CHAO LIU 刘超

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EDUCATION & EXPERIENCE

Dec. 2018- **TONGJI UNIVERSITY** 同济大学　　　　　　　　　　　　**SHANGHAI, CHINA**
Assistant professor, Department of Urban Planning, College of Architecture and Urban Planning

Dec. 2017 **UNIVERSITY OF FLORIDA** 佛罗里达大学　　　　　　　　**GAINESVILLE, FL**
PhD of Urban and Regional Planning, College of Construction, Planning and Design

May 2017 **UNIVERSITY OF FLORIDA** 佛罗里达大学　　　　　　　　**GAINESVILLE, FL**
Master of Business Administration (MBA), Hough Graduate School of Business

June 2012 **PEKING UNIVERSITY** 北京大学　　　　　　　　　　　**BEIJING, CHINA**
Master of Environmental Science

June 2009 **BEIJING FORESTRY UNIVERSITY** 北京林业大学　　　　　**BEIJING, CHINA**
Bachelor of Landscape Architecture

RESEARCH & TEACHING

RESEARCH:　Built environment, air pollution and health 建成空间、空气污染与健康
　　　　　　Data Driven Design 数据驱动型设计
　　　　　　Smart City and Urban Analytics; 智慧城市与量化分析
　　　　　　Resilient and Sustainable Urban Planning; 弹性与可持续城市规划

TEACHING:　Environmental Planning and Management (English) 环境规划与管理 （英文）
　　　　　　Urban Data Visualization and Analytics (English) 城市数据可视化与分析 （英文）
　　　　　　Urban design (Chinese) 城市设计 （中文）

REFEREED PAPERS

- Yao, S… **Liu, Chao***(通讯作者) (2019). Assessing spatial distribution and impact factors of fine particulate matter (PM2.5) and nitrogen dioxide (NO2) by combining high-resolution geographical census data, and meteorological data in Hebei Province, China. *Applied Ecology and Environmental Research*. Accepted.

- Zhao, Y… **Liu, Chao***(通讯作者) (2018). Air pollution exposure in association with maternal thyroid function during early pregnancy, Journal of Hazardous Materials, (376), P188-193, https://doi.org/10.1016/j.jhazmat.2018.12.078

- **Liu, Chao,** Xu, P., et al. (2017) Exploring an Integrated Urban Carbon Dioxide (CO_2) Assessing Model and Mitigation Plan for New Cities. *Environment and planning B: Urban Analytics and City Scidence:0265813516686972.*

- **Liu, Chao**, Henderson, B. H., et al. (2016). A land use regression application into assessing spatial variation of intra-urban fine particulate matter (PM 2.5) and nitrogen dioxide (NO$_2$) concentrations in City of Shanghai, China. *Science of The Total Environment*, *565*, 607-615.

- Jiang, L., **Liu, Chao* (通讯作者)**, et al. (2019) Influence of Green Roof on Heat Island Effect in High-density Urban Area: The Case of Start-up Zone of Guangzhou International Financial City. *Building Energy Efficiency*, In press (Chinese)

- Gao Y., Wang Z., **Liu, Chao**, Peng Z. (2019) Assessing neighborhood air pollution exposure and its relationship with the urban form, *Building and Environment,* 155, 15-24, https://doi.org/10.1016/j.buildenv.2018.12.044.

- Gao, Y., Lu, Q., **Liu, Chao,** et al. (2016) Prediction of Vertical PM2.5 Concentrations alongside an Elevated Expressway by using the Neural Network Hybrid Model and Generalized Additive Model. *Frontiers of Earth Science.*11 (2), 347–360.

- Liu, Chao, et al. (2015) Study of Urban Patterns Optimization Employing CFD Method: A Case Studyof Chenjiazhen Experimental Ecological Community, Chongming, Shanghai. *GeoJournal Library*.

- 陈蔚镇, 刘超, 许鹏. LEED-ND 对夏热冬冷地区住区的碳减排潜力分析[J]. 住宅科技, 2013(1): 12-15.

- **刘超**，许鹏，马炯.上海临港新城中心区低碳规划和目标管理[J]. 城市规划 2012(12): 58-71.

