paper in Editor’s Choice**

*ASCE Journal of Construction Engineering and Management*

Paper “Guidelines for Robust Adaptation to Environmental Regulations in Infrastructure Projects” selected to be featured in the Editor’s choice section of the Journal of Construction Engineering and Management, 2020

#### **Featured Paper in Editor’s Choice**

*ASCE Journal of Construction Engineering and Management*

Paper “Metrics That Matter: Core Metrics and Indicators for Improved Project Controls and Analytics” selected to be featured in the Editor’s choice section of the Journal of Construction Engineering and Management, 2018

#### **Best Poster Award, Second-Place**

*ASCE Construction Research Congress*

The second-place award to the poster entitled “Building Safe-to-Fail Project Systems: Assessment of Resilience in Projects using Dynamic Meta-Network Simulation”, San Juan, Puerto Rico, 2016

**Best Poster Competition Finalist and Travel Grant**

*Construction Industry Institute (CII)*

One of the top 10 finalists in poster competition with the poster entitled “Building Safe-to-Fail Project Systems: Assessment of Resilience in Projects using Dynamic Meta-Network Simulation” in CII Annual Conference, National Harbor, MD, 2016

**Best Oral Presentation Award, Second-Place**

*Florida International University Graduate Student Scholarly Forum*

The second-place award in the engineering panel competition to the oral presentation entitled “Ex-Ante Assessment to Uncertainty in Complex Construction Project Organizations”, 2016

**Best Paper Award**

*ASCE International Workshop on Computing in Civil Engineering*

Best Paper from the Visualization, Information Modeling, and Simulation (VIMS) committee to the paper entitled “An Integrated Framework for the Assessment of the Impacts of Uncertainty in Construction Projects Using Dynamic Network Simulation”, Austin, TX, 2015

**Best Poster Competition Finalist and Travel Grant**

*Construction Industry Institute (CII)*

One of the top 10 finalists in poster competition with the poster entitled “Meta-Network Modeling Framework for Integrated Assessment of Risk, Vulnerability, and Resilience in Complex Construction Projects”, CII Annual Conference, Boston, MA, 2015

**Best Poster Award, Second-Place**

*Florida International University Graduate Student Scholarly Forum*

The second-place award in the engineering panel competition to the poster entitled “Bouncing Back in the Face of Uncertainty: Ex-Ante Analysis of Organizational Vulnerability in Complex Construction Projects”, 2015

**Best Poster Award, Third-Place**

*Florida International University Graduate Student Scholarly Forum*

The third-place award in the engineering panel competition to the poster entitled “An Integrated Project Performance Assessment Framework: A System-of-Systems Approach”, 2014

**3. Fellowship****OSEEER Early Career Mentoring Fellow**

*NSF-funded Operations and Systems Engineering Extreme Event Research (OSEEER) program*  
Early career mentoring program fellow, 2020

**Dissertation Year Fellowship**

*Florida International University*

A merit-based scholarship awarded to highly-qualified doctoral students who are conducting outstanding research in their discipline and have established a notable record of publication during the data analysis and writing phase, 2015

#### 4. Travel Award

##### Travel Award

*NSF-funded Research Coordination Network (RCN) in Science, Engineering and Education for Sustainability (SEES)*

Travel award to attend a workshop on Big Data Analytics: Wellbeing-Centric Human Building Ecosystem, Charlotte, NC, 2019

##### Travel Grant

*Graduate and Professional Student Committee, Florida International University*

Travel grant supporting participation in ASCE Construction Research Congress, 2016

##### Winter Simulation Conference Travel Grant

*Association for Computing Machinery (ACM)*

Travel grant supporting participation in Winter Simulation Conference, Savannah, GA, 2014

##### Travel Grant

*Graduate and Professional Student Committee, Florida International University*

Travel grant supporting participation in ASCE International Workshop on Computing in Civil Engineering, 2015

#### 5. Others

##### Honor Graduate

*Southeast University, China, 2009*

##### Excellent Undergraduate Thesis Award

*Southeast University, China, 2009*

## **PUBLICATIONS**

*Graduate student advisees are underlined. Corresponding author identified by an asterisk.*

### 1. Refereed Journal Articles

#### *1.1 Journal articles published and accepted*

**J17.** Zhu, J.\*, and Chowdhury, S. (20xx). Building Resilience in Civil Infrastructure Systems: System-Level Biomimicry to Address Complex Managerial Challenges. *ASCE Journal of Infrastructure Systems* (forthcoming). Doi: 10.1061/(ASCE)IS.1943-555X.0000665

**J16.** Huang, G., Li, D.\*, Zhu, X., & **Zhu, J.** (2021). Influencing factors and their influencing mechanisms on urban resilience in China. *Sustainable Cities and Society*, 103210.

