

DISSIPATIVE ARCHITECTURES

CITA, THE ROYAL DANISH ACADEMY OF FINE ARTS
COPENHAGEN, DENMARK - OCTOBER, 2015

Philip Beesley

Living Architecture Systems Group



I Dissipative Architectures - CITA, The Royal Danish Academy of Fine Arts, Copenhagen, 2015 Photo: Anders Ingvarsen.

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INTRODUCTION

Increasingly, the surfaces, buildings and environments that surround us are embedded with interactive potentials. Capable of sensing and actuation, they make it possible to rethink architecture not as something static, but rather as entities and environments able to respond and adapt to changing conditions, and to engage in active conversations and mutual exchange with their occupants. This research poses new considerations and opportunities for architectural design - how can these 'living' systems function, and how can they be designed and adapted within architecture?

Led by Philip Beesley, the Centre for Information Technology and Architecture (CITA) at the Royal Danish Academy of Fine Arts hosted a workshop into designing dynamic responsive architectural systems. The aim of the workshop was to implement emerging technologies for responsive architecture, through the making of kinetic mechanisms and an installation 'test-bed', which would later include LED lighting, IR and acoustic sensors, and actuators. Within the test-bed, kinetic mechanisms are capable of pulling and twisting in response to occupancy and localised acoustic variation.

Students engaged in material experimentation accompanied by built prototypes addressing issues of scale and material creation for living architecture. The workshop focused on modeling and form-finding through laser-cut acrylic thermoforming. Students experimented with thermoforming to produce resilient and flexible architectural scaffolds employing diagrid meshwork arrays. The workshop produced a suspended meshwork system that was later used for a second workshop, exploring the use of embedded kinetic mechanism capable of responding to occupancy.

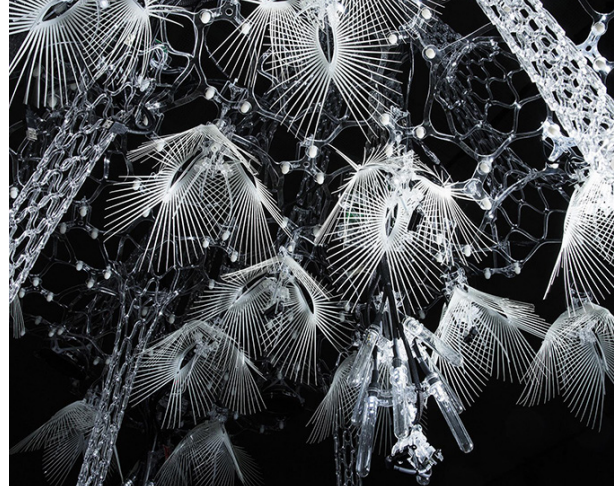
The workshop was a collaboration between CITA Studio and Extreme Environments masters program, and was held from October 30 – November 2, 2015.



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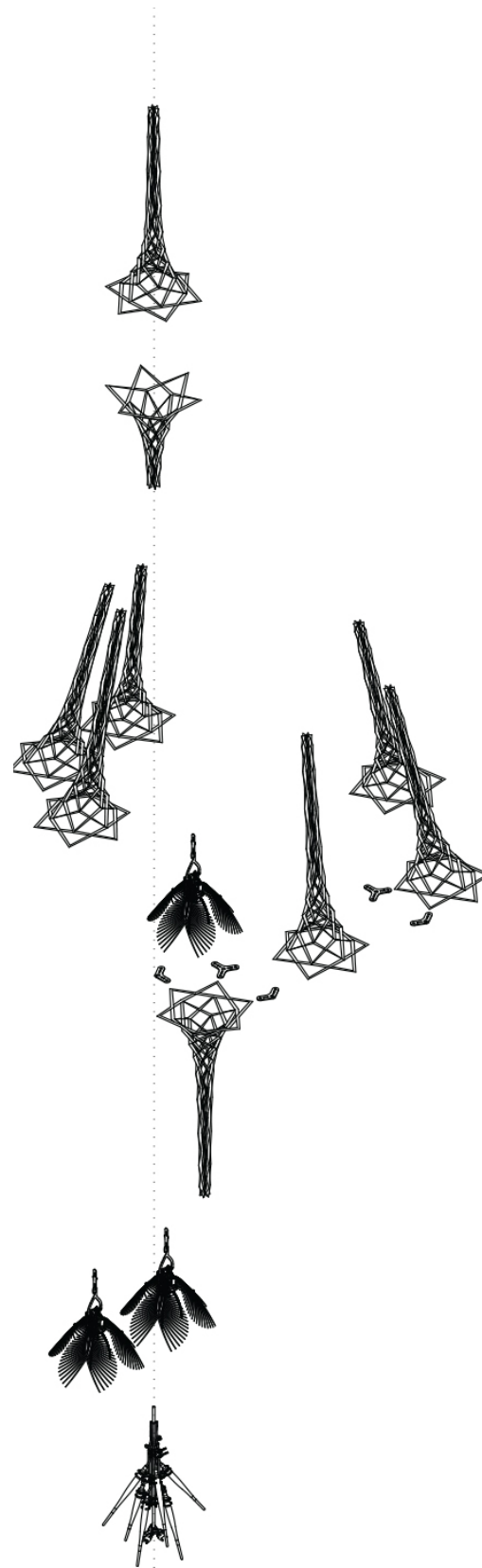


