ARCHITECTS IN BRUSSELS

Mon 16 nov
14:00 – 18:00

SCAN'20

ARCHITECTURE FESTIVAL : PPROGRAM

14:00 Kas Oosterhuis (ONL) : Keynote Speaker
"Interacting components"
One Building, One Detail.
Complexity is beautiful, complicatedness an evolutionary dead-end street.

14:30 Aurélie de Boissieu (U-Liège) :
« Design Technology at Grimshaw"
Focus is set on leading a data centric practice.

15:000 Pascal Simoens (Poly-Tech & U-Mons)
et Mohamed Anis Gallas (U-Mons) :
« Synergies/dichotomies de la formation au projet aux outils numériques »
Les besoins en bureaux d'études et la formation universitaire.

15 :30 Klaas de Rycke (Bollinger+Grohmann) :
"Digital Twin as A Help for Hybrid Design & Fabrication Methods"
Augmented Reality enlarging complex structure design & fabrication processes.

16:00 **PAUSE**

16:30 Theo Sarantoglou Lalis (LASSA) :
"Digital constructivism"
How digital design and fabrication techniques can empower creativity,

17:00 François Denis (BBRI) :
« Extended Reality and Visualisation for the construction sector »
What is the potential of extended reality and new means of visualization ?

17:30 Anat Stern (Zaha Hadid Office) :
"ZHA I Code to Construction"
The collaborative design processes through the lens of constructability.

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SYNOPSIS & BIOGRAPHY

14:00 Kas Oosterhuis : Keynote Speaker

"Interacting components"

My entire work is based on the fascination for **dynamic systems**. I am looking at the bahavior of birds in a swarm, stars in the universe, cells in the body,building components in the building body. When designing, I consider all constituting components to be actors in an actor network. When desinging for a fixed end result like a building, the dynamic system is confined to the working space of the computer program. When designing interactive installations, the dynamic system is kept alive and interacts with the public. My approach to the basic components is to integrate structure, skin and behvior into one complex detail. I have applied a numberof radical strategies to designing and building.

One strategy that I have succesfully applied to larger buildings like the A2 Cockpit in the Acoustic Barrier is: **Parametric Design to Robotic Production**. The advantages are numerous: high precision, no waste since prefabricated and optimzed, no scaffolding since dry assembly of medium sized parts, no need for moulds meaning building only once, circular since fit for taking down in parts and re-assemble [like in the case of the iWEB].

A strategy that is linked to the generic parametric design to robotic production method is more personal and radical: **One Building, One Detail**. I strive for concentrating all complexity in one single all encompassing detail. When have figured out this single detail that integrates structure, skin, performance and aesthetics, buildings are no longer complicated [as in an deconstructuvist clash of different catalogue products], but simply complex. Complexity is beautiful, complicatedness an evolutionary dead-end street.

Another strategy applied to the real time interactive components is: **There is only a <younameit> when you need one**. For example, there is only a door when you want to enter the building. Or, there is only a barrier when there is noise [Dynamic Barrier project]. or: there is only a canopy when you need one [iWEB], or even: There is only a kitchen / bath / bed / couch / when you need one [Pop-Up House project]. I consider buildings as programmable instruments, to be played by the users.

Kas Oosterhuis is both a visionary and a practicing designer, leading the innovation studio ONL [Oosterhuis_Lénárd] which he runs together with his partner in life and business visual artists Ilona Lénárd, professor from practice Digital Architecture [Hyperbody] at the TU Delft [2000 - 2016], full professor at Qatar University [2017 – 2019]. The leading theme for the design studio ONL [established 1989] has been from the beginning the **fusion of art and architecture on a digital platform**.

Bespoke realized projects are the Salt Water Pavilion, the Web of North-Holland, the A2 Cockpit showroom in Utrecht, the Bálna mixed use cultural center in Budapest, the LIWA tower in Abu Dhabi.

In his book "Towards a New Kind of Building, a Designers Guide to Nonstandard Architecture" [2011] Oosterhuis reveals the fundamentals of his personal design universe, embracing the paradigm shifts from standard to nonstandard architecture and from static to dynamic environments. Kas Oosterhuis is currently writing a new book titled "Interacting Components".

