Anthony Viola, AIA, LEED AP 2017 Dubin Family Young Architect Award



Resume



Anthony Viola, Senior Designer and Team Leader with AS+GG, works on high-performance projects that focus on the design, development, and use of parametric computational tools that push the boundaries of integrated performance-based design.

Positions

Adrian Smith + Gordon Gill Architecture, Chicago, Illinois Senior Designer | Team Leader, 2008 - present

Valerio, Dewalt, Train Associates, Chicago, Illinois Designer, 2005 - 2008

Future Cities Lab, Charlottesville, Virginia Designer, 2005

Education

University of Virginia, Charlottesville Master of Architecture, 2005

University of Wisconsin, Milwaukee Bachelor of Science - Architectural Studies, 2000

Registrations

Registered Architect - State of Wisconsin #12214-5

American Institute of Architects (AIA)

LEED Accredited Professional (LEED AP)

Affiliations

Chicago Computation Group link

Coordinator, 2014 - present

Led the creation and organization of a group of interdisciplinary design professionals to develop the knowledge and discourse around advanced computational design and technologies, as it relates to the built environment.

AIA Chicago Design Knowledge Community

Co-Chair, 2008 - 2014

Organized lectures from Chicago Design firms that have a strong interdisciplinary design approach. Promotion of a team based design approach in which designers, consultants, artists, engineers, and clients all participate to create projects that are greater than the sum of the individual disciplines.

Presentations

Astana Expo 2017 Innovation Award Chicago Computation Group August 2017

Form Follows Performance Chicago Computation Group March 2015

Off the Grid <u>link</u> Facades+ Chicago July 2014

Form Follows Performance University of Wisconsin-Milwaukee June 2014

Computational Design Panel <u>link</u> Autodesk University September 2013

[Interactive] Environmental Design University of Illinois Chicago | ASHRAE September 2013

Wuhan Greenland Tower Chicago Council on High Rise Buildings August 2013

Development of Façade Systems for Supertall Buildings Facades+ Chicago April 2013

Media

Megastructures: Astana, City of the Future <u>link</u> National Geographic Channel August 2017

How to make a 'pure' glass sphere <u>link</u> Building Design + Construction February 2016

Sustainable Design Teams, Methods and Tools in International Practice <u>link</u> Detail Magazine - Green May 2014

An Innovative Workflow for Bridging the Gap Between Design and Environmental Analysis <u>link</u> International Building Performance Simulation Association 2013

Resume

Projects at Adrian Smith + Gordon Gill Architecture

Wuhan Greenland Center

Tower Design Lead. 119-story, 606 m tall, 300,000 sm mixeduse tower will have office, serviced apartments, and hotel functions, and features an energy recovery using an enthalpy wheel integrated into the ventilation system. Wuhan, China

FKI Tower

Design Lead for the conference center. 50-story, 240-meter tower features an innovative exterior wall that helps reduce internal heating and cooling loads while collecting energy through photovoltaic panels. Seoul, Korea

Astana Expo City

Design Lead | Team Leader for Parcel B including Kazakhstan Pavilion, Energy Hall, and commercial pavilions. Master planning and architecture for 174 hectare international exposition site features exhibition and cultural pavilions, service areas including shopping, socio-cultural, educational and civic facilities, and sitewide parks. Astana, Kazakhstan

Global Mobility Center

Design Lead and Team Leader for the project. Competition design for 194,000 sf Dubai Expo 2020 signature building with educational legacy as Institute for Global Mobility. Dubai, United Arab Emirates

National Museum of Health and Medicine

Design Lead for concept design and temporary exhibition. 30,000 sf re-adapted three-story building will feature a virtualreality chamber that allows visitors to interact with digital versions of biological specimens from the collections. Chicago, Illinois

Burj 2020

Tower 1 Design Lead. Commercial tower complex focuses on sustainability strategies including water use reduced by 51% and overall energy use reduced by 38% against baseline building design. Dubai, United Arab Emirates

Jeddah Tower (formerly Kingdom Tower)

Design Lead for the base of tower including conference center, drop-offs, entries, and landscape. The next tallest building in the world will feature a luxury hotel, office space, serviced apartments, condominiums, and the world's highest observatory. Jeddah, Saudi Arabia

Golden Horn Shipyard

Architecture Design Lead. Master plan for mixed-use district with 31 hectares of water frontage was developed for this important historical shipyard site in the heart of the city. Istanbul, Turkey

Chicago Central Area Decarbonization Plan link

Parametric Model Team. Commission from the City of Chicago for a complete "Energy Master Plan" that assesses and looks at innovative solutions for the carbon performance of the downtown area Loop using a holistic urban design approach. Chicago, Illinois

Zhongzhou Holdings Finance Center

Designer for exterior wall design and link space. Exterior wall design for a mixed-use development in Shenzhen's Nanshan District that optimizes solar and wind mitigation as well as human comfort levels. Shenzhen, China

High Tech Park

Designer. Research development includes R&D towers, three separate chairman villas, and a linked podium building with retail space, restaurant space, and a roof garden. Shenzhen, China

Crown Sydney Hotel Competition

Tower Design Lead. Hotel and residential towers designed to integrate sustainable strategies like self-shading balconies and a high-performance facade. Sydney, Australia

Jinan Pulimen Super High Rise Competition

Tower Design Lead. Integrated "smart shading" systems incorporated into each unit allow unit or building owners to control shades. Floor-to-ceiling glass windows also provide unobstructed views. Jinan, China

