

**CONTACT**

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Art E. Favre Endowed Chair

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**EDUCATION**

9.1992 – 8.1995 Ph.D. University of Alberta, Canada  
9.1982 – 5.1985 M.Sc. Wuhan University, China  
9.1978 – 8.1982 B.Sc. Wuhan University, China

**EMPLOYMENT**

8.2014-present	Art E. Favre Endowed Chair	Louisiana State University (LSU)
8.2011– 8.2014	Holland Professor	University of Florida
8.2008 – 8.2011	Professor and Chair	University of Nebraska – Lincoln (UNL)
4.2007 – 8.2008	Professor and Director	Illinois Institute of Technology, Chicago
4.2001 – 4.2007	Assoc. Professor (Tenured)	Illinois Institute of Technology
8.1999 – 4.2001	Assoc. Professor (Tenure track)	Illinois Institute of Technology
1.1999 – 8.1999	Associate Professor	City University of Hong Kong
8.1995 – 12.1998	Assistant Professor	City University of Hong Kong
9.1992 – 8.1995	Research Associate	University of Alberta, Canada.
5.1985 – 8.1992	Lecturer	Wuhan University, China.

**FUNDED RESEARCH PROJECTS (IN CHRONOLOGICAL ORDER)*****1. Novel Dynamic Windows for Energy Efficient Buildings***

Role: Co-PI with Dr. Peng Jiang, Chemical Engineering, University of Florida  
Amount: \$85,000  
Source: UF Research Opportunity SEED Fund  
Period: 5/1/2013 – 4/30/2015 (2 years)

***2. Rinker Ph.D. Research Fellowship***

Role: PI (open competition for a fully funded PhD student for 4 years)  
Amount: \$128,000 (\$32,000 per year for four years)  
Source: Rinker Foundation and College of Design, Construction and Planning  
Period: 9/1/2012 – 8/30/2016 (4 years)

### *3. Energy Efficiency in Buildings*

Role: PI (new faculty startup support)  
Amount: \$100,000 (\$20,000 per year for 5 years)  
Source: University of Florida  
Period: 9/1/2011 – 8/30/2016 (5 years)

### *4. Building Energy Efficient Homes for America (BeeHa), Building America Program (BA)*

Role: Team Lead and PI with Co-PIs from UNL, University of Florida, and 15 industry partners  
Amount: \$660,345  
Source: US Department of Energy (US DOE)  
Period: 9/1/2010 – 8/30/2012

### *5. State Energy Sector Partnership and Training Grant*

Role: co-PI with the Nebraska Department of Labor (NDOL)  
Amount: \$4,830,000  
Source: US Department of Labor (US DOL)  
Period: 9/1/2010 – 8/30/2012

### *6. Advanced Decentralized Water/Energy Network Design for Sustainable Infrastructure*

Role: PI with eight co-PIs from four academic units at UNL  
Amount: \$1,250,000  
Source: US Environmental Protection Agency (US EPA)  
Period: 7/1/2009 – 6/31/2014

### *7. Highway Work Zone Safety Audit Guidelines Development and Training*

Role: PI with co-PIs from the Illinois Department of Transportation (IDOT) and Utah LTAP  
Amount: \$1,032,617 (\$750,000 from FHWA and \$282,618 from the participants)  
Source: Federal Highway Administration (FHWA)  
Period: 9/1/2006 – 8/30/2010

### *8. An Automated Roadway Pavement Marker Placement System*

Role: Co-PI with Stay Alert Safety Services Inc (PI) and Detail Technologies of Michigan (co-PI)  
Amount: \$564,575 (\$451,660 from FHWA and \$112,915 from the participants)  
Source: Federal Highway Administration (FHWA)  
Period: 11/1/2006 – 8/30/2009

### *9. Construction Enterprise Resource Planning (Construct-ERP)*

Role: PI with Dr. Daniel Halpin of Purdue University as co-PI  
Amount: \$113,941  
Source: National Science Foundation (NSF)  
Period: 9/1/2000 – 8/30/2002

### *10. Nighttime Construction: Evaluation of Worker Safety Issues*

Role: co-PI with Dr. David Arditi as PI  
Amount: \$100,000  
Source: Illinois Department of Transportation (IDOT)  
Period: 9/1/2002 – 8/30/2003

**11. Research Experience for Teachers (RET)**

Role: subject mentor with Dr. Alex Flueck as PI  
Amount: \$150,000  
Source: National Science Foundation (NSF)  
Period: 5/1/2004 – 8/30/2004

**12. Project Planning and Scheduling with Primavera**

Role: PI  
Amount: \$276,000  
Source: Primavera Systems, Inc.  
Period: 2003

**13. AUTOMated SIMulation for construction planning (AutoSim)**

Role: PI  
Amount: HK\$415,000 (US\$ 1 = HK\$7.75)  
Source: Competitive Earmarked Research Grant (CERG), Hong Kong  
Period: 1998-2000

