

JOURNAL PUBLICATION

Intergenerational cooperation and co-creation in public space design assisted by Virtual Reality (VR) environments. Journal: *Architectural Intelligence*. Publisher: Springer Nature. **Provides Ng**, Shutong Zhu, Yuechun Li, and Jeroen van Ameijde. (2024). <https://doi.org/10.1007/s44223-024-00080-1>

Digitally-Gamified Co-Creation: Enhancing Community Engagement in Urban Design through a Participant-centric Framework, Journal: *Design Science*. Publisher: Cambridge University Press. **Provides Ng**, Shutong Zhu, Yuechun Li, and Jeroen van Ameijde. (2024). <https://doi.org/10.1017/dsj.2024.17>

Challenges and Opportunities of Using Metaverse Tools for Participatory Architectural Design Processes. Journal: *Virtual Worlds* (Vol. 3, No. 3, pp. 283-302). Publisher: MDPI. **Ng, P.**, Eloy, S., Raposo, M., González, A. F., da Silva, N. P., Figueiredo, M., & Zuberi, H. (2024, July). <https://doi.org/10.3390/virtualworlds3030015>

Digital common(s): the role of digital gamification in participatory design for the planning of high-density housing estates. Journal: *Frontiers in Virtual Reality*. Publisher: Frontiersin. **Provides Ng**, Yuechun Li, Shutong Zhu, Bingge Xu and Jeroen van Ameijde. (2023). <https://doi.org/10.3389/frvir.2022.1062336>

Transitional Domesticity: Collectivisation and Fractionalisation in P2P Digital Citizenry - Learning from Socio-Innovations of Chinese-Asian Historical Contexts. Journal: *Hybrid Domesticities*. Publisher: De Gruyter academic publishing. **Provides Ng**. (2023). <https://doi.org/10.1515/opphil-2022-0246>

Sino-Virtuality: Transcoding Chinese Aesthetic Principles to Jubensha's Immersive Economies.. Cogent Arts & Humanities. **Provides Ng**. (2025). <https://doi.org/10.1080/23311983.2025.2534592>

Between social and sustainable: Integrating Mixed Reality and AI-Driven Tools for Wood Upcycling Design. Journal: *Frontiers of Architectural Research*. Publisher: Elsevier. **Provides Ng**, Kiwook Rha, Balsam Al-Hadithi, Zhiyong LI, Seohyeon Kim, Zijun ZHAO, Yue Lu, Boyuan Yu, Jianing Luo. (2024)

(under review) Citizen Design Science with GeoGame: A Participatory Research to Enhance Participatory Urban Design. Journal: *Urban Planning*. Publisher: Cogitatio Press. **Provides Ng**, Gordon Ho, Ben Lau, Suenny Chow. (2025).

(under review) Co-learning Space: Opportunities and Challenges of Hybrid Learning for Future Medical Education. *BME Medical Education*. Publisher: Springer Nature. **Provides Ng**, Evan Wu, Kenneth Chung, Florence Tang. (2024).

(under review) New Concept of Digital Learning Space for Health Professional Students: Quantitative Research Analysis on Perceptions. *Education and Information Technologies*. Joshua Mincheol Kim; **Provides Ng**; Netaniah Kisha Pinto; Kenneth Chung Hin Lai; Evan Yu Tseng Wu; Olivia Mui Yung Ngan; Charis Yuk Man Li; Ann Sin Nga Lau; Florence Mei Kuen Tang. (2024).

(under review) Building Soundscapes with Metaverse: An Audio-visual Experiment on the Adaptive Reuse of Heritage Architecture. *CAADfutures 2025*. CuminCAD. **Provides Ng**, Caner Baydur, Esra Nartkaya. (2025)

(drafted) New Chinese Style: Cultural Design Innovation & Co-Creation in Postcolonial Contexts.

(drafted) From Parametric To Discrete: Integrating Tacit Knowledge in Digital Fabrication for Upcycling Design.

CONFERENCE PUBLICATION

Metaverse & Co-creation

Kit-of-Parts Design for Architecture Co-creation Games. In: *Accelerated Design*. Conference: CAADRIA 2024. Singapore. **Provides Ng**, Yuechun Li, Shutong Zhu, Jeroen Van Ameijde. (2024).

Structuring Gamified Participatory Public Space Design: Developing a Design Quality Evaluation System to Support Digital Co-creation Processes. In: *Creativity in the Age of Digital Reproduction*. xArch 2023. Lecture Notes in Civil Engineering, vol 343. Springer, Singapore. Zhu, Shutong. **Ng, Provides**. van Ameijde, Jeroen. (2024). https://doi.org/10.1007/978-981-97-0621-1_32

Round The Table: Education without the 2d frame constraints - a WebVR experience from a glocal perspective. *SIGraDi 2022*. **Ng, Provides** & Fernandez, Alberto. (2022).

