Introduction

Learning tools is fun, but it's only the beginning. The next step is harnessing Computational BIM to build script-driven design strategies that give you an advantage in practice. In this session we will feature inspiring speakers who have done just that. Computational design leaders will tell exciting stories about what they have been able to do with computational design tools. We hope that you will take away new ideas from this session that will help get you started with what you've learned today and inspire you to augment your design processes.

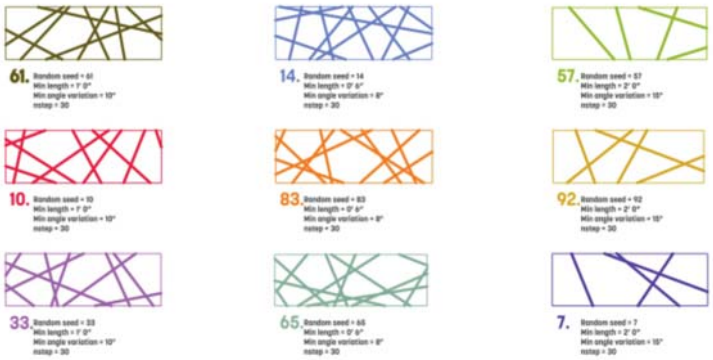
Lilli Smith, Principal Experience Designer at Autodesk who has worked for the last several years on making computational design tools accessible to more users will introduce the speakers with a few brief remarks about computational design at Autodesk. **Håvard Vasshaug** will kick off the event and tell us how the Snøhetta design team built their own computational workflows to create a glass façade in the design of the LeMonde headquarters in Paris. Next, **Ilaria Giardiello** will tell the story of how her team at Sasaki leveraged rules to define pattern density and orientation, as well as material and construction tolerances in the design of a "Mile Long Pattern". **Masha Pekurovsky** from Stantec will then introduce the topic of the 'Computational Library' and highlight validated methodologies for curating enterprise resources, demonstrating the value proposition of collecting and developing 'Dynamo Capsule Collections' over time. Next, **Islay Burgess** will tell us how Gensler reinforces the power and versatility of their team and about how they've started to democratize access to and use of computation in an integrated design practice. Finally, **Martha Tsigkari** from Foster + Partners will discuss the use of computational design in architectural workflows, and how it has been defining the art of the possible in architecture for the past 20 years. We hope you'll join us for drinks after the session to discuss this mind-expanding day of learning about computational design.

Schedule

3:30-3:40 Introduction: Computational Design at Autodesk *Lilli Smith*
3:40-4:00 Creating transparency in France with Dynamo *Håvard Vasshaug*
4:00-4:20 A Mile Long Pattern *Ilaria Giardiello*
4:20-4:40 The Curated Computational Library *Masha Pekurovsky*
4:40-5:00 Adaptable Process for Broad Exposure *Islay Burgess*
5:00-5:20 Computational Design: The Art of the Possible *Martha Tsigkari*
5:20-5:30 Closing Remarks *Lilli Smith*
5:30-6:30 Discuss over cocktails

Forum Talks

Creating transparency in France with Dynamo
Håvard Vasshaug, Snoetta
A week after the Charlie Hebdo attacks in Paris, France, Norwegian architects Snøhetta were announced winners of the competition to design the new Le Monde headquarters in the French capital. The winning proposal aligned with both the client's and the French society's wish to counter the terrorist attacks with transparency and dialogue. In this presentation, Håvard Vasshaug will talk about how the Snøhetta design team built their own workflows to create a glass façade that will communicate transparency in a monumental way—by automating the combination of multiple layers of variations in materials, orientation, placement, size, transparency, and reflectivity, while containing both complexity and cost. The project will be a landmark in Paris. Learn how it was created.



A Mile Long Pattern

Ilaria Giardiello, Sasaki

Inspired by the client company identity and the idea of network connectivity, Sasaki sought to incorporate a randomized line pattern throughout the newly designed spaces of a large commercial interior project. The goal of the selected pattern was to create a continuous strip that unwrapped throughout the building to physically connect the client's collaborative and social gathering spaces in what was called the "Information Path". Through initial studies of random line patterns, the team extrapolated the rules for a successful and aesthetically pleasing composition to inform the logic of their script, incorporating rules to define the desirable pattern density, orientation of the lines as well as material and construction tolerances. Each line is impacted by the previously drawn line, adapting as the pattern evolves to achieve the desirable pattern density. Using the script the design team was able to quickly generate and apply the Path pattern over a distance of approximately 1 mile through multiple design configuration, investing the time saved by the application of the script to fully explore the design.

The Curated Computational Library

Masha Pekurovsky, Stantec

What is your style when it comes to curating computational workflow scripts? Do you meticulously collect your best 'go-to' scripts or do you have a pile up of 'one-offs'?

This talk will introduce the topic of 'Computational Library' within the context of Autodesk Dynamo Extension of Revit use in professional AEC practice. Furthermore, this presentation will highlight validated methodologies for curating enterprise resources. Case-study examples will be used to demonstrate the value proposition of collecting and developing 'Dynamo Capsule Collections' over time.

