

# Chunfu Xin

Ph.D. Candidate in Civil Engineering  
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## Education

**University of South Florida, Tampa, USA. Ph.D. 2015-**  
**Major:** Civil Engineering  
**Thesis:** Pavement Performance Modeling (Statistical/Optimization/LCA)  
**Advisor:** Qing Lu, Ph.D. Professor of Civil Engineering.

**University of South Florida, Tampa, USA. M.E. 2015-2017**  
**Major:** Civil Engineering  
**Advisor:** Qing Lu, Ph.D. Professor of Civil Engineering.

**Southwest Jiaotong University, Chengdu, China. M.S. 2012-2014**  
**Major:** Highway and Railway Engineering  
**Thesis:** High Temperature Stability of Gussasphalt Applied to Steel Deck Surfacing  
**Advisor:** Yanjun Qiu, Ph.D. Professor of Civil Engineering.

**Wuhan Institute of Technology, Wuhan, China. B.S. 2008-2012**  
**Major:** Civil Engineering  
**Senior Thesis:** Slope Protection of Zhong County  
**Advisor:** Xiaodi Hu, Ph.D. Professor of Civil Engineering.

## Professional Experience

**University of South Florida, Tampa, USA**  
Graduate Research Assistant (2016.11-present)

**Center for Urban Transportation Research, Tampa, USA**  
Graduate Research Assistant (2015.10-2016.10)

**University of South Florida, Tampa, USA**  
Teaching Assistant for Statics (2015.8-2016.5)

**Southwest Jiaotong University, Chengdu, China.**  
Teaching Assistant for Advanced Mathematics (2014.9-2015.7)

**Sichuan Tianyi University, Chengdu, China**  
Instructor for Construction Project Management (2014.2-2014.7)  
Instructor for Construction Engineering CAD (2013.9-2014.1)

## **Sichuan Vocational and Technical College, Chengdu, China**

Instructor for Construction Project Budget (2013.2-2013.7)

## **Industry Experience**

### **Hunan University of Design and Research Institute Co., Ltd., Wuhan, China**

Interned as Assistant Engineer (2012.6-2012.8)

### **Yangtze River Engineering Consulting Co., Ltd., Wuhan, China**

Interned as Assistant Engineer (2012.4-2012.5)

## **Current Areas of Interest**

Pavement Performance Model, Asphalt and Asphalt Mixes, Transportation Data and Analysis

## **Registration**

Licensed Associate Constructor, Sichuan Province, China (00169849)

## **Professional Service**

Member of International Chinese Transportation Professional Association (ICTPA)

Member of International Society for Asphalt Pavements (ISAP)

Member of Chinese Overseas Transportation Association (COTA)

Student Member of Association of Asphalt Paving Technologists (AAPT)

Student Member of American Society of Civil Engineers (ASCE)

Student Member of Institute of Transportation Engineers (ITE)

## **Referee Service**

Transportation Research Boards Annual Meeting

Transportation Research Record: Journal of Transportation Research Boards

International Association of Traffic and Safety Sciences (IATSS) Research

COTA International Conference for Transportation Professions (CICTP2017)

Journal of Materials in Civil Engineering (ASCE)

## **Journal Publications**

1. **Chunfu Xin**, Rui Guo, Zhenyu Wang, Qing Lu, Pei-Sung Lin. The Effects of Neighborhood Characteristics and the Built Environment on Pedestrian Injury Severity: A Random Parameters Generalized Ordered Probability Model with Heterogeneity in Means and Variances. *Analytic Methods in Accident Research* 16 (2017): 117-132.
2. Rui Guo, **Chunfu Xin**, Pei-Sung Lin, and Achilleas Kourtellis. Mixed Effects Logistic Model to Address Demographics and Neighborhood Environment on Pedestrian Injury Severity. *Transportation Research Record: Journal of the Transportation Research Board*. January 2017, pp. 174-181.

