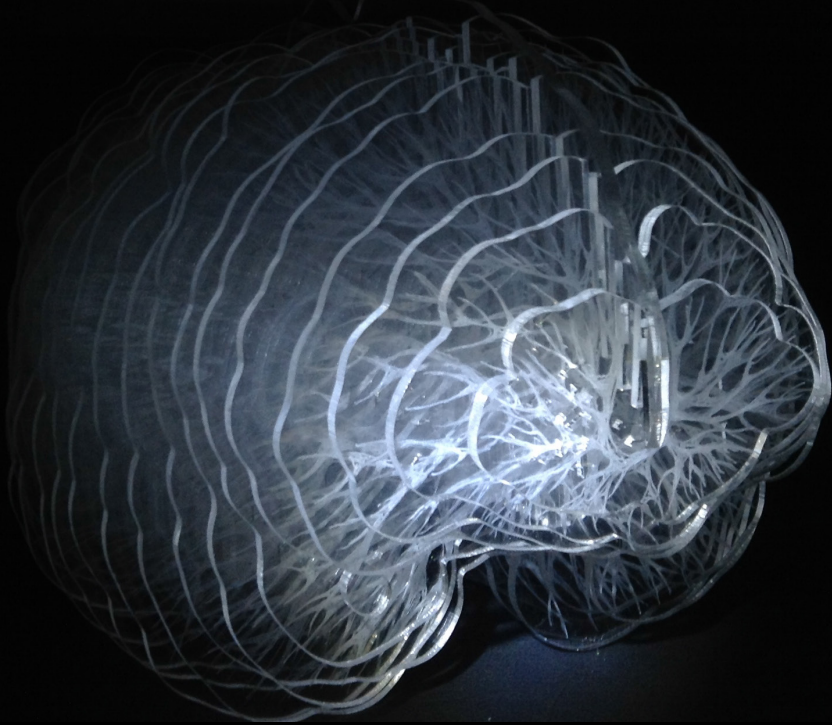


**LAURA JADE**

**2015**



## THE BRAIN LIGHT PROJECT

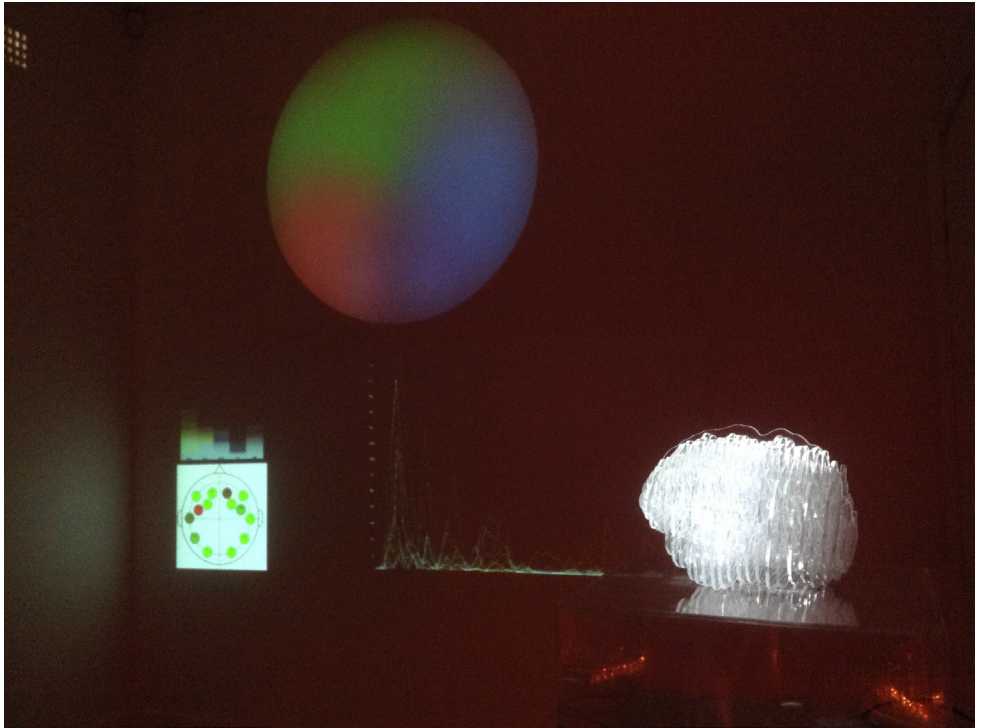
Laura Jade, *Brain Light* maquette, perspex, 2015

### **Laura Jade is No. 4 of 8 emerging artists at Culture at Work**

Laura Jade's Brain Light Project integrates biology and illumination design into an interactive, sculpture cut from perspex and engraved with dendrites. Collaborating with neuroscientist Peter Simpson-Young and programmer Sam Gentle, the brain sculpture lights up in response to changing brain activity transmitted from a wireless headset. The work has been created in Culture at Work's 2015 art + science residency program. The Brain Light Project is Laura's major work for her Masters degree in Illumination Design at the University of Technology, Sydney. Ivana Jirasek curated the project and exhibition.