Willis Tower Modernization + Greening Project link

Integration of sustainable systems to reduce energy consumption and design for highly sustainable, 50-story five-star hotel that will draw net-zero energy from the power grid. Chicago, Illinois

Masdar Headquarters link

Interior Design Team. Positive-energy building in zero carbon, zero waste city. Includes office, retail, transit circulation and landscaped green space. Abu Dhabi, United Arab Emirates

Za'abeel Energy Master Plan link

Designer. Master planning and architecture for large-scale mixeduse district, including office, hotel, parks and civic spaces. Dubai, United Arab Emirates

Beijing Century City

Tower Design Lead. Design of a 200 meter office tower that features a split office plate that is linked by an full building interior atrium allowing for natural daylight and ventilation as well as interfloor connectivity. Beijing, China

Resume

Centralcon Baishaling

Design Lead. Proposed design for a 700 meter next generation skyscraper and urban incubator which conceptualized the future of the super-tall building typology utilizing the latest technologies. Shenzhen, China

Jinan Greenland Supertall

Design Lead. Design of a 420 meter office tower and retail, conference center, and hotel complex. The light and faceted glass of the tower is complimented by the heavier stone façade of the hotel complex. Jinan, China

Imperial Tower 5

Design Lead. Design for a pair of 200 meter high-end luxury tower in Mumbai, India. The design takes advantage of the unique site geometry to maximize the unique views afforded by the site. Mumbai, India

Greenland Xian Tower

Design Lead. Competition entry for a 500 meter tall mixed use tower and conference center. The tower features a high performance exterior wall design that is responsive to its environment and reminiscent of this culturally rich city. Xian, China

Nanjing MCC

Designer. Concept design for a 300 meter mixed-use tower in that incorporates a dynamic building form and integrated façade designed to harness solar and wind energy. Nanjing, China

Suzhou Central Plaza Competition

Tower Design Lead. Iconic design for 700 meter mixed-use building that uses passive strategies to minimize building energy usage. The design is reinforced by the expressed lateral support system essential for a supertall building. Suzhou, China

Projects prior to Adrian Smith + Gordon Gill Architecture

Garmin Flagship Store Designer for 15,000 sf flagship retail store on Michigan Avenue. Chicago, Illinois

Shedd Aquarium Master Plan and Renovations link

Designer. Various exhibition spaces including a 24,000 sf office addition. Chicago, Illinois

Walsh College Barry Center $\underline{\mathsf{link}}$

Designer of 36,000 sf addition to an existing college building including library, classrooms, lecture hall and seminar rooms. Troy, Michigan

Awards

The Chicago Athenaeum

Green Good Design Award, Green Architecture Wuhan Greenland Center 2017

National AIA 🧶 link

Technology In Architectural Practice Innovation Award, Stellar Architecture Astana Expo City 2016

The Chicago Athenaeum

International Architecture Award Golden Horn Shipyard 2016

Re-Thinking the Future

Sustainability Award, First Award, Mixed-Use Wuhan Greenland Center 2016

Re-Thinking the Future

Sustainability Award, First Award, Commercial FKI Tower 2016

AIA Chicago 🥮 link

Honor Awards, Divine Detail Award FKI Tower BIPV 2016

The Chicago Athenaeum

International Architecture Award FKI Tower 2016

The Chicago Athenaeum

Green Good Design Award, Green Urban Planning Astana Expo City 2016

Resume

The Chicago Athenaeum Green Good Design Award, Green Architecture FKI Tower 2015

Civic Trust Awards Civic Trust Award, Excellence in Architecture FKI Tower 2015

AIA Middle East <a>

Non-Built Category, Merit Award
Jeddah Tower (formerly Kingdom Tower)
2014

Korea Presidential Commission on Architecture Policy Korea Green Building Award FKI Tower 2014

AlA Chicago Distinguished Building Award, Citation of Merit FKI Tower 2014

Council on Tall Buildings and Urban Habitats <u>link</u> Best Tall Building Asia and Australasia, Finalist FKI Tower 2014

Structural Engineers Association of Illinois Excellence in Structural Engineering Award, Winner FKI Tower 2014

AIA Illinois Daniel Burnham Honor Award Chicago Central Area DeCarbonization Plan 2013

AlA Chicago 🧶 Design Excellence, SustainABILITY Award Chicago Central Area Decarbonization Plan 2012 National AIA Honor Award, Regional and Urban Design Chicago Central Area DeCarbonization Plan 2011

AlA Chicago 🧶 Unbuilt Design, Honor Award KAPSARC 2011

Middle East Architect Awards Green Project of the Year Masdar Headquarters 2008

Construction Week Awards Sustainable Design Award Masdar Headquarters 2008

Cityscape Architectural Awards Environmental Award Masdar Headquarters 2008

AIA Chicago 🧶 Interior Architecture Honor Award Garmin Flagship Store 2007



Wuhan Greenland Center,

Wuhan, China

Wuhan Greenland Center is a 125-level, 600+ meter mixeduse tower that includes offices, apartments, and 5-star hotel. Anthony led the design of the tower collaborating with wind and structural engineers in an **integrated parametric approach** that looked at the formal design of the tower along with programmatic concerns, wind performance, structural optimization, as well as the interconnectedness of those variables. The building's iconic aerodynamic features, such as the overall tapering of the tower, the rounding and separation of the top, and a series of wind relief notches increase structural efficiency, reducing material—and cost—and associated embodied carbon, used for construction.