Artificial Intelligence (AI) & Bio-Design

Cellular Automata as a Teacher of Machine Learning: A Human-machine Collaboration to Contextualise Environmental Architecture. *Digital Futures Conference CDRF 2025*. **Provides Ng**, David Doria, Nikoletta Karastathi, Carlos Rivera Salaverri and Alberto Fernandez. (2025).

AI In+form: Intelligence and Aggregation for Solar Designs in the Built Environment Gomez, P and Braida, F (eds.), Designing Possibilities - Proceedings of the XXV International Conference of the Ibero-American Society of Digital Graphics (SIGraDi), Online, 8 - 12 November 2021, pp. 203–215. **P Ng**, A Fernandez, D Dória, B Odaibat. (2021).

An Info-Biological Theory Approach to Computer-Aided Architectural Design: UnSSEUS. In Computer-Aided Architectural Design. Design Imperatives: The Future is Now: 19th International Conference, CAAD Futures 2021, USA, 2021, Selected Papers, pp. 436-455. Singapore: Springer, **P Ng**, B Odaibat, D Doria, and A Fernandez. (2022).

An Information Theory Application to Bio-design in Architecture. Conference: Art Machines 2. Hong Kong. **Ng, P** Dória, D & Odaibat, B. (2021)

Cyber-physical Systems & Speculative Design

Performative Architecture as a Theatrical Performer: A Technological Extension to Dancers' Movements. 12th Conference on Computation, Communication, Aesthetics & X Fabbrica, Treviso, Italy. A Meskawi, **P Ng**, V Soana (2024).

Control and Communication: A System Study of Platform Economics and Digital Archives in Architectural Design. Conference: Art Machines 2: International Symposium on Machine Learning and Art 2021. **Ng, P.** (2021).

Platform Urbanism: Residency Planning Towards Hyper Personalisation. Conference: DeepCity 2020-21 International Latsis Symposium. **Ng, P.** (2021).

Preemptive Futures: Entropic and Negentropic Information in Speculative Design. xCoAx 2022. **Ng, P.** (2022). DOI 10.24840/xCoAx_2022_16

Collaborative Vision: Livestream, Volumetric Navigation, AI Image Processing, and Algorithmic Personalisation. Conference: xCoAx 8th Conference on Computation, Communication, Aesthetics & X. 8–10 July, Graz online. **Ng, P.** (2020).

Sustainability & Social Design

From Craft to Community: Integrating Sustainable Design and Participatory Upcycling through Digital Fabrication. In CAAD Futures 2025 – Catalytic Interfaces: Proceedings, Vol. I, pp. 223–236. Hong Kong: University of Hong Kong. P So, B Yu, J Luo, E Wu, A Cui, **P Ng.** (2025). DOI: 10.25442/hku.29350424.

From Ancient Depths to Digital Heights: Exploring Place Attachment in the Age of Attention. International Forum of Urbanism (IFoU 2025). Lisbon. T Deshmukh & **P Ng.** (2025).

Decentralised Solar Economy: Unattended and Smart Solar Energy Urban System (UnSSEUS). In POST-CARBON - Proceedings of the 27th CAADRIA Conference, Sydney, 9-15 April 2022, pp. 759-768. **Ng, P**, D Doria, and A Fernandez. (2022). <https://doi.org/10.52842/conf.caadria.2022.2.759>

Circular Insurance: Risk Resilience in Speculative Urbanism. Conference: RESPONSIVE CITIES: DISRUPTING THROUGH CIRCULAR DESIGN SYMPOSIUM 2019. IAAC, Barcelona, Spain.: **Ng, P.** (2019).

Decolonial Urbanism in Datafied Society. Conference: IFOU 2022. **Ng, P.** Fernandez, A. Kalema, N. (2022)

Collaborative Intelligence: The Tao of DAO. Conference: IFoU 2021. **Ng, P.** (2021). DOI: 10.24404/6155EB7A504BB200083200BA

Blockchain & Decentralisation

Decentralise Indexing in Common Data Environments for Collective Actions in Urban Design: A Blockchain Proposal. Computational Design and Computer-aided Creativity (ICCC' 25). **P Ng.** (2025).

21E8: Coupling Generative Adversarial Neural Networks (GANS) with Blockchain Applications in Building Information Modelling (BIM) Systems. PROJECTIONS - Proceedings of the 26th CAADRIA Conference - Volume 2, The Chinese University of Hong Kong and Online, Hong Kong, 29 March - 1 April 2021, pp. 111-120. **Ng, P.** (2021). <https://doi.org/10.52842/conf.caadria.2021.2.111>

Applying Satoshi's Vision to Brownfield Sites Revitalisation in Hong Kong. Conference: 13th International Forum of Urbanism (IFoU) Congress 2020 9-12 October 2020 in Nanjing, China. **Ng, P.** (2020).