The emerging artist residency program is supported by State Street to assist artists toward professional development and employment in the arts sector.

**CULTUREATWORK** STATE STREET®



Laura Jade, *Brain Light*, transmission of live brain activity with EEG, Accelerator gallery, 2015

## ARTIST'S STATEMENT

The Brain Light Project explores the intersection between the human brain, biofeedback loops and light, and is a culmination of my study for the Master of Illumination Design at UTS and Culture at Work's 2015 Art and Science Emerging Artists Residency. The catalyst for this research project was my flourishing intrigue and desire to harness my own brain as the creator of an interactive art experience where no physical touch was required except the power of thoughts.

I've created a large freestanding brain sculpture of laser-cut Perspex, hand-etched with neural networks that glow when light passes through them. The interactive installation is controlled with a wireless headset that combines BCI (Brain Controlled Interface) and EEG (Electroencephalography) which records the brain's electrical activity) technology. It produces a dynamic light and sound experience driven by brain activity. The human computer interaction uses Emotiv EPOC / EPOC+, a revolutionary Brain Computer

Interface that detects user's thoughts, feelings and expressions from the brain's electrical signals.

Collaborating with a neuroscientist, Peter Simpson-Young Research Officer, MDA Australia and software developer and programmer Sam Gentle, the headset has been set to explore three brain frequencies: alpha (meditation), theta (focus and attention) and beta (excitement/agitation) as well as emotional states and facial expressions. These are translated into a light display within the brain sculpture. This technology reveals real-time neural activity, and shows how we can consciously control our brain's bustling electrical activity and witness an internal feedback loop created by our constantly changing perception of the artwork.

**Laura Jade 2015**

<http://laurajade.com.au>

## THE PROGRAMMER'S PERSPECTIVE

It's funny to think that computers and brains were always meant to be opposites. We're so good at seeing patterns, making sense of ambiguity, and thinking creatively; but so very bad at repeating exact mathematical steps over and over again. The first computer was created by the military because dropping artillery shells requires exactly that bland, automatic precision. Computers and brains are opposites because we built them to do what we couldn't.

And yet somehow the possibility of bringing them together has never stopped inspiring us. Perhaps we can make computers that think like brains (Artificial Intelligence). We can think more like computers (Cybernetics) and make computers that help us think (Augmented Cognition). We can build computers out of brains (Biological Computing) and build brains out of computers (Brain Emulation). It seems like there are as many paths between machine and mind as there are people adventurous enough to walk them. So what about when you bring together an expert in brains, an expert in computers and an expert in creativity? Well, you can't help but join the long line of adventurers exploring that interaction between machine and mind, that mix of creativity and computing, that unity of art and science. I'm honored to work with such great people as we, too, wander that dense forest, trying to find our path to bring those opposites back together.

**Sam Gentle**

## THE NEUROSCIENTIST'S PERSPECTIVE

Like many people in the brain and mind sciences I'm deeply attracted to the infinite complexity of our brains, and am fixated on the dilemma as to how consciousness arises from this bizarre and gelatinous organ. In many ways we're all experts in the workings of our minds, intimately aware of what it is like to experience the world through our own eyes. Yet most of us live with very little understanding of the underlying processes within our enigmatic brains.

This collaboration has allowed us to explore representations of these profound concepts, and to truly appreciate the layers of unappreciated beauty of the brain. I believe this work will allow the general public to actively engage with these philosophical dilemmas, and allow them to experience the sense of awe that comes from battling the seemingly inexplicable gap between the physical brain and the ethereal mind.

