



Paul E. Kassabian, P.E.

Principal

E: pekassabian@sgh.com

REGISTRATIONS

Professional Engineer

AL	CA	CO
CT	ID	KS
LA	ME	MD
MA	MI	MN
MT	NH	NC
ND	NY	OK
OR	PA	RI
SC	TN	VA
WV	BC (Canada)	

OTHER

Chartered Civil Engineer, UK
Chartered Structural Engineer, UK
NCEES Record

EDUCATION

Massachusetts Institute of Technology, Cambridge, MA

S.M. in Civil and Structural Engineering, 2003

University of Cambridge, UK

M.A. in Civil and Structural Engineering, 1997

M.Eng. in Civil and Structural Engineering, 1997

Mr. Kassabian joined Simpson Gumpertz & Heger Inc. (SGH) in 2003. He is experienced in structural design and investigation on a wide range of structural systems from historic buildings to projects on the cutting edge of both structural systems and materials. He focuses on developing innovative methods of design and construction using SGH's in-house materials lab, computational design approaches, and digital fabrication techniques. Paul was a lecturer at MIT in the fall semester to graduate structural engineering students and then a lecturer at Harvard GSD in the spring semester to the graduate architecture students.

Experience

- | Simpson Gumpertz & Heger Inc., Waltham, MA, from 2003 to present.
- | Flint & Neill Partnership (FNP), United Kingdom, from 1997 to 2001.
- | Watson Steel (WS), United Kingdom, from 1999 to 2000.

Structural design for buildings

- | **125 Lincoln St., Boston, MA.** Structural design of 700,000 GSF, thirty-five-story office building. In collaboration with Oxford Properties and S9/Stantec.
- | **54,000 sf Mass Timber Office Building, New Albany, OH.** Structural design of mass timber structure including vaulted lobby and café spaces and two FEMA P-361 safe rooms. In collaboration with Utile Architects.
- | **Suffolk Downs Innovation Center, Revere, MA.** Foundation structural engineer for mass timber building. In collaboration with Leers Weinzapfel Associates.
- | **Woodlands Wonder Preschool, Auburn University, AL.** Structural design of mass timber school building as part of Kreher Preserve Nature Center. In collaboration with Leers Weinzapfel Associates.
- | **National Museum of Forest Service History, Missoula, MO.** Structural design for 30k sf mass timber structure with faceted CLT roof supported on multiple tree-like supports using a mix of acquired wood species. In collaboration with Leers Weinzapfel Associates.
- | **90 Canal Street, Boston, MA.** Structural design of new ten-story office building while retaining unreinforced masonry facade. In collaboration with CBT Architects.
- | **Institute of Contemporary Art Extension, Boston, MA.** Structural review and upgrade of existing 1944 warehouse structure for modern art museum. In collaboration with Anmahian Winton Architects.
- | **Confidential Arts/Cultural/Museum Building, Haverhill, MA.** Structural and envelope design for large center. In collaboration with OverUnder.
- | **Cary Park, Cary, NC.** Structural design of five geometrically complex buildings and a raised skywalk pedestrian bridge. Materials include timber, steel, concrete, and CMU. In collaboration with Machado Silvetti.
- | **Allyn Innovation Center, Syracuse University, NY.** Structural design of new three- to four-story building adjacent to existing Engineering Department. In collaboration with Machado Silvetti.

Structural design for buildings

- I The Gorgeous, TUMO Center, Yerevan, Armenia** (Structural concept design for 300m long five-story tall rectangular building with cantilevered ends to house interior reconfigurable modular units. In collaboration with MVRDV.
- I 425 Medford St., Charlestown, MA.** Structural design for new floors above existing industrial building and adjacent 300,000 sq ft of new office space. In collaboration with CBT Architects.
- I Ward 7 Short Term Family Housing, Washington, DC.** Structural design of four-story residential building for Department of General Services with steel modules on a podium structure. In collaboration with Z Modular.
- I Cheatham Street Flats, San Marcos, TX.** Structural design of 165,000sf residential building with steel modules on a varying support structure. In collaboration with Z Modular.
- I Building Extension, LDS Belmont, MA.** Structural design of new extensions to existing building for Church of Latter Day Saints. Extension includes new elevator and assembly spaces. Design of Structural strengthening for new rooftop units. In collaboration with Stantec.
- I Classrooms and Office Building, Belmont Day School, Belmont, MA.** Structural design of new steel-framed buildings for use adjacent to new gymnasium. Design includes for large, cantilevered viewing areas and new feature staircase. In collaboration with Utile Architects.
- I USES, 36-48 Rutland St., Boston, MA.** New three-story classroom addition and upgrade of adjacent existing unreinforced masonry building. In collaboration with Utile Architects.
- I 256-260 Newbury St, Boston MA.** Conceptual structural, envelope, and material design for a solid cast glass wall made as an exact scanned replica of the original stone and wood façade. In collaboration with Chevron Partners and Nadaaa.
- I 600 Harrison Ave, Boston, MA.** Structural analysis and design of a new, seven-story, 160-unit apartment building with steel stud bearing wall residential levels, concrete masonry lateral-load-resisting cores, and two levels of sub-grade, reinforced-concrete parking garage. The building is supported on precast, prestressed concrete piles; the foundation design is driven by the 18 ft water head. In collaboration with Utile.
- I 248 Dorchester Avenue, South Boston, MA.** Structural design for multistory residential building. In collaboration with Utile.
- I Kelco office building, Hauppauge, NY.** Structural design only of lateral system design for CMU and timber office building. In collaboration with Bensonwood.
- I 157 Slough Pond Road, Truro, MA.** Structural design of new private timber-framed coastal residence and guest house. In collaboration with Stern McCafferty.
- I 1 Circuit Way, Truro, MA.** Structural design of addition, canopy, and staircase to existing private residence. In collaboration with OverUnder.
- I Private Residence, Truro, MA.** Structural analysis and design for architecturally exposed concrete oceanfront home with large cantilevers and predominately glazed facade. Engineering work including concrete service life predictions, mix design consulting, facade consulting, hygrothermal modeling, and integrated detailing of facade and structure in addition to conventional structural and enclosure engineering. In collaboration with Michael Price Architects.
- I Block Island House, Block Island, RI.** Structural concept design of CLT house on reinforced-concrete base slab spanning over archaeologically significant site. In collaboration with WOJR)
- I Chan Residence, Water Mill, NY.** Structural design of three-story residence with dramatic steel facade and integrated balcony. Design of timber-framed main structure and reinforced CMU lateral system walls. In collaboration with Matthew Chua.
- I BluHomes, USA.** Specific and generic designs of multiple structures for modular home design/build firm. Over 120 houses built.
- I Bamboo School, Philippines.** Structural design and in-house SGH Lab testing of bamboo-truss-roof structure. This included design and testing of unique connections of grouted bamboo with threaded steel rods. In collaboration with actLAB Architects.

- Childhood Development Center, Rwanda.** Structural design of thin-wall steel roof trusses and canopy. In collaboration with UNICEF.

