This event is hosted by GRAPHISOFT Norge

PARAMETRIC DESIGN SEMINAR

Oslo 11th of February 2020

Ill.: Image by BIG-Bjarke Ingels Group in Copenhagen

For the third time in Norway, GRAPHISOFT Norge will be hosting a seminar dedicated to Parametric Design/visual programming specifically arranged for the construction industry.

Several Norwegian and international speakers will show how they combine the use of different visual programming tools to solve challenging and time-consuming work in the design process. These tools provide exciting new opportunities in design optimization of buildings and other constructions by adding rule-based relationship and logic, rather than doing it manually.

Now that you can use standard software based on visual programming, and connect it to Building Information Models (BIM), it is now available for everyone.

The lectures will be held by architects, engineers and industrial designers who use many different types of software to achieve their goals. The seminar aims to display the wide range of applications and possibilities with parametric design, regardless of software providers. But there will be the an opportunity to meet representatives from Robert McNeel & Associates, the creator of Rhino and Grasshopper, among others.

LOCATION
Felix konferansesenter,
Bryggetorget 3
Oslo, Norway

DATE
11.02.2020

TIME
09:00 -16:00
Registration starts at 08:00

PRICE
NOK 1490,- inc. VAT.
The seminar price includes warm and cold lunch buffet, coffee and tea etc.

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PROGRAM

08:00 – 09:00 **Registration**

09:00 – 09:05 **Welcome by Frode Saltkjelvik, GRAPHISOFT Norway**

09:05 – 09:50 **"Speckle: the open source data platform for AEC"**

Dimitrie Stefanescu and Matteo Cominetti are the founder and co-founder of Speckle. They both also work as senior software developers at Arup, where they develop open source and proprietary tools for digital design automation, data collection and computation globally across the firm and for the broader AEC industry, based on the open Speckle core.

Dimitrie Stefanescu – Arup
Founder of Speckle,
Senior software developer, London/UK

Matteo Cominetti – Arup
Co-Founder of Speckle,
Building Engineer and senior software developer, London/UK

09:50 – 10:10 **Rhinoceros - Computational Design, Digital Fabrication and Development Platform**

Rhinoceros® developed by Robert McNeel & Associates, is the market leader in industrial design modeling software. For designers who are exploring new shapes using generative algorithms, Grasshopper® is a graphical algorithm editor tightly integrated with Rhino's 3D modeling tools. Grasshopper requires no knowledge of programming or scripting, but still allows designers to build form generators from the simple to the awe-inspiring.
Carlos will give an overview of Rhino WIP new developments (including SubD modeling and QuadRemesher) and new frameworks (Rhino.Inside and Compute).

Carlos Pérez – McNeel Europe
Head of sales, marketing and business development, McNeel
EMEA region. Food4rhino product manager, Barcelona/Spain

10:10 – 10:30 **Break**

10:30 – 11:00 **Change the way new homes and communities are built, by using parametric design.**

Parallelo is a parametric software for architects. We have gathered some of the world's sharpest residential architects and paired them with smart and savvy technologists. Together we are on a mission to radically change the way new homes and communities are built. The software analyzes millions of unique combinations in order to find the floor plan that maximizes the gross net factor and other KPIs – which means that we maximize the potential of the site. The developer receives a broader set of solution proposals from the architect, and since new specifications can be tested instantly, developers and architects can work more closely together in exploring and tuning different solutions. Parallelo make sustainable choices visible.

Kitty Colbjørnsen Aarseth - Parallelo
CEO Parallelo and Master of Architecture, Oslo/Norway

11:00 – 11:30 **From Design to Production – Building Large Scale Parametric Models!**

Design-to-Production offers efficient planning and realization of designs whose complex shapes could be neither described with conventional methods nor built from standard components. During the past years, Design-to-Production has successfully worked on Timber free form projects such as the Centre Pompidou in Metz, the Seine Musicale in Paris or the Swatch Headquarter in Biel.
Sylvain will give some insight into how Design-to-Production uses Rhino and Python to achieve highly detailed fabrication model of those structures by setting up a hierarchy of parametric components.

Sylvain Usai – Design-To-Production
Parametric Design Specialist, Zurich/Switzerland


Ill.: Swatch - Image by Design-to-production GmbH Zurich / Switzerland

11:30 – 12:30 **Lunch**

12:30 – 13:10 **BIG IDEAS, the research and development team of BIG - Bjarke Ingels Group Architects in Copenhagen**

This in-house group based in Copenhagen supports more than half of BIG's projects with custom geometric tools and simulation-based analysis. Alexander will present BIG IDEAS' process for climate analyses, including everything from the infrastructure of BIG's supercomputer to visual communication strategies for increasing the value of design decisions.

Alexander Matthias Jacobson
BIG - Bjarke Ingels Group Architects in Copenhagen
Architect and Climate & Computational Design Specialist,
Copenhagen/Denmark

13:10 – 13:50 **GRAPHISOFT's Rhino-Grasshopper-ARCHICAD live connection opens a new level of intelligent workflows between the two design environments.**

Daniel will show how you can use your BIM Model as a geometrical and data hub to speed up your design and documentation workflows, utilizing ARCHICAD, GDL, Rhino, Grasshopper and a pinch of Python.
You will see how you can deconstruct your model, generate a design based on environmental data, and then get all the information that you need out of the model in an instant.

