

Catherine R. Joseph, LEED AP BD+C, M. ARCH, B.S. ENG

PROFESSIONAL SUMMARY & DESIGN FOCUS

Catherine Joseph is an Architectural Designer at FXCollaborative Architects in New York City. She is currently working on the design of a commercial tower in the Hudson Yards Development. She is a Critic in the Interior Architecture Department at the Rhode Island School of Design in Providence, Rhode Island, where she teaches "Design through Failure: Building Structures and Systems for Adaptive Reuse". The course focuses both on structural concepts and systems and on the speculative design of adaptive structural systems. Catherine earned her Master of Architecture at Cornell University. She earned her Bachelor of Science in Structural Engineering at Duke University, completing undergraduate research in energy modeling for affordable housing developments.

For her, being an architect is about seeing forces; it is about identifying, understanding, and designing for both physical and social motivators. This vision, and her belief in the power of architecture as a mechanism for examining societal problems, manifests in her design strategies, research methods, and teaching approach. Her Master of Architecture Research and Design Thesis, Splicing the Weave, focused on the intentional temporality of buildings to encourage the repetitive regeneration of a city. The Design Prototype centered on the applicability of this design process in coastal metropolises threatened by repetitive storms of increasing strength. This design research and experimental process has translated into "Design Through Failure", a structural systems course she created and teaches in Rhode Island School of Design's Department of Interior Architecture.

Catherine is an Alice M. Baldwin Scholar. The Duke University women's leadership program focuses on promoting positive risk-taking, leadership development, and building confidence. She was selected as a 2018 Beverly Willis Architecture Foundation Emerging Leader.

EDUCATION

Cornell University College of Architecture, Art & Planning | Ithaca, NY | *January 2016*

Master of Architecture (Professional M. Arch I)

Duke University Pratt School of Engineering | Durham, NC | *May 2012*

Bachelor of Science in Structural Engineering (Civil and Environmental Engineering)

Architectural Engineering Certificate

Alice M. Baldwin Scholar

KTH, Royal Institute of Technology | Stockholm, Sweden | *Autumn 2010*

Semester spent studying green building and sustainable construction

PROFESSIONAL EMPLOYMENT HISTORY

Architectural Designer | FXCollaborative Architects | New York, NY | *March 2016 - Present*

Holmes Tower: Primary member of design team for a 50-story Passive House residential building on the Upper East Side of Manhattan. Scope of work included the exterior envelope (including Passive House consulting) and the interior fit-out of a community center for Asphalt Green. Primary responsibilities included: technical detailing of tower exterior envelope; design, cartoon, and drafting of community center interior package; Passive House envelope area calculations; technical research for synthetic turf field constructed over roof that served as Passive House enclosure. Scope completed to 100% Design Development.

3 Hudson Boulevard: Primary member of design team of 2.0 million square foot commercial tower in the Hudson Yards development. Completed extended pre-schematic design, schematic design, and design development for warped building massing. Coordinated mechanical and structural systems design within the architectural design intent and client desires. Worked with scripting consultant and FXCollaborative Technology Director to develop parametric workflow for Revit modeling of warped building facade and structure. Also served as BIM manager and drawing graphics manager for project team of 15 approximately people. After completing 100% Design Development for a warped building massing, 3 Hudson Boulevard was redesigned and went through an accelerated schematic design phase.

NJ Office Tower: Concept development for RFP for 1 million square foot office tower in Jersey City, New Jersey.

846 6th Avenue: Construction Administration for Manhattan Residential Tower.

Long Island City Hospital, Building 1: DOB analysis and drawing set for fast-tracked multi-use project.

USMA at West Point, Humanities Center: Design drawings and competition submission booklet for RFP for 5,000 SF humanities center.

One Willoughby Square: Window Schedule, Metal Panel Schedule, Metal Panel Pattern construction drawings for 30+ story commercial office bldg in Brooklyn, NY.

Women of FXCollaborative (FXWomen): Co-Chair

Note: FXCollaborative Architects was formerly known as FXFOWLE Architects.

Architecture Intern | **Bade Stageberg Cox** | New York, NY | *May-August 2014, May-August 2015*

Completed design diagrams, construction drawings, and building and health department permitting drawings for a pool house on Long Island. Participated in schematic design charettes, project proposals and RFQ/RFP submittals, and pre-design (site analysis, code research) for a variety of residential projects.

