

# Foreword

## Introduction

This monograph is the result of the 14<sup>th</sup> European Architectural Envisioning Association Conference **Envisioning Architecture: Image, Perception and Communication of Heritage** hosted by the Graduate School of Architecture of Nantes, France, 3-6 September 2019.

Following the mission of the European Architectural Envisioning Association, the conference was intended as a platform for communication and exchange of experience, experimentation, research and collaboration in the field of envisioning built heritage, with a special focus on ambiances.

Taking into consideration that contemporary culture is largely based on the visual perception, heritage envisioning is considered in particular as a process of representing knowledge about space, time, behaviour, light, and other elements that constitute cultural environments. Therefore, it was expected that the conference contributions would explore the following subjects:

- Visualization of the ambiance-related knowledge;
- A cultural approach to climatic, light and sound phenomena;
- Methods of communicating the ambiance issues to the society;
- Enhancing and stimulating sensitive approaches to the built environment in education;
- Envisioning all aspects of ambiance perception.

## The EAEA14 theme

The concept of “ambiance” has been formed over the years by questioning the interactions between three attractors: architecture and the city, climatic and sound phenomena, uses and perception. Studied in pairs, each of these attractors refers to very different disciplinary fields, architecture and phenomena concern the physics of the city, architecture and uses interest sociology and uses and phenomena are rather turned to comfort.

Studies concerning ambiances are therefore highly interdisciplinary and open to many questions: living spaces, urban renewal and heritage, urban perspective and the city as a stage. For this, many conceptual and technical tools are mobilized: digital tools for simulation and immersion, investigation, surveys and storytelling, prototyping, field action. What may be new in the field of academic studies is the awareness of artistic creation as a resource for the use of digital tools, storytelling and the representation of complexity through original means.

Considering the broad and multifaceted problematics, the EAEA14 Conference sessions and research papers were organised in three tracks, namely:

1. Ambiance, storytelling and immersion (representation and communication of medium including analogue, digital and immersive environment).  
*Keywords: analogue digital media, immersive devices, representation.*
2. Ambiance and education (tools, techniques, and strategy of design teaching).  
*Keywords: parametric design, conceptual studies, digital world.*
3. Ambiance and Design (process, analysis, observation and execution of design for objects, space, built-form and urban environment).  
*Keywords: conceptual design, perceptual design, analytical design, performative design, visual design, parametric design, simulation design.*

## The monograph

The layout of the book has been designed following the requirements for a multi-authored monograph. The monograph is composed of three parts reflecting the three main tracks of the EAEA14 Conference. Accepted papers have been adapted to chapters.

The papers published in this monograph were carefully selected through the process of two-stage reviews. With the great help of the EAEA14 International Scientific Review Committee, each submission was double-blind reviewed by three members independently. Then, submitted papers went through the second stage of the assessing process, and finally, the book was reviewed by two independent reviewers.

## Acknowledgements

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We also thank Thomas Leduc and Anne Bossé, the director of CRENAU, our beautiful research laboratory, and of course Daniel Siret, the director of AAU. We would like to thank the Director of the Ecole Nationale Supérieure de Nantes, Christian Dautel, and the administrative teams for their help in organizing the conference. We also thank our funding agencies. We would like to thank the Ambiance Network, which has been an important support, as well as the DCA and eCAADe associations for the dissemination of information. We thank the reviewers for the care taken in selecting the articles from among the 80 received.

It was an honour to have as confirmed keynote speakers at the conference

## Keynote Speakers

**Dr. Yan Breuleux** is a professor at the École des arts numériques, de l'animation et du design à Montréal (NAD), he's also a researcher and practitioner in the field of visual music for immersive display. For twenty years, he has collaborated with musicians and composers to create multi-screen, panoramic, architectural projection and FullDome pieces. Since 1998, in the PURFORM duo with the composer Alain Thibault, he created strong sensorial A/V performances. His most recent contribution in explore the problematics of Immersif Storytelling for FullDome display with the projects Les Planètes (2018), Re-Génération (2015), Nuée | Swarm (2015), VjGraph (2014) et Engima (2015-18).

**Dr.-Ing. Anke Jurleit** After her studies in urban planning at the universities in Hannover, ETH in Zürich and UC Berkeley, Anke worked at several small to large-scale architecture and urban planning offices in San Francisco. Her project involvement ranges from major planning and urban design assignments globally to large-scale community planning and design through projects to academic campuses and private homes. As assistant and project manager, Anke maintained an active teaching and engagement profile which included teaching at UC Berkeley Extension and being actively involved in San Francisco's ULI chapter. During her time in California, Anke's ever arising topic was to design for water scarcity. She was active participant in developing Aecom's SSIM (Sustainable Systems Integration Model), a tool that models key environmental, economic and social indicators of large scale projects. Since 2010, Anke is member of the REAP research and teaching group. Her main task was to develop and carry through the REAP Project studios. Her research activities involved the documentation of watersensitive community Jenfelder Au and the 'Hamburg Water Cycle' (<http://www.jenfelderau-info.de/>). Anke also assisted as technical advisor in developing the water-related topics and Indicators for the newly developed certification system NSQ 'Sustainable communities' at the German sustainable building Council (DGNB).

**Ing. Guillaume Thibault** Guillaume Thibault is senior researcher at EDF R&D (Saclay) and is pioneering in the fields of laser scanning, virtual and augmented reality, spatial cognition, to help maintenance operations in power stations as well as archaeological studies.

