

BIM 2017: what's next?

July 14, 2017

THE ELEVENTH ANNUAL USC BIM CONFERENCE

Friday, July 14, 2017, 8:00 am – 5:00 pm

USC, School of Architecture, Los Angeles, CA, USA

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CONFERENCE SCHEDULE

- Last updated 6/5/17
- New ones will be posted on the <https://arch.usc.edu/calendar/bim-2017-whats-next> when there are changes or updates. For example, we currently do not know the room numbers of the lecture halls.
- If you are registered, we will email you the most recent one before the conference as we will not be printing them out.
- Lunch is provided.

REGISTRATION

- \$55 early registration; \$125 after June 30th.
- Go to usc.edu/esvp (code: **bim2017**) to register.
- Please express your preference for track A or track B. The speakers for each track are listed in [this Conference Schedule](#).
- Please register each person **individually** if you are doing more than one; register under their name (not yours). By registering each person individually, we will be able to track the registration better, send out reminder notices, and print accurate name badges.

KEY INFORMATION

- A stellar line-up of over 30 speakers! See the end of [this Conference Schedule](#) for the full listing.
- 5 AIA CEUs. Remember to add your name and number to the list on the registration table.
- Please be on time.
- As usual, there are **no refunds** if you do not attend (send someone else from the office instead under your name)
- **We usually sell out.** Do not wait until the last minute to register.

SPONSORSHIPS

- Sponsorships are available.
- Please contact Douglas Noble, dnoble@usc.edu.
- For other questions, contact Karen Kensek, kensek@usc.edu.

PRELIMINARY SCHEDULE SUMMARY

- BIM 2017 will follow on the success of our 2016 conference with a double track of presentations and expert speakers in architecture, engineering, and construction. When registering, please indicate your preference for which track you will be attending. You can go between them if room permits.
- We do not guarantee space in both rooms at all times, although we promise that there is excellent content for both room tracks.

TRACK A (lecture hall to be determined)

8:45 - 9:00

Introduction

SESSION 1A

9:00 - 9:30 am	The Evolving Future of Immersive Technologies	Cesar Escalante , buildingSMART Design Technology Manager, HOK JAMILA VALERO, Project Architect, HOK
9:30 - 10:00 am	Advanced Drawing Techniques Used during the Design Process	James E Donaldson , Principal, Johnson Fain Taylor Sanderson , Intermediate Designer Daniel Nay , Intermediate Designer Harold Ramirez , Junior Designer Tigran Parsamyan , Junior Designer
10:00 - 10:30 am	BIM for the Design-Oriented Firm	François Lévy , Principal, Lévy Kohlhaas Architecture
10:30 - 10:50 am		BREAK

SESSION 2A

10:50 - 11:20 am	Design - Beyond the Physical and the Digital	Nuri Miller , Director of Digital Design and Technology, CO Architects Onur Karaduman , Digital Experience Designer, CO Architects Russell Metcalfe-Smith - Cedars Sinai Women's Guild Simulation Center Manager John Haymaker , Director of Research, Perkins+Will
11:20 - 11:50 pm	Design Space Construction	Ramon van der Heijden , Computational Design Specialist, Front Asia HK Ltd.
11:50 - 12:20 pm	Parametric Building Information Generation for Design and Construction.	
12:20 - 12:30 pm		Thanks to our sponsors.
12:30 - 1:40 pm		LUNCH

SESSION 3A

1:40 - 2:10 pm	BIM and Automated Plan Review	Mark J. Clayton , CEO, SMARTreview Inc. James Haliburton , Partner, SZH Architecture
2:10 - 2:40 pm	Historical 3D Reconstructions, BIM, and Metadata	Dr. Kristine Tanton , Postdoctoral Fellow at the Institute for Digital Research and Education, UCLA Anthony Caldwell , Assistant Director UCLA Experiential Technologies Center and Manager of the Scholarly Innovation Labs, UCLA
2:40 - 3:10 pm	Plugging into The Owner's Mind with BIM and Game Changing Innovation	Stephen R Hagan FAIA , President CEO, Hagan Technologies LLC Kimon Onuma, FAIA , President, Onuma, Inc.
3:10 - 3:40 pm		BREAK

SESSION 4AB is in the larger lecture hall

3:40 - 4:40 pm	Where Building Information Modeling Meets Computational Design	Argelia Barcena , Digital Practice Office Leader, HDR (San Francisco) Wassem Hawary , Digital Practice Office Leader, HDR (Pasadena) Tim Halvorson , Junior Designer, HDR (San Francisco)
4:40 - 5:00	Conclusion	Karen Kensek , USC, School of Architecture