Structural design for buildings

- 260 Washington Street, Dorchester, MA.** Conceptual structural design for early pricing of a five-story cultural center, including theater, office, and retail positioned around existing one-story concrete building. In collaboration with D/R/E/A/M Collaborative.
- Somerville Art Market.** Structural design of modular approaches to urban renovation area. Petrographic analysis in SGH's in-house materials lab for existing foundation conditions and conceptual structural design of a large "Art Barn." In collaboration with OverUnder.
- Private Residence, 6 Soley Street, Charlestown, MA.** Structural design of new private residence with staggered column steel structure and cantilevered roof access for extra-wide city-center site. In collaboration with Flavin Architects.
- Private Residence, Bowlake Island, Stafford, NH.** Structural design of new private residence with long-span steel trusses supporting 15 ft high fully operable doors, three-story structure with retractable roof and elevator. In collaboration with Flavin Architects.
- Private Residence, Hanover, NH.** Structural design of new private residence. In collaboration with Anmahian Winton Architects.
- Southcoast Hospital, Fairhaven, MA.** Structural design of a new 60,000 sq ft oncology center with TRO Jung|Brannen.
- Valley Hospital, Ridgewood, NJ.** Structural design for a reinforced-concrete structure with TRO Jung|Brannen.
- Parkway 22, Philadelphia, PA.** New construction design for a thirty-seven-story, 400,000 sq ft steel-framed residential tower over 230,000 sq ft cast-in-place concrete parking garage.
- Science Building, Milton Academy, Milton, MA.** Design of new undulating glass facade and internal structural modifications with Shepley Bulfinch.
- Lifestyle Center, Huangzhou, China.** Schematic design for a three-story lifestyle center with raised swimming pool and glass facade.
- Student Gallery Building, Sacred Heart University, Fairfield, CT.** Structural design for a new 35,000 sq ft signature building in the campus center with Sasaki Architects.
- 66 Metropolitan Avenue, Brooklyn, NY.** Design of steel support structure for seven-story building.

Structural design for renovation, repositioning, and interiors

- Google Kendall Square, Cambridge, MA.** Structural design of two new spiral staircases, using only steel plate for one and CLT for the other, and mezzanine structure with new opening in existing 1980s concrete waffle slab system. SGH in-house lab testing to obtain unique CLT data. Extensive FRP reinforcement of the existing waffle slab for new assembly loads and missing original top reinforcement found via nondestructive GPR scanning. In collaboration with Merge Architects and Utile.
- Cleveland Public Library, MLK Branch, Cleveland, OH.** Structural design of monumental egress stair structures, exterior building canopy, and other elements as part of new library building. In collaboration with JKurtz Architects and SO-IL.
- Beacon Hill Hotel, Boston, MA.** Structural design renovation to 1820s era buildings of unreinforced brick masonry with mix of original and newer timber and steel framing. Upgrades included reconfiguration of ground floor restaurant, relocation of stairways, replacement of rooftop units, and miscellaneous MEP upgrades. In collaboration with Utile.
- The Possible Project, 31 Heath St, Boston, MA.** Structural design of multiple interior upgrades architectural stair, façade stabilization connections, upgraded slabs of makerspace, openings in brick arch floors etc. in 1890s and 1990s adjacent buildings. In collaboration with Utile.
- 245-265 Winter St, Waltham, MA.** Structural review of lab-upgrade options and slab removal for MakerSpace. In collaboration with Nelson.
- Verizon Building, Cambridge, MA.** Structural façade design for seven-story brick façade building housing critical data equipment. Full redesign of new support system based on SGH investigation of moving façade due to lack of backup structure connectivity resulting in a redistribution of load to unintended locations. In collaboration with IA.

- Interior Office Renovation, Corning in Tewksbury, MA.** Structural design of new operable partitions and various wall and roof openings in existing masonry building with steel roof structure. In collaboration with Gensler.

Structural design for renovation, repositioning, and interiors

- 225 Franklin St., Boston, MA.** Structural design of new cantilevered switchback stair with single central stringer to existing concrete waffle slab. In collaboration with Gensler.
- Roof Deck and Interior Upgrade, 101 Huntingdon Ave., Boston, MA.** Structural design of new roof deck and associated support steel strengthening, new suspended steel stair, stabilization of existing column to allow for new double-height space. In collaboration with CBT Architects.
- 35 and 45 Braintree Hill Office Park.** Structural design for interior renovations. In collaboration with CBT Architects.
- 134 Beach St., Boston, MA.** Review of existing structure to lower basement slab for bathhouse. In collaboration with JROC Design.
- 75 State St., Boston, MA.** Structural design of new handrails and other retail/office entrance updates in main multistory atrium. In collaboration with CBT Architects.
- 70 Federal St. Boston, MA.** Structural design for new lobby entrance and armature structure. In collaboration with CBT.
- Desktop Metal, Waltham, MA.** Structural design for multiple interior upgrades, including new rooftop dunnage, openings in masonry walls, and strengthening/addition of structure for new heavy equipment.
- 535 Dean St Brooklyn, NY.** Structural Design of new opening, mezzanine framing, and stairs for existing apartment. In collaboration with Para-Project.
- 179 Bear Hill Road, Waltham, MA.** Structural Review and Design of new elements for large office/lab complex with multiple structural gravity and lateral systems. Scope included new canopy, entrance ramp/stairs, facade elements, CMU wall openings, structural support for rooftop equipment, new elevator, new mezzanine, and interior stairs. In collaboration with Interface Studio.
- 35 Braintree Hill Office Park, Braintree, MA.** Structural Design of various interior items including new flooring, guardrails, and cladding. In collaboration with CBT.
- Interior Office Renovation, Autodesk, 23 Drydock Ave, Boston, MA.** Structural design of multiple aspects on second and third floors related to existing bridge, slab openings, unique operable partitions, and ancillary design elements in existing building. In collaboration with Utile.
- ABT Associates in Cambridge, MA and Rockville, MD.** Design of new interior stairs and operable partitions. In collaboration with IA: Interior Architects,
- 222 Berkeley St, Boston, MA.** Review of heavy point loads from new large trees installed in Winter Enclosure. In collaboration with Elkus Manfredi Architects.
- 533 Washington St., Boston, MA.** Existing structural condition survey and building code Review for proposed renovations. In collaboration with CBT.
- 22 Corey St, Melrose, MA.** Structural review of three-story brick masonry and timber framed building for proposed renovation. In collaboration with S3 Design Inc.
- Interior Office Renovation, 125 Summer St, Boston, MA.** Structural design of new operable partition hung from existing structure. In collaboration with IA: Interior Architects.
- Architectural Staircase, American Eagle Outfitters Las Vegas, Las Vegas, NV.** Structural design of new feature staircase composed of built-up steel plate. In collaboration with Gray Organschi Architects.
- MIT Building 9, Cambridge, MA.** Structural design of new roof access walkways, rooftop mechanical units, and suspended elevator in existing building and with associated code upgrades. In collaboration with Utile Architects.
- Redhat, 300 A Street, Boston, MA.** Structural design of new interior stairs, mezzanine, two-story LED wall, and ancillary upgrades. Included visual grading of existing timbers to minimize locations requiring strengthening due to added floor system weight. In collaboration with IA: Interior Architects.