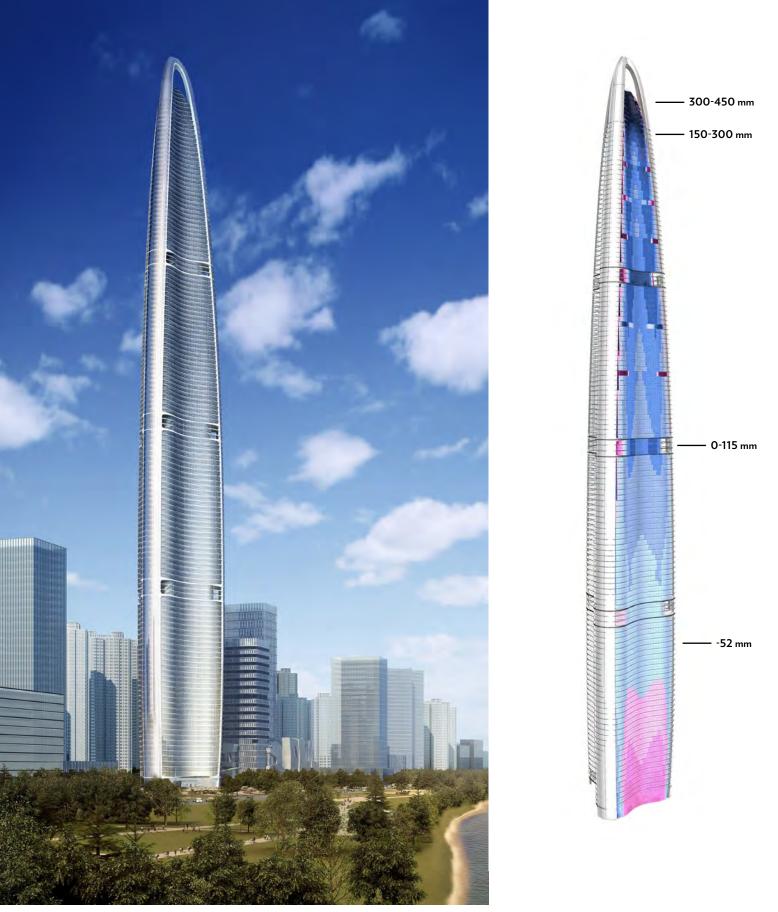
Client: Date: Architect of Record: Images: Greenland Group 2010 - 2019 ECADI AS+GG

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Adrian Smith, FAIA, RIBA Adrian Smith + Gordon Gill Architecture Design Partner 30 August 2017

Wuhan Greenland Tower,

Wuhan, China



Wuhan Greenland Tower

"Anthony Viola exemplifies the new generation of digitally savvy architects. His ability to analyze and optimize the complex three dimensional geometry of the exterior wall was essential to the success of our Wuhan Greenland

-Peter Weismantle, FAIA, Director of Supertall Technology, Adrian Smith + Gordon Gill Architecture

Center project."

Wuhan, China



Figure 3: Notch detail

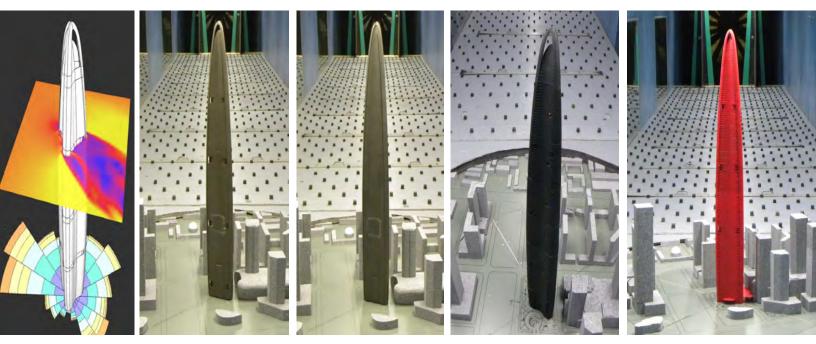


Figure 4: Preliminary wind tunnel testing

Wuhan Greenland Tower, Wuhan, China

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FKI Tower, Seoul, Korea

FKI Tower is a 50-story office building and conference center completed in 2014 that is located across from Yeoido Park in Seoul. Anthony was the lead designer for the sculptural podium building, which contains public amenities such as a banquet hall, a restaurant, and a conference center. During the design of the podium Anthony worked on the form with **advanced modeling** of the double-curved shell and the integration of the interior program elements. This required an integration of building services and considerations for fabrication. Anthony worked further with the team on the **development and geometric optimization** of the double-curved façade.

Client:
Dates:
Arch of Record:
lmages:

Federation of Korean Industries 2009 - 2014 Chang-Jo Architects AS+GG; Namgoong Sun

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Adrian Smith, FAIA, RIBA Adrian Smith + Gordon Gill Architecture Design Partner 30 August 2017

