Provides Ng

Lecturer / Ph.D Candidate

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Provides Ng is an architectural designer and researcher, specialised in digital theory and technology application in built environment design.

Treasurer, The Computer-Aided Architecture Design Research in Asia (CAADRIA)
Associate Member, Hong Kong Institute of Architects (HKIA)
Committee Member, Leisure and Cultural Services Department, HKSAR
Panel Member, Development Bureau, HKSAR

https://provides-ism.com/
provides.ism@gmail.com
ORCID: 0000-0001-6975-4642

Skills

+ 3D modelling (Rhino, Sketchup, zbrush)
+ Computer graphics & animation (Houdini, Cinema 4D, Blender, Maximo)
+ Photogrammetry & LiDAR(Reality Capture, Meshroom, PolyCam)
+ VR & AR (Mozilla Spoke, W3rld, 8XR)
+ Image / video processing (keyshot, Adobe After Effects, Photoshop, InDesign)

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Languages

+ IELTS Academic: 7.5 overall
+ Mandarin: Fluent
+ Cantonese: Native

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Awards

+ 15 Finalist | Global Science Summit | Falling Walls Foundation | International | 2025
+ Golden Jubilee Ms. Manda Young Award | Hong Kong | 2025
+ Nomination | Outstanding Studentship in Social Service & Innovation | CUHK | 2025
+ First Prize | Shenzhen-Hong Kong CUHK Graduate Research Forum | 2024
+ Silver Prize in Educational Technology Innovation | Teaching and Learning Innovation Expo | Hong Kong | 2022
+ Second Runner-up in Information Technology | 9th Hong Kong University Innovation and Entrepreneurship Competition | 2023
+ Honourable Award | CUHK Research Poster Exhibition | Hong Kong | 2023
+ Commendation | Design Thinking x AI x Future Proof Education | 2024
+ Outstanding Cultural Ambassador | Central & Western District Association for Culture & Arts | Hong Kong | 2022
+ Digital Arts Honourable Mention | FutureTense HK | Hong Kong | 2022

TEACHING EXPERIENCES

Lecturer & Thesis Tutor / **Bartlett School of Architecture, UCL**
SEP 2020 - PRESENT, LONDON
B-pro programmes (postgraduate): History, Culture, and Theory of Digital Technology in Architecture and Urban Design.

Seminar Lead (PGTA) / **Institute for Innovation and Public Purpose, UCL**
Spring Semester, 2021, LONDON
Transformation by Design (MPA): Introduce design thinking and toolboxes, facilitate group discussions, and work with students towards strategic public administration proposals.

RESEARCH EXPERIENCES

Research Data Management (RDM) / **CUHK Library**
JAN 2024 - SEP 2024, HONG KONG
Providing immediate support to research data management enquiries in the faculty.

Researcher / **Strelka Institute of Media, Architecture & Design**
JAN 2019 - AUG 2019, MOSCOW
The New Normal Program: propose innovative urban strategies with innovative and technological design skills and thinking.

Research Assistant / **Faculty of Architecture, HKU**
OCT 2018 - JAN 2019, HONG KONG
Curb Scale: The Street As Negotiated Infrastructure

EDUCATION

PhD / **School of Architecture, CUHK**
SEP 2021 - PRESENT, HONG KONG

MRes in Digital Theory / **Bartlett School of Architecture, UCL**
SEP 2019 - SEP 2020, LONDON

MA Advanced Architecture Design / **Städelschule Architecture**
SEP 2015 - SEPT 2017, FRANKFURT

BSc Architecture / **School of Architecture, CUHK**
SEP 2011 - SEPT 2014, HONG KONG

+ Finalist | World CAAD PhD | CuminCAD '22
+ Best Presentation Award PGSC | SiGraDi | Latin America | 2021
+ Researcher-led Initiative Awards | UCL | London | 2021

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Grants
+ Exhibition Fund | Arts Capacity Development Funding Scheme (ACDFS) | Hong Kong | 2024
+ HKIA CPD Research Fund | HK | 2024
+ CUHK SEN Inclusivity Fund | HK | 2024
+ Design Trust Seed Grant | Hong Kong | 2024
+ ICARE Social Service Projects Scheme | CUHK | Hong Kong | 2023-24
+ Teaching Development and Language Enhancement Grants 2022-25 | CUHK | Hong Kong
+ ICARE Social Service Projects Scheme | CUHK | Hong Kong | 2022-23
+ HKIA RAX Fund | Hong Kong | 2023
+ SFSTR Grant | CUHK | Hong Kong | 2022
+ UABB Exhibition Fund | Hong Kong | 2022
+ Strelka Institute Project Grant | Russia | 2019

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Professional Experience
+ Schneider and Schumacher Architecture (S+S) / Architecture Assistant JAN 2018 - AUG 2018, FRANKFURT
+ Dennis Lau and Ng Chun Man Architects (DLN) / Architecture Assistant MAY 2015 - AUG 2015, HONG KONG
+ Barrie Ho Architecture / Architecture Assistant JUN 2014 - APR 2015, HONG KONG

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Exhibition
+ Manteia | Free Space | West Kowloon Cultural District | 2024
+ Rijksmuseum Twenthe | Deep Truth | Netherlands | 2022
+ HKIA Roving Architecture Exhibition | Kuala Lumpur-Nanjing-Hong Kong | 2023
+ Gerontech and Innovation Expo cum Summit | Hong Kong | 2023
+ InnoCarnival | Hong Kong | 2023
+ MOU Signing Ceremony, Exhibition and Mini-Workshops on Innovative Uses of Digital Technology | CUHK | Hong Kong | 2023
+ FutureTense HK | Hong Kong | 2023

