Editorial

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Biographical notes: Nick Dunn graduated from the University of Manchester in 1998 with a BA (Hons) and BArch in Architecture, followed by a PhD from the Manchester Institute for Research and Innovation in Art and Design (MIRIAD) at Manchester Metropolitan University in 2005. Nick was appointed Professor of Urban Design at Lancaster University in 2013. In 2016, he was appointed as Executive Director of ImaginationLancaster, an open and exploratory design research lab, where he continues to lead research on the design and production of places through experimentation and critical discourse.

Alvin Huang, AIA is an award-winning architect, researcher, and educator specialising in the integrated application of material performance, emergent design technologies and digital fabrication in contemporary architectural practice. He is currently an Associate Professor at the USC School of Architecture and Design Principal of Synthesis Design + Architecture. He received a Masters of Architecture from the Design Research Laboratory of the Architectural Association School of Architecture in 2004, and a Bachelor of Architecture from the USC School of Architecture in 1998.

Daniel Richards graduated from the Manchester School of Architecture in 2009 with a BA (Hons) and BArch in Architecture and an MA in Architecture and Urbanism. In 2013, he completed his PhD at the Manchester Institute for Research and Innovation in Art and Design (MIRIAD) at Manchester Metropolitan University (MMU). In 2013, he began a 2-year postdoc position at the Novel Computation Group within the Informatics Research Centre at MMU, focusing on developing algorithmic design tools for architectural design. In 2015, he took a lectureship at Lancaster University,

based in ImaginationLancaster and linked to the Data Science Institute, where his research focuses on multi-material AM and data-driven design tools for robotic fabrication.

Additive manufacturing is one of many digital fabrication techniques that are opening up new design possibilities for architecture and disrupting traditional modes of material production. To address this shift, architects need new strategies to exploit emerging (and future) geometric, material and/or project delivery possibilities that are associated with file-to-factory methods, on-site/off-site fabrication, prototyping, and efficient physical properties facilitated by increasing simulation and design automation, just to name a few.

Whilst a wide range of additive manufacturing research is represented in architectural design literature, the majority of this work has sought to explore the technology at relatively small scales, with the viability of scaling up being a key issue. Furthermore, after decades of limited materials and processes, emerging trends in multimaterial printing, expanded material palettes, and enhanced machining options with large-scale robotics, are transforming how and what we can construct.

We received a number of high-quality manuscripts from researchers around the world and presented within this special issue are what we believe to be state-of-the-art explorations into the application of additive manufacturing in architecture. We would like to take this opportunity to extend our genuine acknowledgement to all the authors and reviewers for their cooperation in providing the content for this issue. We wish all readers an enjoyable and informative reading experience of the leading edge, international research and development projects featured here.