FKI Tower, Seoul, Korea



Figure 7: FKI Tower podium conference center

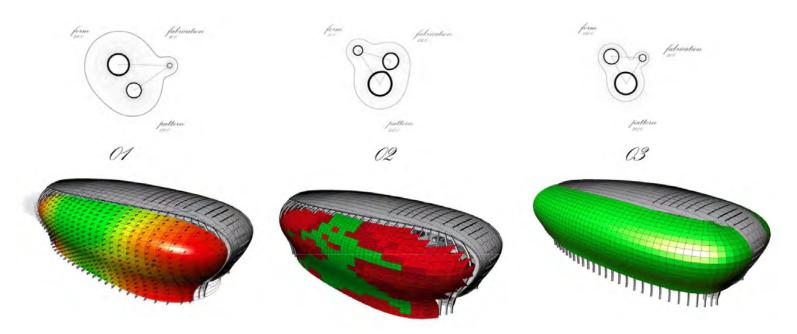
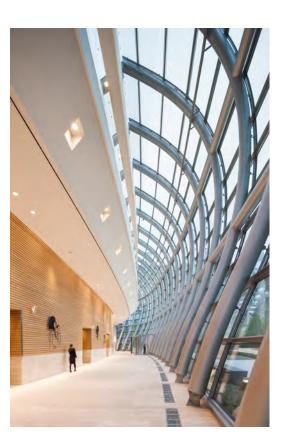




Figure 9: Podium conference center podium





"Anthony led the team in the development and shaping of the sculptural podium piece. The resulting form is in direct response to the site conditions and the programmatic elements. He was able to translate and simplify a complex shape while maintaining the beautiful aesthetic that we originally designed"

—Juan Betancur, AIA, Director, Adrian Smith + Gordon Gill Architecture

Kazakhstan Pavilion + Science Museum

Astana, Kazakhstan

Completed in 2017, the EXPO-2017 is a mega-project that includes 49 buildings which embrace the expo's theme of "Future Energy." Anthony led the team on the centerpiece of the exposition, an 80 meter diameter sphere with 20,000 sm of exhibition space on eight levels. The building incorporates and augments active power generation technologies such as solar power and wind turbines while employing passive strategies such as high-performance materials and the use of atria as thermal "lungs." Anthony was responsible for developing advanced VR simulations of the interior and exterior environments of the building, improving the vision of the building and advancing the project's tight timeline. The sphere is an icon and a driver for the integration of environmental performance across the Expo site and the city of Astana.

Client | AOR: Dates: Images: IT Engineering 2014 - 2017 AS+GG; Paul Raftery

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Gordon Gill, FAIA Adrian Smith + Gordon Gill Architecture Design Partner 30 August 2017

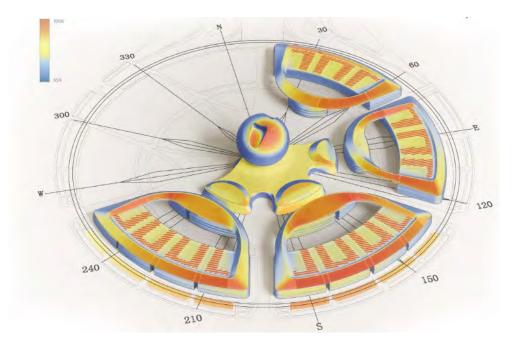
2017

Kazakhstan Pavilion + Science Museum

Astana, Kazakhstan



Figure 12: Kazakhstan Pavilion + Science Museum, rendering link

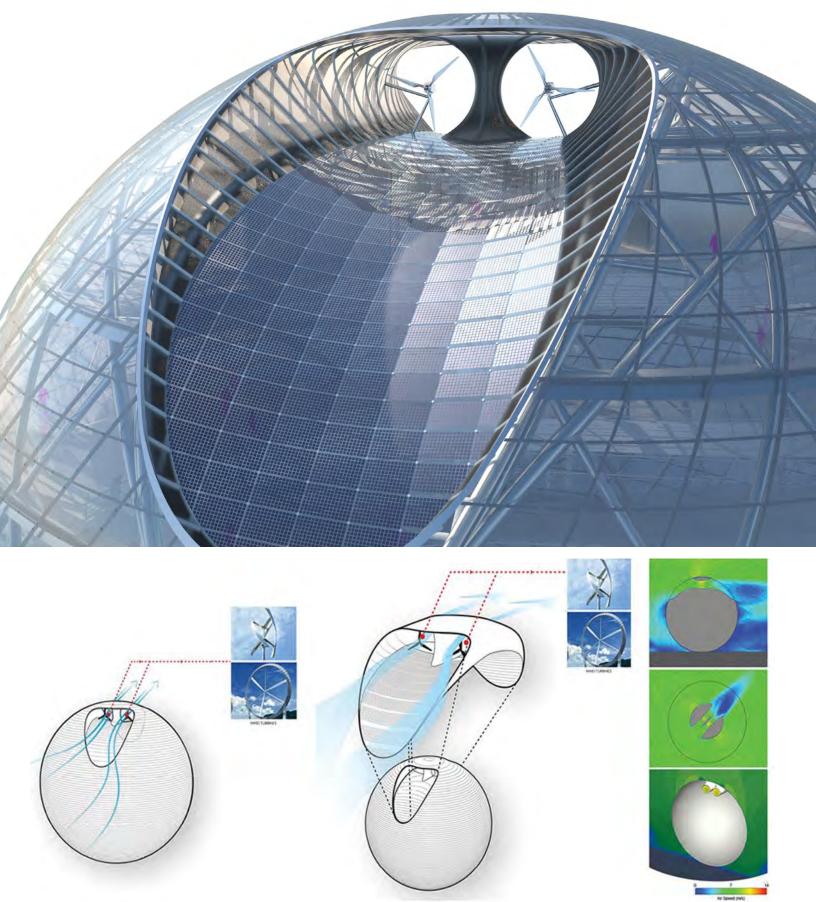


"Anthony led the Astana Expo Kazakhstan Pavilion design team. Innovation was required to design a spherical building that performed well in local climatic conditions and generated renewable energy using integrated wind turbines. Anthony not only led the parametric modeling but also shared this knowledge with junior team members who, by mid-way through the project, were able to create advanced VR simulations of the interior and exterior environments of the building."

