

## Quanwang LI

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### EDUCATION

Tsinghua University, Beijing, China	Civil Engineering	B.S.	1999
Tsinghua University, Beijing, China	Civil Engineering	M.S.	2001
Georgia Institute of Technology, Atlanta, GA	Civil Engineering	Ph.D.	2006

### POSITIONS HELD

2010- Present	Associate Professor	Tsinghua University, Department of Civil Engineering, Beijing, China
2006- 2010	Assistant Professor	Tsinghua University, Department of Civil Engineering, Beijing, China
2001-2006	Graduate Research Assistant	Georgia Institute of Technology, School of Civil and Environmental Engineering, Atlanta, GA

### COURSES TAUGHT

STRUCTURAL ANALYSIS  
THEORY OF ELASTICITY  
MECHANICS OF MATERIALS

### RESEARCH INTERESTS and EXPERTISE

Time-dependent reliability analysis; Durability assessment of RC structures;  
Uncertainty modeling;

### PUBLICATIONS

#### Journal Papers

- ✓ Li Q., Wang C.. "Updating the assessment of resistance and reliability of existing aging bridges with prior service loads". Journal of Structural Engineering, ASCE, 2015: 04015072
- ✓ Li K., Li Q., Zhou X., et al. "Durability design of Hong Kong-Zhuhai-Macau sea link project: Principle and Procedure". Journal of Bridge Engineering, ASCE, 2015: 04015001
- ✓ Li Q., Li K., Zhou X., et al. "Model-based durability design of concrete structures in Hong Kong- Zhuhai- Macau sea link project". Structural Safety, 2015, 53: 1-12
- ✓ Li Q., Wang C., Ellingwood BR. "Time-dependent reliability of aging structures in the presence of non-stationary loads and degradation". Structural Safety, 2015, 52A: 132-141
- ✓ Fan J., Li Q., Nie J., et al. "Experimental Study on the Seismic Performance of 3D Joints between Concrete-Filled Square Steel Tubular Columns and Composite Beams". Journal of Structural Engineering, ASCE, 2014. 140(12): 04014094

- ✓ Li K., Yang L., Li Q. et al. "Maintenance design and optimization of long service life port structures considering crack control levels". *Advances in Structural Engineering* 2014, Vol. 17, No. 4: 471-480
- ✓ Li Q., Sun J., Fan J.. "Seismic vulnerability assessment through explicit consideration of uncertainties in structural capacities and structural demands". *Int. J. Structural Engineering*, Vol.3, No.1/2, 2012: 27-36
- ✓ Fan J., Nie J., Li Q.. "Long-term behavior of composite beams under positive and negative bending, I: experimental study". *Journal of Structural Engineering*, ASCE, 136(7): 849-857, 2010
- ✓ Fan J., Nie X., Li Q.. "Long-term behavior of composite beams under positive and negative bending, II: analytical study". *Journal of Structural Engineering*, ASCE, 136(7): 858-865, 2010
- ✓ Li Q., Fan J., Nie J.. "Crowd-induced random vibration of footbridge and vibration control using multiple tuned mass dampers". *Journal of Sound and Vibration*, 329(19): 4068-4092, April, 2010
- ✓ Li Q., Ellingwood BR.. "Damage inspection and vulnerability analysis of existing buildings with steel moment-resisting frame". *Engineering Structures*, 2008, 30: 338-351
- ✓ Li Q., Ellingwood BR.. "Performance evaluation and damage assessment of steel frame buildings under mainshock-aftershock earthquake sequence". *Earthquake Engineering and Structural Dynamics*, 2007, 36(3): 405-427
- ✓ Li Q., Ellingwood BR.. "Structural response and damage assessment by enhanced uncoupled modal response history analysis". *Journal of Earthquake Engineering*, 9(5): 2005
- ✓ Ye L., Yue Q., Zhao S., Li Q.. "Shear strength of reinforced concrete columns strengthened with carbon-fiber-reinforced plastic sheet". *Journal of Structural Engineering*, ASCE, 2002, 128(12): 1527-1534