POLICY & PUBLIC SERVICES

Committee on Venue Partnership, **LCSD, HKSAR**
2022-2026, HONG KONG

Appeal Tribunal Panel, **Development Bureau, HKSAR**
Museum Advisory Committee, **LCSD, HKSAR**
Science Sub-committee, **LCSD, HKSAR**
2024-2026, HONG KONG

HKIA Communication Committee / **Hong Kong Institute of Architects**
2025, HONG KONG

PUBLISHING & EDITORIAL EXPERIENCES

Managing Editor (interim) / **Prospectives Journal, UCL**
Spring - Summer Terms 2022, LONDON

Reviewer

The Humanities and Social Sciences Communications
The Urban Design International
Springer Nature, 2025

Design Science Journal
Cambridge Press, 2024

The Journal of Asian Architecture & Building Engineering
The Journal of Behaviour & Information Technology
The Journal of Cogent Arts & Humanities
Taylor & Francis, 2024

The Association for Computer Aided Design in **Architecture (ACADIA)**
The Computer-Aided Architecture Design Research in **Asia (CAADRIA)**
CumInCAD, 2023

International Journal of Architectural Computing
SAGE, 2023

Journal of Housing, Care, and Support
Emerald Publishing, 2023

Architectural Intelligence
Springer, 2022

ACADEMIC SERVICES

Judge / Asia Young Designer Awards / **Nippon Paint**
2025, HONG KONG

Panelist / World CAAD PhD / **CuminCAD**
2025, INTERNATIONAL

Chair / Sustainable Building Design / **CAADfutures**
2025, INTERNATIONAL

+ Hong Kong Shenzhen Bi-City
  Biennale of Urbanism \ Architecture
  (UABB) | 2022
+ Athens Digital Arts Festival | The
  international Festival for Digital
  Arts of Greece | 2022
+ Future of Art | Multimedia Art
  Museum Moscow (MAMM) | Russia
  | 2022
+ GOGBOT Festival | Netherlands |
  2021
+ Fake Me Hard | Netherlands | 2021
+ Art Machines 2 | CityU | Hong Kong
  | 2021
+ Processing Community Day | Porto |
  2021
+ xCoAx (Conference on
  Computation, Communication,
  Aesthetics) | Austria | 2020
+ DEEP FAKE | UCLA SciArt | USA |
  2020
+ Refest | CultureHub x UCLA Game
  Lab | 2019
+ DA FEST (Digital Art Festival
  Bulgaria) | 2019
+ ToBePerfect | 33 Town Museum |
  China | 2019
+ CYBERIA New Media Playground |
  India | 2019

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Workshops Teaching
+ Tsinghua University International
  Summer Program | Beijing | 2024
+ Digital Skills | Bartlett UCL | London
  | 2022
+ Volumetric Cinema | UABB | Hong
  Kong | 2022
+ Casey Rehm Studio | SCI-Arc | USA |
  2022
+ Volumetric Cinema | ADAF | Greece
  | 2022
+ Medialab Matadero | Madrid | Spain
  2022
+ Volumetric Persona studio | Futurly
  2022
+ GOGBOT FESTIVAL | Enschede
  2021
+ Media Ecology BAFTA | Bartlett
  2021
+ SiGraDi | Latin America | 2021
+ CAADfutures | USC - USA | 2021
+ Digital FUTURES 2021 | Tongji
  University
+ CAADRIA | CUHK - Hong Kong |
  2021

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R&D Collectives

AI in+form / Co-founder
Rational Energy Architects (@R.E.Ar_)
2020 - PRESENT, INTERNATIONAL

Volumetric Cinema / Co-founder
The Current Team (@current.cam)
2019 - PRESENT, INTERNATIONAL

Committee Member

Programme Committee / Computational Design and
Computer-aided Creativity
2025, Brazil

Recruitment & Selection Panel / B-pro, **The Bartlett, UCL**
2024, LONDON

Treasurer / Executive Committee (EXCO) of **CAADRIA**
2024, INTERNATIONAL

Treasurer / **The CUHK Architecture Alumni Association**
2024, Hong Kong

The Campus Planning Committee, **CUHK**
The Art Steering Committee, **CUHK**
2024, HONG KONG

Action Groups & Public Programming / **The Bartlett, UCL**
2021 - 2022, LONDON

Exhibitions & Events Management

Art Museum Ambassador / **CUHK**
2024, HONG KONG

Metaverse Consultant / **VTL Innovation Expo in the
Metaverse, CUHK**
2023, HONG KONG

Coordinator & Exhibitor / **Marvel Digital Ai & CUHK MOU
Ceremony**
2023, HONG KONG

Designer / Virtual Exhibition / **Teaching & Learning
Innovation Expo**
2022, HONG KONG

Organiser / Metaverse Booth / **STEM Experience, HKFYG**
2023-2025, HONG KONG

Seminar & Workshop Organiser

Program Committee / **Workshop on Computational
Design and Computer-Aided Creativity**
2025, BRAZIL

Co-creation Space Main Topic Organiser / **CAADfutures,
CumInCAD**
2023, DELFT

'Round-the-Table in VR' Lecture Series / **The Bartlett, UCL**
2021 - 2022, LONDON

'Guest Seminar Series: Speculative Design' / **The Bartlett,
UCL**
2020 - 2021, LONDON

Lecturer / General Studies (Topical) / **S.T.F.A. LKW Primary
School**
2023, HONG KONG

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 Salaverry 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 Fabrica, 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).