**J15.** Li, D.\*, Du, B., & **Zhu, J.** (2021). Evaluating Old Community Renewal based on Emergy Analysis: A Case Study of Nanjing. *Ecological Modelling*, 449, 109550.

**J14.** Ma, X., Zhang, W.\*, Bagtzoglou, A., and **Zhu, J.**, (2020). Local System Modeling Method for Resilience Assessment of Overhead Power Distribution System under Strong Winds. *ASCE Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering*, 7(1), 04020053.

**J13.** Chowdhury, S., **Zhu, J.\***, Zhang, W. (2020). Optimized Restoration Planning of Infrastructure System-of-Systems using Heterogeneous Network Flow Simulation. *ASCE Journal of Computing in Civil Engineering*, 34(5), 04020032.

**J12.** Chowdhury, S., **Zhu, J.\***, Rasoulkhani, K., Mostafavi A., Jaselskis, E., Stoa R., Li, Q., Banerjee, S., Alsharif A., and Brannen L. (2020). Guidelines for Robust Adaptation to Environmental Regulations in Infrastructure Projects. *ASCE Journal of Construction Engineering and Management*, 146(10), 04020121.

**J11.** Li, Q.\*, Brannen L., Rasoulkhani, K., Mostafavi A., Stoa R., Alsharif A., Banerjee, S., Chowdhury, S., **Zhu, J.**, Jaselskis, E. (2020). Regulatory Adaptation in the Construction Industry: A Case Study of OSHA Update to the Respirable Crystalline Silica Standard. *ASCE Journal of Legal Affairs and Dispute Resolution in Engineering and Construction*, 12(4), 06520003.

**J10.** Rasoulkhani, K.\*, Brannen, L., **Zhu, J.**, Mostafavi A., Jaselskis E., Stoa R. B., Li, Q., Alsharif A., Banerjee S., Chowdhury S. (2020). Establishing a Future-Proofing Framework for Infrastructure Projects to Proactively Adapt to Complex Regulatory Landscapes. *ASCE Journal of Management in Engineering*, 36(4), 04020032.

**J9.** Orgut, R. E.\*, Batouli, M., **Zhu, J.**, Mostafavi, A., Jaselskis, E. (2020). Critical Factors for Improving Reliability of Project Control Metrics throughout the Project Life-cycle. *ASCE Journal of Management in Engineering*, 36(1).

**J8.** **Zhu, J.\*** and Mostafavi. A. (2018). Performance Assessment in Complex Engineering Projects Using a Systems-of-Systems Framework. *IEEE Systems Journal*, 12(1), 262-273.

**J7.** Orgut, R. E.\*, **Zhu, J.**, Batouli, M., Mostafavi, A., Jaselskis, E. (2018). Metrics That Matter: Core Metrics and Indicators for Improved Project Controls and Analytics. *ASCE Journal of Construction Engineering and Management*, 144(11), 04018100.

**J6.** **Zhu, J.\***, Manandhar, B., Truong, J., Ganapati, N. E., Pradhananga, N., Davidson, R., and Mostafavi. A. (2017). Assessment of Infrastructure Resilience in the 2015 Gorkha, Nepal, Earthquake. *Earthquake Spectra*, 33(S1), S147-S165.

**J5.** **Zhu, J.\*** and Mostafavi. A. (2017). Discovering Complexity and Emergent Properties in Project Systems: A New Approach to Understanding Project Performance. *International Journal of Project Management*, 35(1), 1-12.