TRACK B (lecture hall to be determined)

8:45 - 9:00

Introduction

SESSION 1B

9:00 - 9:30 am	Planning What's Next - Implementation of 4D Construction Planning on the Los Angeles Airport (LAX) Midfield Satellite Concourse North Project	Sean Zook , R.A., Construction VDC/BIM Manager, Turner-PCL, A Joint Venture Shaohua Guan , 4D Planner, Synchro, Turner-PCL, A Joint Venture
9:30 - 10:00 am	Leveraging Data to Speed Up Construction	Kyle Spitznagel , BIM Coordination Manager, Hathaway Dinwiddie Construction Co. Brian Moon, BIM Manager, Hathaway Dinwiddie Construction Co.
10:00 - 10:30 am	Leveraging BIM	Eric Rudisaile , Solutions Specialist (MEP + Dynamo), Microdesk Don Interdonato , CM-BIM, Engineering BIM Manager, Cupertino Electric, Inc. Chris Alexander , 3D Detailer/ BIM Coordinator, Cupertino Electric, Inc.
10:30 - 10:50 am		BREAK

SESSION 2B

10:50 - 11:20 am	Life after BIM: Why We Need Building Integrated Collaboration (BIC) & Building Immersive Presentation (BIP)	Phoebe Zhang , Customer Success Manager, Modelo Henry Yu , CEO and founder of Kalloc Studios
11:20 - 11:50 pm	Parametric Design and Modern Manufacturing	Erik Luhtala , Director of Advanced Computational Research, Ceilings Plus
11:50 - 12:20 pm	Generative Workflows for Complex Geometry	Sanjeev Tankha , AIA I LEED AP BD+C, Principal, Director I Facade Engineering, Walter P Moore
12:20 - 12:30 pm		Thanks to our sponsors.
12:30 - 1:40 pm		LUNCH

SESSION 3B

1:40 - 2:10 pm	Implementation of 3D Laser Scanning and BIM for Adaptive Reuse at NoMad Hotel	Shobhit Baadkar , Managing Partner, TITAN AEC Amar Patel , Project Manager, RD Olson Construction Company
2:10 - 2:40 pm	Challenges of Integrating Large-scale Laser Scans with BIM Technology	Phil Allsopp , D.Arch., RIBA, President, Royal Institute of British Architects USA, RIBA Americas Region
2:40 - 3:10 pm	Accelerating Site Survey, DTM, and 3D Modeling Through Reality Capture	John Cruikshank , President, JMC2 Civil Engineering + Surveying Joshua Lazear, Sr. Application Engineer, Archway Systems, Inc.
3:10 - 3:40 pm		BREAK

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4:40 - 5:00	Conclusion	Karen Kensek , USC, School of Architecture

SPEAKERS AND TOPICS

- These are listed by track number.
- These might change. Updates will be posted and a final schedule emailed to registrants a few days before the conference.

TRACK A (lecture hall to be determined)

SESSION 1A

The Evolving Future of Immersive Technologies

Cesar Escalante, buildingSMART Design Technology Manager, HOK
Jamila Valero, Project Architect, HOK

Virtual Reality and Augmented reality has started a revolution on the way we communicate and experience the virtual representation of space. HOK will discuss how immersive technology is redefining the planning and the development of architecture and the city. Through narrative, images and practical examples we will show how HOK tested and adopted VR technology to engage clients and use it to enhance the collaboration and delivery of projects throughout the design process. We will finish speculating how immersive technology will influence the evolution of the built environments in the future.

Advanced Drawing Techniques Used During the Design Process

James E Donaldson, Principal, Johnson Fain
Taylor Sanderson, Intermediate Designer
Daniel Nay, Intermediate Designer
Harold Ramirez, Junior Designer
Tigran Parsamyan, Junior Designer

The studio of Johnson Fain has incorporated parametric processing into the design workflow. The trend in our studio has expanded beyond scripting and now involves the exhibiting of design iterations through VR software. We will exhibit Dynamo and Grasshopper scripts that were used to arrive at design solutions on two large scale mix-use developments. These solutions have been visualized with the software Lumion to provide a VR experience for the client. Our presentation will focus on how we work with software such as Dynamo, Grasshopper, and Lumion during the design process.