**14. Research on Cost-Efficiency of Structural Designs of Standard Domestic Blocks**

Role: co-PI with Dr. Paul Chang of Hong Kong University of Science and Technology as PI  
Amount: HK\$1,200,000 (US\$ 1 = HK\$7.75)  
Source: Hong Kong Housing Authority  
Period: 1998-1999

**15. A Neural Network based System for Predicting Construction Productivity**

Role: PI with Simaan M. AbouRizk of University of Alberta as co-PI  
Amount: HK\$265,000 (US\$ 1 = HK\$7.75)  
Source: City University Strategic Grant  
Period: 1996-1998

**16. Resource-based Planning and Control System (RPCS) for construction, PI, funded by City University Strategic Grant, HK\$307,000. 1997-1999.**

Role: PI with Ali Jaafari (University of Sydney) and Dannis Lenard as co-PIs  
Amount: HK\$307,000 (US\$ 1 = HK\$7.75)  
Source: City University Strategic Grant  
Period: 1997-1999

**17. Modeling and Simulation of Construction Operations**

Role: PI  
Amount: HK\$280,000 (US\$ 1 = HK\$7.75)  
Source: City University Strategic Grant  
Period: 1998-2000

**18. A construction neural network system (Construct-NN)**

Role: PI with Dr. Beto Ortigao of Federal University of Rio de Janeiro as co-PI.  
Amount: HK\$280,000 (US\$ 1 = HK\$7.75)  
Source: City University Strategic Grant

Period: 1996-1998

*19. Construction productivity and improvement in soil nailing*

Role: PI

Amount: HK\$81,000 (US\$ 1 = HK\$7.75)

Source: Geotechnical Engineering Office of the HK Government

Period: 1998

*20. Operational analysis and optimization of Anderson Road Quarries*

Role: PI

Amount: HK\$120,000 (US\$ 1 = HK\$7.75)

Source: K.Wah and Pioneer Quarry Co. Ltd.

Period: 1997

*21. Other research activities prior to 1995*

- a. Automated Modeling and Optimization for Construction Simulation – Ph.D. thesis
- b. Productivity Improvement in Construction
  - i). Automating construction simulation for earthmoving*
  - ii). Crushing plant site layout and operational analysis*
- c. Animation of Construction Operations
  - a). Animation with SLAMSYSTEM*
  - b). Animation with SES/Workbench*
- d. Selecting Construction Equipment for Lubuge Project by using Simulation
- e. Scheduling Studies of the Three Gorges Project
- f. Computer simulation of the concrete dam construction process of the Three Gorges Project
- g. Expert Systems for Hydraulic Construction

## LIST OF PUBLICATIONS

### I. Papers Published in Refereed Journals

59. Mingchao Li, Lu Miao, **Jonathan Shi** (2014). “Analyzing heating equipment's operations based on measured data.” *Energy and Buildings*. 01/2014. 82:47–56.
58. H. L. Zou, R. C. Zeng, S. X. Zeng and **J.J. Shi** (2014). “How Do Environmental Violation Events Harm Corporate Reputation?” *Business Strategy and the Environment*. 05/2014. DOI: 10.1002/bse.1849.
57. X. D. Xu, S. X. Zeng, H. L. Zou and **Jonathan J. Shi** (2014). “The Impact of Corporate Environmental Violation on Shareholders’ Wealth: a Perspective Taken from Media Coverage.” *Business Strategy and the Environment*. 06/2014 DOI: 10.1002/bse.1858.
56. G.Y. Qi, S.X. Zeng, **Jonathan J. Shi**, X.H. Meng, H. Lin, Q.X. Yang (2014). “Revisiting the relationship between environmental and financial performance in Chinese industry.” *Journal of Environmental Management*. 145 (2014), 349-356.
55. X.H. Meng, d, S.X. Zeng, Jonathan **J. Shi**, G.Y. Qi, Z.B. Zhang (2014). “The relationship between corporate environmental performance and environmental disclosure: An empirical study in China.” *Journal of Environmental Management*. 145 (2014). 357-367.
54. Alahmad, M., H. Sharif, T.Wisnieski, H. Hasna, N. Aljuhaishi, **J. Shi**, J. Neal (2012). “Technologies in the Built Environment to Enable Sustainability & Energy Conservation.” *International Journal for Infonomics (IJI)*, Vol. 5(1/2), 591 – 599.

