

# Artifact

## Blyth Gallery

### Exhibition

The Royal College of Art and Imperial College are proud to present **Artifact**, an exhibition celebrating collaborative projects from London's leading young artists and scientists. Artifact is the brainchild of the Royal College of Art and Imperial College Student Unions. In an attempt to harness potential in the scientific and creative talent of both institutions, staff and students have teamed up, through a scientific/artistic speed dating event, in order to produce a series of collaborative artworks and design pieces around themes in science and engineering.

1. **The Royal College of Art** is the world's only wholly postgraduate university of art and design, specialising in teaching and research and offering the degrees of MA, MPhil and PhD across the disciplines of fine art, applied art, design, communications and humanities. There are over 900 masters and doctoral students and more than a hundred professionals interacting with them – including scholars, leading art and design practitioners, along with specialists, advisors and distinguished visitors.

[www.rca.ac.uk](http://www.rca.ac.uk)

2. **Imperial College London** is widely regarded as one of the world's premier schools of science, technology and medicine. Imperial is a world leader in groundbreaking biomedical research.

[www.imperial.ac.uk](http://www.imperial.ac.uk)

3. **The RCA Students' Union** (RCASU) exists to represent and to support the creative and educational development of Royal College of Art students. The RCASU aims to build open and critical frameworks for student engagement and practice in art and design.

[www.rcasu.com](http://www.rcasu.com)

4. **Imperial College Union** is responsible for the representation of all students at Imperial, from individual academic issues to advising College on long-term student experience matters. Topics regularly covered by the ICU representation system include academic studies, welfare, accommodation, finance, and personal safety.

[www.imperialcollegeunion.org](http://www.imperialcollegeunion.org)

### Further Information

For images and further information about the exhibition please contact: Mindy Lee, Gallery Curator on 020 7594 9364, email: [gallery@imperial.ac.uk](mailto:gallery@imperial.ac.uk) or Sue Bradburn, RCA Media Relations & Marketing Manager on 0207 590 4114, email: [sue.bradburn@rca.ac.uk](mailto:sue.bradburn@rca.ac.uk).

If you would like to know more about the Artifact project please contact: Meredith Thomas on 07833089569, email: [charles.thomas09@imperial.ac.uk](mailto:charles.thomas09@imperial.ac.uk).