3. **Chunfu Xin**, Zhenyu Wang, Chanyoung Lee, Pei-Sung Lin. Modeling Random Parameters of Horizontal Curve Design on Injury Severity of Single-Motorcycle Crashes Using Mixed-Effects Logistic Model. *Transportation Research Record: Journal of the Transportation Research Board*. January 2017, pp. 38-46.
4. **Chunfu Xin**, Qing Lu, Changfa Ai, Ali Rahman, Yanjun Qiu. Optimization of Hard Modified Asphalt Formula for Gussasphalt Based on Uniform Experimental Design. *Construction and Building Material*. Volume 1, January 21, 2017, pp. 12-23.
5. **Chunfu Xin**, Zhenyu Wang, Pei-Sung Lin, Chanyoung Lee, Rui Guo. Safety Effects of Horizontal Curve Design on Motorcycle Crash Frequency on Rural Two-Lane Undivided Highways in Florida. *Transportation Research Record: Journal of the Transportation Research Board*. January 2017, pp. 1-8.
6. Ali Rahman, Changfa Ai, **Chunfu Xin**, Xiaowei Gao, Yang Lu. State-of-the-art Review of Interface Bond Testing Devices for Pavement Layer: Toward the Standardization Procedure. *Journal of Adhesion Science and Technology*, Volume 31, January 2017, pp. 109-126.
7. Changfa Ai, Shi Qiu, **Chunfu Xin**, Enhui Yang, Yanjun Qiu. Evaluation and Optimization of Stone Matrix Asphalt (SMA-13) Mix Design Using Weight Matrix Method. *Road Materials and Pavement Design*, 2016, pp. 1-10.
8. Jing Zhao, Changfa Ai, **Chunfu Xin**, Hong You and Yongwu Zhou. Laboratory Study of Durability Performance of C50 Concrete with Different Properties of Sand. *Journal of China & Foreign Highway*, 2014, 34(4): 306-310.

### Peer Reviewed Conference Proceedings

1. **Chunfu Xin**, Zhenyu Wang, Pei-Sung Lin, Ping P. Hsu, Yu Chen. Evaluating Safety Effects of Street Illuminance Using a Random Parameters Panel Tobit Regression Model. *Transportation Research Board 97th Annual Meeting*, Washington, DC, January 7, 2018.
2. **Chunfu Xin**, Zhenyu Wang, Pei-Sung Lin, Bomin Koh, Ping P. Hsu, Edith Wong, Tao Chen. Exploring the Impacts of Street Illuminance on Nighttime Crash Severity in Roadway Segments Using a Random Parameters Ordered Probit Model. *Transportation Research Board 97th Annual Meeting*, Washington, DC, January 7, 2018.
3. **Chunfu Xin**, Zhenyu Wang, Chanyoung Lee, Pei-Sung Lin, Tao Chen, Rui Guo, Qing Lu. A Matched Case-Control Study on Single-Motorcycle Crashes on Rural Two-Lane, Undivided Horizontal Curves in Florida. *Transportation Research Board 97th Annual Meeting*, Washington, DC, January 7, 2018.
4. **Chunfu Xin**, Rui Guo, Zhenyu Wang, Qing Lu, Pei-Sung Lin. The Effects of Neighborhood Characteristics and the Built Environment on Pedestrian Injury Severity: A Random Parameters Generalized Ordered Probability Model with Heterogeneity in Means and Variances. *5th Annual UTC Conference for the Southeastern Region*, Gainesville, FL. November 17, 2017.
5. **Chunfu Xin**, Qing Lu, Changfa Ai, Ali Rahman, Enhui Yang, Yanjun Qiu. Optimization of High-temperature Performance of Gussasphalt (GA-10) Based on Orthogonal Experimental Design. *Transportation Research Congress*. Beijing, China. May 25, 2017.
6. **Chunfu Xin**, Zhenyu Wang, Qing Lu. Evaluating the Effects of Horizontal Curve Design

- Parameters on Occurrence of Motorcycle Crashes Based on Matched Case-Control Method. *9th Annual USF Graduate Student Research Symposium*, Tampa, Florida. March 20, 2017.
7. **Chunfu Xin**, Zhenyu Wang, Pei-Sung Lin, Chanyoung Lee, Rui Guo. Safety Effects of Horizontal Curve Design on Motorcycle Crash Frequency on Rural Two-Lane Undivided Highways in Florida. *Transportation Research Board 96th Annual Meeting*, Washington, DC, January 10, 2017.
  8. **Chunfu Xin**, Zhenyu Wang, Chanyoung Lee, Pei-Sung Lin. Modeling Random Parameters of Horizontal Curve Design on Injury Severity of Single-Motorcycle Crashes Using Mixed-Effects Logistic Model. *Transportation Research Board 96th Annual Meeting*, Washington, DC, January 10, 2017.
  9. Rui Guo, **Chunfu Xin**, Pei-Sung Lin, Achilleas Kourtellis. Mixed-Effects Logistic Model to Address Demographics and Neighborhood Environment on Pedestrian Injury Severity. *Transportation Research Board 96th Annual Meeting*, Washington, DC, January 10, 2017.
  10. **Chunfu Xin**, Qing Lu, Changfa Ai, Enhui Yang, Yanjun Qiu. Optimization of Hard Modified Asphalt Formula for Gussasphalt Based on Uniform Experimental Design. *Transportation Research Board 96th Annual Meeting*, Washington, DC, January 10, 2017.
  11. Changfa Ai, Shi Qiu, **Chunfu Xin**, Enhui Yang, Yanjun Qiu and Long Li. Evaluation and Optimization of Stone Matrix Asphalt (SMA-13) Mix Design Using Weight Matrix Method. *Transportation Research Board 94th Annual Meeting*, Washington, DC, January 10, 2015.