53. Wang, E., Shen, Z., Neal, J, **Shi, J**, Berryman, C, Avery, A. (2012). "An AHP-Weighted Aggregated Data Quality Indicator Approach for Estimating Embodied Energy of Building Materials." *International Journal of Life Cycle Assessment*, vol. 17(6), 764-773.
52. Neal, J., A. Schwer, D. Tiller, B. Cory, N. Barry, C. Berryman, Z. Shen, **J. Shi**, Y. Cho, J. Stansbury, H. Li , E. Lau, T. Zhang, and M. Alahmad (2012). "Analysis of Components in a Zero Net Energy Test House (ZNETH) in Omaha Nebraska." *The International Journal of the Constructed Environment*, March 2012.
51. Ni, L. S.K. Lau, H. Li, T. Zhang, J.S. Stansbury, **J. Shi**, and J. Neal (2012). "Feasibility Study of a Localized Residential Grey Water Energy-Recovery System." *Applied Thermal Engineering*, vol. 39, 53-62.
50. Alahmad, M., M. Chaaban, S. Lau, **J. Shi**, J. Neal (2012). "An adaptive utility interactive photovoltaic system based on a flexible switch matrix to optimize performance in real-time." *Solar Energy*, vol. 86, 951-963.
49. Alahmad, M., W. Nader, Y. Cho, **J. Shi**, and J. Neal (2011). "Integrating physical and virtual environments to conserve energy in buildings." *Energy and Buildings*. Vol. 43, 3710-3717.
48. Wu, H, Y Shen, K Jiang, **J. Shi** (2011). "Structural Analysis of the Embedded Spiral Case in the Three Gorges Hydropower Station." *Practice Periodical on Structural Design and Construction*. Vol. 17 (2), 41-47.
47. Yang, L. and **J. Shi** (2010). "An Experimental Study on the Impact of Rainfall on RCC Construction." *ASCE Journal of Construction Engineering and Management*. Vol. 136(5), 477-483.
46. Ng, S., **J. Shi**, and Y Fang (2009). "Enhancing the Logistics of Construction Materials through Activity-Based Simulation Approach." *Journal of Engineering, Construction and Architectural Management*, vol. 16(3), 224-237.
45. Yang, L. and **J. Shi** (2009). "An Experimental Study of Lift Surface Treatments on the Longtan RCC Dam." *Concrete International*, vol. 31(3), 41-47.
44. **Shi, J.**, D. Lee, and E. Kuruku (2008). "Task-based modeling method for business process automation", *International Journal of Automation in Construction*, vol. 17(5), 633-640.
43. Zeng, S.Z., **J. Shi**, b, G.X. Lou (2007). "A synergetic model for implementing an integrated management system: an empirical study in China." *Journal of Cleaner Production*, vol. 15(18), 1760-1767.
42. Zhang, H., Tam, C.M, Li, H, **Shi, J.J** (2006). "Particle swarm optimization-supported simulation for construction operations." *ASCE Journal of Construction Engineering and Management*, vol. 132(12), 1267-1274.
41. Rujirayanyong, T and **J. Shi** (2006). "Project-Oriented Data Warehouse for Construction." *International Journal of Automation in Construction*, vol. 15(6), 800-807.
40. Lee, D. and **J. Shi** (2006). "A construction business automation system (CBAS)." *ASCE Journal of Construction Engineering and Management*, vol. 132(1), 88-96.
39. Arditi, D., M. Ayrancioglu, and **J. Shi** (2005). "Worker safety issues in night-time highway construction." *Engineering, Construction and Architectural Management*, vol. 12(5), 487-501.
38. Jiang, G. and **J. Shi** (2005). "Exact algorithm for solving project scheduling problems under multiple resource constraints." *ASCE Journal of Construction Engineering and Management*. 131(9), 986-992.
37. Zeng, S.X., P. Tian, and **J Shi** (2005). "Implementing integration of ISO 9001 and ISO 14001 for Construction." *Managerial Auditing Journal*, vol. 20(4), 394-407.
36. **Shi, J.** H. Li, and H Zhang (2005). "Two resource rules for modeling human decisions in simulation." *International Journal of Project Management*. Vol. 23(2), 97-107.