### **Conference Papers**

- ✓ Zhang L., Pang L., Li Q.. "A concrete bridge deterioration model using the Weibull distribution based inspection data". *Proceedings of the 2014 International Conference on Civil, Urban and Environmental Engineering (CUEE 2014)*, Beijing, China. Part 1: p179-186.
- ✓ Li K., Li Q., Zhang Q., et al. "Durability assessment of concrete structures in HZM sea link project for design life of 120 years". *Proceedings of the 4th International Conference on the Durability of Concrete Structures, ICDCS 2014*, p 337-342, 2014
- ✓ Zhong Y., Yang X., Li Q.. "Bridge maintenance funding optimization using simulated annealing algorithm". *Proceedings of the international conference on biotechnology, agriculture, environment and energy. (ICABEE 2014)*, p 203-207, May, 2014, Beijing, China
- ✓ Li Q., Zhang Q., Li K., et al. "Durability modeling of HongKong-Zhuhai-Macau (HZM) sea like project exposed to marine chloride field". *Proceedings of the 11<sup>th</sup> International Conference on Structural Safety and Reliability, ICOSSAR 2013*, p 3561-3566, New York, America, 2013

- ✓ Reynolds J., Zhang H., Rasmussen K.J.R., Li Q. “Shore load monitoring during concrete placement”. *Proceedings of the 11th International Conference on Structural Safety and Reliability, ICOSSAR 2013*, p 2145-2150, New York, America, 2013
- ✓ Li Q., Zhang Q., Fan J., et al. “Redundancy effects on seismic reliability of steel frame structures”. *Proceedings of the 11th International Conference on Application of Statistics and Probability in Civil Engineering*, p 1537-1543, Zurich, Switzerland, 2011 (国际会议, EI)
- ✓ Zhang Y., Li Q., Fan J.. “Influence of earthquake attack angle on seismic demands for structures under bi-directional ground motions”. *2011 International Conference on Civil Engineering and Building Materials, CEBM 2011*, Kunming, Yunnan, 2011
- ✓ Fan J., Li Q., Zhou H., Nie J. “Experimental research on composite steel-concrete beam-column joints”. *Advance in Structural Engineering, Proceedings of the 3<sup>rd</sup> Asia-Pacific Young Researchers and Graduates Symposium*, Taipei, Taiwan, 2011
- ✓ Li Q., Li C., Fan J.. “Estimation of extreme traffic load effects by modeling heavy tailed behavior”. *Advance in Structural Engineering, Proceedings of the 3<sup>rd</sup> Asia-Pacific Young Researchers and Graduates Symposium*, Taipei, Taiwan, 2011
- ✓ Li Q., Fan J., Nie J.. “Structural seismic demands considering the uncertainty associated with the direction of earthquake excitation”. *The 2<sup>nd</sup> International Symposium on Reliability Engineering and Risk Management*, Shanghai, China, September, 2010
- ✓ Li Q., Zhang Y., Fan J.. “Seismic vulnerability assessment through explicit consideration of uncertainties in structural capacities and structural demands”. *Advance in Structural Engineering, Proceedings of the 2<sup>nd</sup> Asia-Pacific Young Researchers and Graduates Symposium*, Hangzhou, China, 2010
- ✓ Li Q., Wang K.. “Mathematical framework for seismic vulnerability assessment”. *Proceedings of the 4<sup>th</sup> International Conference on Protection of Structures against Hazards*, Beijing China, Oct. 2009
- ✓ Li Q., Li Y.. “Performance-based seismic evaluation of long span bridges in China”. *Proceedings of the 14<sup>th</sup> World Conference on Earthquake Engineering*, Beijing, China, 2008
- ✓ Li Q., Ellingwood BR.. “Damage assessment of steel moment frames by enhanced uncoupled modal response history analysis”. *Proceedings of the 10<sup>th</sup> International Conference on Applications of Statistics and Probability in Civil Engineering*, Tokyo, Japan, 2007