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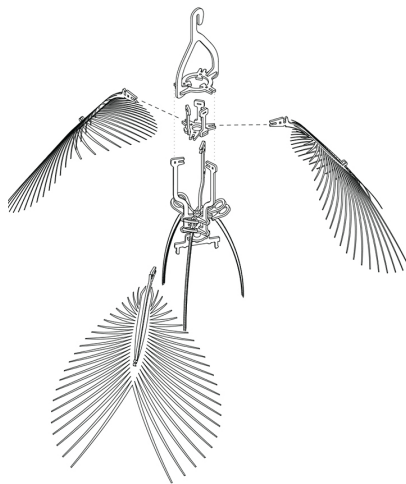




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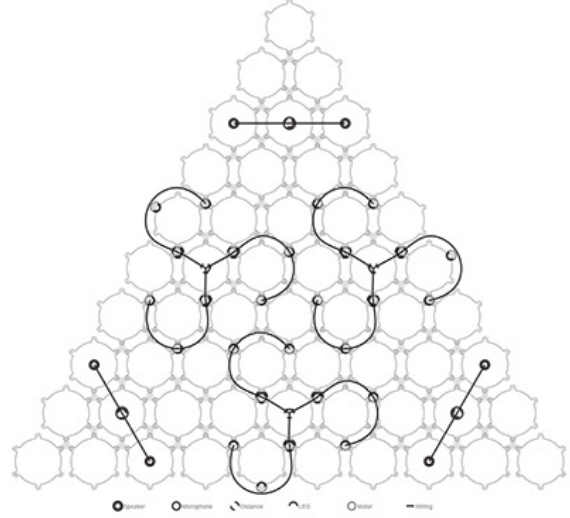
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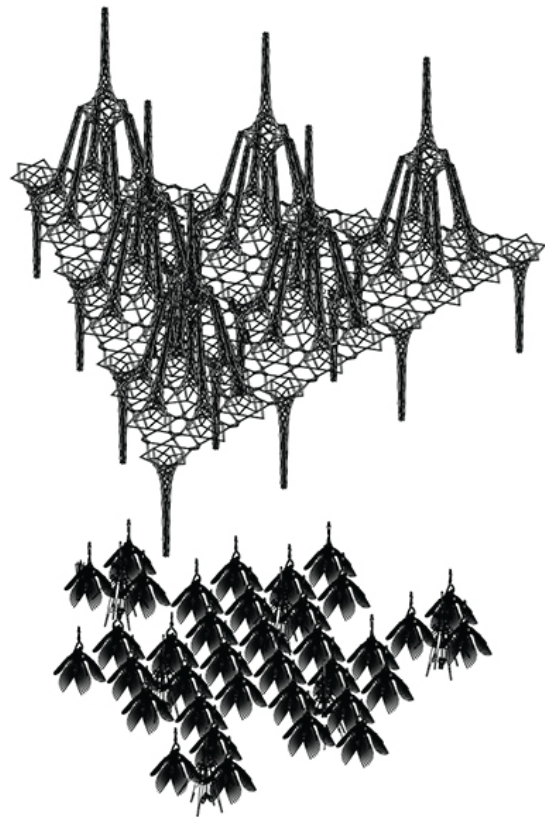
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