Structural design for renovation, repositioning, and interiors

- One Financial Center, Boston, MA.** Structural feasibility for a roof deck and new staircase at existing 1984 building. In collaboration with CBT Architects.
- Minuteman Park Repositioning, Andover, MA.** Structural design of new elements and upgrades to existing 1990s office building. Items include new interior canopies, suspended walls with integrated lighting, stair structures, rooftop units, and various landscape-related items. In collaboration with CBT Architects.
- Bridge Boston Charter School, 435 Warren Street, Roxbury, MA.** Structural design of a new two-story building addition and new gym foundations. Structural analysis and design for renovation and interior additions such as elevators and ramps to the existing split-level two- and four-story buildings. In collaboration with HMFH Architects, Inc.
- 179 Bear Hill Road, Waltham, MA.** Structural review of existing systems in building as pre-purchase survey. Building consisted of concrete waffle slab, open-web steel joists, wood joists, and cold-form joists. In collaboration with ISA-Interface Studio Architects LLC.
- Wolverine Worldwide, 10 City Point, Waltham, MA.** Structural analysis and design of two new long-span stair structures, support for a moveable wall, and slab infill for a recently constructed steel-framed office building. In collaboration with Sasaki Associates.
- Sunlife, Wellesley, MA.** Review of existing open-web steel joists with in-depth analyses to prove strengthening not required for high-density storage loads. In collaboration with IA: Interior Architects.
- Taste Wine Bar and Café, Boston, MA.** Structural design of new stair through opening in jack-arch masonry floor. In collaboration with GLD Architecture.
- Interior Renovation and Repurposing, 501/505 Massachusetts Avenue, Cambridge, MA.** Structural design for new lobby, restaurant, and retail space in existing steel- and timber-framed building, including structural slab infill, new openings in bearing brick walls, diaphragm attachments to walls, new rooftop mechanical unit, and new exterior signage. In collaboration with CBT Architects.
- Private Residence Renovation, 130 Commonwealth Avenue, Boston, MA.** Interior structural additions and upgrades with new roof deck structure for five-floor private residence built in 1899. In collaboration with Flavin Architects.
- Clapp Library Updates, Wellesley College, Wellesley, MA.** Structural design of new compact shelving, new staircase, and new lounge areas in the additions to the 1950s and 1970s existing structures. In collaboration with MPdL Studio.
- Roof Deck and New Facade, 100 High Street, Boston, MA.** New structure for exterior roof deck, including timber and steel supports, screen wall, timber pergola, and glass handrails. Interior raised platform and bar area, updated facade for entrance/exit. In collaboration with IA: Interior Architects.
- Northeastern Crossing and Café, Boston, MA.** Structural design of operable partition and new exterior entrance slab. In collaboration with Utile.
- Interior Lounge Renovation, Delta Lounge, Terminal B, Logan Airport, Boston, MA.** Structural design for changes to existing and new light gauge frame walls. In collaboration with IA: Interior Architects.
- Tenant Improvement, Equinox Fitness Club, 225 Franklin Street, Boston, MA.** Structural design related to partial demolition and modifications to lower floors of existing 1966 concrete building including one-way, two-way, and waffle slabs. In collaboration with CBT Architects.
- Interior Office Renovation, 148 State Street, Boston, MA.** Structural design of new steel staircase with glass handrail with structural strengthening of original structure for new slab opening. In collaboration with IA: Interior Architects.
- Interior Office Renovation, 99 High Street, Boston, MA.** Structural design of operable partition and new slab cores for electrical work in existing building. In collaboration with IA: Interior Architects.
- Interior Office Renovation, 125 High St, Boston, MA.** Structural design of new operable partition hung from existing structure. In collaboration with IA: Interior Architects.
- Interior Office Renovation, Santander, 2 Morrissey Boulevard, Boston, MA.** Structural design of new operable partition hung from existing structure. In collaboration with IA: Interior Architects.

Structural design for renovation, repositioning, and interiors

- **Architectural Staircase and Interior Renovations, 10 CityPoint aka 500 Totten Pond Road, Waltham, MA.** Structural Design of new steel and glass interior staircase and storage/datacenter loads. In collaboration with Sasaki Architects.
- **Interior Renovation for Office Space in Burnham Building, Boston, MA.** Within an existing terra-cotta slab and steel-framed structure providing new openings for staircases, a signature steel plate staircase, cantilevering reception desk, operable glass partitions, and feature displays with Sasaki Architects.
- **Architectural Staircase and Interior Renovations, 239 Causeway Street, Boston, MA.** Structural design of delicate staircase with cantilevering treads and other interior work with Utile Architects.
- **New Infill Slab, 99 High Street, Boston, MA.** Structural design of infill slab to existing building with IA: Interior Architects.
- **Interior Screen Walls, One North Street, Chelsea, MA.** Structural design of digitally fabricated slat walls for lobby with Radlab.
- **Paramus Park Mall, Paramus, NJ.** Design of storefront structures and tenant-specific requirements.

Structural design for pavilions, sculptures, and installations

- **MIT Kendall T-Station Canopy, Cambridge, MA.** Structural design of 160 ft long elevated FRP canopy structure with 25ft tall slender columns. In collaboration with Perkins+Will and NADAAA.
- **3D-Printed Glass 10 ft Tall Towers, Milan Biennale, Italy.** Structural design and in-house SGH Lab testing for first-time ever use of 3d printed glass in a structural system. Exhibited in Milan and transferred to Cambridge, MA. In collaboration with Neri Oxman, MIT Media Lab, and the MIT Glass Lab.
- **Mary Baker Eddy Library, Mapparium Bridge, Boston, MA.** Structural design for options to replace structural glass bridge. Developed design and analytical approaches to modernize 1935 glass structure using modern day codes and technologies while maintaining experience of transparency of the illuminated Mapparium glass globe.
- **Duxbury Art Museum Entrance, Duxbury, MA.** Structural design of new steel plate canopy structure, steel plate entrance portal, and replaced curtain wall framing for 1971 curved glulam roof structure museum. In collaboration with OudensEllo.
- **Garvey Park Canopy, Dorchester, MA.** Structural design of slatted steel plate canopy on slender tubular steel columns. In collaboration with JKurtz Architects and GroundView
- **Love Is Calling by Yayoi Kusama, ICA Boston, Boston, MA.** Structural review of installation to determine capacity for motorized access
- **Weave Wall, Seaport, Boston MA.** Structural design of pre-preg CRFP ribbon interwoven strips supported on diagrid scaffolding tube frame. In collaboration with Telitta .
- **Parcel H, Northpoint, Cambridge, MA.** Structural concept designs for triple-height glazed atrium. In collaboration with NBBJ.
- **Pentagonal Sculpture, Clippership Wharf, Boston, MA.** 25 ft tall five-sided perforated weathering steel sculpture. In collaboration with New American Public Art.
- **Inflatable Structure and Tipped Cube, Seaport, Boston, MA.** Structural design of inflatable structure with tensioned stabilizing cables with adjacent tipped timber-framed cube. In collaboration with SuperNormal .
- **Echelon Seaport Sculpture, Boston, MA.** 25 ft tall slender stainless-steel rods designed to vibrate with human interaction. In collaboration with Skylar Tibbits.
- **Particulate Sculpture, Duncan Student Center, Notre Dame University, IN.** Structural design of support structure and cables to suspend >100 small objects to form larger sculpture. In collaboration with Helmick Sculpture.
- **Northeastern Architecture Department Entrance Canopy, Boston, MA.** Structural design of steel faceted and cantilevered canopy. In collaboration with Studio ENEE.
- **One Broadway Landscape structures, Cambridge, MA.** Structural Design of various landscape forms including bicycle racks, outdoor large trellis for swings and cinema screen. In collaboration with Landworks Studio.
- **Skyharbor, Phoenix, AZ.** Structural design of tensile supports to folded aluminum plate reflectors installed in an existing airport bridge. In collaboration with James Carpenter Design Associates and Tripyramid.

