

# JIE SONG

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## EDUCATION

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**Ph.D.** in Urban and Regional Planning May 2017  
University of Florida Gainesville, FL, USA  
(One of the top-ranked planning programs in North America according to Planetizen)  
Overall GPA: 3.90/4.00

**Master of Science** in Transportation Engineering Dec. 2016  
University of Florida (Overall GPA: 3.89/4.00) Gainesville, FL, USA

**Master of Engineering** in Urban Planning (Concentration: Urban Design) June 2012  
Sichuan University (Overall GPA: GPA: 3.76/4.00) Chengdu, China

**Bachelor of Engineering** in Urban Planning June 2009  
Sichuan University (Overall GPA: 3.51/4.00) Chengdu, China

## RESEARCH INTERESTS

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- Multi-agent Simulation  Spatial Modeling using Python  Software Development
- Active Mobility System

## WORKING EXPERIENCE

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Research Scientist Mar. 2019-Present  
Institute of High Performance Computing Singapore  
Agency for Science, Technology, and Research

- Develop a simulation model for the taxi movements in Singapore,
- Simulate walking, cycling, and other **active mobility modes** in Singapore, and
- Help to develop an integrated platform for the modeling of a **multimodal transportation system** in Singapore.

Lecturer Aug. 2017-Jan. 2019  
Chongqing University Chongqing, China

- Taught traffic flow forecasting, statistical methods for planning, and planning studio.
- Developed a system of urban growth dynamics based on a Java platform for two ongoing research projects.

Transportation Planning Intern Jan. 2013-May 2015  
North Central Florida Regional Planning Council Gainesville, FL, USA

Project: Bicycle Usage Trends Report (Role: Co-Principal Investigator)

- Collected **bicycle count information** during 12 hours (7:00 am – 7:00 pm) on weekdays at 13 intersections adjacent to the main Campus of the University of Florida, and **visualized overall bicycle volume variations** from 1982 to 2014.

Project: Annual Transit Ridership Monitoring Report (Role: Principal Investigator)

- Analyzed the **ridership trends** of a fleet of 88 diesel buses on its 58-route system within a service area of approximately 74 square miles.

Additional Projects:

- Environmental Justice Analysis of Transportation Improvement Program (Role: Principal Investigator), Level of Service Report of the City of Gainesville (Role: Assistant Planner)

## RESEARCH EXPERIENCE

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Principal Investigator, Chongqing University Dec. 2017-Dec. 2018

Project: An Assessment of Flooding Resilience in Mountainous Rural Areas, Southwest China

- Develop a **Java-based system** that investigates the behavioral interaction among households, governments, planners, and **other agents** in response of weather extremes.
- Build an overall resilience index based on decision tree model and **genetic algorithm**.

Graduate Research Assistant, University of Florida Jan. 2013-May, 2017  
*Supervisor: Dr. Zhong-Ren Peng* Gainesville, USA

- Developed a multi-platform framework that applied **multilayer perceptron neuron network** and spatial logistic regression into the simulation of urban systems in response to sea level rise.
- Funded by the Graduate Assistant Fellowship and the Graduate School Doctoral Dissertation Award at the University of Florida.

Research Assistant, University of Florida Jan. 2013-July 2015  
*Supervisor: Dr. Zhong-Ren Peng* Gainesville, USA

Project: A Parameterized Climate Change Projection Model for Hurricane Flooding, Wave Action, Economic Damages, and Population Dynamics

- Simulated future urban exposure to sea level rise by employing a **Cellular Automaton model** that was integrated with the module of **traffic demand projection**.
- Established the business vulnerability index to environmental hazards and sea level rise.
- Funded by the Florida Sea Grant.

## PUBLICATIONS

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### Journal articles

**Jie Song**, Xinyu Fu, Ruoniu Wang, Zhong-Ren Peng\*, Zongni Gu. Does Planned Retreat Matter? Investigating Land Use Change under the Impacts of Flooding Induced by Sea Level Rise. *Mitigation and Adaptation Strategies for Global Change*, 2018, 23(5): 703-733. doi: [10.1007/s11027-017-9756-x](https://doi.org/10.1007/s11027-017-9756-x)

**Jie Song**, Binbin Peng\*. Should We Leave? Attitudes towards Relocation in Response to Sea Level Rise. *Water*, 2017, 9(12), 941.