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14:30 Aurélie de Boissieu :

Design Technology at Grimshaw

At Grimshaw, BIM and Computational Design are central in the everyday practice. In this presentation we will discuss how design technologies is developed at Grimshaw, and especially how the focus is set on leading a data centric practice. Strategies but also lessons learnt and current challenges will be presented.

Grimshaw est une agence d'architecture internationale travaillant sur des projets de bâtiments et d'infrastructure de grande échelles (stade, aéroport, gare etc). Chez Grimshaw, le BIM et le design computationnel sont au cœur de la pratique quotidienne. Dans cette présentation, nous discuterons de la manière dont les technologies de conception sont développées et implémentées dans cette agence. On mettra en particulier l'accent sur les pratiques centrées sur les données et leurs rôles dans le quotidien des équipes de projet. On verra en quoi ces pratiques et leurs outillages techniques sont important pour la collaboration et les différentes étapes de conception, comme pour la production du projet. Ce retour d'expérience permettra d'exposer les succès comme les difficultés rencontrées et nous proposerons des pistes de réflexions sur l'implémentation et le développement de ces pratiques.

Aurelie de Boissieu has been recently appointed Associate Professor at Liège University. She was previously Head of BIM at Grimshaw Architects, and co-leading the Design Technology Department of the London Office. Aurélie de Boissieu got her PHD at the Ecole d'Architecture de Paris la Villette, where she worked on the parametric modeling practice and the BIM. She taught at this School as well as at he Ecole d'Architecture de Versailles. She worked at the french engineering office Setec, then in London with Heatherwick Studio, before joining Grimshaw Architects
Aurelie researches focus on the intersection of BIM and computational Design.

***Aurélie de Boissieu**, chargée de cours à l'Université de Liège en Belgique, est chercheuse au sein des laboratoires LUCID et LNA. Aurélie travaille en particulier sur les enjeux du BIM et des pratiques computationnelles dans la conception architecturale. Après avoir menée son doctorat dans le laboratoire MAP-MAACC (UMR CNRS-MCC 3495), Aurélie a enseigné les sciences et techniques en ENSA et travaillé comme expert du numérique dans de nombreuses agences, en particulier chez Heatherwick Studio et Grimshaw Architects où elle a été Head of BIM pendant plusieurs années.*

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15:000 Pascal Simoens (Poly-Tech & U-Mons) et Anis Gallas (U-Mons) : Synergies/dichotomies de la formation au projet aux outils numériques

Et comparaison des besoins en bureaux d'études et la formation universitaire

La formation en architecture est à un basculement inédit, bien plus important que le passage du crayon à la souris qui s'est immiscé dans les bureaux d'études durant les années 1990. Aujourd'hui, non seulement les équipes de projets dessinent avec l'aide d'une machine, mais ils découvrent aussi de nouveaux modes de conception. Notre équipe pédagogique travaille déjà depuis plusieurs années à l'élaboration d'une pédagogie adaptée aux nouvelles approches de conception numériques au sein des cours d'atelier de la faculté d'architecture et d'urbanisme de l'université de Mons.

Plus particulièrement, les deux orateurs s'appuient sur l'atelier D(a)T+A (données, territoires et architectures paramétriques) crée en 2019, véritable laboratoire pédagogique de l'intégration des pédagogies d'apprentissage du projet face aux enjeux liés aux données urbaines et outils de conception paramétrique, pour exposer leurs expériences respectives.
En parallèle, certains membres de l'équipe numérique au sein de la faculté travaillent en bureau d'étude. Ils proposeront une analyse actuelle du marché belge pour en tirer quelques pistes de réflexions au regard de la formation universitaire.

Pascal Simoens, Architect and Urban planner, joint Holder of the workshop D(a)T+A
Dpt. Manager Smart & Sustainable, Poly Tech Engineering
architecte et urbaniste, expert Smart Cities et chercheur dans l'analyse des réseaux sociaux comme outil d'aide à la décision. Il a commencé sa vie en construisant des villes en Lego, il en a fait son métier. Geeks invétéré, depuis 2011 il joint ses passions du numérique et de la ville au travers d'une expertise smart Cities et smart buildings en travaillant en bureau d'étude (Poly-Tech Engineering) et en enseignant cette expertise à l'UMONS et l'ULB, sur les campus de Mons et de Charleroi. Il anime un blog de plus de 7.000 lecteurs/an, couvrant les domaines du numérique et de la conception urbaine.
For more information :
www.numericlandscape.org
http://www.poly-tech.be/
https://staff.umons.ac.be/pascal.simoens/