Structural design for pavilions, sculptures, and installations

- I Large Art Installation, Tampa International Airport, Tampa FL.** Structural design of suspended support for large turtle shaped sculpture. In collaboration with Helmick Sculpture.
- I Binney Park Overlook, Cambridge, MA.** Structural Design of overlook structure of with stiffened plate form. In collaboration with Stoss.
- I “We All” Art Installation, Western Ave, Allston, MA.** Structural design of multicolored PVC and transparent plexiglass tubular sculpture with lateral support and material design. In collaboration with Harvard Graduate School of Design.
- I Exterior Art Installation, New England Conservatory of Music, Boston, MA.** Structural design of reinforced concrete foundation for new exterior scrolls sculpture. In collaboration with CRJA-IBI Group Landscape Architects.
- I Blue Marble Circus: Rose Kennedy Greenway, Boston, MA.** Structural Design of plywood framed sculpture installation. In collaboration with Design Earth as part of Design Biennial Boston.
- I Ramsay Park, Boston, MA.** Structural design of new reinforced concrete landform structure. In collaboration with Stantec.
- I Smith Playground, Allston, MA.** Structural engineering consulting on new reinforced concrete amphitheater and misc. elements for park renovations. In collaboration with Stantec.
- I Autodesk University Pavilion 2016/2018, Las Vegas, NV and Boston, MA.** Structural and material design of digitally fabricated hyperthin GFRP-reinforced stone bench and upper tensile structure. Computational design and automated analyses of derived forms, design of GFRP rod reinforcement, and in-house testing of epoxy and groove geometry samples at SGH. 2018 Boston installation with new tubular support for tensile fabric. In collaboration with Andy Payne and Quarra.
- I 3D Metal Printed Facade Connection, Northboro, MA.** Structural design, structural analysis, and material science for the design and production of a unique 3D metal printed facade attachment. Developed approaches for conceptual topology optimization and detailed finite-element analysis. Physical stainless-steel print tested in SGH's in-house materials lab. In collaboration with NADAAA and Addaero.
- I Facade Panelization, 2025 Clarendon Boulevard, Washington, DC.** Computational optimization of facade panelization for proposed curtain wall with six separate facade layouts. Deliverable included online tool of options and results. In collaboration with Carr Properties and SmithGroup.
- I Kip Tiernan Memorial, Boston, MA.** Structural Design of triple arch memorial fabricated from multiple slender stainless-steel plates. In collaboration with Ryan Murphy.
- I Binney Park and Triangle Park, Cambridge, MA.** Structural design of overlook structure and other landscape items. Included development interchangeable structural and architectural design tools. In collaboration with Stoss Inc.
- I Large Corporate Signage for GE Headquarters, Boston, MA.** Structural design of large 20 ft diameter signs for General Electric's temporary headquarters on Farnsworth Street in Boston. Structural review of existing timber-framed building for added loads, design of lightweight framing for sign, and waterproofing details for roof penetrations. In collaboration with Monigle and Design Republic
- I Heart of Hearts, New York, NY.** Structural design of temporary installation in Times Square for 2016 Valentine. Sculpture consisted of 35 ft diameter folded 1/4 in. thick aluminum plate with gold Plexiglas laminate. Computational design and analysis performed directly with the 3D Rhino model for rapid development and digital fabrication. In collaboration with Collective-LOK.
- I Wellesley College Bates Courtyard Decks, Wellesley, MA.** Structural design of new exterior courtyard decks composed of light-gauge metal framing with Sonotube concrete foundations and wood decking. In collaboration with Marc Truant & Associates and Michael Van Valkenburgh Associates, Inc.
- I Architecturally Exposed Concrete Cantilever Building, Cleveland, OH.** Structural computational design and material consulting for architecturally dramatic canopy for Cleveland Museum of Art. Developed topologically optimized forms for roof soffit based on material stresses. Provided material advice for concrete mix, placement, and curing on site during construction. In collaboration with Sasaki Associates.
- I Biaxial Tower, Cambridge, MA.** Structural review of 65 ft kinetic tower at MIT constructed of woven fiberglass tubes. In collaboration with Skylar Tibbits and AtelierOne.

Structural design for pavilions, sculptures, and installations

- Techstyle Haus: Solar Decathlon 2014.** Structural design of steel superstructure and tensile fabric enclosure. In collaboration with the Rhode Island School of Design and Brown University.
- Portland Sculpture, Portland, OR.** Structural design of anticlastic curved weathering steel coils sculpture related to new terminal building at Portland International Airport. In collaboration with DeWitt Godfrey and AKTII.
- Alameda Sculpture, Alameda, CA.** Structural design of freestanding weathering steel coils sculpture in exposed marine environment with high seismic design requirements. Digital fabrication direct from model of the coils. In collaboration with DeWitt Godfrey and AKTII.
- “Sealte,” Syracuse, NY.** Structural design of 65 ft tall sculpture of 260 bolted weathering steel coils attached to an existing building. Computational design and generation of overall form, structural design/analysis of connection details of coils and of sculpture to existing structure. Digital fabrication direct from model of the coils. In collaboration with DeWitt Godfrey and AKTII.
- “Louis,” Grand Rapids, MI.** Structural and computational design of 25 ft tall sculpture of bolted weathering steel coils attached to base ring and placed on existing plaza. In collaboration with DeWitt Godfrey and AKTII.
- Tectonics of Transparency: The Tower, Rose Kennedy Greenway, Boston, MA.** Structural design of UV-adhered glass tower sculpture with multiple stacked laminar blocks forming an outdoor periscope. In collaboration with Cristina Parreno.
- Saint Gobain Innovation Center, Northboro, MA.** Structural analysis and design of a multi-purpose innovation center including stacked open plan and auditorium spaces. Utilized parametric analysis and design tools to evaluate numerous options including conventional structural steel framing and integrated structure/facade mullion columns to achieve maximum transparency and overall stability. In collaboration with NADAAA.
- Retractable/Kinetic Shade Structure.** Structural Design for retractable/deployable shade structure consisting of a fluted-steel column with fiberglass rods and suspended fabric to form a spiral flower. Client and project location are confidential.
- “Schwerpunkt” Large Art Installation of Suspended Cast Items, MIT McGovern Institute, Cambridge, MA.** Structural design of support for hundreds of suspended cast objects in existing atrium to create an anamorphic sculpture. In-house SGH Lab physical testing of suspended ceiling structures to determine capacities of non-typical material use in areas where access was impeded to existing structural beams and slab. In collaboration with Helmick Sculpture.
- “Field Guide” Large Art Installation, Polytrauma and Blind Rehabilitation Center, Palo Alto, CA.** Structural design of suspended waterjet cut steel plate cylinder and exterior waterjet cut planar sculpture on a reinforced concrete base. In collaboration with Helmick Sculpture.
- Large Art Installation of suspended glass bead flowers in Santa Clara Hospital, CA.** Design and analysis of unique waterjet cut steel plate attached to existing structure supporting hundreds of glass beads to form suspended flowers. Included calculation package for OSHPD formal review. In collaboration with Helmick Sculpture.
- MIT, Tectonics of Transparency: The Wall, Cambridge, MA.** Structural design of UV-adhered glass wall sculpture for MIT’s International Design Center. In collaboration with Cristina Parreno.
- Structural Glass Outdoor Elevator, Navy Pier, Chicago, IL.** Finite-element analysis of glass and integral fasteners. In collaboration with Tripyramid.
- Navy Pier, Chicago, IL.** Concept and schematic structural design and material consulting of outdoor elements, including Wave Wall and pavilions. In collaboration with nArchitects.
- “Sunbather” Sculpture, Long Island City, NY.** Structural design of silicone bronze sculpture of reclining figure and its foundation attachment. In collaboration with Ohad Meromi and New York Art Foundry Inc.
- Step 7, Boston, MA.** Structural review for steel, timber, and plywood art installation. Exhibited at “Bigger than a Breadbox, Smaller than a Building” at Boston Society of Architects. In collaboration with ikstudio.
- Catenary Compression, Boston, MA.** Structural review for tensile vault art installation consisting of interlocking rigid foam blocks suspended from ceiling structure. Exhibited at “Bigger than a Breadbox, Smaller than a Building” at Boston Society of Architects. In collaboration with NADAAA.