35. Arditi, D., M.A. Ayrancioglu, and **J. Shi** (2004). "Effectiveness of safety vests in nighttime highway construction." *ASCE, Journal of Transportation Engineering*. Vol. 130(6), 725-732.
34. **Shi, J.** (2004) "Clustering technique for evaluating and validating neural network performance." *ASCE Journal of Computing in Civil Engineering*, vol. 16(2). Discussion by M. Marzouk and O. Moselhi. Closure by J. Shi. 183-184.
33. **Shi, J.** and D. Halpin (2003). "Enterprise resource planning for construction business management." *ASCE Journal of Construction Engineering and Management*, 129(2), 214-221.
32. **Shi, J.** (2003). "Simulation self-diagnosis." *Automation in Construction, an International Research Journal*. Elsevier Science. Vol. 12(4), 419-430.
31. Zhang, H, C.M. Tam, and **J. Shi** (2003). "Application of fuzzy logic to simulation for construction operations." *ASCE Journal of Computing in Civil Engineering*. Vol. 17(1), 38-45.
30. Zhang, H, C.M. Tam, and **J. Shi** (2002). "Simulation-based methodology for project scheduling" *Construction Management and Economics*. Vol. 20 (7), 667-678.
29. **Shi, J.** (2002). "Three white-box methods for verifying and validating a construction simulation." *Construction Management and Economics*. Vol. 20(6), 483-491.
28. Zhang, H, **J. Shi**, and C.M. Tam (2002). "Application of simulation related techniques to construction operations." *Engineering, Construction, and Architectural Management*. Vol. 9(5/6), 433-445.
27. Zhang, H. and **J. Shi** (2002). "Iconic animation for activity-based construction simulation." *ASCE Journal of Computing in Civil Engineering*. Vol 16(3), 157-164.
26. **Shi, J.** (2002). "Clustering technique for evaluating and validating neural network performance." *ASCE Journal of Computing in Civil Engineering*. Vol. 16(2), 152-155.
25. Zhang H., **J. Shi**, C.M. Tam (2002). "Visual modeling and simulation for construction operations." *Journal of Automation in Construction*. Vol. 11(1), 47-57.
24. **Shi, J.**, S.O. Cheung and D. Arditi (2001). "A construction delay computation method." *ASCE Journal of Construction Engineering and Management*. Vol. 127(1), 60-65.
23. Cheung, S.O., **J. Shi** and B. Hu (2001). "Data Transformation for Neural Networks." *International Journal of Computer-Integrated Design and Construction (CIDAC)*. Vol. 3(2), 97-104.
22. Zhang, H, C M Tan, and **J J Shi** (2001). "Activity-object oriented simulation on a visual environment." *Journal of Computer-Integrated Design and Construction (CIDAC)*. Vol. 3(2), 88-96.
21. Zhang, H., C.M. Tam, and **J Shi** (2001). "Resource allocation heuristic in construction simulation." *Construction Management and Economics*, vol. 19(5), 643-651.
20. Cheung, S.O., **J. Shi** and B. Hu (2001). "Effect of data transformation on neural network prediction." *Asia Pacific Building and Construction Management Journal*. vol. 6, 25-29.
19. **Shi, J.** (2000). "Reducing prediction error by transforming input data for neural networks." *ASCE Journal of Computing in Civil Engineering*, vol. 14(2), 109-116.
18. **Shi, J.** and Z. Deng (2000). "Object-oriented resource-based planning and control method." *International Journal of Project Management*. Vol. 18(3), 179-188.
17. **Shi, J.** (1999). "Activity-based construction (ABC) modeling and simulation method." *ASCE Journal of Construction Engineering and Management*. Vol. 125(5), 354-360.
16. **Shi, J.** (1999) "Mathematical models for optimizing aggregate production plant." *ASCE Journal of Construction Engineering and Management*. Vol. 125(1), 53-60.

15. **Shi, J.** (1999). "A neural network based system for analyzing earth-moving operations." *Construction Management and Economics*. Vol. 17(4), 463-471.
14. Ortigao, J. A. R. and **J. Shi** (1998). "Predicting settlements during tunnelling through neural networks." *Tunnels & Tunnelling International*. Vol. 30(12), 30-31.
13. **Shi, J.**, J.A.R. Ortigao and J. Bai (1998). "Modular neural network analysis of settlements during tunneling." *ASCE Journal of Geotechnical and Geoenvironmental Engineering*. Vol. 124(5), 389-395.
12. **Shi, J.** and S. AbouRizk (1998). "Continuous and combined event-process models for simulating pipeline construction." *Construction Management and Economics*. Vol. 16(4), 489-498.
11. **Shi, J.** and S. AbouRizk (1998). "An automated modeling system for simulating earth-moving operations." *Journal of Computer-Aided Civil and Infrastructure Engineering*, vol. 13(2), 121-130.
10. **Shi, J.** and S. AbouRizk (1997). "Resource-based modeling for construction simulation." *ASCE Journal of Construction Engineering and Management*. Vol. 123(1), 26-33.
9. **Shi, J.** (1996). "Predict building construction productivity using neural networks." *Intelligent Engineering Systems through Artificial neural networks*. vol. 6. ASME Press Series. 815-820.
8. **Shi, J.** and S. M. AbouRizk. (1995). "An optimization method for simulating large complex systems." *Engineering Optimization*. Vol. 25(3), 213-229.
7. AbouRizk, S. and **Shi, J.** (1994). "Automated construction simulation optimization." *ASCE Journal of Construction Engineering and Management*. Vol. 120(2), 374-385.
6. **Shi, J.**, Bai J. and Xiao H. (1993), "State of the art in construction expert systems." *Hydroelectric Techniques*. 1993. In Chinese.
5. **Shi, J.** (1992). "A method combined mathematical analysis and simulation for studying the serial-parallel queuing network systems." *Systems Engineering--Theory & Practice*. Vol. 6. 38-45. In Chinese.
4. **Shi, J.** (1990). "An heuristic method for leveling multiple resources with controlled activities." *Systems Engineering--Theory & Practice*, vol. 2, 21-25. In Chinese.
3. **Shi, J.** and Xiao H. (1990). "Risk analysis and decision making under multi-objectives on the standard of river diversion during construction." *Journal of Hydraulic Engineering*. Vol. 11, 66-71. In Chinese.
2. **Shi, J.** (1989). "The Optimal Rate of Breakdown of Construction Equipment." *Journal of the WUHEE*. Vol. 5, 166-174. In Chinese.
1. **Shi, J.**, Yuang G. and Zuo J. (1987). "Computer Simulation Study on the Selection of Construction Equipment for Earth-fill Dams." *Journal of Hydroelectric Engineering*. Vol. 3, 62-73. In Chinese.