BIM for the Design-Oriented Firm

François Lévy, Principal, Lévy Kohlhaas Architecture

The 2016 AIA Firm Survey Report indicates 28% BIM adoption in small firms, flat compared to 2013, contrasting with 91% adoption in large firms. Yet the quantitative analysis opportunities of data-rich BIM models for climate responsiveness, formal exploration, visualization, documentation, and error detection can be of just as great a concern in smaller firms where a single architect may be asked to fill roles typically performed by numerous designers in a larger project. This talk challenges the common misconception that BIM is only relevant for use by large commercial offices, and advocate its use by architects from the earliest design stages, particularly for small projects by small firms. A series of brief vignettes will demonstrate the power of BIM to be far more than an improved documentation and sharing environment, concluding with an outline roadmap for small practices transitioning to BIM.

SESSION 2A

Design - Beyond the Physical and the Digital

Nuri Miller, Director of Digital Design and Technology, CO Architects
Onur Karaduman, Digital Experience Designer, CO Architects
Russell Metcalfe-Smith - Cedars Sinai Women's Guild Simulation Center Manager

The talk will explore the blurring boundaries between digital and physical creating a new level of communication between design and designer. Examples of work will include a virtual operating room for design exploration, a mixed reality solar study application for the Microsoft HoloLens, and a mixed reality experience for building program arrangement using gestural inputs.

Design Space Construction

John Haymaker, Director of Research, Perkins+Will

Methods, research, and education in constructing, exploring, and making decisions with performance-based design spaces.

Parametric Building Information Generation for Design and Construction.

Ramon van der Heijden, Computational Design Specialist, Front Asia HK Ltd.

The presentation will demonstrate a process by which BIM models are generated from an aggregation of functions that compute relationships between constituent parts. In doing so, this process generates a modern construction model, which is fundamentally rooted in synthesizing streams of information into a set of usable outputs. This process differs fundamentally from conventional parametric BIM modeling, which relies mostly on the manual placement of building elements in the context of either a large, or otherwise isolated 3D model. A specific process of team-based functional modeling is presented for creating an adaptable BIM model to preserve and generate design and construction data throughout the process, from early design stages through fabrication, assembly, and construction.

SESSION 3A

BIM and Automated Plan Review

Mark J. Clayton, CEO, SMARTreview Inc.
James Haliburton, Partner, SZH Architecture

Automating the building code plan review process can streamline the building permit process and provide great value to building owners and the public. This presentation will share the business case for a new, disruptive process for permitting that is based on software for self-certification of compliance. The software will be demonstrated in test cases from actual building projects.

Historical 3D Reconstructions, BIM, and Metadata

Dr. Kristine Tanton, Postdoctoral Fellow at the Institute for Digital Research and Education, UCLA
Anthony Caldwell, Assistant Director UCLA Experiential Technologies Center and Manager of the Scholarly Innovation Labs, UCLA

How do art and architectural historians study monuments that have been lost or changed over time? Our understanding of these monuments relies mainly on fragmentary evidence such as textual descriptions, drawings, or lithic fragments scattered throughout various warehouses, archives, and museums. Advances in CAD has made it possible to bring these disparate sources together to reconstruct digitally these monumental specters. A current challenge for scholars is how do we annotate our 3D models and share them across various platforms and native software. We will discuss how our annotation process integrates existing OpenBIM technology to document all data and project workflow for our 3D models, while addressing the unique needs for historical reconstructions to the scholarly and public communities.

Plugging into The Owner's Mind with BIM and Game Changing Innovation

Stephen R Hagan FAIA, President | CEO, Hagan Technologies LLC
Kimon Onuma, FAIA, President, Onuma, Inc.

Game changing innovations have changed the world around us and they are going to have a huge impact on the building industry. Owners have a lot of data in the wrong format, but forward looking owners are making their data accessible on the web. Their data is ready to be plugged into innovative teams and solutions. Learn how you can generate value for your clients and be the innovator that the world is looking for.

SESSION 4AB

Where Building Information Modeling meets Computational Design

Argelia Barcena, Digital Practice Office Leader, HDR (San Francisco office)
Wassem Hawary, Digital Practice Office Leader, HDR (Pasadena office)
Tim Halvorson, Junior Designer, HDR (San Francisco office)

The three major themes of this talk are 1) the "I" in BIM; 2) advancing our architecture performance by working on different platforms; and 3) computational design.