RESEARCH EXPERIENCE

2017- Pre   **Co-Principle Investigator (about 10,000 USD)**
  Project of air quality impacts on health of maternity and newborns
  This project is a collaboration with Shanghai First Maternity and Infant Hospital (SFMIH), SFMIH is one of the largest maternity and infant hospitals in China, and recorded over 30,000 maternity and infant data. SFMIH supported me to assess the health influences of air pollution in maternity and newborns using their records and statistical models. In this collaboration, I take charge of the human exposure to air pollution calculations.

2014-2016   **Co-Principle Investigator (about 20,000 USD)**
  Project of Land Use Evolvement Analysis using agent-based model
  This project was funded by Intelligent Urbanization Co-Creation Center for High Density Region (CIUC20140012), a seed grant for young scholars.
  - Predicted land use transformation using Logistics and agent-based model.
  - Extracted traditional built environments factors and big data as independent variables.

2014-2016   **National Science Foundation Project Analysis (700,000 USD)**
  Participant, NSF project of Groundwater recharge pressure prediction based on land use, demographic and sea level changes in St. Johns River Water Management District (SJRWMD), Florida
  - Designed research methodology and applied into case study
  - Oversaw the research project together in collaboration with another graduate student

2013-2014 **National Oceanic and Atmospheric Administration (NOAA) funded project Analysis (250,000 USD)**
Participant, Project of A Spatial-Temporal Econometric Model to Estimate Costs and Benefits of Sea-Level Rise Adaptation Strategies
- Executed cost / benefit analysis of building elevation and wetlands eco-systems

2012-2013 **Principle Investigator (about 25,000 USD)**
Project of an integrated model and toolkit development of fast assessing urban carbon emission
This project was granted by the institute where I worked after the master graduation-- Shanghai Tongji Urban Planning and Research Institute.
- Utilized proprietary software to plan transportation, architecture, agriculture, and open space components, calculating impact of new strategies vs. steady-state
- Developed the energy usage model for the first zero-carbon island in China as a case study

PRESENTATIONS

Feb. 2019   Shanghai Environmental Monitoring Center   Shanghai, China
Intra-urban air pollution and planning challenges

Oct. 2018   Association of Collegiate Schools of Planning (ACSP)   Denver, US
Modelling the impacts of city-scale "Ventilation corridor" plans on human exposures to intra-urban PM2.5 concentrations

Aug. 2017   Shanghai Tongji Urban and Regional Planning Institute   Shanghai, China
Urban planning, air pollution and public health

Nov. 2016   Association of Collegiate Schools of Planning (ACSP)   Portland, US
"Groundwater recharge pressure prediction based on land use, demographic and sea level changes in St.Johns River Water Management District(SJRWMD), Florida,US

Nov 2015   Association of Collegiate Schools of Planning (ACSP)   Houston, US
"Fine Particulate Trends and Airflow Influences in Chinese thirty cities"

Nov 2014   Association of Collegiate Schools of Planning (ACSP)   Philadelphia, PA
"A land use regression application into assessing spatial variation of intra-urban fine particulate matter (pm2.5) concentrations in city of shanghai, china"

July 2014   Peking University Shenzhen Graduate School   Shenzhen, China
"Urban energy planning and low carbon planning"

June 2014   International Association for China Planning (IACP)   Guangzhou, China
Spatial variation of intra-urban fine particulate matter (pm2.5) concentrations analysis in city of Shanghai

June 2013   International Association for China Planning (IACP)   Shanghai, China
Case Study About Energy Saving and Carbon Emissions Mitigation Strategy by Passive Design in Urban Planning

TEACHING EXPERIENCE

2015-2016	**College of Design, Construction and Planning, University of Florida**	**Gainesville, FL**

Teaching Assistant
Created course syllabus and contents and delivered the graduate-level course of 'Adaption Urban Planning for Climate Change'

2014 Fall	**College of Design, Construction and Planning, University of Florida**	**Gainesville, FL**

Teaching Assistant of on-line course of 'Internet GIS'

2014-2016	**College of Design, Construction and Planning, University of Florida**	**Gainesville, FL**