**J4. Zhu, J.\***, and Mostafavi, A. (2017). Meta-Network Framework for Integrated Performance Assessment under Uncertainty in Construction Projects. *ASCE Journal of Computing in Civil Engineering*, 31(1), 04016042.

**J3. Zhu, J.\***, and Mostafavi, A. (2014). A System-of-Systems Framework for Performance Assessment in Complex Construction Projects. *Organization, Technology & Management in Construction: An International Journal*, 6(3), 1083-1093.

**J2. Li, D.\***, **Zhu, J.**, Hui, E. C., Leung, B. Y., and Li, Q. (2011). An Emergy Analysis-Based Methodology for Eco-Efficiency Evaluation of Building Manufacturing. *Ecological Indicators*, 11(5), 1419-1425.

**J1. Wang, X. X.**, **Zhu, J.**, Li, Q. M., and Deng, X. P.\* (2010). Analysis of Top 200 Design Firms in International Construction Market of 2008. *Construction Economy*, 2, 26-28. (In Chinese)

### ***1.2 Journal articles under review***

**J2r. Ren, Z.**, **Fusco, G.**, Lownes, N., and **Zhu, J.\***, (20xx). Entropy-based Diversity Quantification of Multimodal Transportation Systems: Physical Infrastructure Perspective versus Travel Behavior Perspective. *ASCE Journal of Urban Planning and Development*.

**J1r. Zhang, J.**, Lu, Q., Zhang, W., **Zhu, J.**, and Bagtzoglou, A. (20xx). A Fragility-Weighted Topological Network for Resilient Assessment of Power Distribution System Subjected to Hurricane Winds. *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering*.

### ***1.3 Journal articles under preparation***

**J3p. Chowdhury, S.**, and **Zhu, J.\***. (20xx). Developing a Future-proofed Transportation Infrastructure Planning Framework Using Topic Modeling and Association Rule Mining. *ASCE Journal of Computing in Civil Engineering* (invited to the I3CE 2021 special collection for the *ASCE Journal of Computing in Civil Engineering* (JCCE))

**J2p. Chowdhury, S.**, **Zhu, J.\***, Zhang, W., and Bagtzoglou, A. (20xx). A Social Cost Based Dynamic Restoration Decision Framework for Power Distribution System. *International Journal of Disaster Risk Reduction* (To be submitted)

**J1p. Fusco, G.** and **Zhu, J.\*** (20xx). Evacuation or Stay? The Impact of Residential Building Resilience on Disaster Evacuation Decisions. *ASCE Natural Hazards Review* (To be submitted)

## **2. Refereed Conference Papers**

### ***2.1 Papers in conference proceedings***

**C23. Chowdhury, S.**, and **Zhu, J.** (2021). The Usage of Association Rule Mining towards Future-proofed Transportation Infrastructure Planning. *ASCE International Conference on*

Computing in Civil Engineering, September 12-14, 2021, Orlando, FL. **(Invited to submit a full paper in a special issue of ASCE Journal of Computing in Civil Engineering)**

**C22.** Chowdhury, S., and **Zhu, J.** (2021). An Agent-Based Model for Resilient Power Distribution System Restoration in Dynamic Environments. ASCE International Conference on Computing in Civil Engineering, September 12-14, 2021, Orlando, FL.

**C21.** Fusco, G., and **Zhu, J.** (2021). Resilience Assessment of Residential Buildings under Hurricane Wind Loading through Customized Interactive Structural Analysis. ASCE International Conference on Computing in Civil Engineering, September 12-14, 2021, Orlando, FL.

**C20.** **Zhu, J.**, Zhang, Lu, and Ren, Z. (2020). How Transportation Infrastructures Make Human Resilience Possible: Towards A Conceptual Framework. ASCE Construction Research Congress, March 8-10, 2020, Tempe, AZ.

**C19.** Rasoulkhani, K., Alsharif A., Banerjee S., Chowdhury S., Li, Q., Mostafavi A., **Zhu, J.**, Jaselskis E., Stoa R. B., (2020). A Process Map for Regulatory Adaptation in the Construction Industry. ASCE Construction Research Congress, March 8-10, 2020, Tempe, AZ.

