

AGILE FAB

BUSTING THE LAST GHOSTS OF MODERNISM

TU DELFT, NL, 21ST – 25TH SEPTEMBER 2015



<http://1001videoclips.com/wp-content/uploads/2015/07/ghostbusters-wallpaper-10010.jpg>

**HYPERBODY
RESEARCH
GROUP**

**TU Delft**
Delft
University of
Technology




University of
South Australia



Modernism dictates that each design should be tailored to the materials that we intend to use. This creates an intimate link between the materials we choose and the architecture we produce. Therefore if material availability changes, it is difficult to change the materials of a building. Digital meta design systems could support a more 'agile' approach to material specification and procurement in architecture. However current systems tend to embed the material into the design system.



Louis Kahn



Wang Shu

The disruptive nature of current developments in materials science provide uncertainty to the material systems of architecture. At the same time an increasing focus on resource scarcity suggests that we should embrace the uncertainty of the materials we choose.

But what does this mean for digital architecture? Is there an opportunity emerging here that we have yet to embrace? This workshop deliberately sets out to *explore what it means to design without a specific material in a series of pavillions for Delft, Adelaide, Beijing and Tianjin.*

CONTENTS

PREP PRE WORKSHOP (STUFF TO DO BEFORE)

1. BE CONFIDENT IN USING PROCESSING, AND GRASSHOPPER BEFORE THE WORKSHOP
2. GATHER INFORMATION ABOUT YOUR COUNTRY'S SITE FOR THE WORKSHOP (SITE PLAN SECTIONS / 3D MODELS AND PHOTOS AS WELL AS ENVIRONMENTAL DATA)
3. EACH GROUP PREPARE A 10 MINUTE PRESENTATION ON YOUR SITE

OVERVIEW **AGILE FABRICATION 15**

DAY 1 **INTRODUCTIONS** *SET THE CONTEXT AND INTRODUCE THE TOOLS*

DAY 2 **META DESIGN SYSTEM** *PROTOTYPE META DESIGN SYSTEM*

DAY 3 **HYPER CONCEPT** *GENERATE THE IMMATERIAL FORM*

DAY 4 **LOCAL SYSTEM** *TEST THE SYSTEM ON YOUR SITE*

DAY 5 **AGILE SYSTEM** *IDENTIFY AN ELEMENT AND EXPLORE ITS FABRICATION*

NEXT STEPS *AGILE FABRICATION 16*

6 teams, from four different universities, over three continents and 2 hemispheres will develop 3 designs for 3 different sites in Tianjin (CN), Adelaide (AU) and Delft (NL) to the immaterial **HYPER GHOST** of a pavilion that can be materialised, constructed and sited in different materials to different design constraints (**AGILE FABRICATION**) – following the presentation of the designs in exhibitions in the cities at a later date, the selected pavilion prototypes will be fabricated to differing design constraints.

AGILE FAB 15

FEATURING:

KAS OOSTERHUIS NL

HYPERBODY/ONL(OOSTERHUIS_LENARD)

NIMISH BILORIA NL

HYPERBODY, TU DELFT

TIM MCGINLEY OZ

UNIVERSITY OF SOUTH AUSTRALIA

QIANG SHENG CN

BEIJING JIAOTONG UNIVERSITY

JIA REY CHANG NL

HYPERBODY, TU DELFT

MATT MURPHY UK

BAUMAN LYONS ARCHITECTS

SINAN YUAN CN

TIANJIN UNIVERSITY

DAVID KROLL OZ

UNIVERSITY OF SOUTH AUSTRALIA

DAY 1 INTRODUCTIONS

Introduce, the workshop and each other and our work

DAY 2 META DESIGN

Experiment with META DESIGN systems

DAY 3 HYPER GHOST

Propose an immaterial HYPER GHOST

DAY 4 LOCALISATION

Apply the HYPER GHOST to a specific context.

DAY 5 APPLICATION

Apply an indicative material system to a part of your located HYPER GHOST

Following on from this work it is intended that the designs be shown at a location in China, the Netherlands and Australia simultaneously.

INTRODUCE



Day 1 focuses on getting to know each other. All University groups will provide a 10 minute presentation and report on their place. This should be produced as a collective effort. In addition, all relevant site CAD information should be prepared and brought to the workshop.