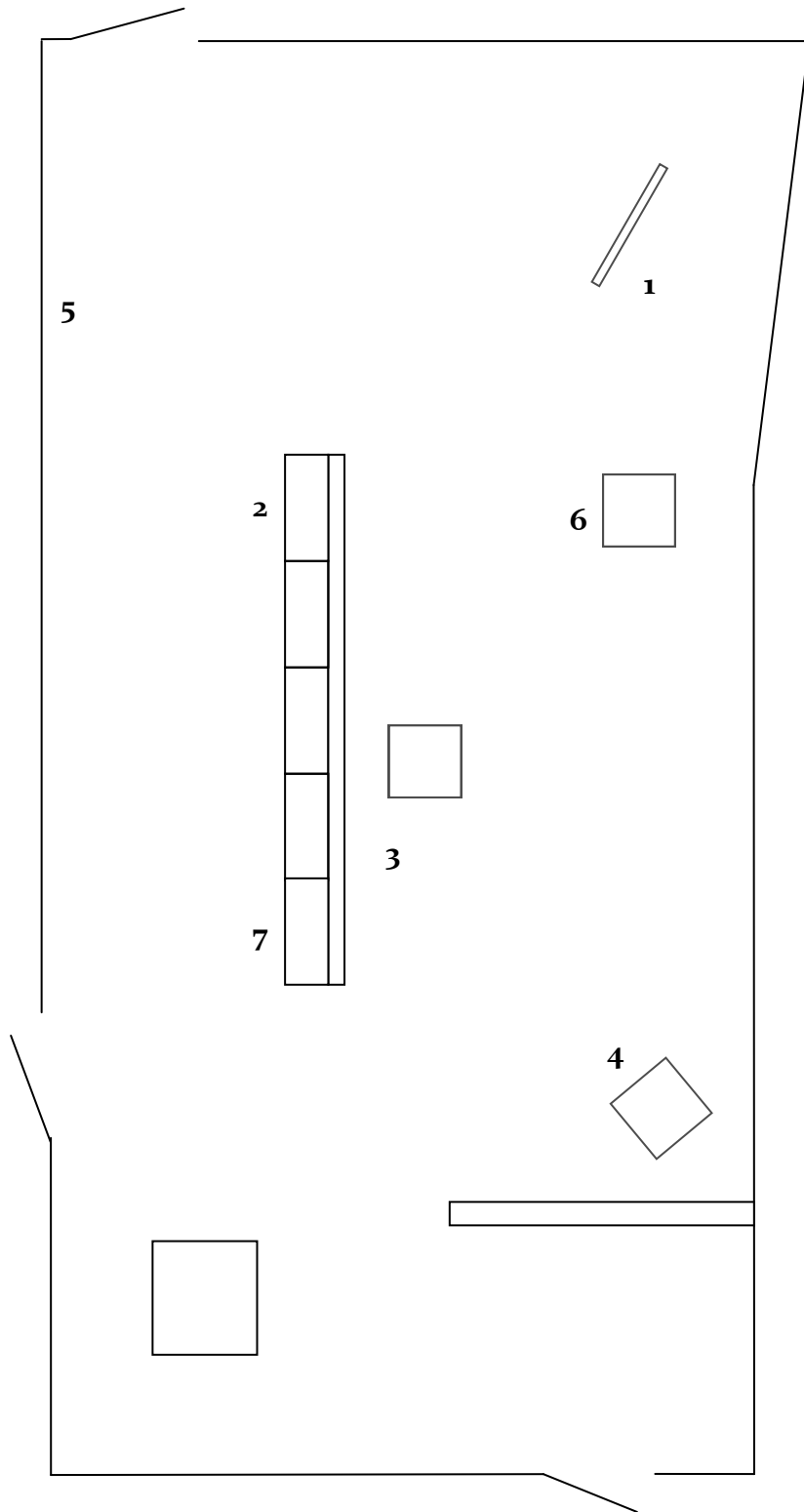


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This is  
the logo  
of the  
RCA·SU\*

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\*Royal College of Art  
Students' Union



*Floor Plan*

**1 The Renormalized 4-Vertex at one-loop and drawing of The Renormalized 4-Vertex at one-loop by the artist (see reverse),**

*1800x1800x400mm,  
chalkboard and chalk.*

Charles Ogilvie (RCA)  
Daniel Crow (IC)

To the mathematician, these marks describe the reorganisation of terms in the lagrangian of the Anderson model into a form amenable to a low energy perturbative expansion. The artist's copy of the marks however, are nothing more than a superficial illustration. Is most art 'about' science little more? Yet the titled object redeems itself: it is not clear which version of the derivation is the original and the boards rotation implies the artist copied the marks blinded to the original. The work leaves the viewer reflecting wryly on the importance of the artist as mark maker and the age old act of copying or depicting 'nature'. The ignorant regurgitation of the mathematical marks strips meaning from the symbols; raising semiotic questions and exploring the aesthetics of symbolic languages.

**2 The Non-Earth State**

*Installation*

Chloé Brillatz (IC)  
Elliott P. Montgomery  
(RCA)

This piece is a performative re-enactment of fictive research conducted by geologists August Haquet and Alex Milfort, who in 1996 were the first to propose the notion that portions of Earth are not native to our planet. While studying the carbonado diamond in Brazil, Haquet and Milfort found early clues that this mineral had been cast to Earth approximately 3.2 billion years ago in a meteor shower, believed to have originated in Beta Pictoris.

Possessed by the profundity of their discovery, Haquet and Milfort began lobbying the Brazilian government to cede a very small portion of Brazil, which they claimed to be wholly composed of interstellar matter. The pair presented their case before the Brazilian National Congress three times between their initial discovery and 1999. Their pursuit of the Non-Earth State ended unsuccessfully, due to Haquet's diminishing health.

This exhibit features a series of photographs from our re-enactment, a replica of the original flag designed by Haquet, and bespoke devices from this fictional history.

**3 Urban Bioconversion - Alpha Prototype**

*Design*

Elliott P. Montgomery  
(RCA)  
Sumana Chaturvedula  
(IC)

Urban spaces can offer feedstocks for biofuel, but collecting and processing the plant matter is a challenge. We are proposing a new method for harvesting and processing invasive urban green plant/lignin material found in London's canal systems. We're using this simple alpha prototype (pictured) to begin testing the proposed system.