Mohamed-Anis Gallas Architecte et Docteur en Sciences de l'Architecture, il a développé une expertise dans le domaine de l'architecture numérique et plus particulièrement la modélisation et la conception paramétrique. Il est Chargé de cours depuis 2015 à la Faculté d'Architecture et d'Urbanisme de l'Université de Mons ou il est responsable du développement des enseignements et de la recherche liés à l'architecture numérique.
Architect and Doctor of Architectural Sciences, he has developed an expertise in the field of digital architecture and more particularly in modeling and parametric design. He has been a lecturer since 2015 at the Faculty of Architecture and Urban Planning of the University of Mons where he is responsible for the development of teaching and research related to digital architecture.
For more information:
https://staff.umons.ac.be/mohamed-anis.gallas/

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15 :30 Klaas de Rycke (Bollinger+Grohmann) :

Digital Twin As A Help For Hybrid Design & Fabrication Methods

-Augmented Reality enlarging complex structure design & fabrication processes-

Keywords: Hybridization, digital twin, augmented reality, structural optimization, complex structure design, human machine interface, hybrid design, immersive model, BIM on construction site

Bollinger+Grohmann is currently conducting research on augmented reality combined with advanced computational tools in the context of structural design.
The human machine interface has been enlarged to reinforce the link between the structural model and the design & fabrication of complex geometries, notably through the hybridization, the use of digital twin as a help for hybrid design method, the materialization of immersive models and the creation of interactive and visual model in the designer and the builders environments. Augmented reality tools – using HoloLens & Fologram – applied on structural design tools –
Kangaroo, Karamba3D – and combined with genetic algorithm – Octopus – will be presented through R&D current developments & recent projects, from pieces of arts to large structures.

Ir. - Arch. Klaas de Rycke, partner at Bollinger+Grohmann, Director of the Paris and Brussels offices Senior Teaching Fellow at The Bartlett School of Architecture, UCL
Senior Lecturer the Architecture School of Versailles, Ensa-V.Klaas De Rycke is a Belgian civil engineer, and architect graduated from the University of Ghent in 2003. He is a senior lecturer at the Architecture School of Versailles (Ensa-V, France) where he is also a researcher as part of the LEAV lab. Since 2017, Klaas is also active as a Senior Teaching Fellow and researcher at the Bartlett School of Architecture in London.
Klaas De Rycke dedicates his time and energy to the academic world in parallel with his professional activity. Klaas joined Bollinger+Grohmann in 2003. The world-known company was originally founded in Frankfurt by the German engineers Prof. Dr Klaus Bollinger and Prof. Ing. Manfred Grohmann who share the same passion for architectural engineering. As a partner at Bollinger+Grohmann Holding AG, Klaas heads the offices in Paris and Brussels that are specialized in complex structures, facade and parametric design. Regularly solicited to work on morphologically complex projects, he had the chance to work on buildings like the Louvre Lens designed by SANAA or Piazza Garibaldi in Naples by Dominique Perrault, among many others.
Klaas' fields of expertise are the structural and manufacturing optimizations through mathematical and complex numerical approaches. He is working on the use and implication on design of AI and machine learning in numerical calculations coupled with the use and implication of genetic algorithms in structural and architectural approaches and their carbon impact.
He is also a specialist on complex façade engineering. He gathered and used his expertise in multiple international projects.
Within his educational activities, he aims to share his rich professional experiences with his students. Klaas initiated multiple workshops in the architectural school of Versailles, in the Chinese University of Hong Kong, in the University of Ghent, in the Architectural School of Tournai and the Bartlett School of Architecture.
He develops projects with students and Bollinger+Grohmann collaborators by exploiting parametrical designs, digital fabrications and the use of new technologies and building materials.

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16:30 Theo Sarantoglou Lalis (LASSA) :

Digital constructivism

During the last two decades, the accumulation of digital tools and applications has drastically transformed architectural practice, resulting in the fragmentation and diversification of the discipline. Concurrently, design automation with BIM and the integration of building products in digital libraries effortlessly fuels production lines leading to the homogenisation of the built environment.