## About EAEA

The EAEA was founded in 1993 in Tampere, Finland, and has reconvened every two years since then. What had originally started as a platform for European academic institutes making active use of optical endoscopy instrumentation, gradually but steadily evolved into a wider range of design visualisation and simulation interests.

The founding meeting, hosted by the department of Architecture of Tampere University of Technology in Finland, was the first international meeting of experts in the field of architectural endoscopy, coming from fifteen universities.

The association was intended to become "a platform for communication and exchange of experiences, experimentation, research and collaboration in the field of endoscopy and environmental simulation." Initially, the focus of the European Architectural Endoscopy Association lay exclusively upon the visual simulation of the effects of environmental interventions using optical instruments: 'capturing' photographic or analogue (video) images using physical scale models, generally using a viewing pipe.

Essentially, the first meeting was a gathering of academic professionals in this field, with the delegates representing institutes with some form of 'endoscopic' apparatus. During the conference the participants took part in a workshop session, using the facilities of the Tampere laboratory.

From the first session onward the exclusive focus on optical endoscopy began to shift, first gradually, then more and more steadily towards other environmental visualization opportunities, notably using digital media.

This clearly proved to be the case during the presentations of the second EAEA conference in 1995, hosted by the department of Spatial Simulation at the Vienna University of Technology. In particular, the interdisciplinary conference workshop – ‘the (in)visible city’ – stimulated the integration and comparison of analogue and emerging digital technologies.

For this workshop initiative participating institutes were sent a study model via the post and asked to prepare environmental simulations using their institute’s facilities. The varied results were presented and evaluated during the conference.

Similarly, an important element of the third meeting, held at the Architecture faculty at Delft University of Technology in 1997, was formed by a creative study initiative: the ‘Imaging Imagination’ workshop. Essentially, conceived as a professional confrontation between ‘Optical’ and ‘Digital’ Endoscopy. In this case study, the participants were free to choose between a physical modelling package and a digital file, incorporating texture mapped ‘facades’. Some fifteen visualisation proposals were prepared, brought to the conference and viewed and discussed during a special Imaging Imagination conference session.

Apart from the quality and content of visualization, the aspect of the Modelling as such also became a recurring theme. This was particularly the case during the fourth conference, at the Architecture faculty of the Dresden Technical University of 1999, whereby participants took part in an impromptu hands-on modelling exercise using an interior-scale model.

During the subsequent conferences (the 5th conference at the Institute of Urban Design and Planning at the University of Essen, the 6th conference at the faculty of Architecture at the Slovak University of Technology in Bratislava, the 7th conference at the faculty of Architecture at the University of Applied Sciences Dortmund and the 8th conference at the Moscow Institute of Architecture) the shift from ‘straightforward’ optical endoscopy towards new techniques and topical issues became more and more evident. Noteworthy developments included the increasingly adaptable, distinctive and indeed elegant modes of digital representation, but also the use of digital photography and film, the opportunities of combined media and graphics, but also the introduction of disciplines such as Experimental Aesthetics and Virtual Archaeology.

This led to recurring discussions concerning the association’s name. To what extent should endoscopy be considered a fitting ‘identity’ for the increasingly diverse enterprises of architectural imaging and environmental visualization addressed at the meetings?

Generally, the sentiment tended to be to uphold the established ‘label’ and to keep the EAEA fraternity relatively exclusive and small-scale in comparison to other, more computer-oriented academic and professional platforms.

During the 2009 Cottbus conference, the thematic differentiation of architectural visualisation approaches and interests once again became manifest during the varied presentations, leading to renewed discussions concerning the EAEA’s meaning and role.

What might be an appropriate name that would do justice to the reputation and tradition of (optical and digital) Endoscopy, whilst at the same time giving expression to the steadily unfolding of fields of interest?

Rather than Endoscopy, Envisioning was eventually agreed upon, as it was felt that this fittingly evokes the shared ambitions for a dynamic architectural visualisation practice and the continued exchange of ideas concerning the imaginative conception of future environments.

## **The EAEA – the European Architectural Envisioning Association**

It was hoped that this small, but significant, name change would broaden the appeal of the association on an international level, amongst academics involved with architectural visualisation in the broadest sense, researchers and teachers, whilst at the same time stimulating the deepening of the intellectual discourse.

### **Previous conferences**

- 13 EAEA Conference | 2017 | Glasgow | Glasgow School of Art
- 12 EAEA Conference | 2015 | Lodz | Lodz University of Technology
- 11 EAEA Conference | 2013 | Milan | Politecnico di Milano
- 10 EAEA Conference | 2011 | Delft | Delft University of Technology
- 09 EAEA Conference | 2009 | Cottbus | Brandenburg University of Technology
- 08 EAEA Conference | 2007 | Moscow | Moscow Institute of Architecture (MARCHI)
- 07 EAEA Conference | 2005 | Dortmund | University of Applied Sciences
- 06 EAEA Conference | 2003 | Bratislava | Slovak University of Technology
- 05 EAEA Conference | 2001 | Essen | University of Essen
- 04 EAEA Conference | 1999 | Dresden | Dresden University of Technology
- 03 EAEA Conference | 1997 | Delft | Delft University of Technology
- 02 EAEA Conference | 1995 | Vienna | Vienna University of Technology
- 01 EAEA Conference | 1993 | Tampere | Tampere University of Technology

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