The proposal employs a common pest, the cockroach, as a processing agent. Researchers have found that the intestines of cockroaches contain microbes capable of digesting the feedstock into simple sugars, [1,2] which can be further fermented to biofuels.

Eventually, devices similar to this prototype could autonomously paddle the canals, scooping invasive plant matter into their storage chambers, and preparing it for conversion when collected.

[1] Todaka N, Inoue T, Saita K, Ohkuma M, Nalepa CA, et al. (2010) Phylogenetic Analysis of Cellulolytic Enzyme Genes from Representative Lineages of Termites and a Related Cockroach. *PLoS ONE* 5(1): e8636. doi:10.1371/journal.pone.0008636

[2] Scharf ME, Karl ZJ, Sethi A, Boucias DG (2011) Multiple Levels of Synergistic Collaboration in Termite Lignocellulose Digestion. *PLoS ONE* 6(7): e2170

#### 4 Fluid Flow

*Glass*

Jane Hunt (RCA)  
Priyanka Bedia (IC)

Our series of sculptures combine the subjects of glass blowing and mechanical engineering through the study of fluid mechanics; this explores the motion of gas and liquid. We drew parallels between fluid mechanics and glass in a molten state. After researching fluid flows, we looked at capturing the motion of smoke flows in a piece of glass. We then observed the flow of water through a fountain and created a series inspired by this movement. The shapes are made freehand after they are gathered from the furnace, then carved and engraved once they are cold. The pieces shown here use the fluidity of the material to portray a jet of water from a fountain at five different stages of its motion.

#### 5 “You have evolved from worm to man, but within you is still worm” Friedrich Nietzsche

*Mixed Media*

Alexandra Anderson (IC)  
Tania Knuckey (RCA)

Scientists can use simple organisms such as a worm to work out fundamental concepts, such as how we move. We have used the tools of the laboratory to recreate on a large scale the outline of a worm, suspended from lights, as it would be when examined under a microscope. The outline of the worm is constructed from the dishes filled with the medium on which these organisms grow in the laboratory, and within each dish are representations of the movement of these organisms; sinusoidal (wave like) under normal conditions or interrupted if certain genes are manipulated. This illustrates how using simple organisms we can answer complicated questions.

#### 6 Matters of the heart: A comprehensive cardiovascular study

*Book*

Peter Krige (RCA)  
Adriana Setchi (IC)

Cardiovascular disease is the leading cause of death in the UK. Make-up is a 230-billion-dollar industry. The human heart will beat 2.5 billion times in a lifetime; my heart skipped a beat on July 23, 2010. The body stores memories. I write in my diary every 0.7 seconds. Cardiac matter does not heal; there are no preservatives, conservatives or artificial colors. I learn by heart, I break my heart, I follow my heart, I have a change of heart, I lose heart, I pour my heart out.

My heart has 814 layers. My heart is my religion. My heart is I. My heart is life.

Flick through the 814 pages on matters of the heart and find your own interpretation.

#### 7 Viral Evolution

*Ceramics*

Tamsin van Essen (RCA)  
John Pinney (IC)

The evolutionary relationships between pathogens and their hosts are often complex. Molecular phylogenetics is the branch of biology that allows us to trace the evolutionary history of an organism by comparing the DNA of its genome to that of other related species. The output of this process is a “phylogenetic tree” showing the points in history where species have diverged from each other. By overlaying the tree for a family of viruses with the tree for their hosts, we can identify horizontal transfer events where a virus has jumped from one species to another. Since the new host has not adapted to cope with them, these newly acquired viruses are often associated with particularly severe disease symptoms.

The porcelain sculptures provide an abstract representation of hosts being attacked and ‘eaten away’ by parasitic viruses. These angular shapes are sandblasted to wear the surface and reveal inner strata, mimicking the disruption of form cause by viral erosion. This aggressive process creates a delicate vulnerability in the shape, highlighting the creeping spread of the infection as it corrupts the body. The severity of the erosion corresponds to the invasive nature of a particular virus, with the different viruses acting in characteristically distinct ways with different hosts.