**Jie Song**, Xinyu Fu, Yue Gu, Yujun Deng, Zhong-Ren Peng\*. An Examination of Land Use Impacts of Sea Level Rise Induced Flooding. *Natural Hazards and Earth System Sciences*, 2017, 17(3), 315-334. doi:10.5194/nhess-17-315-2017

**Jie Song\*** and Ruoniu Wang. Measuring the Spatial Dimension of Automobile Ownership and Its Associations with Household Characteristics and Land Use Patterns: A Case Study in Three Counties, South Florida (USA). *Sustainability*, 2017, 9(4), 558. doi:10.3390/su9040558

**Jie Song**, Zhong-Ren Peng\*, Liyuan Zhao, Chi-Hung Hsu. Developing a Theoretical Framework for Integrated Vulnerability of Businesses to Sea Level Rise. 2016, *Natural Hazards*, 2016, 84 (2), 1219-1239. doi: 10.1007/s11069-016-2483-x

Ruoniu Wang, Rebecca Walter, Abdulnaser Arafat, **Jie Song\***. Understanding the Role of Life Events on Residential Mobility for Low-income, Subsidized Households. *Urban Studies*, 2018, 0(0), 0042098018771795. doi:10.1177/0042098018771795. Online first (Correspondence author)

Binbin Peng, **Jie Song\***. A Case Study of Preliminary Cost-benefit Analysis of Building Levees to Mitigate the Joint Effects of Sea Level Rise and Storm Surge. *Water*, 2018, 10(2): p. 169. (Correspondence author)

Xinyu Fu, **Jie Song\***. Assessing the Economic Costs of Sea Level Rise and Benefits of Adaptation: A Spatiotemporal Approach. *Sustainability*, 2017, 9(8), 1495. (Correspondence author)

Liyuan Zhao, **Jie Song**, Zhong Ren Peng. Modeling Land Use Change and Population Relocation Dynamics in Response to Different Sea Level Rise Scenarios: a Case Study in Bay County, Florida. *Journal of Urban Planning and Development*, 2017, 143(3), 04017012. doi:10.1061/(ASCE)UP.1943-5444.0000398

Xinyu Fu, **Jie Song**, Bowen Sun, Zhong-Ren Peng. "Living on the Edge": Estimating the Economic Cost of Sea Level Rise on Coastal Real Estate in the Tampa Bay Region, Florida. *Ocean & Coastal Management*, 2016, 133, 11-17. doi:10.1016/j.ocecoaman.2016.09.009

Yujun Deng, Caitlin Young, Xinyu Fu, **Jie Song**, Zhong-Ren Peng. The Integrated Impacts of Human Activities and Rising Sea Level on the Saltwater Intrusion in the East Coast of the Yucatan Peninsula, Mexico. *Natural Hazards*, 2016, 85(2), 1063–1088.

**Jie Song**, Bo Zhou. Development Route of Culture Creative Industry in Historic Districts—a Case Study on Kuanzhai Lane. *Sichuan Building Science*, 2011, 37(3), 259-262 (Chinese).

**Jie Song**. A Brief Analysis of the Interaction between the RBD of Historic Districts Renewal Model and Urban CBD: A Case Study on the Renewal of Chengdu Daci Temple Historic District. *Modern Urban Research*, 2011, 26(1), 39-43 (Chinese).

**Jie Song**, Bo Zhou. The Application of Theory of Green Urban Design in Industrial Park Planning and Design. *Industrial Construction*, 2010, 40 (9), 7-11 (Chinese).

## Conference Presentations

Jie Song and Binbin Peng, Should We Leave and Where Should We Go? Attitudes towards Relocation in Response to Sea Level Rise. Podium session presented at the 12th annual meeting of International Association for China Planning (IACP) in Xi'an, China, on June 30, 2018.

Jie Song, An Examination of Sea Level Rise Impacts on Land Use and Population Relocation: Case Study in Bay County, Florida, USA. Presented at the Ph.D. dissertation workshop organized by the ACSP (Association of Collegiate Schools of Planning) in Portland, Oregon, on November 2, 2016.

Jie Song and Zhong-Ren Peng, Using the SLEUTH Urban Growth Model to Simulate the Impacts of Sea Level Rise Enhanced Flooding on Different Scenarios of Future Urban Land Use. Presented at the ACSP 56th Annual Conference in Portland, Oregon, on November 5, 2016.

## TEACHING EXPERIENCE

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Taught courses: Transportation and Land Use Modeling (lab lecturer), Statistical methods for urban planning (principal lecturer), and studios for urban planning and design (principal lecturer).

## FELLOWSHIPS AND AWARDS

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Peter A. Kanavos Student Award, University of Florida	2017
Travel Grant for the 6th International Summit on Hurricanes and Climate Change	2017
Travel Grant for the AAG conference, University of Florida	2017
Graduate School Doctoral Dissertation Award, University of Florida	2017
Travel Fund for the ACSP Conference, University of Florida	2016
Outstanding International Student, University of Florida	2015

## PROFESSIONAL ORGANIZATIONS

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Member, American Association of Geographers (Oct. 2016-Present)  
Member, Association of Collegiate Schools of Planning (Oct. 2015-Present)  
Member, International Association of China Planning (Jan. 2013-Present)

## SKILLS

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### Programming skill

Very familiar with the following languages or coding platforms: Python and R Studio

### Transportation modeling and simulation skill

Microscopic simulator: Vissim

Mesosopic/macrosopic simulator: Cube Voyager/Dynamics/Land

Traffic control optimization: Corsim/TRANSYT-7

**GIS and statistical software**

Spatial visualization/modeling platform: ArcGIS and Geoda

**Language**

Fluent in English and Chinese