**C18.** Chowdhury, S. and **Zhu, J.** (2019). Heterogeneous Network Flow Model for Optimized Restoration Planning of Interdependent Infrastructure System-of-Systems. ASCE International Conference on Computing in Civil Engineering, June 17-19, 2019, Atlanta, GA. **(Invited to submit a full paper in a special issue of ASCE Journal of Computing in Civil Engineering)**

**C17.** Chowdhury, S. and **Zhu, J.** (2019). Towards the ontology development for smart transportation infrastructure planning via topic modeling. 36<sup>th</sup> International Symposium on Automation and Robotics in Construction, May 21-24, 2019, Banff, AB, Canada.

**C16.** Alsharif A., Jaselskis E., Mostafavi A., **Zhu, J.**, Stoa R., Banerjee S., Rasoulkhani, K., Li, Q., Chowdhury S. (2019). Assessing the Impact of Regulatory Changes on Capital Projects in the United States. CIB World Building Congress, June 17-21, 2019, Hong Kong, China.

**C15.** Stoa R. B., Mostafavi A., Jaselskis E., **Zhu, J.**, Li, Q., Rasoulkhani, K., Alsharif A., Banerjee S., Chowdhury S., Petty, C. (2019). Regulatory Adaptation in the Energy Sector: Common Challenges and Emerging Solutions. 65<sup>th</sup> Annual Institute Proceedings of Rocky Mountain Mineral Law Foundation.

**C14.** **Zhu, J.**, and Mostafavi, A. (2018). Enhancing Resilience in Disaster Response: A Meta-Network Analysis Approach. ASCE Construction Research Congress 2018, April 2-4, 2018, New Orleans, LA.

**C13.** **Zhu, J.**, and Mostafavi, A. (2017). Characterization of the Underlying Mechanisms of Vulnerability in Complex Projects using Dynamic Network Simulation. Winter Simulation Conference (WSC), December 3-6, 2017, Las Vegas, NV.

**C12. Zhu, J.,** Mostafavi, A., and Whyte J. (2017). Towards Systems Integration Theory in Megaprojects: A System-of-Systems Framework. Lean & Computing in Construction Congress, July 4-12, Heraklion, Crete, Greece.

**C11. Zhu, J.,** and Mostafavi, A. (2016). Dynamic Meta-Network Modeling for Integrated Project Performance Assessment under Uncertainty. ASCE Construction Research Congress, May 31-June 2, San Juan, Puerto Rico.

**C10.** Orgut, R. E., Batouli, M., **Zhu, J.,** Mostafavi, A., and Jaselskis, E. (2016). Metrics That Matter: Evaluation of Metrics and Indicators for Project Progress Measurement, Performance Assessment, and Performance Forecasting during Construction. ASCE Construction Research Congress, May 31-June 2, 2016, San Juan, Puerto Rico.

**C9. Zhu, J.,** and Mostafavi, A. (2015). Ex-ante assessment of vulnerability to uncertainty in complex construction project organizations. International Construction Specialty Conference, Canadian Society for Civil Engineering, June 8-10, 2015, Vancouver, Canada.

**C8.** Orgut, R., **Zhu, J.,** Batouli, M. Mostafavi, A., and Jaselskis, E. (2015). A Review of the Current Knowledge and Practice related to Project Progress and Performance Assessment. International Construction Specialty Conference, Canadian Society for Civil Engineering, June 8-10, 2015, Vancouver, Canada.

**C7. Zhu, J.,** and Mostafavi, A. (2015). An Integrated Framework for the Assessment of the Impacts of Uncertainty in Construction Projects Using Dynamic Network Simulation. ASCE International Workshop on Computing in Civil Engineering, June 21-23, 2015, Austin, TX. **(Best Paper Award from VIMS Committee)**

**C6.** Batouli, M., Swei, O.A, **Zhu, J,** Gregory, J., Kirchain, R., and Mostafavi, A. (2015). A Simulation Framework for Network Level Cost Analysis in Infrastructure Systems. ASCE International Workshop on Computing in Civil Engineering, June 21-23, 2015, Austin, TX.