## **II. Papers Published In Refereed Conference Proceedings (incomplete)**

- Alahmad, M., Wisam Nader, Adam Brumbaugh, Yong Cho, Song Ci, Hamid Sharif, **Jonathan Shi**, Jill Neal, "The BIM's 4D+ Dimension: Real Time Energy Monitoring," in proceedings of 2011 IEEE GCC Conference and Exhibition, pp. 1-4, Dubai, United Arab Emirates, February 19-22, 2011.
- Alahmad, M., Wisam Nader, Jill Neal, **Jonathan Shi**, Chuck Berryman, Y. Cho, Siu-Kit Lau, H. Li, Avery Schwer, Zhigang Shen, John Stansbury, Tian Zhang, "Real Time Power Monitoring & Integration with BIM," in proceedings of IECON 2010 - 36th Annual Conference of IEEE Industrial Electronic Society, pp. 2454-2458. Glendale, Arizona, November 7-10, 2010.
- Hu, M., Zhang, T.C., Stansbury, J., Dahab, M., **Shi, J.**, Neal, J., Alahmad, M., Berryman, C., Li, H., Schwer, A., and Shen, Z. (2011). Treatment of greywater with shredded-tire biofilters and

- membrane bioreactors. OP and Proceedings of World Environmental & Water Resources Congress (CD-ROM), May 22-26, 2011, Palm Springs, CA.
- Hu, M., Zhang, T.C., Stansbury, J., Dahab, M., **Shi, J.**, Neal, J., Alahmad, M., Berryman, C., Li, H., Schwer, A., and Shen, Z. (2010). Combination of shredded tire biofilters and membrane bioreactors for reclamation of greywater. OP and Proceedings of the 6<sup>th</sup> International Conference on Sustainable Water Environment: Climate Change and Water Infrastructures (CD-ROM), July 29-31, 2010, Newark, DL, p. 361-365.
- Barry, N., Berryman, C., Shen, Z., **Shi, J.**, Neal, J., and Schwer, A. (2012). "Successful Green Commercial Building Practices: Analyzing Potential Influence within the Residential Sector". Submitted to the ASCE 2nd International Conference for Sustainable Design, Engineering and Construction.
- Chaaban, M.A., Mahmoud Alahmad, J. Neal, **J. Shi**, C. Berryman, Y. Cho, S. Lau, H. Li, A. Schwer, Z. Shen, J. Stansbury, T. Zhang, "Adaptive Photovoltaic System," in proceedings of IECON 2010 - 36th Annual Conference of IEEE Industrial Electronic Society, pp. 3192-3197, Glendale, Arizona, November 7-10, 2010.
- J Shi (2008)**. "Work Zone Safety and Mobility Issues: Case Study on Dan Ryan Reconstruction Project." Transportation Research Board Annual Meeting 2008, Paper #08-2753, Washington D.C. 15p.
- J Shi**, Z Li, and Helen Zhou (2007). "Highway Work Zone Safety Guidelines and Implementation Issues." Construction Research Congress, May 6-8, 2007. Grand Bahama Island, Bahamas.
- J Shi**, and B. Wang (2007). "Assessment of Different Feasible Construction Project Schedules." Construction Research Congress, May 6-8, 2007. Grand Bahama Island, Bahamas.
- J Shi**, R Lemming, and D. Nathani (2007). "Assessment of the Performance of the Contracts and Contractors." Construction Research Congress, May 6-8, 2007. Grand Bahama Island, Bahamas.
- Rujirayanyong, T. and **J. Shi** (2005). "Company-wide project data integration for a construction organization." Construction Research Congress 2005: Broadening Perspectives, April 2005, San Diego, CA.
- Dong-Eun Lee and **J Shi** (2005). "A construction business automation system (CBAS)." Proceeding of the Construction Research Congress 2005, ASCE. Apr 2005. San Diego, California. pp.654-658.
- Lee, D. and **J. Shi** (2004), "Statistical analysis for simulation schedule networks", Proceedings of 2004 Winter Simulation Conference. Washington, DC. 1283-1289.
- Arditi, D., Ayrancioglu, M. and **J. Shi** (2003). "Effectiveness of safety vests in nighttime highway construction." Nighttime Construction Seminar, Illinois Transportation Research Center, Edwardsville, IL, November 21, 2003.
- Arditi, D., Ayrancioglu, M. and **J. Shi** (2003). "Worker safety issues in nighttime highway construction." Nighttime Construction Seminar, Illinois Transportation Research Center, Edwardsville, IL, November 21, 2003.
- Uzzi, G. and **J. Shi** (2003). "Planning the installation of steel structures using simulation." System-based Vision for Strategic and Creative Design, A.A. Balkema Publishers. Proceedings of the second international conference of structural and construction engineering, Vol.1, September 2003, Rome Italy. 189-194.
- Shi, J.** (2003). "Simulation of real-time decision-making on resource allocation on construction Sites." Construction Research Congress, ASCE. May 2003, Hawaii.
- Shi, J.** (2001). "Practical approaches for validating a construction simulation." Proceeding of the 2001 Winter Simulation Conference. December, 2000. Arlington, VA. 1534-1540.