Dániel Kovács – GRAPHISOFT SE
M. Arch. BIM consultant , Budapest/Hungary

13:50 – 14:20 **Break**

14:20 – 14:50 **Designing multi-functional facades using co-simulation and optimization**

Advanced multi-functional facades present new challenges in terms of design and operation because they must simultaneously fulfill different and sometimes competing requirements. Co-simulation, parametrization and optimization are key tools that can allow overcoming these challenges and help improve the overall performance of multi-functional facades. Ellika presents some of her research developed in her PhD using a case technology and highlights the challenges she faced but also the opportunities and possibilities for further developments she has identified through her work

Ellika Taveres-Cachat
PhD candidate, Department of Architecture and technology
Norwegian University of Science and Technology (NTNU)
Trondheim/Norway

14:50 – 15:35 **Randselva Bridge - the world's biggest bridge designed and built without drawings**

Sweco is the leading architecture and engineering consultancy company in the European market with comprehensive expertise for all types of projects. In 2016 Sweco was in charge of designing the first drawing-less bridge in Norway. The successfully conducted project encouraged to undertaking further challenges.
Now, together with PNC as a contractor, the company is designing and building 634m long cantilever bridge without drawings. Krzysztof and Øystein will show how parametric design supported creation of an advanced 3D model and its further use. Additionally, they will share experience with cross-border collaboration in Grasshopper software.

Krzysztof Wojslaw - Sweco
Parametric Design and VDC Specialist/Bridge Engineer, Oslo/Norway

Øystein Ulvestad - Sweco
BIM developer and M.Sc. Structual Engineering, Oslo/Norway

15:35 – 15:40 **Summary by Frode Saltkjelvik, GRAPHISOFT Norway**

Ill.: Seine Musicale. Image by Design-to-production GmbH Zurich / Switzerland

This event is hosted by Graphisoft Norge.

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The main sponsor of the event is Mestergruppen Arkitekter.

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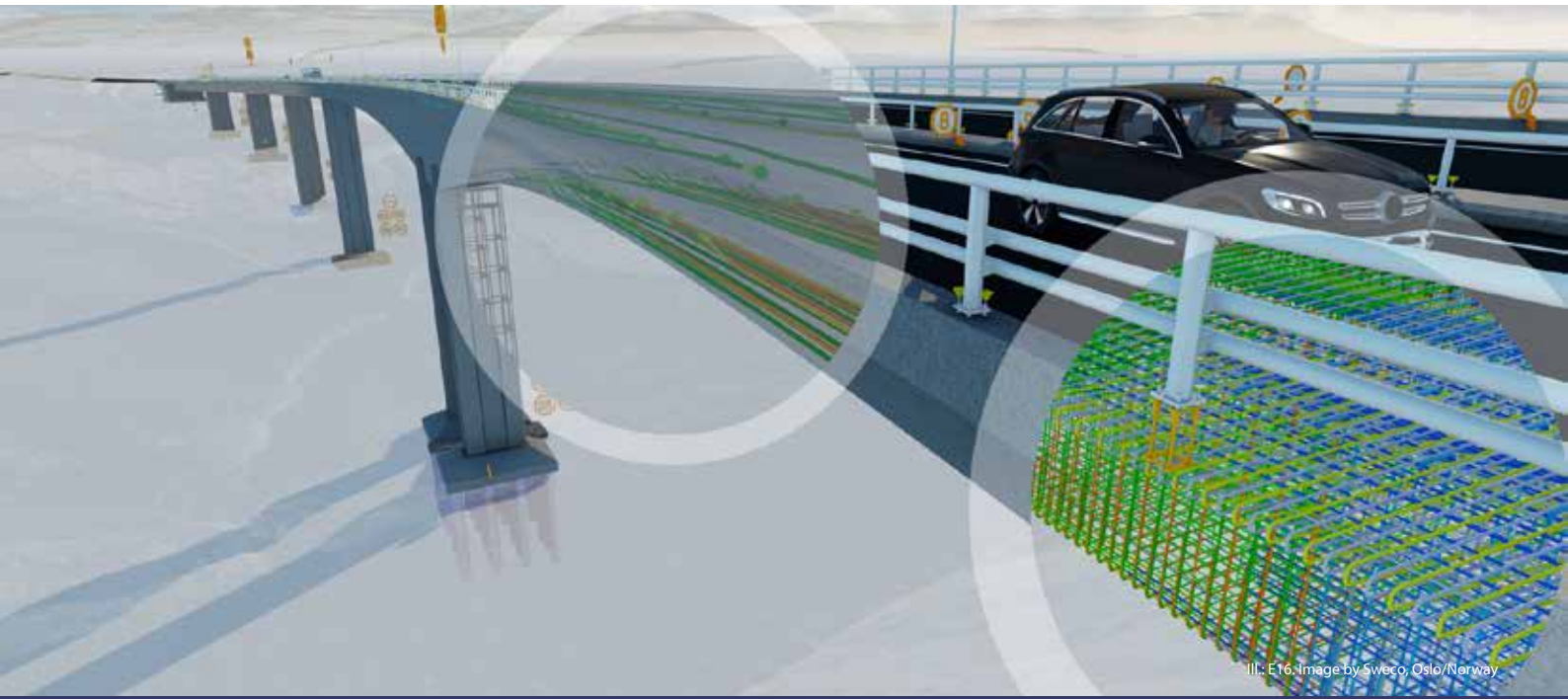

Ill.: E16. Image by Sweco, Oslo/Norway