RIBA Presidents Awards for Research 2016  Book of Abstracts
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Edited by Dr Kat Martindale and Alex Tait.

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RIBA Practice Department for their support.

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to the RIBA Presidents Awards for Research 2016 and do
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Foreword

The RIBA Presidents Awards for Research were established in 2006 with the aim of promoting and celebrating the best of research in the field of architecture and the built environment that contributes to new knowledge and understanding of architecture and the practice of architecture. In the RIBA Strategy 2016-2020 we have committed to facilitating collaboration, research and innovation, both in practice and in academia, and through these awards we are proud to recognise outstanding research from across the built environment.

I am thrilled that the Awards have received an unprecedented number of responses following a review and restructure earlier in the year. This has encouraged many more submissions from practices to compete with submissions from universities, and collaborations.

The submissions this year have been judged by a fantastic panel of highly regarded practitioners and academics who have given their time freely to this and we are enormously grateful to them for their support and service.

My congratulations go to those who have been shortlisted and those who will go on to win. I know this year was fiercely contested with so many fantastic submissions showing the strength of architectural research.

This illustrated Book of Abstracts has been compiled as a record of the submissions to the 2016 Presidents Awards for Research to provide others across the profession with an indication of the breadth of architecture related research underway in universities and practice and, I hope, encourage you to contact and collaborate with like minds, and potentially submit your work for next years Awards.

Jane Duncan
RiBA President 2015-17
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Introduction

The Presidents Awards for Research is in its eleventh year and earlier this year we undertook a review and restructure with the hope of encouraging a broader range of research topics and authors. The response has been tremendous. With 75 submissions from fourteen countries spread across five continents, our greatest number of submissions to date, work has come from students, academics, practices and multidisciplinary collaborative teams.

We have published all of the abstracts for the first time in the hope that this will not only encourage submissions for next year’s awards but also to foster further collaboration, discussion and debate with those whose work is presented here.

The work submitted this year provides a glimpse of the global workings and interactions of architects, students and academics and includes field work and case studies from Lagos, Asmara, Melbourne, London, Hong Kong, Taipei, Gaza, Margate, Gujarat, Birmingham, Lillehammer, Sofia, Jakarta, Oxford, Athens, Delhi, Chicago, Harlow, Yeruham, Brussels, Oxford and Athens.

The breadth of topics are just as diverse with researchers tackling issues including contested spaces, flood resilience, ageing and dementia, future proofing cities and buildings, tall buildings, communities and their complex interconnections and circumstances from prisons and convents to transient settlements and impoverished communities, digital modelling of workplaces and larger city-scale urban spaces, power struggles and working relationships, and heritage sites in the UK, Belgium, Eritrea, Israel, Myanmar and India.

Beyond the fascinating topics and work conducted, submissions have been illustrated with some spectacular photography, complex technical drawings, beautiful sketches and remarkably realistic computer generated images, all of which are tremendously important in communicating ideas and proposed solutions, and they have been used to illustrate this book.

My thanks go first to those who took the time to submit their work, working with the new format and my congratulations to those who have been shortlisted. I would also like to thank colleagues in the Practice Department, particularly Dylan Dixon, Dr Neal Shasore, Alex Tait and Lucy Carmichael during the review and compilation of this book, and to Professor Flora Samuel and RIBA President Jane Duncan for their ongoing and unwavering support. Finally, thank you to our judges who have spent part of their summer holidays reading the engaging, diverse and innovative work and two days debating the merits of this work to finalise the shortlist. It has been a pleasure to work with you on this.

Dr Kat Martindale
Head of Research and Innovation,
RIBA
2016 Judges

Chair: Peter Clegg
Senior Partner,
Felden Clegg Bradley Studios

Peter Clegg established Felden Clegg Bradley Studios with Richard Felden in 1978. Regarded as a key pioneer in the field of environmental design, he has more than 30 years experience in low energy architecture and is actively involved in research, design and education. His active involvement in education projects includes a new School of Engineering in Toronto and an Academy in Bangladesh. His work in this sector led him to become primary author of recently published Learning from Schools, which focuses on FCBStudios award-winning school building programme. He was made Royal Designer for Industry (RDI) in 2010.

Amica Dall
Director,
Assemble

Amica is a founder-member of Assemble, and has lead on the much of their community-based work. She has taught around the world on urban childhood and the relationship between design and social and political life. Much for her current work focuses on play and children in the city, including The Voice of Children, an on-going research project on urban childhood, part of which will be presented at the Venice Biennale 2016. She is currently designer in residence with Giles Smith at Chapter Arts Center in the UK. She holds an MA in the Anthropology of the Built Environment, and is an member of Theatrum Mundi, a practice based research group based at London School of Economics.