SPEAKERS AND TOPICS

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TRACK B (lecture hall to be determined)

SESSION 1B

Planning What's Next - Implementation of 4D Construction Planning on the Los Angeles Airport (LAX) Midfield Satellite Concourse North Project

Sean Zook, R.A., Construction VDC/BIM Manager, Turner-PCL, A Joint Venture
Shaohua Guan, 4D Planner, Synchro, Turner-PCL, A Joint Venture

Knowing when is as important as knowing what you're building. 4D examples, strategies, workflows, and early outcomes will be presented covering how the project team leverages Design-Build BIM for 4D construction planning. Members of the VDC and 4D Planning team will present and discuss collaborating with and engaging the broad list of project stakeholders to plan, validate, and manage construction on the 1.3 Billion MSC project.

Leveraging Data to Speed Up Construction

Kyle Spitznagel, BIM Coordination Manager, Hathaway Dinwiddie Construction Co.
Brian Moon, BIM Manager, Hathaway Dinwiddie Construction Co.

Numerous tools throughout the industry maintain data in isolated silos, limiting their use beyond the current project. By using APIs and custom software integrations to understand the commonalities between projects better, we can speed up coordination efforts, make better decisions, and mitigate onsite challenges more effectively. This talk will present the Clashboard – a custom built tool Hathaway Dinwiddie uses to foresee coordination issues, and briefly review how tools like Clashboard are helping drive better decisions.

Leveraging BIM

Eric Rudisaile, Solutions Specialist (MEP + Dynamo), Microdesk
Don Interdonato, CM-BIM, Engineering BIM Manager, Cupertino Electric, Inc.
Chris Alexander, 3D Detailer/ BIM Coordinator, Cupertino Electric, Inc.

Building Information Modeling platforms open up the possibility of leveraging computers to do some heavy lifting throughout the construction detailing process. Learn how Cupertino is pushing the envelope, using automation as a “time multiplier” on their employees’ efforts.

SESSION 2B

Life after BIM: Why We Need Building Integrated Collaboration (BIC) & Building Immersive Presentation (BIP)

Phoebe Zhang, Customer Success Manager, Modelo
Henry Yu, CEO and founder of Kallos Studios

This talk by two firms will look into the complete cycle of building design and construction and how technology could make an impact on the full cycle.

Parametric Design and Modern Manufacturing

Erik Luhtala, Director of Advanced Computational Research, Ceilings Plus

This presentation will highlight how parametric modeling and digital manufacturing can be combined to allow for mass customization within manufacturing. The incorporation of mass customization within the design process allows a project to achieve higher performance and huge leaps in form variability. The relationship between parametric design and digital fabrication will be discussed and how both can help achieve quality in the realm of ceiling and wall systems.

Generative Workflows for Complex Geometry

Sanjeev Tankha, AIA I LEED AP BD+C, Principal, Director I Facade Engineering, Walter P Moore

An insight into computational design workflows that track through design from concept through fabrication. The speaker will showcase the development of a case-study project, driven by a double-curved surface geometry – towards a hybrid specialty steel structure that is enclosed with lightweight membrane.

SESSION 3B

Implementation of 3D Laser Scanning and BIM for Adaptive Reuse at NoMad Hotel

Shobhit Baadkar, Managing Partner, TITAN AEC

Amar Patel, Project Manager, RD Olson Construction Company

This presentation will explore the usage of three-dimensional laser scanning of existing conditions where construction documentation was non-existent. Integration of the design building information models along with the point cloud data will be discussed. We will discuss the benefits of the point cloud and the building information model with the NoMad Hotel in Downtown Los Angeles that is currently under construction.

Challenges of Integrating Large-scale Laser Scans with BIM Technology

Phil Allsopp, D.Arch., RIBA, President, Royal Institute of British Architects USA, RIBA Americas Region

The talk will describe the laser scanning of the Arizona State Fairgrounds Grandstand, the challenges involved in such a large structure, and the need for further research and development to enable fully automated element and object extraction from point cloud files.

Accelerating Site Survey, DTM, and 3D Modeling Through Reality Capture

John Cruikshank, President, JMC2 Civil Engineering + Surveying

Joshua Lazear, Sr. Application Engineer, Archway Systems, Inc.

Case studies will include a large hillside lot in Rolling Hills to much larger sites such as the UC Berkeley campus and surrounding community 3D model. Collection methods ranging from hand held digital cameras to drone mounted.

SESSION 4AB

Where Building Information Modeling meets Computational Design

Argelia Barcena, Digital Practice Office Leader, HDR (San Francisco office)

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