**C5. Zhu, J.,** and Mostafavi, A. (2014). Integrated Simulation Approach for Assessment of Performance in Construction Projects: A System-of-Systems Framework. Winter Simulation Conference, December 7-10, 2014, Savannah, GA.

**C4. Zhu, J.,** and Mostafavi, A. (2014). An Integrated Framework for Bottom-Up Assessment of Performance in Construction Projects. Project Management Symposium, June 9-10, 2014, College Park, MD. **(Invited to submit a full paper in Organization, Technology & Management in Construction: An International Journal)**

**C3. Zhu, J.,** and Mostafavi, A. (2014). Project Organizations as Complex System-of-Systems: Integrated Performance Assessment at the Interface of Emergent Properties, Complexity, and Uncertainty. Engineering Project Organizations Conference, July 29-31, 2014, Winter Park, Colorado.

**C2. Zhu, J.**, and Mostafavi, A. (2014). System-of-Systems Modeling of Performance in Complex Construction Projects: A Multi-Method Simulation Paradigm. ASCE International Conference on Computing in Civil and Building Engineering, June 23-25, 2014, Orlando, FL.

**C1. Zhu, J.**, and Mostafavi, A. (2014). Towards a New Paradigm for Management of Complex Engineering Projects: A System-of-Systems Framework. IEEE Systems Conference, March 31 – April 3, 2014, Ottawa, Canada.

## ***2.2 Conference paper accepted***

**C2a. Ren, Z.**, Zhang, J., Sifat, I., Xiang, W., Zhang, W., Li, B, and **Zhu, J.** (2022). A Literature Review on Human Dimension in Water-Energy Nexus. ASCE Construction Research Congress, March 9-12, 2022, Arlington, VA.

**C1a. Fusco, G.**, and **Zhu, J.** (2022). Knowledge and Perception of Single-Family Residential Building Resilience and Its Impact on Disaster Evacuations Decisions. ASCE Construction Research Congress, March 9-12, 2022, Arlington, VA.

## **3. Reports**

**R4.** Center for Advanced Multimodal Mobility Solutions and Education (Tier 1 UTC, US DOT) (2021). Disaster Resilience through Diverse Evacuation and Emergency Transportation Systems. University of North Carolina – Charlotte.

**R3.** Construction Industry Institute. (2019). A Guide to Regulatory Future-Proofing for the Construction Industry. Austin, TX.

**R2.** Construction Industry Institute. (2016). Metrics That Matter: Improving Project Progress and Performance Assessment. Austin, TX.

**R1.** Construction Industry Institute. (2016). Project Control Improvement (PCI) Software and User Guide. Austin, TX.

## **4. Posters**

**P17. Chowdhury, S.** and **Zhu, J.** (2020). A Social-cost-based Dynamic Restoration Decision-making Modelling Framework for Power Distribution System. Winter Simulation Conference. December 14-18, 2020. (**Best Poster Runner-up**)

**P16.** Huang, T., Yu, H-L., Nikolopoulos, E., Langousis, A., **Zhu, J.**, Dunn, S., and Yasunobu, M. (2020). Framework Development for Disaster Risk Dynamics and Resilience Analytics in Complex Socio-Technical Systems. EGU General Assembly.

**P15. Chowdhury, S.** and **Zhu, J.** (2020). Dynamic Restoration Decision Making for Power Distribution System Using Agent based Modeling. The 6th Annual UConn School of Engineering Graduate Students Poster Competition. Mar 11, 2020, Storrs, CT.

**P14. Ren, Z. and Zhu, J. (2020).** A Quantitative Method in Measuring Diversity of Multi-modal Transportation Systems. The 6th Annual UConn School of Engineering Graduate Students Poster Competition. Mar 11, 2020, Storrs, CT.

**P13. Fusco, G. and Zhu, J. (2020).** Evacuate or Stay? The Impact of Residential Building Resilience on Evacuation Decisions. The 6th Annual UConn School of Engineering Graduate Students Poster Competition. Mar 11, 2020, Storrs, CT.

**P12. Chowdhury, S. and Zhu, J. (2019).** An Integrated Framework for Data-Driven Transportation Infrastructure Planning. Transportation Infrastructure Durability Center (TIDC) Annual Conference, June 6-7, 2019, Orono, ME.