## Invited Talks

1. A Matched Case-Control Study on Single Motorcycle Crashes on Rural Two Lane Undivided Horizontal Curves in Florida. Transportation Annual Meeting (TRB) 97th Annual Meeting, Washington, DC, January 9, 2018.
2. A Brief Introduction of Research Trends on Pavement Engineering in United States. Southwest Jiao-tong University, Department of Highway and Railway Engineering, December 14, 2017.
3. The Effects of Neighborhood Characteristics and the Built Environment on Pedestrian Injury Severity: A Random Parameters Generalized Ordered Probit Model with Heterogeneity in Means and Variances. 5th Annual UTC Conference for the Southeastern Region, University of Florida, November 17, 2017.
4. Modeling the Effects of Horizontal Curve Design on Injury Severity of Single-Motorcycle Crashes Using Mixed-Effects Logistic Model. Transportation Annual Meeting (TRB) 96th Annual Meeting, Washington, DC, January 9, 2017.
5. Optimization of Hard Modified Asphalt Formula for Gussasphalt Based on Uniform Experimental Design. University of South Florida, Center for Urban Transportation Research, October 14, 2016.

## Patents

1. Changfa Ai, Fucheng Wang, **Chunfu Xin**, Enhui Yang, Shi Qiu and Yanjun Qiu. *Auxiliary Measuring Device of Asphalt Concrete Interface Shear Strength*. Patent No.: ZL201420220015.4.
2. **Chunfu Xin**, Enhui Yang, Changfa Ai, Yanjun Qiu, Fucheng Wang and Feiyu Wang. *A Kind of*

*Precision Test Equipment Used on Measuring the Penetration of Gussasphalt.* Patent No.:ZL201420675832.9.

3. Changfa Ai, **Chunfu Xin**, Enhui Yang, Yanjun Qiu, Chuan Xiao, Fucheng Wang. *A New Kind of Hard Modified Asphalt Formula with Improvement of High Temperature Performance and Its Preparation Method.* Patent No.: ZL201410638218.X.
4. Changfa Ai, **Chunfu Xin**, Enhui Yang, Yanjun Qiu. *Auxiliary Devices of Rutting Test Instrument and Rutting Test System.* Patent No.: ZL201520003625.3.

## **Research Projects Experience**

1. *A Life Cycle Assessment Framework for Pavement Maintenance and Rehabilitation Technologies.* Sponsored by Center for Transportation, Environment, and Community Health (CTECH). 2016-2017.  
(My role was responsible for literature review, data collection and analysis, draft report writing.)
2. *Best Practices for Construction and Repair of Bridge Approaches and Departures.* Sponsored by Florida Department of Transportation. 2016-2017.  
(My role was responsible for literature review, data collection and analysis, draft report writing.)
3. *Application of Demographic Analysis to Pedestrian Safety.* Sponsored by Florida Department of Transportation. 2015-2017.  
(My role was responsible for development of statistical models for pedestrian crash frequency and pedestrian injury severity.)
4. *Study on Motorcycle Safety in Negotiation with Horizontal Curves in Florida and Development of Crash Modification Factors.* Sponsored by Florida Department of Transportation. 2015-2017.  
(My role was responsible for literature review, data collection and development of statistical models for motorcycle crashes.)
5. *Prevention and Treatment of Rutting at Bus Rapid Transit (BRT) Stops on Second Ring Road in Chengdu.* Sponsored by Highway Engineering Key Laboratory of Sichuan Province, 2013-2014.  
(My role was responsible for field survey data collection, laboratory tests, and report writing.)
6. *Dynamic Structural Behavior of Asphalt Pavements on Cheng-de-nan Highway.* Sponsored by Sichuan Provincial Department of Transportation, 2011-2014.  
(My role was responsible for field survey data collection and pavement structural analysis with the use of ABAQUS.)
7. *Settlement of Soft Clay Subgrade on Ba-nan Highway.* Sponsored by Sichuan Provincial Department of Transportation, 2012-2014.  
(My role was responsible for the field data collection and statistical analysis.)

## **Awards and Achievements**

1. USF Student Government Travel Grant. January 2018.
2. USF Student Government Travel Grant. January 2017.
3. USF CUTR Student Poster Competition Award. November 2016.
4. Best USF-ITE Student Presentation Competition Award. October 2016.
5. CSC Chinese Government Scholarship. May 2015.