

Celina Balderas Guzmán

Department of Landscape Architecture
College of Built Environments
University of Washington

July 2022

RESEARCH INTERESTS

Climate adaptation, maladaptation, regional adaptation planning, sea level rise, coastal wetlands, nature-based solutions, social-ecological systems, stormwater, green infrastructure, environmental data science

EDUCATION

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| 2022 | PhD in Landscape Architecture & Environmental Planning
Designated Emphasis in Global Metropolitan Studies
University of California, Berkeley |
| 2013 | Master in City Planning
Massachusetts Institute of Technology
Department of Urban Studies and Planning |
| 2013 | Master of Science in Architecture Studies in Urbanism
Massachusetts Institute of Technology
Department of Architecture |
| 2007 | Bachelor of Science in Architecture
Massachusetts Institute of Technology
Department of Architecture |

FACULTY APPOINTMENTS

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| 2022-
present | Assistant Professor
Department of Landscape Architecture
College of Built Environments
University of Washington |
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GRANTS AND AWARDS

- 2017– 2022 **National Science Foundation (NSF) Graduate Research Fellowship**
Dissertation Funding: \$132,000
- 2017– 2021 **UC Berkeley Eugene Cota-Robles Fellowship**
Dissertation Funding: \$87,000
- 2020 **National Socio-Environmental Synthesis Center (SESYNC) Graduate Student Research Fellowship**
Honorarium: \$2,000
- 2020 **NSF Graduate Research Internship Program Award**
Dissertation Funding: \$5,000
- 2018– 2020 **National Socio-Environmental Synthesis Center (SESYNC) Graduate Pursuit**
Research Funding (in-kind support)
Role: Co-PI
- 2019 **UC Berkeley Global Metropolitan Studies Summer Research Award**
Dissertation Funding: \$2,400
- 2015– 2017 **MIT Abdul Latif Jameel Water and Food Systems Lab Seed Grant**
Research Funding: \$200,000
Role: Lead Researcher
- 2016 **MIT Center for Art, Science, and Technology Exhibition Grant**
Exhibition Funding: \$30,000
Role: Collaborator

SELECTED PUBLICATIONS

REFEREED JOURNAL ARTICLES

- 2022 **Balderas Guzmán, Celina**, Runzi Wang, Oliver Muellerklein, Matthew Smith, and Caitlin G. Eger. “Comparing Stormwater Quality and Watershed Typologies across the United States: A Machine Learning Approach.” *Water Research*. [10.1016/j.watres.2022.118283](https://doi.org/10.1016/j.watres.2022.118283)
- 2018 **Balderas Guzmán, Celina**, Samantha Cohen, Manuel Xavier, Tyler Swingle, Waishan Qiu, Heidi Nepf. “Island Topographies to Improve Stormwater Detention Ponds and Treatment Wetlands.” *Ecological Engineering*. [10.1016/j.ecoleng.2018.02.020](https://doi.org/10.1016/j.ecoleng.2018.02.020)

EDITED VOLUMES

2017 Berger, Alan, Joel Kotkin, **Celina Balderas Guzmán**. *Infinite Suburbia*. Princeton Architectural Press. 784 pages.

Awarded an Honorable Mention in the 2020 Bruno Zevi Book Awards, International Committee of Architectural Critics (CICA).

REPORTS

2018 **Balderas Guzmán, Celina**, Heidi Nepf, Alan Berger. "Design Guidelines for Urban Stormwater Wetlands." MIT Norman B. Leventhal Center for Advanced Urbanism. 167 pages.

CONFERENCE PRESENTATIONS

- 2021 Coastal and Estuarine Research Federation. "How Tidal Wetlands Could Evolve in Estuaries with Hardened Shorelines." November 4. Oral Presentation.
- 2021 Council of Educators in Landscape Architecture. "The Landscape of American Urban Stormwater Pollution." March 17. Oral Presentation.
- 2020 American Geophysical Union. "Identifying Relationships Between Urban Stormwater Signatures and Watershed Characteristics Using Interpretable Machine Learning." December 15. Poster.
- 2020 American Association of Geographers. "Stormwater Terroir: The Geography of Urban Stormwater Pollution." (Cancelled due to COVID-19)
- 2020 Council of Educators in Landscape Architecture. "The Landscape of American Urban Stormwater Pollution." (Cancelled due to COVID-19)
- 2019 American Geophysical Union. "Urban Stormwater Signatures Across the United States: A Machine Learning Approach." December 11. Poster.
- 2018 Council of Educators in Landscape Architecture. "Multi-Functional Urban Stormwater Wetlands." March 22. Oral Presentation.
- 2017 World Environmental and Water Resources Congress. "Designing Urban Stormwater Wetlands." May 24. Oral Presentation.
- 2017 New England Water Environment Association Annual Conference. "Urban Stormwater Wetlands: Research into Form and Function." January 23. Oral Presentation.

TEACHING EXPERIENCE

- Spring 2018 **UC Berkeley**
Department of Landscape Architecture & Environmental Planning
Teaching Assistant: “Hydrology for Planners”
Technical course for Master of Landscape Architecture students
- Fall 2016 &
Spring 2017 **Boston Architectural College**
Department of Architecture
Co-Instructor/Adjunct Faculty: “Prototypes for a New Hydrological Era”
Studio for Master of Architecture students
- Jan 2017 **Massachusetts Institute of Technology**
Department of Urban Studies and Planning
Co-Instructor: “Infrastructure for Green Cities:
Designing Urban Constructed Wetlands”
Workshop for urban planning, architecture, and env. engineering students

PROFESSIONAL EXPERIENCE

- 2014– 2017 **Research Associate**
Norman B. Leventhal Center for Advanced Urbanism
School of Architecture and Planning
Massachusetts Institute of Technology
- 2008– 2009 **Urban Designer**
The Paul Hogarth Company, Landscape & Urban Design
Belfast, Northern Ireland, United Kingdom

PROFESSIONAL MEMBERSHIPS

Association of Collegiate Schools of Planning (ACSP)
American Association of Geographers (AAG)
Council of Educators in Landscape Architecture (CELA)
American Geophysical Union (AGU)
Coastal and Estuarine Research Federation (CERF)

LANGUAGES

English (Fluent)
Spanish (Native Speaker)
French (Intermediate)

SELECTED MEDIA COVERAGE

STORMWATER WETLANDS

- 2018 *Landscape Architecture Magazine*. “Shapes of Water.” October Issue.
- 2018 *The Dirt, American Society of Landscape Architects*. “MIT Researchers Seek Optimal Form of Urban Stormwater Wetlands.” May 23.
- 2018 *MIT News*. “A Solution for Urban Storm Flooding.” July 12.
- 2018 *Civil + Structural Engineer*. “Interdisciplinary Approach to Urban Storm Flooding.” September 1.
- 2018 *World Landscape Architecture*. “MIT Team Release Design Guidelines as a Solution for Urban Storm Flooding.” July 30.
- 2016 The White House, Office of the Press Secretary. “Fact Sheet: Working Together to Build a Sustainable Water Future.” March 22.