Structural design for pavilions, sculptures, and installations

- **“Bells in Particular” Sculpture, Cambridge, MA.** Structural design and base connection for steel sculpture at Lafayette Square, Cambridge. In collaboration with Adam Simha of MKS Design.
- **“Untitled,” Marble Sculpture Support, Glenstone Art Museum, Potomac, MD.** Structural design of new supports to provide level and/or adjustable surface to support “Untitled” the 1992-1995 sculptures by Felix Gonzalez-Torres consisting of two Carrera marble adjacent discs that are filled with water to act as planar mirrors.
- **Common Spaces, Harvard Yard, Cambridge, MA.** Structural design of various landscape structures to be supported on roadway tunnel roof; includes detailed material research for the unique application of thermo-formed Corian. In collaboration with Stoss.
- **Roof Trellis/Canopy Structure, 6 Kirkland Road, Cambridge, MA.** Structural design of lightweight steel and wood roof trellis for existing house of private client. In collaboration with Penn Ruderman.
- **Roof Canopy Structures, West 12th Street, New York, NY.** Structural concepts for lightweight, high-tech roof canopy structures for private residence with Reed Hilderbrand.
- **Cantilever Canopies, One Newton Place, Newton, MA.** Structural design of Alucobond-clad steel-framed canopies to existing structure and subgrade concrete retaining walls for new outdoor restaurant area. In collaboration with IA: Interior Architects.
- **Suspended Bicycles, Boston, MA.** For exhibition “Let’s talk about bikes” at Boston Society of Architects, June 2012, for OverUnder.
- **Marfa Drive-in Screen, Marfa, TX.** Structural design of a unique 55 ft tall waterjet-cut steel-plate structure for drive-in movie screen with MOS.
- **Lighthouse Art Installation, Boston, MA.** Structural design of aluminum frame and fabric structure for light installation on Harbor Islands Pavilion for good.
- **Harbor Park Pavilion, Rose Kennedy Greenway, Boston, MA.** Design for new public facility to serve as the gateway to the Boston Harbor Islands, including two, complex curved, composite concrete and steel canopies. In collaboration with Utile.
- **Speaker Support, Winchester High School, MA.** Structural design of supports for new speakers and AV items. In collaboration with Pro-AV Systems.
- **Vertical Mesh Screen and Plaza Substructure, New Haven, CT.** Landscape project for Landworks Studio on Yale campus.
- **Boston City Hall Plaza, Boston, MA.** Structural design and waterproofing services for urban design renewal project for the Boston Redevelopment Authority with Utile Architects.
- **“Float,” New Bedford, MA.** Three floating interchangeable structures constructed of interlinked-waterjet aluminum plate and mahogany decking with MYStudio and MIT.
- **“Hover,” New Orleans, LA.** Temporary cable net for art installation with Höweler + Yoon Architecture.
- **Kinetic Tower, Cambridge, MA.** Kinetic GRP and steel 40 ft tall tower installed at Massachusetts Institute of Technology.
- **Carillon Tower, Greenville, SC.** Design of a 30 ft tall outdoor carillon structure to support twenty-five bells.
- **Carousel Winter Enclosure, Boston, MA.** Structural design of acrylic enclosure panels with ticket booth and architectural handrails on Rose Kennedy Greenway for ReedHilderbrand LLC and Utile.

Structural design of bridges, turbines, and other nontypical structures

- **South Bank Bridge for Department of Conservation and Recreation DCR, Boston, MA.** Design of an irregular 700 ft long steel truss footbridge over the Charles River and MBTA ROW being built as a sister to the North Bank Bridge.
- **Arboretum Bridge, Arnold Arboretum, Boston, MA.** Structural design of CLT/NLT and steel pedestrian bridge. In collaboration with Kiel Moe.
- **Stone Stair at Hermes Store, 560 Madison Street, New York, NY.** Structural design review for three-story, post-stressed solid stone stair. In collaboration with Spacesmith .

Structural design of bridges, turbines, and other nontypical structures

- **Drift Pedestrian Bridge, Austin, TX.** Structural Design of unique laminated timber, CLT, pedestrian bridge structure for single 60ft span. Included in-house SGH Lab material testing of various laminated timber lay ups and behavior. In collaboration with AKT of London and Volkan Alkanoglu Design.
- **Water Treatment Reuse Container, multiple US locations.** Structural design of Ecovolt Mini for Cambrian Innovation. Highly detailed coordination via 3D model of structural system and interior mechanical items. In collaboration with Cambrian.
- **On-Site Conical Spiral-Welded Pipe for Large Wind Turbines, US Department of Energy Grant.** Private start-up client.
- **Super-Tall Wind Turbine Tower.** Structural design for a patent-pending unique structural form, as well as a separate minimum-cost design.
- **Boston Convention and Exhibition Center, Boston, MA.** Structural analysis and design for structural steel, 85 ft tall digital display tower. In collaboration with Utile.
- **Rowing Tanks, Washington State University, WA.** Structural design for timber deck and steel supporting structure with Jeff Peterson Architects.
- **New Pit Disassembly and Conversion Facility PDCF, for Washington Group International Inc. Denver, CO, at the Department of Energy's Savannah River Site, Aiken, SC.** Seismic soil-structure-interaction analysis of six large buildings and adjacent tunnels and stack.
- **Fiberglass Clarifier Tank, VT.** Structural review of large FRP tank with sloped sides.
- **Fiberglass Tanks for Boston University Marine Program, Boston, MA.** Full design of eight FRP tank, frame, and rack structures for seawater research.
- **MIT Bus Stop, Massachusetts Institute of Technology, Cambridge, MA.** Schematic design for innovative bus stop structures at MIT with Paul Lukez Architecture.
- **Magazine Street Footbridge Impactable Structure, Cambridge, MA.** Conceptual design of two impactable structures to protect frequently hit footbridge.
- **Lockmeadow Footbridge, Maidstone, UK.** Design of unique prestressed-aluminum extrusions deck, steel-cable anchorages, and reinforced-concrete bases. Review of method statements for contractor for deck fabrication, assembly, and launch, as well as mast and cable erection and stressing. The project won Structural Achievement Award 2001 from UK Institution of Structural Engineers, with architects Wilkinson Eyre. With FNP.
- **Ribble Way Footbridge, Lancashire, UK.** Schematic design of competition winning GFRP three-way arch to achieve planning permission, with architects Wilkinson Eyre. With FNP.
- **Access Gantries, Erskine Bridge, UK.** Design of retractable and static external access gantries with strengthening of web access holes in a box-girder bridge. With FNP.
- Feasibility studies on three different road and pedestrian bridges for design competitions, including a lifting footbridge for Scotland, a cable-stayed swing bridge for Sweden, and a double-curved road bridge in the Far East. With FNP.

Construction engineering

- **New Los Angeles Contemporary Art Museum, CA.** Development of Computational Formwork layout plan to optimize material and costs for large complex geometry. In collaboration with Clark Construction.
- **Large-span Dome Structures.** Structural Concept Design using computational parametric approaches for large-span interlocking dome structures to enclose international theme park. Client and project location are confidential.
- **Pile Optimization Study.** Computational parametric approach to optimize pile number and locations for asymmetrically loaded large pile caps for Berkel. Multiple locations in USA.
- **Storrow Drive, Boston, MA.** 10% design options to repair/rebuild major road interchange.
- **Gateshead Millennium Bridge, Gateshead, UK.** Responsible for all daily fabrication and assembly issues, developed lift-in-one erection scheme for 105 m (approximately 345 ft) span, 1,200-ton steel structure; acted as main contact for client, engineer, and architect; negotiated and placed all subcontracts; project won UK Stirling Prize for Architecture 2002, with architects Wilkinson Eyre. With WS.