Graduate Thesis Advisor Assistant
Supervised two graduate students on master thesis
- Yi Zhang, 2016 Master of Urban and Regional Planning
  Thesis title: The Spatiotemporal Form of Urban Land Use Change Analysis and Modeling
- Bowen Li, 2016 Master of Urban and Regional Planning
  Thesis title: Groundwater Recharge Pressure Prediction Based on Demographic, Land Use And Sea Level Changes In Brevard County, Florida, US

DATA & DESIGN COMPETITIONS

- **2016 The best visualization award recipient, group leader**   **Shanghai Open Big Data Competition (SODA)** SODA is Chinese earliest open data competition targeting for urban management & visualizations, and has about 500 global teams in the year 2016 to participate in. As the team leader, I lead my group received the top 10 rankings and the best visualization award. Our product was utilizing taxi and subway trajectory, mobile GPS data and air quality data to visualize fine-scale population exposure to air quality and health impacts. We also created APPs and sensors to collect relevant data by crowdsourcing.

PRACTICAL EMPLOYMENT EXPERIENCE

2012-2015	**Shanghai Tongji Urban Planning and Research Institute**	**Shanghai, CHINA**

Manager (2013-2015)
 Led a team of 5 Designers, Planners, IT Analysts, and consultants to create the first carbon emission tool for designers of 'C-Smart 1.0', the first software suite used to evaluate urban carbon emissions.

Associate, Urban Planner / Consultant (2012-2013)
Coordinated execution of multiple sustainable urban planning projects ($1M average project budget) for municipal clients. Collaborated with international research partners to benchmark best practices and apply the latest research into new design components.

2013-2014	**NORTH CENTRAL FLORIDA REGIONAL PLANNING COUNCIL**	**GAINESVILLE, FL**

Graduate Intern (Part-time internship concurrent with studies)
Surveyed Walking and Bicycling transportation status in Alachua County, FL and organized workshops among planning stockholders, governments, and urban planners. Delivered the *Walking and Bicycling Development Update Report 2015* to Director or Regional Planning Council.

2010-2011	**ARUP INTERNATIONAL CONSULTANTS CO.LTD.**	**SHANGHAI, CHINA**

A global leading firm of designers, planners, engineers, consultants and technical specialists offering abroad range of professional services over 70 countries since 1941.

Consultant Intern
- Created feasibility reports of China carbon trade mechanism (CDM) oriented in planning region, identifying over $1B USD in potential carbon credits Chinese business clients.
- Designed Transit Oriented Development (TOD) component of Danshui river district of Taiwan with a project budget of $30M USD.
- Executed assessment for the LEED-ND certification application by a district in Nantong, China with a project budget of $2M USD.

AWARDS/HONORS

2016	Outstanding Achievement Award of University of Florida
2016	Graduate School Doctoral Research Travel Award in University of Florida (6,000 USD)
2016	Merit scholarship recipient
2014	Travel awards for ACSP conference by Department of Urban and Regional Planning
2012	University Outstanding Students Awards (1/20)

PROFESSIONAL ORGANIZATIONS

Member, Association of Collegiate Schools of Planning (ACSP)

Member, International Association for China Planning (IACP)

The UF MBA Association (MBAA)

PROFESSIONAL ACTIVITIES

2014- **Member, International Association for China Planning (IACP)**
- Supported organization of IACP annual conference
- Charged member registration for IACP association

2010 **Volunteer and presenter, NGO of 'The Climate Project' (TCP)**
- Attended inaugural training workshop to establish "The Climate Project" (TCP) in China
- Presented climate change overviews to local citizens in my hometown

SOCIAL SERVICE

2009-2012 **Cofounder, Secretary, Green city iRide Union, a public bicycle organization**
- Initiated public service program with other 5 postgraduate students: Green city iRide, aimed to tackle exacerbating traffic problem in metropolitan areas

2008 **Volunteer for 2008 Beijing Olympic Games**
- Accompanied executives from Johnson & Johnson, utilizing 10-month English training to converse with and support visitors

2005-2006 **Secretary, Association of Student Bicycling**
- Organized daily excises
- Participated in 2007 summer long-range trip (20 days, 3,000 miles)