Disrupting The Information Economy of Architecture With Satoshi's Vision - How can blockchain applications in BIM help to support a circular economy inclusive to local independent and small-scale actors?. Conference: DC I/O 2020 Conference | DesignComputation.org . London, UK. **Ng, P.** (2020). DOI:10.47330/DCIO.2020.RGSP3865.

INVITED PUBLICATION

Architecture Machine with(out) Architects: A Speculative Foresight on A Participatory Future. In: *Technology and Architecture*. HKIA Journal. Hong Kong Institute of Architects. **Provides Ng**. (2025).

Rethinking Architecture: A Dialogue with Neil Leach and chatGPT. In: *Technology and Architecture*. HKIA Journal. Hong Kong Institute of Architects. **Provides Ng**. (2025).

What is a Collage of Media Architecture?. In: *Provocations on Media Architecture*. **Ng, Provides** & Joteva, Eli & Ya Nzi & Konevskikh, Artem. & GPT2. (2023)

The Algorithmic Form in Isa Genzken What's the hook? Social Architecture?. In: *The Bartlett Prospectives Journal*. Issue 2. Spring-Summer 2022. **Ng, Provides** (2022)

CurrenSee: A Ecological Attention Economy. In: *Monumental Wastelands Magazine*. **Ng, Provides** & Joteva, Eli & Ya Nzi & Konevskikh, Artem. (2020)

Editor's Note: *Climate F(r)ictions*. Issue 03. The Bartlett Prospectives Journal. UCL. **Provides Ng**. (2022 Summer).

Editor's Note: *Algorithmic Form*. Issue 02. The Bartlett Prospectives Journal. UCL. **Provides Ng**. (2022 Winter).

CONFERENCE POSTER

Digital Common(s): The Role of Gamification and Immersive Technology in Co-Design of Public Spaces. CAADRIA 2023. **Provides Ng**, Yuechun Li, Shutong Zhu, Bingge Xu & Jeroen van Ameijde. (2023).

Co-Learning Space: Collective Design of Learning Spaces Using Immersive Digital Twins and Virtual Reality Technologies. Virtual Teaching and Learning Innovation Expo in the Metaverse. CUHK. **Provides Ng**, Jimmy HO, Yuechun LI, Paul LAM. (2023).

AI in+form: AI application in Participatory Solar Design. Design Computing and Cognition'22. **Ng, Provides** & Fernandez, Alberto & Dória, David. (2022).

Round-The-Table: A Sustainable Academia Via Phygital Exchanges. Conference: CAADRIA 2022. Project Category. **Provides Ng** & Alberto Fernandez (2022)

Current: A Platform for Urban Archive. Conference: DC I/O 2020 Conference | DesignComputation.org . London, UK. **Ng, Provides** & Joteva, Eli & Nzi, Ya. (2020). DOI:10.47330/DCIO.2020.VWEG6251.

Preemptive Futures: The Application of Preemption in a Computational Data Market for Architecture. Conference: SiGraDi2020 PHD Workshop Virtual. **Ng, Provides**. (2020).

SYMPOSIUM ABSTRACT

Architecture Machines with(out) Architects: A Digital Participatory Future. Creative AI Forum. Bartlett UCL. (2025).

Digital Innovations in Future Health Professional Training: New Teaching Methods and Spaces to Enhance Learning Engagement. Conference: e-Learning Forum Asia (eLFA). **Provides Ng**, Florence Tang, Evan Wu and Kenneth Chung. (2024)

Urban Cultural Inheritance: Generative Adversarial Networks (GANs) Assisted Street Façade Design Based on Indigenous Hakka Settlements in Hong Kong. Conference: International Conference on Advances in Design, Materials and Manufacturing Technologies 2022 (ICADMMT 2022). DONG, Jia-Hua & **Ng, Provides**. (2022)

Universal Basic Service: Land Collectivisation, De-collectivisation and Scalability. Conference: Mediating scale 2022. **Ng, Provides**. (2022)

Architecture making the most of solar energy at the local level. COP26 (2021 United Nations Climate Change Conference). **Provides Ng**, Alberto Fernandez, David Dori, Niko Karastathi, Baha Odaibat. (2021),

Archives And Platforms: A Sustainable Economy Of Information. Conference: AA x SAHGB x RIBA Annual Symposium 2020 'Arch/tectures Arch/ves'. **Ng, Provides**. (2020).

The Architecture of De-carbonisation: Spaces that Teach. AA School of Architecture Open Call. **Ng, Provides**. (2020). Carbon Derivatives: Decentralising Urban Vegetation. Conference: Future Architecture. **Ng, Provides**. (2019).