- Zhang, H., Tam, C. M., **Shi, J.** (2000). "Visual simulation environment for activity-based construction simulation system (ABCSS)". *Proceedings of the 2000 IASTED International Conference: Applied Simulation and Modeling*. Banff, Canada. 51-55.
- Shi, J.** (2000). "Object-oriented technology for enhancing activity-based modeling functionality." *Proceeding of the 2000 Winter Simulation Conference*. December, 2000. Orlando, FL. 1938-1944.
- Shi, J.** (2000). "Activity based construction (ABC) simulation modeling vs. critical path method (CPM)." *Construction Congress VI, ASCE*. February, 2000. Orlando, FL. 131-139.
- Shi, J.** and H. Zhang (1999). "Iconic animation of construction simulation." *Proceeding of the 1999 Winter Simulation Conference*. December, 1999. Phoenix, AZ. 992-997.
- Shi, J.** (1999). "Activity-based modeling approach for construction." *Proceedings of 1999 CSCE Annual Conference*, June 2-5, 1999. Regina, Sask. 187-196.
- Shi, J.** (1998). "Automated construction modeling and simulation" *Proceedings of the 1998 IASTED International Conference: Applied Modeling and Simulation*. August 12-14, 1998. Honolulu, Hawaii. 142-146.
- Shi, J.**, X. Zeng and C.M. Tam (1998). "Modeling and simulation of public housing construction in Hong Kong." *Proceeding of the 1998 Winter Simulation Conference*. December 13-16, 1998. Washington, D.C.
- Shi, J.** (1997). "Continuous and discrete models for construction simulation." *Proceedings of the 1997 Annual Conference of the Canadian Society for Civil Engineering*, Part 2 (of 7). May 27 - 30 1997. Sherbrooke, Quebec. 155-164.
- Shi, J.** (1997). "Automated modeling for construction Simulation." *Proceeding of the 1997 Winter Simulation Conference*. December 7-10, Atlanta, GA.
- Tam, C.M., **J. Shi**, and I. Fung (1996). "A conceptual multi-media safety training system for construction." *International Conference on Construction Training*. December 16-19, 1996. Hong Kong. 257-261.
- Shi, J.** And S. AbouRizk (1995) "Constructing simulation models around resources through graphical intelligent interfaces." *the Second Congress for Computing in Civil Engineering*. June 1995. Atlanta, GA. 550-557.
- McCabe, B., S. AbouRizk, and **J. Shi** (1995). "Simulation in the Alberta construction industry." *The Second Congress for Computing in Civil Engineering*. June 1995. Atlanta, GA. 735-742.
- Dozzi, P., **J. Shi** and W. Koehn (1995). "The optimum maintenance policy of earthmoving equipment fleet." *CSCE Annual Conference*. June 1995. Ottawa, ON. 313-322.
- AbouRizk, S.M., **J. Shi**, B. McCabe and D. Hajjar (1995). "Automating the process of building simulation models." *Proceeding of the 1995 Winter Simulation Conference*. December 3-6. MD. 1032-1038.
- Shi, J.** and S. AbouRizk (1994). "A comparison of the Chinese and North American graduate education system." *ASEE/C2E2/C2EI Annual Conference*, Edmonton, Alberta. 1154-1158.
- AbouRizk, S. and **J. Shi** (1994) "Automatic optimization technique for resource-based construction simulation." *CSCE (Canadian Society for Civil Engineers) Annual Conference*. June 1994. Winnipeg, Manitoba. 507 - 515.
- Johnson, F.J., **J. Shi** and S. M. AbouRizk. (1994). "A Contemporary Proposal for Remote Site Logistics Scheduling." *Project Management Institute Conference '25*. Vancouver, B.C.
- Shi, J.** and S. AbouRizk (1994). "A resource-based simulation approach with application in earthmoving/strip mining." *Proceeding of the 1994 Winter Simulation Conference*. December 11-14. Orlando, FL. 1124-1129.