—Christopher Drew, PhD., Director of Sustainability, Adrian Smith + Gordon Gill Architecture

Kazakhstan Pavilion + Science Museum

Astana, Kazakhstan



Science Museum Astana, Kazakhstan Ka hsta 0 2

CHART REAL

"Anthony is one of the most talented and creative designers that the firm has. As Design Lead for the sphere we worked together to develop a holistic approach to a very complex project

-Jorge Soler, AIA, Retired Director of Technical Design, Adria nith + Gordon Gill Architecture

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Energy Hall, Astana, Kazakhstan

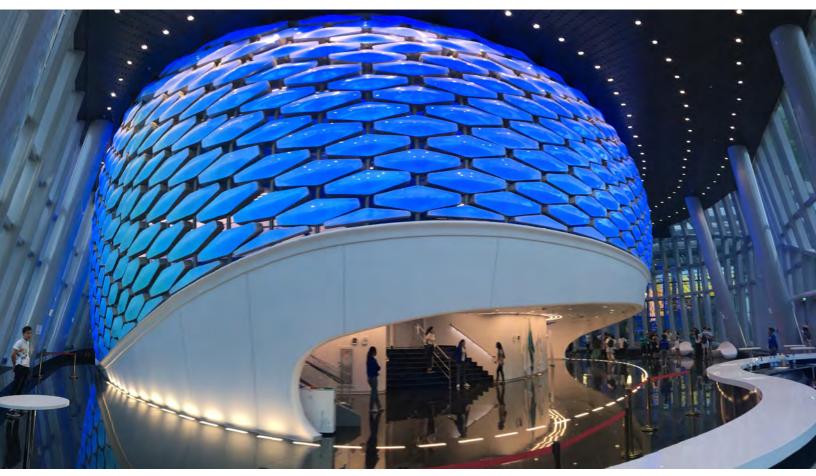
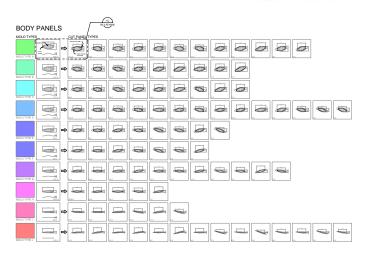


Figure 16: Energy Hall





Astana Energy Hall is a 1000-seat theater adjacent to the Kazakhstan Pavilion and is a key performance space for EXPO-2017. As part of the group of buildings that were led by Anthony, the "theater-within-a-box" concept integrates the complex program requirements of a fixed-seat proscenium-type theater along with the need for the otherwise opaque form to respond to and activate the most populated area of the Expo. One of the unique features of the project is the responsive LED façade that wraps the entire theater component. The facade was developed during one of the **"hack-a-thon" research and development weekends** organized by Anthony during the design and documentation phase.

Client AOR:	IT Engineering
Dates:	2014 - 2017
Images:	AS+GG
Images:	AS+GG

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Gordon Gill, FAIA Adrian Smith + Gordon Gill Architecture Design Partner 30 August 2017

Energy Hall, Astana, Kazakhstan





SCA





Figure 18: Energy Hall prototyping link

"I had the great pleasure to collaborate with Anthony on a series of innovative projects that pushed the envelope of architectural thought. Through his tireless efforts in organizing and facilitating the quarterly "hack-a-thon" at AS+GG, he has made significant contributions to the architecture profession. These lively events target the advancement of digital design, fabrication and environmentally responsive systems. Not only is Anthony a skilled architect and leader, but his personality creates the type of open workplace that fosters innovation and bring out the very best in the people around him."

Liam Lowry AIA, Asymptote Architecture

Energy Hall, Astana, Kazakhstan

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Expo-2020 Mobility Pavilion

Dubai, United Arab Emirates

The Mobility Pavilion is a 15,000 sm exhibition space that was designed for the EXPO-2020 in Dubai. The design is a simple, structural grid shell form that is easy to erect and dad in tile, a material that is indigenous to the region. The programmatically specific form is easily recognizable as contemporary, compact, and adaptable to include photovoltaics or light tubes and is durable and easy to maintain. The interior exhibition space is both responsive and dynamic to the movement of the visitors. Anthony led the design team for this highly intelligent design that incorporates renewable energy systems and is passively performative, self-shading with a low ratio of surface area to floor area due to its form.

Arts

Client: Dates: Images: EXPO-2020 2015 AS+GG

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Gordon Gill, FAIA Adrian Smith + Gordon Gill Ar Design Partner 30 August 2017

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Expo-2020 Mobility Pavilion, Dubai, United Arab Emirates

"Anthony consistently strives to understand the core issues affecting his design work. This natural curiosity and his extensive knowledge of the latest digital design tools, results in projects such as the Mobility Pavilion that are elegant and innovative."