Investigation and repair

Buildings

- I The First Church of Christ, Scientist, Boston, MA** (Site investigation, analysis, and repair design of North Semi-Dome with Guastavino tile structural dome constructed in 1905. Structural design for façade repairs and replacement of the building's cupola.)
- I The First Church of Christ, Scientist, Boston, MA** (Site investigation, analysis, and design for building modifications associated with the installation of a new elevator and entrance stair. Modifications include slab elevation changes for ADA accessibility from existing parking garage and plaza levels. In collaboration with Finegold Alexander Architects.)
- I One Milk Street, Boston, MA.** Structural evaluation and design for renovation and repurposing of two 1870s buildings and connecting 1930 building. Upgrade for modern retail and office space consisting of variable structural systems of masonry, timber, cast iron, and concrete arches. In collaboration with CBT and Gensler.
- I Gampel Pavilion, University of Connecticut, Storrs, MA** (Evaluation of a 1980's sports facility with a prefabricated aluminum geodesic dome roof that is approaching the end of its useful life. Developed a parametric architectural and structural model to evaluate geometry and structural framing options. In collaboration with UConn and NADAAA.)
- I Saugus School, Saugus, MA.** Undeclared expert witness for timber-framed modules with ancillary steel structures. Ongoing.
- I Multiple Residential Homes, Confidential Project and Location, USA.** On-site review and repair designs for multiple residences built with varying materials including timber, SIPS, and metal SIPS.
- I Hirschhorn Museum, Washington, DC.** Reroof project using point cloud scan information, digital modeling, and design collaboration for roof upgrade. In collaboration with Callison-RTKL.
- I Schrafft Center, Charlestown, MA.** Investigation and repair of spalled concrete and corroded reinforcement for Flatley Development.
- I Gaillard Center, Charleston, SC.** Investigation of legal claims between steel fabricator and design team.
- I Villa Victoria, South End, Boston, MA.** Structural peer review of 120 yr old unreinforced masonry walls and deteriorated timber trusses for Engineer of Record.
- I Dalton Street Parking Garage, Boston, MA.** Structural review of cracked and spalled concrete in stairwell of 1970s reinforced concrete parking garage. In collaboration with OverUnder.
- I Haverhill Stadium Upgrade, Haverhill, MA.** Structural design of reinforced-concrete seating extension and upgrades to 1930 stadium. In collaboration with DAIQ Architects.
- I Stonehill College Dormitory, Easton, MA.** Peer review services throughout design process.
- I Private Client, Martha's Vineyard, MA.** Terrazzo Floor investigation related to uneven surface and determining cause and possible repair methods.
- I Student Union Building, University of Massachusetts, Amherst, MA.** Investigation of building facade to determine causes of deterioration at various locations on fifty-year-old building.
- I Belclare Residences, Wellesley, MA.** Review of water-damaged structure for Property Developer.
- I 152 Grove Street, Waltham, MA.** Review of existing structures in fifteen different areas on same site for Property Manager Camelot Services.
- I Tobin Hall, University of Massachusetts, Amherst, MA.** Structural investigation and repair design for spalling concrete beams and precast-concrete facade panels. Lead consultant for repair that involved management of five subconsultants for temporary space provision.
- I Lincoln Apartments, University of Massachusetts, Amherst, MA.** Investigation and repair design for hollow core concrete plank balcony, surfacing, and fascia.
- I Bartlett Hall, University of Massachusetts, Amherst, MA.** Inspection of facades and design of temporary stabilization scheme of brick facade, full structural assessment of two four-story reinforced-concrete frame buildings to define structural upgrade requirements and options.

- Paramus Park Mall, Paramus, NJ.** Full structural services for mall structure with ongoing settlement, emergency response after fire, remedial construction work of mini-piles and concrete slab to prevent further settlement, and ongoing inspection and monitoring as well as on-call services.

Investigation and repair

Bridges and other structures

- Edmonton, Alberta, Canada.** Investigation of design-build claims for two-span prestressed concrete box girder pedestrian bridge. With Donovan Hatem and Clyde & Co.
- Squibb Pedestrian Bridge, Brooklyn, NY.** Investigation of non-standard pedestrian bridge with underslung cable truss and black locust wood with steel structural members related to legal claims.
- Shade Structures, Brooklyn, NY.** Investigation of tensile fabric and steel support structures related to legal claims.
- Pedestrian Bridge Collapse, Wake Tech Community College, Raleigh, NC.** Legal investigation into causes of collapse.
- Cornell Suspension Bridge, Ithaca, NY.** Finite-element modeling and site inspections for bridge clad with X-Tend cable mesh for Cornell Facilities.
- 91st Crane collapse, New York, NY.** Listed expert witness and finite element modeling of crane throughout structural sequence leading to collapse.
- Maumee River Bridge, Toledo, OH.** Investigation of steel launching gantry collapse, on site presence for removal of all items, analysis, and presentation of results to legal client.
- International Trade Crossing, Mount Olive, NJ.** Investigation of storm water pipe damage.
- Cedar Crest Village, Pequannock, NJ.** Investigation of settlement above storm water pipe.
- Liberty Towers, Jersey City, NJ.** Investigation of burst water pipe in condominium development.
- Design and assessment of various types of reinforced concrete gravity and bin-type retaining wing walls and head walls for construction and owner clients, Canada. Investigation on behalf of contractor on causes and remedial work for retaining wall failure.
- University of Massachusetts, Fire Escape Structures, Amherst, MA.** Investigation and repair recommendations for twenty-five fire escape structures.
- Old Saybrook, CT.** Finite-element analysis of polypropylene thermoplastic subsurface chambers for product development and creation of ASTM standard.
- Erskine Bridge, UK.** Full internal inspection of a steel-box-girder bridge. With FNP.
- Multiple Telecommunications Clients, UK.** Design and appraisal of guyed masts and lattice towers. Services included site inspection, review of structure, design of strengthening, and supervision of installation when necessary. With FNP.
- Milford Haven/Cleddau Bridge, UK.** Full internal and external inspection and structural assessment of a steel-box-girder bridge and design of strengthening scheme. With FNP.

Design competitions

- Green Line Arts Center, University of Chicago, Chicago, IL,** with NLE Architects and Muller & Muller Architects.
- River Park Overlook Bridge, NH,** with Ground Inc. and O2 Planning + Design Inc.
- Kip Tiernan Sculpture Design Competition, Boston, MA,** with Ceruzzi and Murphy Architects.
- Peace Corps Sculpture Design Competition, Washington, DC,** Honorable Mention, with Leers Weinzapfel Architects. Summer 2015.
- “Hydrokinetic Canal,” Shortlisted for Boston Living with Water Design Competition,** with Paul Lukez Architecture, 2015.
- Chicago Pavilion Design Competition,** with Cristina Parreno, spring 2015.
- Guggenheim Helsinki Design Competition,** with Liam O’Brien, Jon Lott, and Michael Kubo, spring 2015.

- | **Solar Decathlon Design Competition 2013**, Versailles, France with RISD/Brown team.
- | **4 Mile Run Pedestrian Bridge Competition**, with Rosales + Partners, Alexandria, VA. (Third Place).
- | **ThyssenKrupp Elevator Architecture Dubai Competition**, with SBRA Architects, 2008.
- | **Taipei Performing Arts Center, Taipei, Taiwan, Open International Design Competition**, with Studio KUO, 2008.
- | **Thu Thiem New Urban Area, Ho Chi Minh City, Vietnam**, Open International Design Competition, with Landworks Studio, 2008.
- | **“Crossing the Divide” Chicago Architectural Club pedestrian bridge competition**, with Höweler and Yoon Architecture, 2007.
- | **The West End Bridge, Pittsburgh, PA**, Open International Competition, with Dana Ozik and Todd Radford, 2006.

Honors and awards

- | **2023 Honorary BSA Membership**, Boston Society of Architects.
- | **Harbor Islands Pavilion: BSA Hobson Trophy, AGC Grand Award, and ACEC/MA Silver Award**, 2012.
- | **BSA Unbuilt Architecture Award**, with SBRA Architects, 2009.
- | **Progressive Architecture (P/A) Award 2009** for Marfa Drive-in Screen with MOS.
- | **Architect Magazine R+D Award** for “Hover” with Höweler + Yoon Architecture, 2008.
- | **“Crossing the Divide” Chicago Architectural Club** pedestrian bridge competition, third place out of seventy-four entries with Höweler + Yoon Architecture, 2007.
- | **Telford Prize**, Institution of Civil Engineers (UK), 2004.
- | **Maseeh Annual Award for Excellence as a Teaching Assistant**, Massachusetts Institute of Technology, 2003.
- | **James Watt Medal**, Institution of Civil Engineers (UK), 2000.

Professional activities

- | **Harleston Parker Award: Jury Member, 2009 and 2010 (Boston Society of Architects)**
- | **MIT Gordon Engineering Leadership Program Planning Committee and Industry: Advisory Board Member**
- | **International Association of Shell and Spatial Structures: Member**
- | **American Society of Civil Engineers: Member**
- | **Boston Society of Civil Engineers: Member**
- | **New York Architectural League: Member**

Teaching experience

You Tube

- | Multiple videos created and posted online since September 2020 focused on qualitative understanding of structural behavior. All based on multiple years teaching at MIT and Harvard. Over 2.5 million views (as of July 2023).