All work to be uploaded to the workshop wiki before the end of the day

10:00 Talks

KAS OOSTERHUIS NL
TIM MCGINLEY OZ
NIMISH BILORIA NL

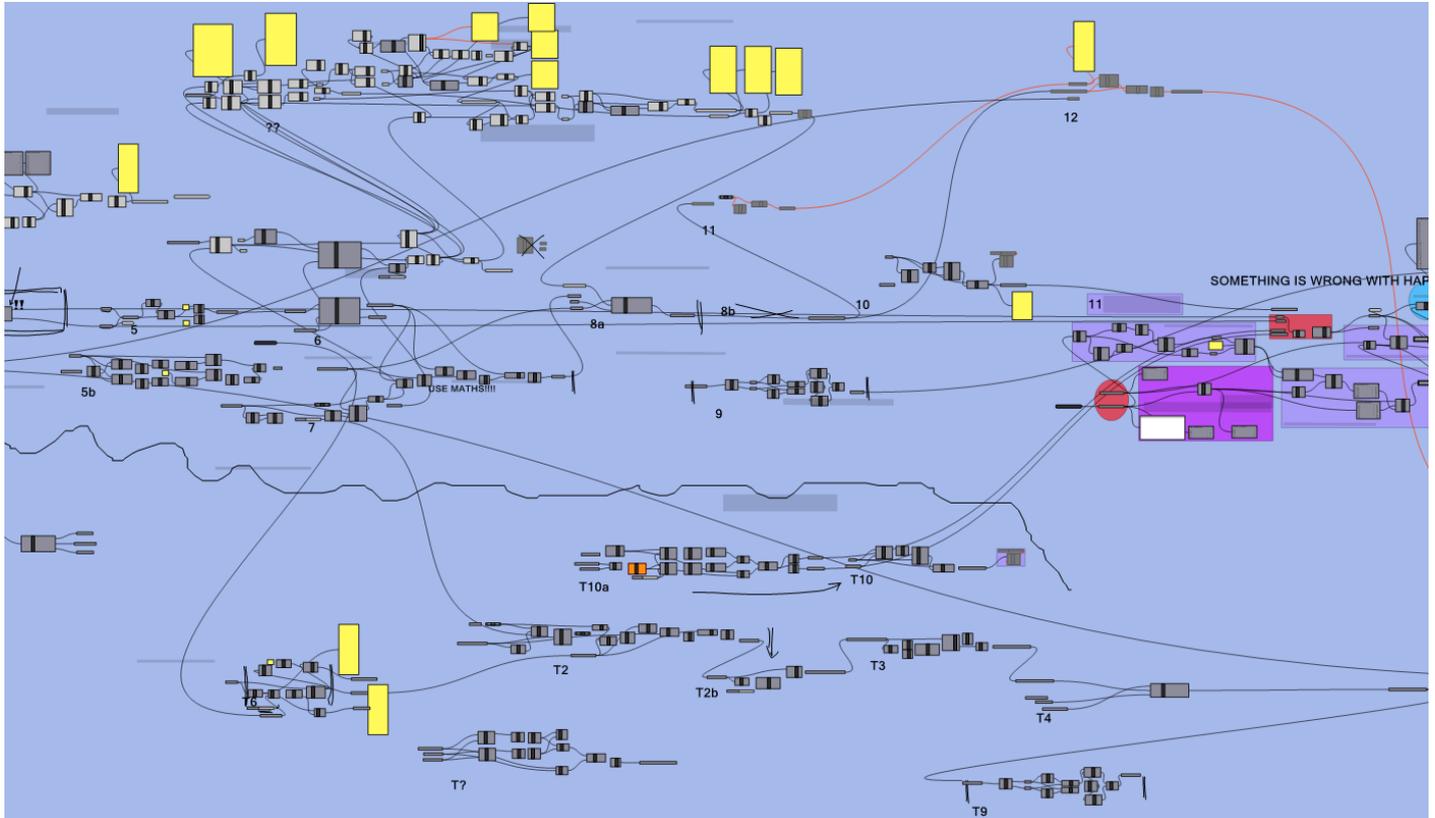
11:00 Group site presentations

13:00 Break

14:00 Form groups, plan how to work together

18:00 Finish / Social

META DESIGN



Presentations from workshop presenters describing previous work and meta design tools use. Tools will be developed and placed on the workshop wiki. These tools can then be adapted and extended to the needs of the workshop during the day.

All work to be uploaded to the workshop wiki before the end of the day

10:00 Agile X Systems introduction

MATT MURPHY UK
TIM MCGINLEY AU
JIA REY CHANG NL

11:00 Demos of the tools

11:00 Adapting the tools to our needs

13:00 *Break*

14:00 Extending the tools

18:00 Finish / Social

HYPER GHOST



In this session we will define the underlying forces that determine the immaterial form. How can you define the immaterial 'ghost' of your building? Is it the traces of the users, or is it pure space suggesting an enclosure or envelope without defining it?

All work to be uploaded to the workshop wiki before the end of the day

10:00 Morning talks

NIMISH BILORIA NL
TIM MCGINLEY AU
JIA REY CHANG NL

10:00 Defining designGhosts

13:00 Break

14:00 Defining designGhosts

18:00 Finish / Social

LOCALISATION



In the morning session we will apply the previously developed HYPER GHOST to a specific context. In the afternoon session the GHOST will be applied to the other contexts.

All work to be uploaded to the workshop wiki before the end of the day

10:00 Presentations

QIANG SHENG CN TBC
SINAN YUAN CN TBC
DAVID KROLL AU

10:50 Linking Hyper concept to the site

13:00 *Break*

14:00 Test the concept in different contexts

18:00 Finish / Social

APPLICATION



In the final day will select a part of your located HYPER GHOST and apply an indicative material system to it. You may explore the details / junctions that will be required to produce your design.

All work to be uploaded to the workshop wiki before the end of the day and ready for jury review at 14:00

10:00 Presentations

**GIJS JOOSEN NL TBC
MATT MURPHY UK
DAVID KROLL AU**

10:00 Demos of the available tools

11:00 Adapting the tools to our needs

13:00 *Break*

14:00 Jury review (Digital presentations)

18:00 Finish / Social in the PUB! (Location TBC)

AGILE FAB 16

In the next stage of the agile fabrication research (AGILE FAB 2016), we will develop a series of approaches to build the designs that are created in AGILE FAB 2015 in the different contexts.

MORE INFO

For info contact -
tim.mcginley@unisa.edu.au, open to
students from Hyperbody / TUDelft, Tianjin,
Beijing Jiaotong and University of South
Australia (**applications for 2015 are now
closed**)