-John Viise, SE, PE, CEng, MIStructE, LEED AP, Associate Principal, Thornton Tomasetti

Figure 22: Expo-2020 Mobility Pavilion

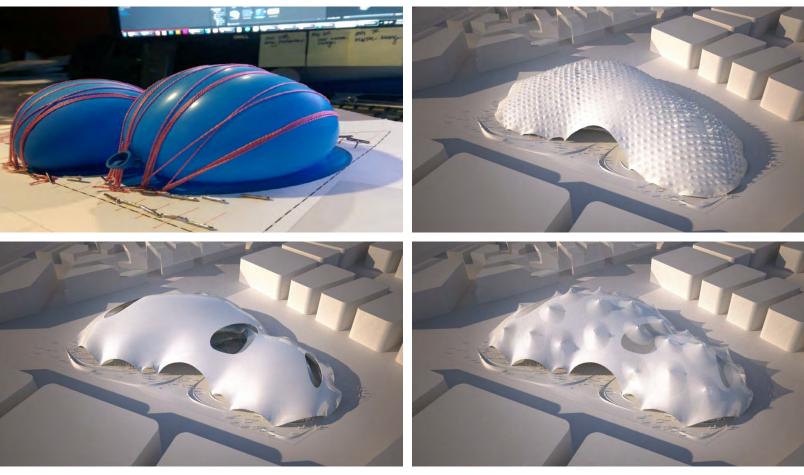
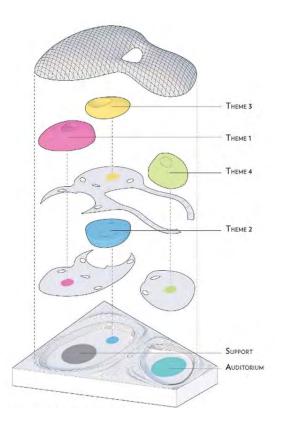


Figure 23: Expo-2020 Mobility Pavilion 3D prototype

Expo-2020 Mobility Pavilion, Dubai, United Arab Emirates



Figure 24: Interior exhibit





"During my time working with Anthony on Mobility Pavilion, he showed me what it meant to be an architect: dedicated, passionate, and always curious. Through his works and efforts at AS+GG he has inspired not just a generation of architects but multiple generations of dreamers."

-Mario O. Romero, Designer, Adrian Smith + Gordon Gill Architecture

National Museum of Health + Medicine

Chicago, Illinois

The National Museum of Health + Medicine in Chicago reimagines the 21st century exhibition space for the digital collection of historical medical artifacts. Anthony conceptualized this new space and developed a prototype exhibition, which looked at shaping the architecture of the space and the content of the exhibit around the user. The simple geometry of a ribbon of digital screens monitors movement of visitors and changes to each individual. The aggregation of the various occupants results in an everchanging dynamic exhibition that itself is a "living organism."

Client: Dates: Images: Buonacorsi Foundation 2009 - 2013 AS+GG

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Gordon Gill, FAIA Adrian Smith + Gordon Gill Archite Design Partner 30 August 2017



National Museum of Health + Medicine.

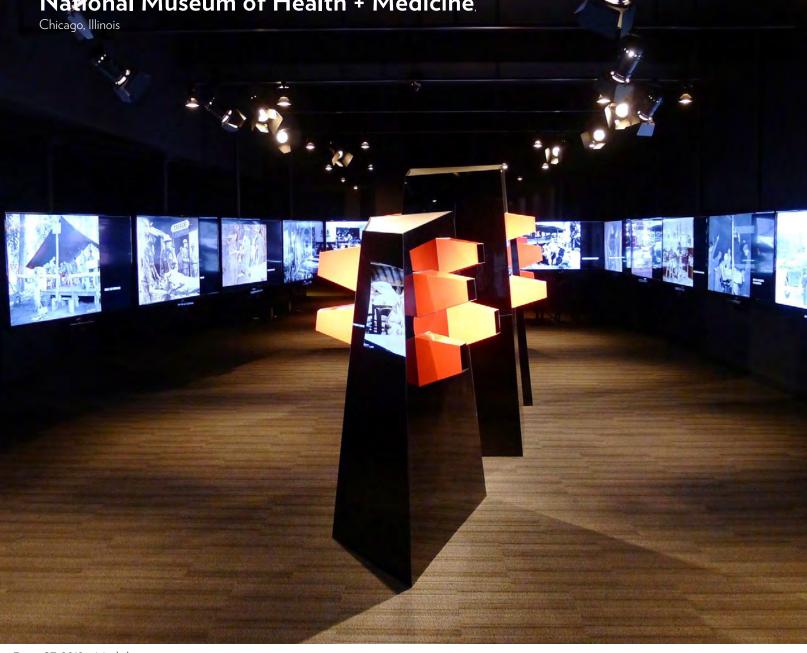


Figure 27: 2012 exhibit link

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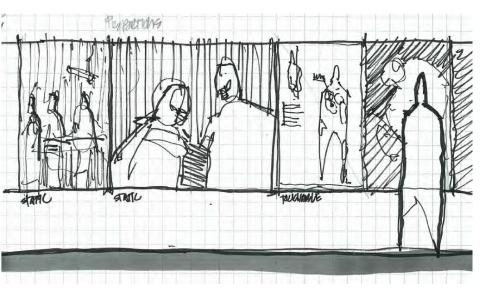




Figure 28: Exhibit interaction diagram

National Museum of Health + Medicine.

