Leilei Duan

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CURRENT APPOINTMENT

Lecturer (2019 - present)   Spatial Sciences Institute, University of Southern California, CA

EDUCATION

Ph.D.	Design, Construction and Planning, University of Florida, 2018
M.S.	Interdisciplinary Ecology, University of Florida, 2018
M.S.	Urban and Regional Planning, University of Florida, 2014
B.S.	Urban Management, East China University of Science and Technology, 2011
B.S. (minor)	Finance, East China University of Science and Technology, 2011

RESEARCH AND TEACHING INTERESTS

Land use planning and resource allocation

Pedagogy, methodology, and practice in Geodesign

Environmental planning

Computer-aid urban design

Urban data analysis: statistics, spatial analysis, visualization

Application of geographic information system in urban planning

Three-dimensional modeling system

TEACHING EXPERIENCE

University of Southern California, Los Angeles

2019 - 2020	Instructor (Fall 2019, Spring 2020) SSCI 201 Principles of Geodesign
2020	Instructor (Spring 2020) SSCI 581 Concepts for Spatial Thinking
2019	Co-Instructor (Spring 2019) SSCI 265 Water Planet Course instructor: Dr. John Wilson, Dr. Elisabeth Sedano & Emily Serman
2019	Co-Instructor (Spring 2019) SSCI 382L Principles of Geographic Information Science

Course instructor: Dr. Su Jin Lee

2019   Co-Instructor (Spring 2019)
        SSCI 383L Geospatial Modeling and Customization
        Course instructor: Dr. Jennifer Swift

2018 - 2019   Co-Instructor (Fall 2018, Spring 2019, Fall 2019)
        SSCI 301 Maps and Spatial Reasoning
        Course instructors: Dr. Laura Loyola, Dr. Elizabeth Sedano, Xiaozhe Yin & Yan Xu

2018 - 2019   Co-Instructor (Fall 2018, Fall 2019)
        SSCI 401 Geospatial Intelligence
        Course instructor: Dr. Steve Fleming

2018   Co-Instructor (Fall 2018)
        SSCI 214g Human Populations and Natural Hazards
        Course instructors: Dr. Jennifer Swift & Douglas Fleming

University of Florida, Gainesville

2018   Teaching assistant (Spring 2018)
        LAA 6656/ URP 6341 Environmental Design and Planning Practicum (Geodesign)
        Course instructors: Dr. Paul Zwick & Dr. Tom Hoctor

        ▪ Lectured on fundamentals in ArcGIS, and helped students with questions

2016 – 2018   Teaching assistant (Spring 2016, Spring 2017, Spring 2018)
        URP 6272 Spatial Analysis
        Course instructor: Dr. Paul Zwick

        ▪ Helped the professor with setting up the course syllabus, lectured on GIS
          Spatial Analysis and Spatial Statistics tools, and provided assistance with
          students' assignments.

2017   Instructor (Fall 2017)
        URP 4230 3D Modeling, Visualization and Simulation
        Geodesign undergraduate concentration

        ▪ Created and organized the course structure, taught this course.

2017   Teaching assistant (Fall 2017)
        URP 6905 Urban Coastal Analysis
        Course instructor: Dr. Paul Zwick

        ▪ Lectured on the usage of Story Map and ArcGIS Online, and helped students
          with their assignments.

2017   Teaching assistant (Spring 2017)
        URP 6872 Planning & Design II
        Course instructor: Dr. Ilir Bejleri

        ▪ Helped the professor with setting up the course structure, and provided
          assistance with students' assignments

2016   Teaching assistant (Fall 2016)
        URP 6905 Geodesign Studio
        Course instructor: Dr. Paul Zwick

        ▪ Helped the professor with setting up the course structure, and lectured on
          demographic data analysis.

2016	Teaching assistant (Fall 2016) URP 6905 3D Geospatial Urban Modeling & Visualization Course instructor: Dr. Ilir Bejleri

- ▪ Prepared the lecture and homework content for CityEngine lectures, lectured on CityEngine, and provided assistance with students' assignments.

2015 – 2016	Teaching assistant (Fall 2015, Fall 2016) URP 6871 Planning & Design I Course instructor: Dr. Ilir Bejleri

- ▪ Helped the professor with setting up the course structure, lectured on 3D modeling and provided assistance with students' assignments

2013	Teaching assistant (Fall 2013) URP 6374 Geodesign Studio Course instructor: Dr. Paul Zwick

- ▪ Provided assistance with students' assignments.