Rejecting this condition, Theo Lalis will be discussing how our engagement with digital design and fabrication techniques can empower creativity, regardless of budget or location. Through a few completed projects, he will be presenting LASSA's research on the democratisation of digital design, through the development of tectonic strategies involving partial self-assembly that are both elaborate and affordable.

Theo Sarantoglou Lalis is the co-founder of LASSA Architects, an international architecture practice with offices in London and Brussels. LASSA operates at the intersection between the fields of art, architecture and landscape. LASSA is strongly engaged with technology for its pivotal role in the way we collaborate, design and fabricate architecture. LASSA has won a number of international awards for their Villa Ypsilon in Greece and was a finalist for the Chernikov prize.

Prior to founding LASSA, he worked for over a decade in Brussels, London and New York and was a project architect at Future Systems and project director at Asymptote Architecture on a number of completed international projects.

He has been a unit Master at the Architectural Association in London since 2009. He has taught postgraduate studios at Harvard and Columbia and undergraduate studios at Chalmers and LTU in Sweden. He has lectured and run workshops internationally. He has experience practicing architecture in 18 countries and is a registered architect since 2001.

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17:00 François Denis (BBRI) :

Extended Reality and Visualisation for the construction sector

Architecture and construction are sectors in which visualisation takes a particular role. Indeed, per definition a building is a monotype made to be built once and not prototyped and then "really" built. Therefore, modelling and visualization tools allow the elaboration of a "virtual prototype" on which you can test or preview design decisions. Visualisation is also of key factor of collaboration while talking to the building owner or other stakeholders. Today, we are used to visualise through our computer screens but what is the potential of extended reality and new means of visualization for the sector?

François Denis est ingénieur architecte et passionné de nouvelles technologies et techniques permettant de supporter le concepteur dans ses projets. Dès 2014, dans le cadre de sa recherche de doctorat à la Vrije Universiteit Brussel et de l'Université Libre de Bruxelles, il participe à l'élaboration du premier guide de bonnes pratiques BIM en Belgique en partenariat avec des organisations professionnelles reconnues (ADEB, G30, ORI, SECO et IFMA).

Il intègre ensuite le comité technique BIM & ICT du Centre Scientifique et Technique de la Construction (CSTC-WTCB/BBRI Belgian Building Resaerch Institute) en tant que représentant du monde académique. Sa recherche, multidisciplinaire par essence, se focalise sur le développement d'outils et méthodes d'aides à la conception paramétrique compatibles BIM et notamment, la quantification et l'évaluation de la transformabilité des bâtiments.

En 2019, il rejoint l'équipe « construction digitale » du CSTC et explore les questions liées à l'utilisation de la « réalité mixte » (XR) pour le secteur.

Le CSTC est une référence pour la recherche et l'innovation dans le secteur de la construction, les nouvelles technologies font donc parties intégrantes de ses axes de recherches et de son expertise interne.

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17:30 Anat Stern (Zaha Hadid Office) :

ZHA | Code to Construction

The architecture of ZHA embodies the ambitions and complexities of scale, digital design systems and delivery of advanced architectural solutions.
This lecture will explore how to create quality space using new technologies and will describe the collaborative design processes of Zaha Hadid Architects through the lens of constructability, discovering specifically processes of design from code development, design development, production, fabrication, workflows and construction.

Anat Stern is an architect and researcher, who has 20 years of experience and she is currently an Associate at Zaha Hadid Architects, where she is involved in international projects at all scales in China, Japan, the Middle East, Australia, South America, across Europe and in the UK. Her work experience spans over varied typologies, amongst are masterplans, civic mixed-use projects, cultural buildings, residential towers, private villas, hospitality, offices and transportation structures.

Alongside her practice, she lectures extensively worldwide - in the London Metropolitan University, in University of Applied Sciences, Hamburg, in Listaháskóli Íslands, Iceland University of the Art, in Brussels at the CiVa and at conferences and universities across Israel, such as the Technion – Israeli Institute of Technology, Betzalel - Academy of Arts & Design, Holon Institute of Technology and Shenkar College of Engineering, Design and Art.