**P11. Chowdhury, S. and Zhu, J. (2019).** Heterogeneous Network Flow Model for Optimized Restoration Planning of Infrastructure System-of-Systems. The 5th Annual UConn School of Engineering Graduate Students Poster Competition. Mar 15, 2019, Storrs, CT. (**Winner of the Civil Engineering Poster category**)

**P10. Zhu, J., and Mostafavi, A. (2017).** Building Safe-to-Fail Project Systems: Assessment of Resilience in Projects using Dynamic Meta-Network Simulation. “State of the Region” Conference, October 18, 2017, Springfield, MA.

**P9. Zhu, J., and Mostafavi, A. (2016).** Building Safe-to-Fail Project Systems: Assessment of Resilience in Projects using Dynamic Meta-Network Simulation. Construction Industry Institute Annual Conference, August 1-3, 2016, National Harbor, MD. (**One of the top 10 Best Poster Competition Finalists and invited to present at 2016 CII Annual Conference**)

**P8. Zhu, J., and Mostafavi, A. (2016).** Building Safe-to-Fail Project Systems: Assessment of Resilience in Projects using Dynamic Meta-Network Simulation. ASCE Construction Research Congress, San Juan, Puerto Rico. (**Recipient of the Second-Place Poster Award**)

**P7. Zhu, J., and Mostafavi, A. (2015).** Meta-Network Modeling Framework for Integrated Assessment of Risk, Vulnerability, and Resilience in Complex Construction Projects. Construction Industry Institute Annual Conference, August 1-3, 2016, Boston, MA. (**One of the top 10 Best Poster Competition Finalists and invited to present at 2015 CII Annual Conference**)

**P6. Zhu, J., and Mostafavi, A. (2015).** Bouncing Back in the Face of Uncertainty: Ex-Ante Analysis of Organizational Vulnerability in Complex Construction Projects. Florida International University Graduate Student Scholarly Forum, April 10, 2015, Miami, FL. (**Recipient of the Second-Place Poster Award in Engineering Panel**)

**P5. Zhu, J., and Mostafavi, A. (2014).** Integrated Simulation Approach for Assessment of Performance in Construction Projects: A System-of-systems Framework. Winter Simulation Conference PhD Colloquium, December 7-10, 2014, Savannah, GA.

**P4. Zhu, J.,** and Mostafavi, A. (2014). Ex-Ante Assessment of Performance in Construction Projects: A System-of-Systems Approach. ASCE Construction Research Congress, May 19-21, 2014, Atlanta, GA.

**P3. Zhu, J.,** and Mostafavi, A. (2014). An Integrated Project Performance Assessment Framework: A System-of-Systems Approach. FIU Graduate Student Scholarly Forum, April 10, 2014, Miami, FL. (**Recipient of the Third-Place Poster Award in Engineering Panel**)

**P2. Zhu, J.,** and Mostafavi, A. (2014). An Integrated Project Performance Assessment Framework: A System-of-Systems Approach. Florida International University Civil and Environmental Engineering Department Graduate Research Day Poster Session, February 21, 2014, Miami, FL.

**P1. Zhu, J.,** and Mostafavi, A. (2013). System-of-Systems Assessment of Performance in Complex Construction Projects. Florida International University Civil and Environmental Engineering Department Graduate Research Day Poster Session, September 26, 2013, Miami, FL.

## **PRESENTATION AND INVITED TALKS**

**T8.** Presentation “Entropy-based Diversity Quantification of Multimodal Transportation Systems: Physical Infrastructure Perspective versus Travel Behavior Perspective” at third Center for Advanced Multimodal Mobility Solutions and Education (CMMSE) Research Symposium, November 5, 2020.

**T7.** Webinar presentation “Emergence of Resilience from Network Dynamics in Civil Infrastructure Project Systems” at University South California iLab Seminar, December 2, 2019.

**T6.** Presentation “Towards the Ontology Development for Smart Transportation Infrastructure Planning via Topic Modeling” at first Transportation Infrastructure Durability Center (TIDC) Annual Conference, June 6-7, 2019.