**III. Research Reports (incomplete)**

- Li, Z. and J. Shi (2007). "Questionnaire Survey on Work Zone Safety Issues and Safety Audit Guidelines." Report for the Federal Highway Administration (44 pages), Washington DC.
- Shi, J., Z. Li (2007). "Literature Review on Work Zone Safety and Mobility" Report for the Federal Highway Administration (100 pages), Washington DC.
- Shi, J. (2007). "Dan Ryan Expressway (I90/94) Reconstruction Project Case Study" Report for the Federal Highway Administration (35 pages), Washington DC.
- Arditi, D., Shi, J. and Ayrancioglu, M.A., (2003). "Nighttime construction: evaluation of worker safety issues." Report for the Illinois Transportation Research Center, Edwardsville, IL.
- Shi, J. (2002). "Construction enterprise resource planning systems (Construct-ERP)." A final report submitted to the national Science Foundation (NSF).
- Shi, J. (1999). "Construction related issues on public housing construction in Hong Kong." Report submitted to the Housing Authority of Hong Kong Government.
- Shi, J. (1998). "Productivity and improvement in soil nailing." Final report submitted to the Geotechnical Engineering Office of Hong Kong Government.
- Shi, J. (1997). "Neural network based system for predicting construction productivity." Final report, Department of Building and Construction, City University of Hong Kong.
- Shi, J. (1997). "Analysis and optimization of Anderson Road Quarries." Submitted to K. Wah and Pioneer Quarrying Ltd.
- Shi, J. (1997). "Annual report of the Construction Management Research Centre." Internal report, Department of Building and Construction, City University of Hong Kong.
- Shi, J. (1995). "Site layout and operation analysis of aggregate production plants." Internal Report, Department of Civil Engineering, University of Alberta.
- Shi, J. (1995). "Automated modeling for earthmoving operations." Internal Report, Department of Civil Engineering, University of Alberta.
- Shi, J. and R. Wales (1994). "An introduction to simulation with a case study from the Syncrude Reclamation Project. Submitted to North American Construction Group." Department of Civil Engineering, University of Alberta.

**TEACHING EXPERIENCE****I. Courses Taught at LSU (Full Professor)**

CM 7210 – Construction Research Methods  
CM 7110 – Advanced Productivity  
CM 7150 – Decision Making for CM  
CM 7230 - Lean Construction

**II. Courses Taught at UF (Full Professor)**

BCN 4720 – Construction Planning and Control (in both Spring and Fall Semesters)  
BCN 5715 – Construction Labor Issues  
DCP7794 – Doctoral Seminar (college level course)

**III. Courses Taught at UNL (Full Professor)**

CNST486/886 – Construction Management Systems  
CNST898 – Special Topic on Energy Efficient Buildings (independent study course)

**IV. Courses Taught at IIT (Associate and Full Professor)**

CAE471 – Construction Planning and Scheduling  
CAE571 – Advanced Construction Scheduling and Control  
CAE572 – Construction Cost Accounting and Control  
CAE573 – Computer Applications in Construction  
CAE593 – Graduate Seminar Series

**V. Courses Taught at CityU (Assistant/Associate Professor)**

BC6592: Construction Management I  
BC7306: Construction Management II  
BC5205: Technical Communication  
BC6100: Decision-making and Operations Research for Engineering Management  
BC6591: Development and Construction Economics  
BC1603: Production Management  
BC9000: Postgraduate Seminars in Building and Construction  
BC1604: Advanced topics in Construction Management

**INVITED SEMINARS AND LECTURES**

**1<sup>st</sup> International Symposium on Hydraulic Engineering Simulation and Safety.** Keynote address: Data Big or Small – an Ultimate Research Challenge. Tianjin University, June 10, 2014.

**Qinghua University, Resilient and Sustainable Complex Infrastructural Systems,** June 30, 2014.

**5<sup>th</sup> University of Florida Symposiums in Science and Engineering.** Energy Efficiency in Buildings. September 1-3, 2012, Sarasota, Florida.

**Florida Energy Colloquium.** A Sustainable Energy Pathway by Improving Building Energy Efficiency, November 7, 2011, Gainesville, Florida.

**Building America Summit 2010.** Automated Home Energy Management – An Integrated Solution for Achieving Energy Efficiency, July 21, 2010. Denver, CO.

**Wuhan University, China, June 29, 2009.** Invited lecture for honorary professorship

Topic: Research Opportunities in the Sustainable Built Environment

**Panelist,** Power Talk Session, 38<sup>th</sup> American Traffic Safety Services Association (ATSSA) Annual Convention, New Orleans, Louisiana, February 10, 2008.

Topic: Work Zone Safety Audit Guidelines

**National Traffic Management & Work Zone Safety Conference.** October 11, 2007, Ft. Lauderdale, Florida.

Topic: Findings on the National Work Zone Safety Audit Guidelines Development.

**Construction Management Association of America (CMAA), Chicago Chapter.** September 20, 2007

Topic: Construction Simulation - Where Virtual Meets Reality

**Keynote Speaker,** The Eighth National Symposium of IT Applications and Computer-aided Engineering in the Construction Industry, Beijing, P.R. China, July 25 - 31, 2005.