Adaptable Process for Broad Exposure

Islay Burgess, Gensler

Projects' compressed timelines and the growing need for integrated information require continual analysis of our process. We're no longer in the times of the "lone gun" computational designer. Gensler reinforces the power and versatility of having every team member involved in all aspects of design. With this in mind, we've developed workflows utilizing Dynamo Player and custom procedures to engage all team members in computation at a level that lends to their individual skillsets and learning. This talk will look at the methodology developed to enable a variety of design processes around seating arrangements for a soccer stadium expansion. This same strategy was then redefined for performance theaters, lecture halls, and auditoriums. Through this case story, we'll investigate the variety of approaches to the process of computational tools, and how we've started to democratize access to and use of computation in an integrated design practice.

Computational Design: The Art of the Possible

Martha Tsigkari, Fosters + Partners

Martha will discuss the use of computational design in architectural workflows, and how it has been defining the art of the possible in architecture for the past 20 years.

Speakers

Lilli Smith, Principal Experience Designer at Autodesk
Lilli is an architect with a passion for re-envisioning the way that buildings are designed and constructed. After working for several years as an architect, she joined Revit Technology as a fledgling start up and helped grow it to where it is today in almost every architect's toolbox. She has gone on to work on the experience design of many Autodesk tools including Vasari, FormIt, Dynamo and Fractal. Her most recent focus is on Project Quantum, an experimental new tool for connecting AEC data across many applications.

Håvard Vasshaug, Design Technologist at Snøhetta
Håvard has a Master of Science in Structural Engineering and uses his experience with providing Building Information Modeling (BIM) research, development and automation to share knowledge of digital building design solutions at Snøhetta and through his own companies. He regularly speaks about improving digital design workflows at multiple international conferences and seminars, and receive wide acclaim for his talks and classes. He writes about BIM and visual programming solutions on vasshaug.net and is a Bad Monkeys founding member. Håvard has a passion for using technological advances to design fantastic buildings, while helping others operate effectively and joyfully. Favorite Dynamo packages: archi-lab.net, BlackBox, Clockwork for Dynamo, DynamoAutomation, LunchBox for Dynamo, Spring nodes, SteamNodes

Ilaria Giardiello, Architect, Sasaki
With a background in computational technologies and parametric design, Ilaria explores the use of non-traditional systems to inform design, generate sculptural spatial articulations and custom graphic patterns, as well as to streamline the documentation process. With the belief that new developments in architecture should be open-source, Ilaria is passionate about sharing her expertise with the field and with her co-workers. Previous to Sasaki she contributed the creation of an online platform to teach scripting tools to designers, and in Boston, she is a co-chair of the BSA's Dynamo-litia committee. At Sasaki, she is leading the Visual Programming Resource Group, helping to implement Dynamo and computation firm-wide. Favorite Dynamo Packages: Clockwork, Archi-lab, Lunchbox, Rhythm, SteamNodes

Masha Pekurovsky, BIM and Computation Specialist at Stantec
Masha has more than 12 years of professional experience. Her approach to software learning is inspired by the philosophy of 'BIM Ecology', and is based on real-world practice. Masha has recently relocated from New York to Seattle, where she joined the Practice Technology Team at Stantec. In her new role she contributes to the development of practices for improved efficiency in Design Delivery. During her prior role with Perkins Eastman, Masha led firm-wide initiatives with focus on BIM Education, BIM Best Practices, and Computation. Masha holds a B.Arch. from the Technion (Israel Institute of Technology), and M.Sc. Arch. from Pratt Institute. Favorite Dynamo packages: LunchBox, Archi-Lab BumbleBee, Archi-Lab.net, Clockwork, Data-Shapes, Ladybug, Rhythm

Islay Burgess, Senior Associate, Gensler
In 15 years of experience in architecture, Islay has approached each role from designer, project manager, and Digital Design Manager with a focus on integrating innovative design with the functional and technical requirements specific to each project. As a senior associate at Gensler, Islay has worked as the Digital Design Manager building a team of specialists focusing on researching new technologies and how to best integrate them with the design and delivery processes. Leveraging digital tools allows thought and process development around the performance of design, in addition to the design data created, computational processes, and a shift in the future of how architecture is managed. She is registered as an architect and is certified by the National Council of Architectural Registration Boards, and has Revit certification with Autodesk. In addition to membership in the American Institute of Architects, the New York City Chapter, and the New York City Revit Users Group, Islay has taught at the New York School of Interior Design. Favorite Dynamo packages: Ampersand, Clockwork, Lunchbox and Spring Nodes

Martha Tsigkari, Partner, Foster + Partners
Martha is a Partner and a member of the Applied Research + Development (ARD) group at Foster + Partners. She is a specialist in a wide range of areas including Performance-driven Design and Optimization, Interfaces & Interaction, Design-to-production and Fast Feedback & Integration. Her work incorporates the development of simulation tools, the introduction of integrated processes and the creation of physical interfaces. She has provided solutions for hundreds of diverse projects such as the new airport for Mexico City, Lusail Iconic Stadium for the 2022 FIFA World Cup, the new metro stations for Jeddah, UAE's 2015 Expo Pavilion, the Sheikh Zayed Museum and YachtPlus Boat Fleet. She is a member of the Royal Institute of British Architects, a tutor at the MSc Architectural Computation at the Bartlett, UCL and a juror at various schools, including the AA and UPenn. She has taught, lectured and published on the subject of computational design internationally.