**T5.** Presentation “Emergence of Resilience from Network Dynamics in Civil Infrastructure Project Systems” at Summer School hosted by School of Civil Engineering at Southeast University, Nanjing, China, July 3, 2018.

**T4.** Presentation “Emergence of Resilience from Network Dynamics in Civil Infrastructure Project Systems” at Department of Engineering Economics and Management at Hohai University, Nanjing, China, July 4, 2018.

**T3.** Presentation “Emergence of Resilience from Network Dynamics in Civil Infrastructure Project Systems” at UConn Transportation Graduate Students Seminar, September 18, 2017

**T2.** Webinar presentation “Towards a New Paradigm for Management of Complex Engineering Projects: A System-of-Systems Framework” at System of Systems Engineering Collaborators Information Exchange (SoSECIE) hosted by Office of the Secretary of Defense (OSD), November 10, 2015.

**T1.** Webinar presentation “Towards a New Paradigm for Management of Complex Engineering Projects: A System-of-Systems Framework” at International Council on System Engineering (INCOSE) New Mexico Chapter, February 10, 2016.

## **TEACHING AND MENTORING EXPERIENCE**

### **Instructor**

University of Connecticut

[CE 3220] Principles of Construction I	Fall 2017, 18, 19, 20
[CE 4220] Principles of Construction II	Spring 2018, 19, 20, 21
[CE 5030] Seminar in Transportation and Urban Engineering	Spring 20, Fall 21
[CE 5090] Modeling and Simulation for Civil Engineering	Spring 21

### **Teaching Assistant**

Florida International University

[BCN 3727] Construction Site Work and Equipment	Spring 2016, Fall 2015, Fall 2013
[BCN 3753] Financial Management of Construction Organizations	Spring 2015, Fall 2014
[BCN 3761] Construction Documentation and Communication	Spring 2014
[CCE 4001] Heavy Construction	Fall 2010-Fall 2013
[CCE 5405] Advanced Heavy Construction	Fall 2010-Fall 2013
[CCE 4031] Project Planning for Civil Engineers	Fall 2010-Fall 2013

## **STUDENT MENTORING**

### **1. Doctoral Students**

<b>Name of Advisee</b>	<b>Mentoring Role</b>	<b>Institute</b>	<b>Year Admitted</b>	<b>Year Degree Awarded/Expected</b>
Francesco Rouhana	Major advisor	UConn	2021	2025
Zheng Ren	Major advisor	UConn	2019	2023
Giovanna Fusco	Major advisor	UConn	2019	2023
Sudipta Chowdhury	Major advisor	UConn	2018	2022
Md Ashrafur Rahman	Co-Advisor	UConn	2011	2022
William Hughes	Associate advisor	UConn	2019	2022
Sruthi Mantri	Associate advisor	UConn	2018	2022
Asadul Tanvir	Associated advisor	UConn	2017	2022
Jintao Zhang	Associated advisor	UConn	2017	2022

### **2. Master Students**

<b>Name of Advisee</b>	<b>Mentoring Role</b>	<b>Institute</b>	<b>Year Admitted</b>	<b>Year Degree Awarded/Expected</b>
Zhengping Ma	Major advisor	UConn	2021	2024

Jeffery Todd McLamb	Major advisor	UConn	2018	2022
Amit Mondal	Associated advisor	UConn	2017	2019

### 3. Undergraduate Students

Name of Advisee	Mentoring Role	Institute	Mentorship Period
Kaitlyn Kondos	Research Mentor	UConn	2021-now
Ethan Cummiskey	Research Mentor	UConn	2020 - 2021
Xinyan Huang	Research Mentor	UConn	2019 - 2020
Stephen Hutchingson	Research Mentor	UConn	2017-2018
Jenny Truong	Research Mentor	TAMU	2016-2017
Gianny Romero	Research Mentor	FIU	2014-2015

## **PROFESSIONAL SERVICE**

### 1. Faculty Advisor

Faculty advisor of Chi Epsilon UConn chapter

- Mentored Chi Epsilon (civil engineer honor society) activities

### 2. Committee Member

Member of ASCE Infrastructure and Research Policy Committee (IRPC) and participated in ASCE policy statements review and update, since 2019