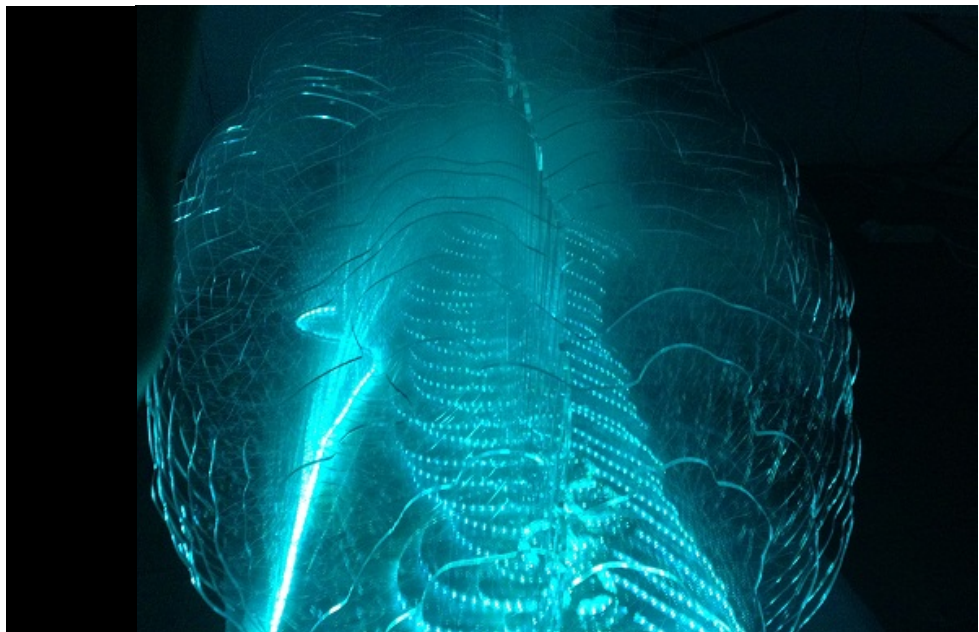
By combining Laura's command over novel design technologies, Sam's fluency in computational and embedded programming, and the most recent brain-computer interfaces, we have an unprecedented freedom in exploring the junction between biology and technology. I believe this work will not only be awe-inspiring but give people far deeper insight into the inner workings of the brain and mind.

**Peter Simpson-Young**

<http://foundry.bio>



The Brain Light Project team, CULTURE AT WORK, L-R: curator, artist, programmer and neuroscientist.



Laura Jade, *The Brain Light*, illuminated perspex, 2015

## LAURA JADE Curriculum Vitae

### Education

- 2015 Master of Illumination Design, UTS
- 2013 Master of Curatorial/Museum Studies, University of Sydney
- 2012 Bachelor of Science & Bachelor of Arts, University of Sydney
- 2007 Bachelor of Fine Art, National Art School

### Awards, Residencies & Scholarships

- 2015 Art+Science Residency, CULTURE AT WORK
- 2013 Finalist, Waterhouse Natural History Art Prize & Touring Exhibition Residency, Culture at Work
- 2012 Waterhouse Natural History Art Prize (Highly Commended) & Touring Exhibition 44th International Art Residency, Gyor, Hungary
- 2011 Finalist, Woollahra Small Sculpture Prize  
Finalist, Loyd Rees Youth Art Award
- 2004 Life Drawing Scholarship, National Art School
- 2003 Drawing & Illustration Scholarship, Whitehouse Institute of Fashion and Design

### Exhibitions

- 2015 *Brain Light Project*, Accelerator Gallery (Solo)  
*Scientia | Art + Science*, Art Est. Gallery  
*Fractured Infinity*, Light Art Exhibition, Lane Cove Gallery
- 2014 *The Liminal Zone*, Vivid Festival  
*Luciferin*, Chippendale New Word Art Prize, NG Gallery  
*What is Light?*, Infinity Room Installation, Brand X Gallery  
*White Parazoa III*, National Archives, Canberra and Accelerator Gallery
- 2013 *White Parazoa II*, Hub Gallery and Graphis Fine Art Gallery  
*White Parazoa III*, Accelerator Gallery
- 2012 *White Parazoa – Cabinets of Curios*, National Archives, Canberra and Lane Cove Gallery  
44th International Art Residency, Napoleon Museum, Hungary
- 2011 *Brain Art*, Global Gallery
- 2010 *Shop Art*, London Graphic Centre, Covent Garden, London
- 2008 *Stapled to the Ceiling*, Stoic Gallery

(Events are Sydney-based unless stated otherwise.)

#### exhibition dates

**Thu 11 – Wed 17 June 2015 (closed Mon)**

#### opening drinks

**Wed 10 Jun 6–8pm**

#### gallery hours

**11am – 4pm**