Chicago, Illinois

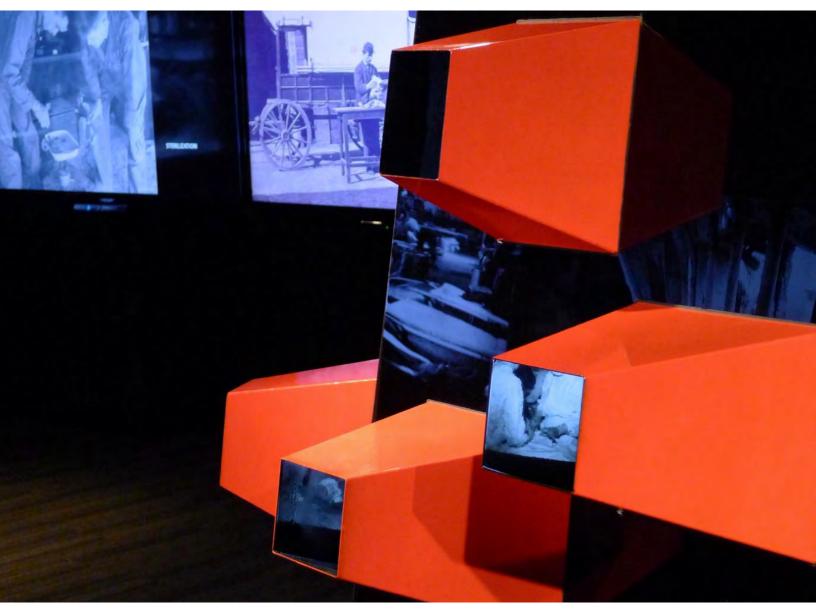
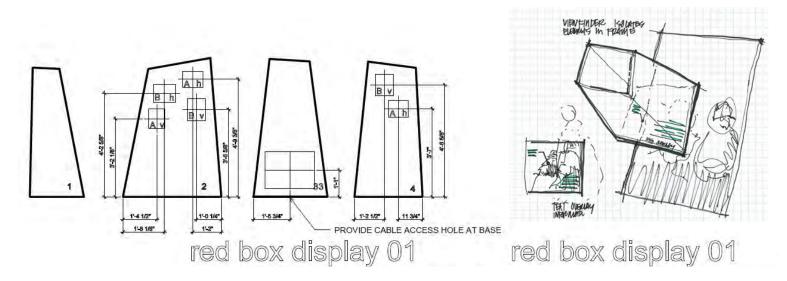


Figure 29: Exhibit viewfinders



hack-a-thon, Chicago, Illinois

Beginning in 2012 Anthony started a series of quarterly "hack-a-thons" to accelerate and organize research and development happening in an individual or isolated way within AS+GG. The "hack-a-thon's" after-hours format is a vital, vibrant, and necessary distraction that allows people to be supported in their pursuits and interests. The setting is also not a solo endeavor but one that is supported and made better by an interdisciplinary group of colleagues. It allows us, as a collective firm, to focus or learn, discuss, dream, and imagine new possibilities and to understand how those dreams and possibilities can change the world.

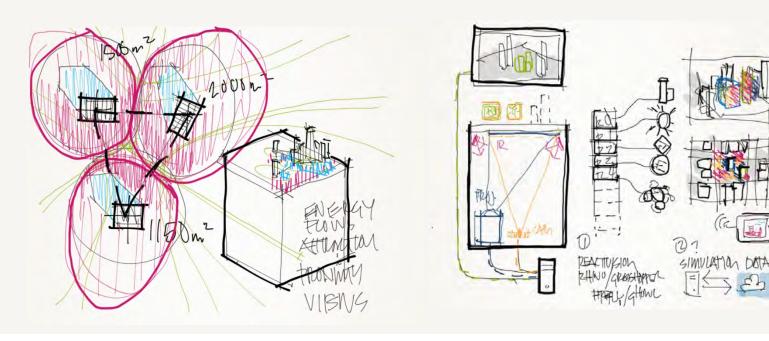
> Client: Dates: Images:

N/A 2012 - present AS+GG

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> Gordon Gill, FAIA Adrian Smith + Gordon Gill Architecture Design Partner 30 August 2017

Figure 31: Tangible design interface



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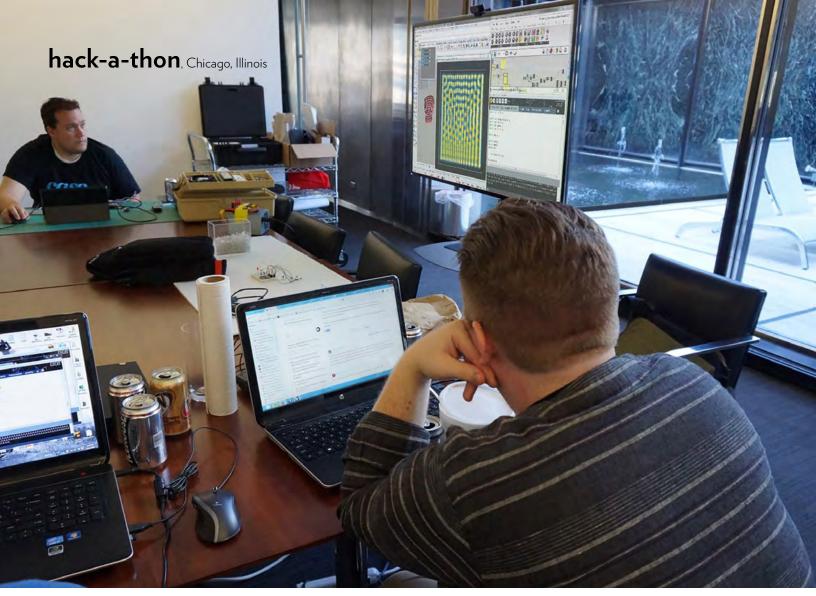


Figure 33: 2015 Hack-a-thon event at AS+GG





"Anthony is responsible for our internal "Hack-a-thon" series: a design platform that he personally developed and oversees in order to enrich creativity, teach technology and combine sustainable issues with formal practice."