Her academic research includes also teaching at the Architectural Association and at the University of Westminster, where she was a visiting lecturer.
She is currently a co-director of the Architectural Association Visiting School Milan - annual workshops collaborating between the AA and the Politecnico di Milano.

Furthermore, Anat is a regular invited crit for final students' reviews at universities across UK, Europe and Israel.

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ARIB Is very grateful to the speakers who have accepted to reserve their time and effort to participate in this very special edition (cause of covid) of the 4th "AriB's ARCHITECTURE FESTIVAL", which was funded as the "AriB's ARCHITECTURE VIDEO FESTIVAL : virtual/augmented reality & modelisation" in 2016.

The 1° edition (2016) has brought together architects and their « modelisation and virtual/augmented reality creators » to tell about and show the workprocess involved.
The 2° edition (2017) has seen all the french speaking Architecture Faculties of Belgium, come together to show the advancements on the subject by their professors, PHD students and students. Parametricism, modeling, virtual and augmented reality, immersion, the use of the laserscan and photogrammetrics have been presented.
The 3° edition (2018) has presented topics on the theme and other numerical solutions such as robotics for construction. All Faculties of the french and the flemish part of the country have contributed, as well as international speakers, both academics and practitioners who are at the edge of the use of the new digital tools for the architectural 3D/virtual/augmented reality representations and making of documents for the building process.

L'ARIB remercie les intervenants qui ont accepté de bloquer leur temps et énergie afin de participer à cette édition très spéciale (covid oblige) de l' »AriB's ARCHITECTURE FESTIVAL, » qui a été fondé en tant que « AriB's ARCHITECTURE VIDEO FESTIVAL : virtual/augmented reality & modelisation » en 2016.

La 1° édition (2016) a permis au bureaux d'architectes et leurs modéliseurs/infographistes de présenter leurs travaux et réalisations sous forme de realité virtuelle et/ou augmentée et modelisation.
La 2° edition (2017) a rassemblé toutes les facultés d'architecture francophones du pays, qui ont présenté leurs dernières recherches en la matière. Parametricisme, modelisation, réalité virtuelle/augmentée, immersion, la pratique du laserscan et photogrammétrie ont été présentés entr'autres, ainsi que les outils numériques pour l'enseignement de l'architecture.
La 3° édition (2018) a réuni autour du thème, autant les facultés et praticiens francophones que néerlandophones du pays ainsi que des conférenciers internationaux, et a ainsi réuni le monde académique avec la pratique architecturale à la pointe du numérique pour l'architecture, y compris des avancées en robotique et autres développements digitaux.

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LOOK OUT for the "Festival's exhibit on screens" which had to be held during one week at the Faculty of Architecture La Cambre-Horta in Brussels, but has been postponed, because of the Covid.

GUETTEZ la nouvelle programmation de l' »Exposition sur Ecrans » du Festival, qui devait avoir lieu pendant une semaine à la faculté d'Architecture La Cambre-Horta à Bruxelles, mais qui a été postposée à cause du Covid.

The Festival's exhibit on screens, accompanying each Festival's edition, has shown the variety of ways to expose architecture. From modeling to filming in situ, a broad array of video-clips show the research and realizations of both practitioners and academics in the field of architecture.
Images of simulation, development, and animated images contribute to research, to transmission of knowledge, and communication of architecture projects and built environments.

L'Exposition sur Ecrans du Festival accompagnant chaque Festival a exposé la grande variété de façons de montrer l'architecture. De la modélisation au film in situ, un large éventail de clips-videos démontre la recherche et les réalisations des praticiens tout comme des académiques dans le domaine de l'architecture. Images de simulation, de développement, et d'images d'animation contribuent à la recherche, à la transmission de savoirs, et de communication de l'environnement construit.

The aim of the Festival is to promote the knowledge and the use of the digital tools as language in view of freeing the creative architect and engineer to express architecture's aim : to realize protected environments for a fulfilling human life.

Le but du Festival est de promouvoir la connaissance et l'utilisation des outils digitaux en tant que langage en vue de libérer l'architecte créatif dans l'expression de l'aboutissement de l'architecture : réaliser des environnements protégés permettant une vie humaine épanouissante.

Clips still wanted ! Envoyez vos clips à/to savina.vandeput@skynet.be

SvdP Bxl 16.11.2020