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Architecture Intern | Richard Renner Architects | Portland, ME | May-August 2013

Developed method of analysis and graphic representation for energy monitoring data the firm collects on its buildings. Built models, completed construction drawings, and participated in design charrettes for primarily single-family residential projects.

Structural Engineering Intern | Harriman Architects + Engineers | Auburn, ME | May-August 2012

Coordinated with architects and engineers to draft construction documents for several projects. Assisted in design of structural elements, including retaining walls and spread footings.

ACADEMIC EMPLOYMENT HISTORY

Critic | Interior Architecture, Rhode Island School of Design | Providence, RI | August 2017-Present

"Design Through Failure: Building Structures and Systems for Adaptive Reuse": Sole instructor for 13 third-year undergraduate students. The course focuses on two curriculum tracks. The first curriculum track is traditional structure and systems instruction. The second curriculum track focuses on the speculative design of adaptive structural and mechanical systems that respond intelligently to natural disasters.

Graduate Teaching Assistant | Cornell University | Ithaca, NY | January-May 2015

Structural Concepts: Course covered structural mechanics, dynamics, and an introduction to material properties of structural system. Served as coordinator among six teaching assistants assigned to course, managing workload distribution, monitoring and maintaining quality of teaching and grading, managing the grade record, and upholding ethics standards for homework completion. Developed practice problems based on homework, taught review sessions, provided weekly office hours and graded homework for class of 70 students.

Building Technology I: Course focused on practicalities of construction, including egress and accessibility requirements, facade and waterproofing systems, and composite structural systems. Provided weekly office hours for homework assistance and general study questions and graded weekly homework for class of 70 students.

Both courses were a mix of undergraduate and graduate students. Consistently received positive feedback from students and professors for proficiency and ability to assist students productively.

Undergraduate Teaching Assistant | Duke University | Durham, NC | August 2011-May 2012

Introduction to Environmental Engineering: Course covered a broad range of topics related to environmental engineering, including energy, water, and waste management. Developed weekly quizzes based on course content. Offered office hours and graded homework.

Engineering Communications: Course focused on skills of engineering practice including technical writing and graphical analysis and presentation. Provided technical support and course preparation assistance to professor. Offered office hours and graded midterm and final essays.

Course Developer, Instructor | Duke University | Durham, NC | January 2011-May 2011

Sustainable Structures: Identified gap in sustainable design curriculum and sought to fill the need for a class focusing on sustainable structures. Developed the curriculum for and co-taught the weekly course covering energy monitoring and auditing, renewable energy systems in buildings, sustainable design and construction strategies, sustainable urban development tactics, and global certification systems.

RESEARCH EMPLOYMENT HISTORY

Pratt Engineering Undergraduate Fellow | Duke University | Durham, NC | January 2011-May 2012

Studied energy consumption and performance of affordable housing constructed by Builders of Hope, an NGO focused on providing high-quality affordable housing that achieves low operating and maintenance costs over the home's lifetime. Developed method of relating real-time energy saving data to motivate changes in user behavior.

NAE Grand Challenge Scholar | Durham, NC + Lesotho, Southern Africa | January 2011-May 2012

Completed portfolio focused on affordable, sustainable housing options, locally and globally. Performed a housing assessment in mountainous regions of Lesotho, Southern Africa.

NSF REU Researcher | University of Houston | Houston, TX | May-August 2009

Developed code to model seismic response of a 3D building under the advising of Dr. Y. L. Mo. Sponsored by National Science Foundation as part of the Research Experience for Undergraduates (REU) Program.

PUBLISHED WORKS

"*Bathrooms for Humans: dignity in elimination/the all-gender bathroom*"; first author of peer-reviewed journal article, in collaboration with Whitney Odell; FXCollaborative Architects Podium publication; March 2018.

"*Between Resiliency and Adaptation*"; peer-reviewed journal article; Rhode Island School of Design Int|AR Journal; Summer 2017.

"*Soft Process*"; experimental study and exhibition included in Cornell University ASSOCIATION publication, Autumn 2017.

"*Splicing the Weave: a resilient system of event-based adaptation*"; Master of Architecture Design Thesis; Cornell University; January 2016.

"*Eccentric*"; public library design included in Cornell University ASSOCIATION publication, Autumn 2015.