> -Gordon Gill, FAIA, Partner, Adrian Smith + Gordon Gill Architecture

AIA Design KC | Chicago Computation Group

Chicago, Illinois

As co-chair for the AIA Chicago Design Knowledge Community Anthony organized discussions and presentations by some of the best designers practicing in the city. The common thread that bracketed the discussions he organized was that each project or firm is made up of and an interdisciplinary team of people executing their craft at an incredibly high level and working on something that is greater than the sum of their individual contributions. This idea later formed the basis for the creation, in 2014, of the Chicago Computation Group. Anthony shifted the focus from design to a much wider field of practitioners in the fields of **data science, artificial intelligence, advanced building simulation**, and researchers that use advanced technology to engage the built environment.

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Anthony Viola AIA Design KC | Chicago Computation Group Co-Chair | Coordinator 30 August 2017



Figure 35: AIA Design Knowledge, Community Columbia College event

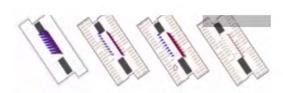


AIA Design KC | Chicago Computation Group

Chicago, Illinois



Figure 37: Chicago Computation Group, 2016



OPEN MEETING 14 -COMPUTATIONAL DESIGN STRATEGIES FOR ENVIRONMENTAL SIMULATION March 31, 2017

anthonyviola

open meeting 14 – computational design strategies for environmental simulation //about the event This presentation will focus on environmental simulations, including shadow analysis, solar irradiation,...

DPEN MEETING 13 -HIGH PERFORMANCE BUILDINGS: INTEGRATING DATA AND DESIGN February 22, 2017 anthonyviola open meeting 13 – high performance buildings: integrating data and design //about the event Experts from Thornton Tomasetti, a global engineering firm, will discuss the integration...





DPEN MEETING 11 -DESIGN PROCESS FROM START - END September 21, 2016

open meeting 11 – design process from start – end with computation and parametrics //about the event "design process from start -> end with...



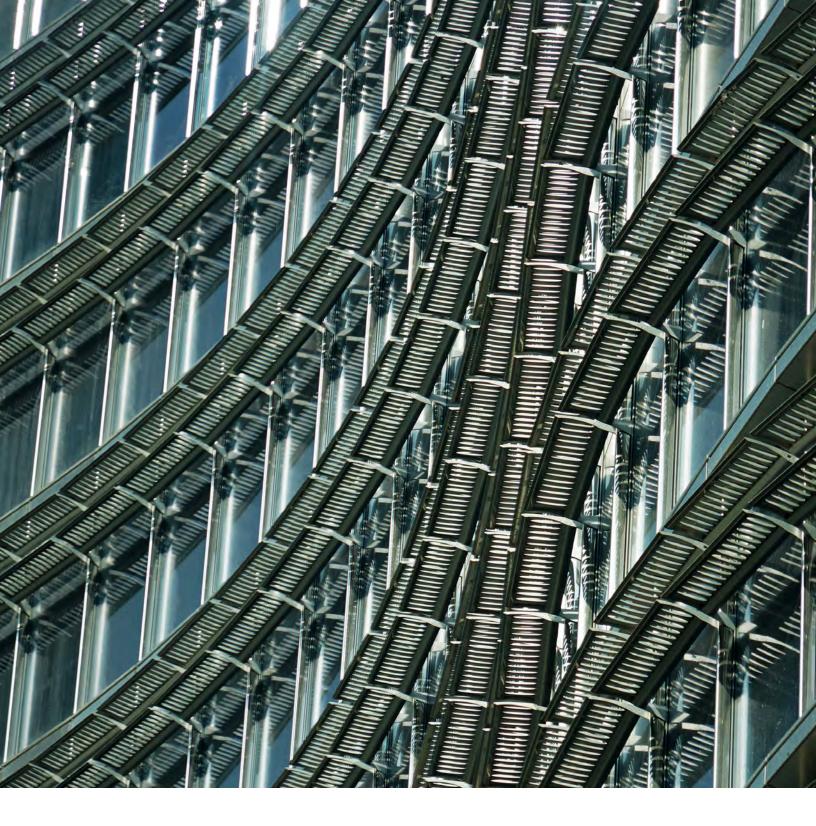
OPEN MEETING 10 -ANNOUNCEMENT October 20, 2015 anthonyciola Announcing >>> "Collaborative Digital Fabrication" a discussion with Dr Russell Loveridge – Managing Director of the National Centre of Competence in Research – Digital Fabrication at the ETH...



DPEN MEETING 09 -MODELLING THE UNSEEN August 30, 2015 Attached below are some photos from the event>>

"Anthony has for many years, in our work together at AS+GG and the Chicago Computation Group, been a leader and an advocate for the use of computation within the design process. His dedication to innovation and open knowledge sharing have benefited his office, the architectural community, and the industry."

-Jason Smith AIA, Design Principal, Smith Group JLL



I affirm that this entry meets the requirements state in the Call for Entries. I verify that the entry is entirely the work of those listed in this form.

Signatui ninee

Date: <u>6 September 2017</u>

Print name: <u>Anthony Viola, AIA, LEED AP</u>