Hattie Hartman
Sustainability Editor,
The Architects Journal

Hattie Hartman is an architect, planner and journalist. Raised in the US and trained at the Massachusetts Institute of Technology (MIT), she has been based in London since 1991. Hattie is sustainability editor at The Architects Journal, a position she created in 2008 after joining the journal’s editorial team in 2006. She is responsible for the AJ’s dedicated coverage of sustainable design and maintains close relationships with leading practitioners in the UK and abroad. She frequently lectures on mainstreaming green design and various technical aspects of sustainability. In her role at the AJ, she judges the annual AJ100 Most Sustainable Practice award, which includes practice-based research.
“Research is embedded in architectural best practice: innovation depends on it, conceptual thought demands it and the profession needs to recognise it more than it does at present. We were gratified therefore that the redefinition of the RIBA Presidents Awards for Research has resulted in an unprecedented increase in responses from practice, as well as a record number of submissions from the UK and around the world.

Practitioners who are committed to innovation will of course recognise the value of research and engage with it on a regular basis. But few take the time, or have the time available, to document their research in a form which clarifies it both for their practice and for the profession as a whole. But the discipline of recording a rigorous thought process, developing a thesis, calculating and measuring performance and providing feedback should all be part of the work we do for ourselves, individually and in collaboration with others, and the work we share in an open source environment.

It was gratifying to find studies submitted for this award from all aspects of architectural work, from exceptional conservation studies through to technical and environmental experiments and post occupancy evaluations. All of these stood alongside historical studies and polemical dissertations. There were some aspects of architectural research we felt were under represented however: work which looked at the development and prototyping of specific components and materials; cross-collaborations between architects and clients in the development of briefing documentation or between architects and builders developing successful contractual relationships.

My thanks go to my fellow judges: we think we had all bases covered from academia through to technical practice issues and thanks are due to Kat Martindale and Alex Tait at the RIBA for the way in which they have helped us run the process scrupulously and efficiently. I am grateful to all those who submitted the statements that are published here, it is evidence of the rigorous thinking that brings together practice and academia and deserves to be celebrated.”

**Peter Clegg,**
Senior Partner, Feilden Clegg Bradley Studios
Chair of the Presidents Awards for Research 2016 Judging Panel
Cities and Community

Submissions were invited from those investigating the relationship between the built environment and the people who live in it. Distinct from the historical category above, submissions here were to focus on contemporary city and rural environs, their challenges and communities and could include, but were not limited to:

- The role of the architect and architecture in social, cultural and economic sustainability
- Analysis and contextual studies of architecture in the cityscape
- Tall buildings and impacts on cities and the community
- Community focused projects including pro bono work
- Community engagement in projects
- Health, wellbeing and sustainability in the city
2TaLL: Application of 3D Virtual City Models in Urban Analyses of Tall Buildings

Dr Klara Czyńska, Dr Paweł Rubinowicz & Dr Adam Zwoliński,
West Pomeranian University of Technology, Szczecin, Poland

The 2TaLL project examines the use of 3D virtual city models to provide advanced urban analyses of the impact of tall buildings on the landscapes of European cities. The research problem is current and relevant to contemporary urban planning. In the past decade tall buildings have become increasingly popular in Europe, causing rapid change to the landscapes of many cities, posing a threat for urban heritage. Therefore, there is a need for new simulation techniques to be used in planning process that will help to determinate the spatial consequences of tall buildings development in an objective and comprehensive manner. Introducing modern computer methods and techniques into the world of architecture and urban planning creates a unique combination of technical research with the concepts of beauty and spatial order that exist together in diverse urban structures. The interdisciplinary approach to this research topic required conducting parallel activities:

a) in the field of architecture and urban science, including professional approach and subjective interpretations of cityscape; and
b) in the more technical field of geometry, geo-information, and computer science, leading to develop objective analytical methods.

Project research included the documentation of tall buildings and analysis of their impact on the landscape, based on fieldwork in 13 European cities. This resulted in the discovery of new methods of analysing tall buildings using 3D models. These methods enable a diagnosis of the visual impact of a building in a city (VIS), protecting important landscape clusters against the impact of new building (VPS) and various analyses of public spaces (3D-Negative). The research conducted within the project contained both an elaboration of theoretical assumptions of new methods, as well as the creation of new software solution (C++), enabling its application for different types of 3D city models.