LECTURES & PRESENTATIONS

"*Dignity in Elimination: Designing the All Gender Bathroom*"; NYCxDESIGN 2018 event; sold out interactive discussion hosted by FXCollaborative and AF|NY at the project 6 showroom in NYC; featured on Architectural Digest's "All the best talks during NYCxDesign week" list; 17 May 2018.

"*Between Resiliency and Adaptation*"; Journal launch lecture for Rhode Island School of Design Int|AR Journal; 27 Sept 2017.

"*How to Teach Structures / How to Swim*"; FXCollaborative Lecture Series; Pecha Kucha-style presentation on teaching in Architecture; New York, NY; September 2017.

"*Walls, Bathrooms, Abortion Clinics*"; TED-style talk presented at Leadership Summit for Alumnae of the Duke University Alice M. Baldwin Scholars Program; Smith College, Northampton, MA; 15 June 2017.

"*Engineering Error*"; Cornell University Thumbnail; humorous Pecha Kucha-style presentation on Engineering Failure; Ithaca, NY; Autumn 2014.

"*Duke University Home Depot Smart Home*"; World Future Energy Summit 2010 Project Showcase Seminars; Abu Dhabi, UAE; January 2010.

EXHIBITIONS

Two Roads; Film double exposure, inkjet print, 2018 RISD Faculty Exhibition, Providence, RI; February 2018

Soft Process; Experimental study of material properties and casting conditions of slip-cast ceramic; exhibited in Tjaden Experimental Gallery in Ithaca, New York in September 2016; Co-Designer with Sida Zhang.

Rebuilding the Rockaways; Architecture Residency with Public Design Reviews; Museum of Modern Art PS1; Long Island City, NY; August 2013.

AWARDS & RECOGNITION

Beverly Willis Architecture Foundation Emerging Leader | New York, NY | *February 2018*

Named to the 2018 BWAFF Emerging Leaders cohort, a group of 20 women who demonstrate leadership and professional potential and ambition.

Cornell University Summer Design Studio Design Jury | Ithaca, NY | *August 2016*

Served on final design jury for summer design studio.

COLDSCAPES//Adapt Design Competition | Center for Outdoor Living Design | *February 2016*

Independent Submission awarded Second Place in Design Competition. Brief focused on adaptable urban landscapes in regions with repetitive freeze/thaw cycles. Design proposed leveraging these natural physical cycles for adaptive facade management and earth-based thermal energy production.

Independent Art Grant | Cornell Council for the Arts | Ithaca, New York | *2015-2016*

Team submission with colleague Sida Zhang. The project, *Soft Process*, investigated slip-cast ceramic production through the use of a soft membrane. Work completed during the grant period was exhibited in Cornell University's Olive Tjaden Hall Experimental Gallery during September 2016.

Engaged Learning Grant | Cornell University Southeast Asia Studies Program | Ithaca, NY | *June 2015*

Awarded grant money for thesis study travel to the Philippines. Designed and arranged intense two week trip in the Philippines, visiting a variety of locations throughout the country, including Manila, Tacloban, and the Batanes to study traditional rural building traditions, current urban practices, and the rebuilding efforts in Tacloban since Typhoon Yolanda.

Thesis Travel Scholarship | Cornell Univ. Dept. of Architecture | Ithaca, NY | *June 2015*

Awarded grant money for thesis study travel to the Philippines. Designed and arranged intense two week trip in the Philippines, visiting a variety of locations throughout the country, including Manila, Tacloban, and the Batanes to study traditional rural building traditions, current urban practices, and the rebuilding efforts in Tacloban since Typhoon Yolanda.

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Architecture Workshop | Museum of Modern Art PS1 | Long Island City, New York | *August 2013*

Selected as one of nine students for a two-week design charrette about large-scale rebuilding strategies for The Rockaways. Student Architect-in-residence at The Colony, part of the EXPO 1: New York exhibition at Museum of Modern Art PS1, for two weeks. Presented work in Mid- and Final Reviews publicized by the museum and attended by the public. Proposal focused on accepting structural failure during storm events for strategic portions of the peninsula and designing a system that utilizes this failure as a protective mechanism.

Architecture Scholarship | Cornell Univ. Dept. of Architecture | Ithaca, New York | *2012-2015*

Merit scholarship awarded for all seven semesters of graduate school

Alice M. Baldwin Scholars Program | Duke University | Durham, NC | *Autumn 2008 - Present*

Selected as one of 18 women from the Duke Class of 2012 for this highly relevant and unique women's leadership program.