

DESIGN

| International Online
Conference –

The Impact of artificial
Intelligence (AI) on
Contemporary Design

<https://design.hit.ac.il/design/>

• **Author(s) Name:**

Des Fagan: Head of Architecture

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Lancaster University,

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Title:

On Authorship in the Age of Generative Architectural Design: Architecture and Artificial Intelligence

Abstract (300 words):

The paper presents a comprehensive analysis of all sources of information relating to authorship in the context of generative or computer automated architectural design, structured as narrative, setting the historical, contemporary and future context on ownership and intellectual property. The work features the importance of pattern identification as a central focus in the development of the architect's skillset including medieval, gothic and modernist styles and compares these to the evolution of computing in methods of the same.

The work goes on to refer to modern and developing areas of research interest in the areas of Machine Learning and Generative Adversarial Network methods for automated design.

The research references a series of existing case studies to provoke debate on authenticity and intellectual property in design, including: Bernard Cache's Table Objectile – An experiment into mass customisation by computing to incrementally iterate table design to provide multiple 'originals'; Greg Lynn's series of 99 teapots for Alessi, a reflection on cost and numerical rarity; Rubin and Riehl's musical algorithm software, capable of generating 300,000 melodies each second, creating a catalogue of 68 billion 8-note melodies then copyrighted and Stanislas Chaillou's work on generative floor plans and the impact of intellectual property on the dataset.

- **Author Biography (200 words each):**

Des is Head of Architecture at Lancaster University. He has lectured extensively on interdisciplinary approaches to community and business engagement. Des's field of interest is on Optimisation, AI and Machine Learning as an approach to problem solving. He achieves this through spatial and operational methodologies learned during his time as an architect, by using algorithmic and logistical software to improve outcomes. In practice, this involves multiple activities - ranging from the rationalisation of complex geometries - to the facilitation of product or service development between user groups and the industries that provide them.

Des was the lead architect for international award-winning practices prior to working in academia; most recently as the Project Architect for the Olympic Village Scheme for London 2012 at Glenn Howells Architects, and as Lead Architect at Zaha Hadid Architects for the Glasgow Transport Museum - winner of the 2013 European Museum of the

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DesAI Conference Presentations

HIT, Holon Institute of Technology, Master's Program, Faculty of Design

Institute for Art, Design and Advanced Technologies, University of West Bohemia

10:00-10:20- opening

Greetings - Prof. Edward Yakubov, President, Holon Institute of Technology

Greetings – Dr. Miroslav Holeček, Rector, University of West Bohemia

Introduction: Dr. Yael Eylat Van Essen, Holon Institute of Technology

Session I

10:20-11:15

Keynote: Prof. Vladan Joler, University of Novi Sad (SRB)

Moderator: Dr. Yael Eylat Van Essen

11:20-12:30

Panel: Legal/Social/Political

Moderator: Jan Klesla, Ministry of Industry and Trade of the Czech Republic (CZ)

Mushon Zer Aviv Shenkar College of Engineering, Design and Art (IL)

The Normalizing Machine / Exposing the Black Box

Prof. Jani McCutcheon, The University of Western Australia (AU)

Designs, AI and Intellectual Property Law

Sarah Pagliaccio, (USA)

Understanding the changing role of the designer as a force for good in a racially and gender-biased, AI-powered world

Session II

13:00-13:45

Keynote: Arch. Stanislas Chaillou, (FR)

Moderator: Gary Friedman

13:45- 14:55

Panel: Strategies in AI

Possible Moderators: Sigal Bar-Nir; Prof. Miloš Florián, Associate Professor, Czech Technical University in Prague

Dr. Lior Zalmanson, Tel Aviv University (IL)

Artificial Access and Excess Ability (Problem solving)

Arch. Karolína Kotnour, Czech Technical University in Prague (CZ)

Neural Architecture Search. Evolutionary Strategies in Art, Design and Architecture. (evolution)

Dr. Romi Mikulinsky + Yuri Klebanov + Tom Reznikov, Bezalel Academy of Art and Design (IL)

Building Trust in Autonomous Vehicles - Designing Near-Future Interaction in Public Transportation.

Session III

15:30-16:40

Dr. Eyal Gruss, independent and new-media artist (IL)

Trends and Challenges in AI

Moderator: Dr. Lenka Hamošová

16:40-17:50

Panel: Consciousness / authorship / intelligence

Moderator: Jan Van Woensel, University of West Bohemia (CZ)

Dr. David Faitelson, Afeka Tel Aviv Academic College of Engineering (IL)

Conscious machines: why we should fake it?

Arch. Des Fagan, Lancaster University (UK)

On Authorship in the Age of Generative Architectural Design

Arch. Maria Tsilogianni, Coventry University (GR/ UK)

Artificial Idiocy; including the absurd in human-non-human interactions

Session IV

18:15-19:00

Keynote: Anouk Wipprecht, (NL/USA)

Moderator: Ori Ben-Zvi

19:00-19:50

Panel: Agencies in AI

Possible moderators: Dr. Arnost Marks

Arch. Malgorzata Starzynska, School of Architecture, Royal College of Art (UK)

Application of Machine Vision Algorithms in Architectural Heritage Studies

Prof. Alexander Webb, The University of New Mexico (USA)

Architectural AI: The Importance of Agency

19:50-20:00

Concluding words – Dr. Arnost Marks Director, Institute for Art, Design and Advanced Technologies