Lecturer

- | Harvard Graduate School of Design, Lecturer for Structures II, spring 2013, 2015, and 2017.
- | Massachusetts Institute of Technology, Graduate-Level Lecturer in Structural Engineering for “1.572: Structural Systems,” fall 2006 to 2014.
- | Massachusetts Institute of Technology, Graduate-Level Workshop Instructor in Architecture for “4.183: Fabrication for Building Innovation,” with Skylar Tibbits, spring 2012.
- | Massachusetts Institute of Technology, Graduate-Level Lecturer in Architecture and Structural Engineering for joint course “1.572 and 4.463: Structural Systems” fall 2011.

- | Massachusetts Institute of Technology, Graduate-Level Lecturer in Structural Engineering for “1.582: Design of Steel Structures,” spring 2006 to 2010.
- | Massachusetts Institute of Technology, Graduate-Level Lecturer in Architecture Department for “4.463: Structural Systems,” fall 2005.

Co-instructor

- | Harvard Graduate School of Design, Third Semester Core Studio “Integrate,” Structural Adviser, fall 2015, and 2017 through 2022.
- | Harvard Graduate School of Design, co-instructor, Integrated Design Studio on UNAM Library with Eric Bunge and Mimi Hoang of nArchitects, fall 2008.
- | Massachusetts Institute of Technology, co-instructor, Integrated Design Studio for Architects and Engineers, “A Pedestrian Bridge,” fall 2008 and 2009.
- | Massachusetts Institute of Technology, co-instructor, “Inhabited Bridges,” Level III Studio, fall 2005.

Thesis adviser/reader

- | Thesis Committee, Juney Lee, “Form Follows Flow”, MIT Architecture Department Graduate Student, 2013-2014.
- | Thesis Adviser, Murat Mutlu, MIT Architecture Department Graduate Student, spring 2010.
- | Thesis Reader, Dawood Rouben, “CapaCity in the Sky,” MIT Architecture Department Graduate Student, spring 2009.
- | Thesis Reader, Luke Voiland, Form and Fear – Tall Buildings as Urban Sentinels,” MIT Architecture Department Graduate Student, fall 2007.

Studio critic

- | Current (2023): Multiple reviews, typically 2-3 per semester, at a range of Boston area universities including MIT, Harvard, Northeastern, and Wentworth. List below is detail until 2015.
- | MDes Theses Reviewer for Michalatos Panagiotis’ students, Harvard Graduate School of Design, spring 2015.
- | Critic for GSD 6311 “Innovative Construction in Japan” for Mark Mulligan, spring 2015.
- | Critic for GSD 6425 “Material Distributions” for Michalatos Panagiotis at Harvard Graduate School of Design, spring 2015.
- | Critic, “Architecture Exhibition Facility in Harvard Yard” for GSD 6328: In Search of Design through Engineers with Andreas Georgoulas and Hanif Kara, spring 2015.
- | Critic, Olympics Aquatics Center, Northeastern University Architecture Department with Tim Love, spring 2014.
- | Critic, Beacon Yards, Northeastern University Architecture Department with Tim Love, fall 2014.
- | Critic, Artist Residence, BAC with Adam Mitchell and Jim Moses, fall 2014.
- | MDes Theses Reviewer, Harvard Graduate School of Design, spring 2014.
- | Critic, “GSD 6328 In Search of Design through Engineers, Bridge and Tower project” with Andreas Georgoulas and Hanif Kara, spring 2014.
- | Critic, Northeastern University Level 5 Comprehensive Studio, spring 2014.
- | Critic, “Chandigarh Transport Paradox” Advanced Option Studio, Columbia University, New York, with Eric Bunge, spring 2013.
- | Integrated Design Studio Critic (multiple reviews), “4.153: Core 3 Studio, Lincoln Lab new research building” with Meejin Yoon, fall 2011.
- | Critic, “1305: Option Studio – Light Monumentality,” Harvard Graduate School of Design, Cambridge, MA, fall 2011.
- | Critic, “Nature Cover” Studio, Universidad Francisco Marroquin, Guatemala City, Guatemala, April 2010.
- | Critic, “4.124: Lechmere Station Roof,” Level I Design Studio, Massachusetts Institute of Technology School of Architecture, Cambridge, MA, March 2010.

- | Critic, "1102_Matter," Second-Semester Core, Harvard Graduate School of Design, February 2009 and 2010.
- | Structural Reviewer, "Arch 5420: Comprehensive Design Studio," Northeastern University, Boston, MA, spring 2010.
- | Structural Reviewer, "Paris Double," Advance Option Studio, Yale University, New Haven, CT, November 2009.
- | Critic, "4.124: Boston Public Media Library," Level 1 Studio, Massachusetts Institute of Technology School of Architecture, Cambridge, MA, April 2009.
- | Critic, "1311: Advancing the Strategostructure," Harvard Graduate School of Design, March 2009.
- | Critic, "New Bedford Design/Build Boathouse Studio," Level II Studio, Massachusetts Institute of Technology School of Architecture, Cambridge, MA, December 2007.
- | Critic, "ARCH 456/467/469: Studio 3 "AntiGravity Studios," Wentworth Institute of Technology, November 2007.
- | Critic, "Exquisite Corpse," Level III Studio, Massachusetts Institute of Technology School of Architecture, Cambridge, MA, September 2007.
- | Critic, "Off the Ground," Level II and III Studio, Massachusetts Institute of Technology School of Architecture, Cambridge, MA, April 2007.
- | Critic, "Pedestrian Bridge" MIT Undergraduate Studio, December 2006, September 2007, and January 2008.
- | Critic, "4.462 and 4.463: Building Technology: Structures Studio," Massachusetts Institute of Technology School of Architecture, Cambridge, MA, December 2006 and May 2007.
- | Critic, Structures One class, Boston Architectural Center, November 2004 and April 2005.

Television/presentations/interviews

- | Current (2023): Typically 8-10 public, webinar, or university presentations each year. List below is up to 2017.
- | "Digital Design-to-Fabrication: Opportunities in Contemporary Practice", SGH Los Angeles Office Evening Seminar 20 September 2017.
- | "Digital Design-to-Fabrication: Opportunities in Contemporary Practice", EYP, Boston, MA, 2 August 2017
- | "Computational Design", Shalom Baraness Architects, Washington, DC, 14 July 2017
- | "Computational Design", Perkins+Will Firmwide Presentation Online, 8 June 2017.
- | "Welcome to Tomorrow: Computational Automation on Every Project", CBT, Boston, MA, 31 May 2017
- | "The Digital Physical", Diller-Scofidio-Renfro, New York, NY, 25 May 2017
- | "Digital Disruption", SGH New York Office Evening Seminar, 24 May 2017
- | "Creativity in Engineering", Sasaki, Watertown, MA, 17 May 2017.
- | "Computational Design", HKS, Washington, DC, 8 May 2017
- | "Making Digital Real", Ellenzweig, Boston, MA, 28 April 2017
- | "Structure-Computation-Material", MIT's How to Make Almost Anything course, 26 April 2017
- | "Computational Design", Gensler Firmwide Presentation Online, 25 April 2017.
- | "Future of Design: Practice" Panel Moderator, IABSE-NY, 22 April 2017
- | "3D Metal Printing for Sculptures and Architecture", Fabricate Conference, Stuttgart, Germany, 8 April 2017
- | "ASK-SGH" Dynamolitia Presentation, Boston, MA, 15 February 2017
- | "Welcome to Tomorrow", Washington, DC, 26 January 2017
- | "3D Metal Printing," ABX Boston, 15 November 2016.
- | "3D Metal Printing: Tips/Tricks for Structural Design of Architecture and Sculpture," Grabcad Cambridge Meetup, 26 October 2016.

