

PROTOCELL MESH

TOUR: PROTOTYPING ARCHITECTURE EXHIBITION
NOTTINGHAM & LONDON, ENGLAND, CAMBRIDGE, ON - 2012/13

Philip Beesley
Living Architecture Systems Group



I ProtoCell Mesh - Nottingham & London,
England / Cambridge, ON - 2012 - 2013.

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INTRODUCTION

The *ProtoCell Mesh* project integrates first-generation prototypes that include aluminium meshwork canopy scaffolding and a suspended protocell carbon-capture filter array. The scaffold that supports the installation is a resilient, self-bracing meshwork waffle composed of flexible, lightweight chevron-shaped linking components. Curving and expanding, the mesh creates a flexible hyperbolic grid-shell.

Arrayed protocells are arranged within a suspended filter that lines this scaffold. The array acts as a diffuse filter that incrementally processes carbon dioxide from the occupied atmosphere and converts it into inert calcium carbonate. The process operates in much the same way that limestone is deposited by living marine environments. Within each cell of the filter array, laser-cut Mylar valves draw humid air into a first chamber of concentrated sodium hydroxide. The solution enters a second chamber containing waterborne vesicles suspended between upper and lower oil layers. Chalk-like precipitate forming within these vesicles offers an incremental process of carbon fixing.

Surrounding the active flask arrays is a grotto-like accretion of suspended vials containing salt and sugar solutions that alternately accumulate and exude moisture, contributing to a diffusive, humid skin.

ProtoCell Mesh was on view as part of the Prototyping Architecture Exhibition at the University of Nottingham's Wolfson Prototyping Hall from Oct 17 - Dec 7, 2012, The Building Centre, London from Jan 10 - 15 Mar, 2013, and Design at Riverside Gallery in Cambridge, Ontario in Oct 2013.

EXHIBITION CREDITS

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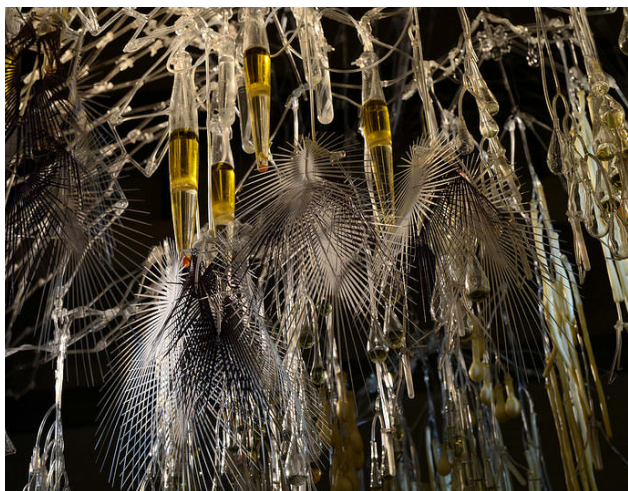
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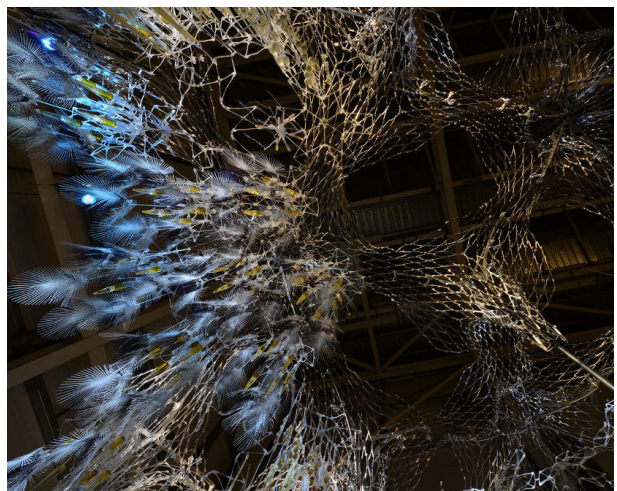


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