CONFERENCE PRESENTATIONS

2019	"How Learning Happens in Geodesign" Education, Design and Practice – Understanding skills in a Complex World. Stevens Institute of Technology. Hoboken, New Jersey. June 17-19
2019	"Exploring Geodesign: Using Three-dimensional Parametric Modeling Techniques in Conjunction with Two-dimensional Land Use Models to Better Visualize Future Growth" American Association of Geographers. Washington DC. April 3-7
2019	"Generalized Procedural Rules for TOD & Urban Allocations" Geodesign Summit. Redlands, California. Feb 25-28 Presentation video recording: https://bit.ly/2Vwd54X
2018	"Exploring Geodesign: Using Three-dimensional Parametric Modeling Techniques in Conjunction with Two-dimensional Land Use Models to Better Visualize Future Growth" American Collegiate Schools of Planning Annual Conference. Buffalo, New York. Oct 25-28.
2017	"Detecting Development Opportunities Using Quality of Life Research and Land Use Suitability Modeling: A Case Study of the City of Tampa" American Collegiate Schools of Planning Annual Conference. Denver, Colorado. Oct 12-15.
2017	"Using 3D-GIS Based Parametric Modeling to Understand the Future Growth of Cities" Urban and Regional Information Systems Association Annual Conference. Jacksonville, Florida. Oct 23-26.
2017	"Using 3D parametric modeling to understand the future growth of cities: Simulating 3D infill allocation in the City of Tampa" 8th International Visualization in Transportation Symposium: Visualization in Action. Washington, DC. July 27-28. Presentation video recording: https://bit.ly/2Hp4qNI
2016	"Exploring Volumetric Population Allocation Based on a Trend Growth Model: A Case Study of Infill Allocation in the City of Tampa" American Collegiate Schools of Planning Annual Conference. Portland, Oregon. Nov 3-6.

| 2015 | "Exploring the Use of Three-Dimensional Urban Simulation to Model Development Opportunities Based on Suitability Modeling and FBC Regulations" American Collegiate Schools of Planning Annual Conference. Houston, Texas. Oct 21-25. |
| 2014 | "Three-Dimensional Urban Simulation for Form-Based Codes" Florida American Planning Association Conference. Jacksonville, Florida. |

CONFERENCE PANELS ORGANIZED

| 2019 | "Geodesign – Current research and practice" American Association of Geographers. Washington DC. April 3-7. |
| 2017 | "Pedagogy in Geodesign Education" American Collegiate Schools of Planning Annual Conference. Denver, Colorado. Oct 12-15. |

PUBLICATIONS

| 2019 | Murtha, T., Wang, L. & **Duan, L.** (2019). Historical Analysis of Land Use Change and Geodesign of Rapid Urbanization: Orlando, Florida, USA. *Journal of Digital Landscape Architecture, 4-2019*, 205 – 212. |

Manuscripts in Preparation

| 2020 | Duan, L., Zwick, P. & Mao, L. "Using Quality of Life Analysis in Conjunction of Land Use Suitability Analysis to Inform Urban Allocations" |
| 2020 | Duan, L., Zwick, P. & Bejleri, I. "Exploring the Use of Procedural Three-dimensional Modeling Techniques to Visualize Urban Form Changes" |

RESEARCH EXPERIENCE

University of Florida, Gainesville

| 2014 – 2018 | Research assistant at College of Design, Construction and Planning Supervisor: Dr. Paul Zwick, Dr. Ilir Bejleri |

- Explored the Geodesign workflow in population and employment allocation process
- Analyzed statewide traffic safety data; explored the impact of land use patterns changes on traffic crashes.

SERVICE POSITIONS

University of Southern California, Los Angeles

2020	USC Esri EDC Student of the Year Award Committee
2019	USC Prison Education Project Faculty Forum – guest lecture
2019	Gateway Internship Program - mentor
2019	USC Geodesign Fellow – Fellow Selection Committee
2019	Masters Thesis Committee Member (x2), Spatial Sciences Institute

University of Florida, Gainesville

2016 – 2017   ESRI Campus Ambassador

FELLOWSHIP, GRANTS, AND AWARDS

University of Florida, Gainesville

2017   Outstanding International Student Award
2014 – 2018   Graduate School Fellowship

PROFESSIONAL AFFILIATIONS

Gamma Theta Upsilon Honor Society

American Planning Association (APA)

Association of American Geographers (AAG)

CREDENTIALS

Co-founder and administrator for Geodesign Wiki website: http://geodesignwiki.com

WORKING EXPERIENCE

2019 - present   Spatial Sciences Institute, University of Southern California, Los Angeles, California
                  Lecturer

2018 - 2019   Spatial Sciences Institute, University of Southern California, Los Angeles, California
                  Post-doctoral Teaching Fellow

2016   RS&H, Tampa, Florida (Summer 2016)
                  Visualization Intern

- Created 3D models of the City of Tampa using CityEngine to support the Tampa Bay Expressway (TBX) project, and provided GIS demographic data and built environment data analysis support.

2015   RS&H, Jacksonville, Florida (Summer 2015)
                  Transportation Planning Intern

- Provided GIS analysis support for multiple projects, developed part of the GIS Technician Guide for RS&H, and hosted two Lunch and Learn events presenting new GIS techniques that can be applied to the current workflow.

2010   Kunming Urban Planning and Design Institute, Kunming, China (Summer 2010)
                  Transportation Planning Intern

- Involved in urban district reformation, and conducted relevant environment evaluations.

2010   Kunming City Planning Bureau, Kunming, China (Summer 2010)
                  Transportation and Environmental Planning Intern

- ▪ Participated in green field planning of Panlong District

SKILLS AND METHODS

Statistical and Computational Methods

Multi-level statistics, multivariate statistics, data mining, data analysis with Python and R.

Three-dimensional Modeling Methods

Computer Generated Architecture (CGA) language creation and editing, CityEngine, SketchUp, 3D GIS.

Web Developing Methods

HTLM5, CSS

Geospatial Methods

GIS, spatial analysis, ArcGIS, network analysis, spatial network analysis

Language Skills

Fluent in English and Chinese.

Updated February 2020