- "Structure: Computation: Materials," MIT MEng Lecture Series, 21 October 2016.
- "Touchable Structure," Office of James Burnett, 12 July 2016.
- "3D Metal Printing Ready for Primetime," Boston Society of Architects, Boston, MA, 7 June 2016.
- "New Facade: Energy Performance, Emerging Technologies, and the Future of Design," with Cheryl Saldanha at Facades+ Workshop, New York, NY, 22 April 2016.
- "The Future of Making Things," Panelist moderated by Rick Rundell of Autodesk for Boston Design Week, 6 April 2016.
- "Construction Innovation," Iron and Steel Conference, MIT, Cambridge, 3 April 2016.
- "Modular Thinking," 1st Biennial AEI Forum, WPI, 1 April 2016.
- "Welcome to Tomorrow: Computational Design on Every Project," presentation at Architecture Boston Expo (ABX), Boston, MA, 19 November 2015.
- "Structural Design: New approaches to design and computation", ENVISION Engineering and Tech Conference, Cambridge, MA, 21 July 2015.
- "Innovation in Concrete Formwork, Design, and Digital Fabrication of Building Assemblies: Opportunities Now and for the Future of Building Design," SGH Summer Series, Boston, MA, with Eric Twomey, 24 June 2015.
- "Robotic Assembly" for Active Matter Summit at MIT curated by Skylar Tibbitts and the Self-Assembly Lab, 25 April 2015.
- "Engineering Transparency: Structural Glass Design", SGH Summer Series, Chicago, IL with Terry McDonnell, 7 April 2015.
- "Computational Design: Structure, Material, Light" at Perkins + Will, Jacobs, Sasaki Architects, and Payette, March-November 2015.
- "What it means to be a Maker in the Digital Age," Panelist moderated by Rick Rundell of Autodesk for Boston Design Week, 19 March 2015.
- "Turns out Boston Cyclists can Engineer a pretty solid snow tunnel," WIRED Magazine online, 24 February 2015.
- "Cool Spaces! The Best New Architecture" guest structural engineer for technical segments with Stephen Chung, PBS April 2014 and ongoing.
- "Building Like Termites," Nerd Nite, Cambridge, MA, 29 September 2014.
- Design (R)evolution: New Approaches to Structural Design and Performance," Invited Worcester Polytechnic Institute (WPI) 25 September 2014.
- "Design + Lab," Moshe Safdie Architects, Somerville, 9 September 2014.
- "Structural Design," MIT Open House, Cambridge, 4 April 2014.
- "Robotic Construction: Two Ways": SHoP Architects, New York, 21 March 2014.
- "Design (R)evolution: New Approaches to Structural Design and Performance," Invited Keynote speaker at Steel Structures Education Foundation (SSEF) conference in Quebec City and at McGill University, 28 February 2014 and 17 March 2014.
- "Self-consolidating Concrete," Leers Weinzapfel Architects, Boston, MA, with Matt Sherman, 13 November 2013.
- "Harbor Islands Pavilion" at the site as part of SGH Summer Series, 16 August 2012 and 26 September 2013.
- "Structure, Material, and Assembly," Leers Weinzapfel Architects, Boston, MA, 11 April 2013.
- "Step-by-step: the evolution of large-scale construction", Wyss Institute, Harvard University, 3 April 2013.
- Concrete Design and Construction, Columbia Graduate School of Architecture, NY, 4 February 2013.
- Structures App for iPhone and iPad, Sasaki Architects, 4 December 2012.
- "Digital Fabrication: Better, Faster, Cheaper" ABX-Boston, 16 November 2012.
- "Touchable Structure" ReedHilderbrand, Boston, MA, 12 July 2012.
- "Making Digital Real: the renaissance of craft by the designer/fabricator," Massachusetts College of Art and Design, Boston, MA, 24 April 2012.

- “Modern Curtain Wall Systems,” Sasaki Associates, Watertown, MA, 17 January 2012, with Jeffry Ceruti.
- “We don’t need more Engineers. We need better Engineers,” Design and Synthesis I, Johns Hopkins University, November 2011.
- “Buckminster Fuller’s Geodesic Structures,” Keynote Lecture for ICSA 2010, First International Conference on Structures and Architecture, Guimaraes, Portugal, July 2010.
- “The Real Value of a Structural Engineer in the Design Process,” Universidad Francisco Marroquin, Guatemala City, Guatemala, April 2010.
- “How Will Structural Engineers Stay Relevant and provide value to the Design Process?” Design and Synthesis I, Johns Hopkins University, October 2009 and 2010.
- “A Tale of Two Bridges: Gateshead and Lockmeadow,” Northeastern University, fall 2007.
- “Steel Bridge Design – How It Really Happens,” Tufts University, spring 2004.
- STEM and LIFT presentations to over 200 students on basic engineering principles, 2006 to present.
- “Form, Function, and Finance,” invited speaker for 2003 IABSE/Cambridge Symposium held at Cambridge University (UK), December 2003.
- “Cable-Stayed Bridges,” lecture for undergraduate structural design course, Oxford University, (UK), spring 2001.

Publications

- Richard, M. J., Kassabian, P.E., and Schulze-Ehring, H.S. “Bamboo active school: structural design and material testing.” Structures and Buildings; Proceedings of the Institution of Civil Engineers; (DOI): 10.1680/jstbu.16.00070
- Kassabian, P.E., Werfel, J, “Toward Automating Construction with Decentralized Climbing Robots and Environmentally Adaptive Functionally Specified Structures”. Active Matter Proceedings, September 2017
- Kassabian, P.E, G. Cranston, J. Lee, R. Helmick, and S. Rodrigo, “3D Metal Printing as Structure for Architectural and Sculptural Projects”, FABRICATE 2017, Stuttgart, Germany, April 2017.
- Kassabian, P.E, M. McCall, D.O. Dusenberry, and W. Konicki, “Collapse of the I280 Maumee River Bridge Launching Gantry in Toledo Ohio,” ASCE 2011 Structures Congress, Las Vegas, NV, April 2011.
- Johnson, M., P.E. Kassabian, C. Genter, M. Love, T. Love, and J. Lamere, “New Solutions for Constructing Double-Curved Concrete Shell Structures,” ICSA 2010, First International Conference on Structures and Architecture, Guimaraes, Portugal, July 2010.
- Kassabian, P.E., and A. Watson, “Updating the Architectural and Engineering Curricula for the Integrated Age,” ICSA 2010, First International Conference on Structures & Architecture, Guimaraes, Portugal, July 2010.
- Bunge, E., M. Hoang, P.E. Kassabian, and M. Raman, “UNAM deCentral Library,” Harvard Graduate School of Design Publication on fall 2008 studio.
- Kassabian, P.E., “Come and Have a Go If You Think You’re Hard Enough,” “HEROIC,” pinkcomma gallery exhibition on Boston’s modernist concrete heritage, September 2009.
- Butterworth, K., D. Carr, and P. Kassabian, “Gateshead Millennium Bridge: Fabrication, Assembly and Erection,” Proceedings of the Institution of Civil Engineers, Bridge Engineering, spring 2003.
- Firth, I.P.T., and P. Kassabian, “The Ribble Way Bridge – Characteristics of a Three-Way Arch,” Arch ’01, Third International Conference on Arch Bridges, Paris, France, 2001.
- Kassabian, P.E., Z. You, and S. Pellegrino, “Retractable Roof Structures,” Proceedings of the Institution of Civil Engineers, Structures and Buildings, February 1999.
- Kassabian, P.E., “Retractable Structures,” International Colloquium on Structural Morphology, International Association of Shell and Spatial Structures, United Kingdom, 1997.

Research (in collaboration with Dr. Justin Werfel, Harvard Wyss Institute)

- Collective Construction and Assembly of Purpose-Defined Structures by Decentralized Robots. Summer 2014 and 2015 Harvard research grants.

Patents (filed by BluHomes)

- "Foldable Building Units," co-inventor, U.S. Patent No. 8,739,475.

App

- "Structures: A Visual Understanding" for iPhone and iPad. Available in over 120 countries. Released September 2012. Obsolete with iOS11 September 2017.

YouTube

- Multiple videos created and posted online since September 2020 focused on qualitative understanding of structural behavior. All based on multiple years teaching at MIT and Harvard. Over 2.5 million views (as of July 2023).