Member of ASCE Infrastructure Resilience Division (IRD), since 2019

Member of ASCE Visualization, Information Modelling and Simulation (VIMS) committee, since 2015

Member of ASCE Data Sensing and Analysis (DSA) committee, since 2015

### 3. Volunteer

Volunteer at University of Connecticut School of Engineering Open House, since 2018

- Present research and teaching in transportation and construction engineering and management to prospective students and their families

Presenter at UConn Women in STEM Frontier in Research Expo, 2020

- Present research projects to undergraduate and graduate students

Presenter at UConn ENGR 1000: Orientation to Engineering Students, since 2018

- Offer a lecture on engineering study and research to freshman

Judge at the 5th Graduate Student Poster Competition in the School of Engineering at UConn, 2019

- Served as judge in the student poster competition

Volunteer at Florida International University Society of Women Engineers, 2015

- Mentored high-school female students during their visits to FIU Engineering Center

Volunteer at the 2015 South Florida Regional Competition of the National Engineers Week

- Served as judge in the National Engineers' Future City Competition, participated by sixth, seventh and eighth grade students interested in math, science and engineering

Volunteer at 2015 Miami-Dade STEM Expo's Science and Engineering Fair

- Served as judge in competitions of elementary school students in order to encourage and guide them to participate in the fields of science, technology, arts, engineering, and mathematics (STEAM)

Judge at 2014 FIU McNair Scholars Research Conference

- Served as judge in the poster panel of FIU McNair Scholar Research Conference which provides opportunities for undergraduate students to share their work and prepare themselves for graduate schools

#### **4. Organizer**

Session chair at the 36th International Symposium on Automation and Robotics in Construction, 2019

- Host the presentation session

Organizer of OHL School of Construction State-of-the-art in Construction Research Webinars

- Organized and hosted webinar presentations "Situational Awareness for Construction Safety Risks Management" (April 12, 2016), and "Activity Recognition of Construction Equipment and Workers using Smartphones" (March 22, 2016)

Student assistant at 2013 FIU/MIT Transportation Infrastructure Sustainability Summit

- Helped with registration
- Took detailed notes of talks and presentations for the chair

#### **5. Journal Editor**

Guest editor of special issue in *Frontiers in Built Environment Journal*, 2019

#### **6. Review Service**

Reviewer, NSF proposal

Reviewer, USDOT University Transportation Center for Region 8 (the Mountain-Plains Consortium) proposal

Reviewer, IEEE Systems Journal

Reviewer, International Journal of Project Management

Reviewer, Construction Management and Economics

Reviewer, Journal of Environmental Management

Reviewer of ASCE Natural Hazards Review

Reviewer of ASCE Journal of Construction Engineering and Management

Reviewer of ASCE Journal of Computing in Civil Engineering

Reviewer of ASCE Journal of Management in Engineering

Reviewer of ASCE Journal of Transportation Engineering Part A: Systems

Reviewer of Built Environment Project and Asset Management Journal  
Reviewer of Habitat International  
Reviewer of Social Network Analysis and Mining  
Reviewer of Climate Resilience and Sustainability  
Reviewer of Developments in the Built Environment  
Reviewer of Frontiers in Built Environment  
Reviewer of Utility Policy  
Reviewer, 2022 ASCE Construction Research Congress  
Reviewer, 2021 ASCE International Conference on Computing in Civil Engineering  
Reviewer, 2021 ASCE Lifelines Conference  
Reviewer, 2020 ASCE Construction Research Congress  
Reviewer, 2019 ASCE International Conference on Computing in Civil Engineering  
Reviewer, 2019 International Symposium on Automation and Robotics in Construction  
Reviewer, 2018 ASCE Construction Research Congress  
Reviewer, 2017 IEEE Systems Conference  
Reviewer, 2016 ASCE Construction Research Congress  
Reviewer, 2016 IEEE Systems Conference  
Reviewer, 2016 IEEE International Symposium on Systems Engineering  
Reviewer, 2016 IEEE Systems Conference  
Reviewer, 2015 IEEE International Symposium on Systems Engineering

## **CERTIFICATION AND LICENCSE**

Engineering in Training (EIT) since 2013