Topic: *New Advancements in Information Technologies in the Construction Industry.*

**Wuhan University, China, August 3, 2005.**

Topic: *IT Applications in the US Construction Industry*

**Virginia Tech, March 22, 2005**

Topic: *Integrated Simulation Technology for Planning Building Construction*

**The Manufacturers' Annual Conference and Exhibit, October 11, 2000**

Topic: *Computer Simulation for Planning Plant Maintenance*

**Purdue University, November 14, 1999**

Topic: *Activity-based Construction Modeling and Simulation*

**Florida State University, June 14, 1998**

Topic: *Modeling and Simulation of Construction Operations*

**University of Buffalo, May 3, 1998**

Topic: *An Automated Simulation System for Construction*

**The Hong Kong University of Science and technology, April 17 1998**

Topic: *Automated Simulation Systems for Construction Planning*

**Institute of Quarrying, Hong Kong, September 14, 1997**

Topic: *Computer-aided Quarrying and Crushing Analyses*

**HKIE: Hong Kong Institution of Engineers, Materials Division, April 8, 1997**

Topic: *Case study-based computer applications for improving construction planning*

**Brazil: (Sponsored by the National Research Council of Brazil, June 8 - 16, 1996)**

Federal University of Rio de Janeiro

Pontifical Catholic University

**People's Republic of China, May 13 - 26, 1996**

Shanghai Jiaotong University, Tongji University

Wuhan Urban Construction Institute

Wuhan University of Science and Technology

## **PROFESSIONAL SERVICE**

### **I. Membership**

Professional Engineer, Hong Kong

Member, Hong Kong Institution of Engineers (HKIE)

Member, American Society of Civil Engineers (ASCE)

Member, Construction Management Association of America (CMAA)

### **II. Service**

**Session Chair** – Construction Safety, Project Planning, Construction Research Congress (CRC), ASCE, May 6-8, 2007. Grand Bahama Island, Bahamas.

**Session Chair** – Enterprise-level IT, Construction Research Congress (CRC), ASCE, April 5-7, 2005, San Diego, California.

**International Scientific Committee**, The International Symposium on Advancement of Construction Management and Real Estate., October 30 – November 2, 2005, Hangzhou, P.R.China.

**Organizing Committee**, Second International Conference on Construction in the 21st Century (CITC-II), December 10-12, 2003 Hong Kong.

**Organizing Committee**, Implementing IT to Obtain a Competitive Advantage in the 21<sup>st</sup> Century (INCITE 2000), January 17-18, 2000. Hong Kong.

**Committee member**, Construction Research Council, ASCE

**Committee member**, Computing in Construction, ASCE

**Committee member**, Chicago Chapter, CMAA

**Panelist**, National Science Foundation (NSF)

**Reviewer**, National Science Foundation (NSF)

**Editorial Board**, Journal of Construction Research

**Editorial Board**, The International Journal of Construction Management

**Peer Reviewer**, Journal of Construction Engineering and Management, ASCE

**Peer Reviewer**, Journal of Computing in Civil Engineering, ASCE

**Peer Reviewer**, Construction Management and Economics

**Peer Reviewer**, International Journal of Construction Automation

**Peer Reviewer**, Journal of Computer-Aided Civil and Infrastructure Engineering

**Peer Reviewer**, Journal of Construction Research

### SCHOLARSHIPS, AWARDS AND HONORS

Nov. 6, 2006. Featured Article on the Front page of SouthTown Daily News Paper. "In the Zone". See the attached copy of the article.

May 12, 2007: IIT Day on Capital Hill – a showcase of the major research activities at the university to the Illinois Congressional Delegation and Staff at the U.S. Congressional Building in Washington D.C. See the attached poster.

July 2003: *Summer Visiting Fellowship*. This fellowship was funded by the Department of Building and Real Estate of the Hong Kong Polytechnic University. The recipient was selected from a list of solicited well qualified candidates based on qualifications and submitted proposals.

1999-2004: Who's Who in the World, Who's Who in Industry and Finance, Who's Who in Science and Engineering.

1992-1994: *University of Alberta Ph.D. Scholarship*. "Awarded to superior scholars who are being newly admitted into a Ph.D. program. Offered for a one-year term with a possible second year renewal pending satisfactory academic standing and recommendation from the student's supervisor, endorsed by the Department Chair." (University of Alberta Calendar).

May 1994: *Andrew Stewart Memorial Graduate Prize*. "The Andrew Stewart Memorial Graduate Prize is significant and unique in that it is awarded in direct recognition of excellence in research at the doctoral level; it acknowledges outstanding accomplishment and potential in pursuit of new knowledge." (University of Alberta Calendar).

September 1994: *Robert Stollery/USF and G Insurance Company of Canada Award in Construction Engineering and Management*. "Awarded to outstanding full-time students in, or admissible to, a graduate degree program in Construction Engineering and Management. Awarded on the basis of academic achievement and research potential. Consideration may be given to community involvement, extra-curricular activities and demonstrated leadership potential." (University of Alberta Calendar).

November 1994: *J. Gordin Kaplan Graduate Student Award*. "Awarded to full-time doctoral and thesis master's students in support of approved travel expenses related to thesis research." (University of Alberta Calendar).

December 1994: *Selected presentation for Ph.D. student Colloquium in the Winter Simulation Conference*. "This Winter Simulation Conference special session was sponsored by TIMS/College on Simulation to give Ph.D. students nearing completion to present their research summaries."

April 1995: *Province of Alberta Graduate Fellowship*. "The offer of this award recognizes your academic and scholarly achievements. It is a considerable accomplishment for you to have qualified for the fellowship." (letter from the Dean, Faculty of Graduate Studies and Research).