


Australian
Design
Centre

# Shape Shifters



## Ryan Pennings, *Percy Stools*, 2015, Polyactic Acid (PLA).

Ryan's work explores the exciting design opportunities where algorithmic design meets robotic fabrication. As an emerging designer, he tests how algorithmic design can be applied to conventional products. He demonstrates that custom printing furniture for our own homes could be a reality in the near (very near) future. Each stool has its very own algorithm and is printed with a robotic arm.

*Percy Stools* were first developed in 2015 as part of research for Ryan's Bachelor of Industrial Design (Honours) at RMIT University in Melbourne.



## XYZ Workshop (Kae Woei Lim and Elena Low), *inBloom*, 2014, Polyactic Acid (PLA).

At 2.1meters long, XYZ Workshop has created one of the world's longest 3D-printed dresses using (only) a desktop printer. Blending traditional dressmaking techniques with digital technology, *inBloom* makes polyactic acid (PLA) function like textile. The open-source files of the dress are free to download, encouraging people to 'hack' the dress and make it their own.

In 2014, *inBloom* made it into the White House for Reach Higher's Fashion Education Workshop organised by Michelle Obama.



## Lukasz Karluk, *HoloDecks*, 2014, Polyactic Acid (PLA).

*Holodecks* focus on transforming sound through different mediums. Lukasz uses software to transform sound into 3D-printed sculptures. Using a computer generated code, each sculpture is a representation of audio from a selected song. An augmented reality app tracks the rotating sculpture and overlays a virtual 3D model, giving the effect of an audio reactive sculpture. Got it?

His interaction design company, Code on Canvas, have produced installations and generative computer art for Sydney Festival, Vivid Light and Australian Fashion Week. They think outside the box.



## Lousje Skala, *Calgary Necklaces and Link Bracelets*, 2015, 3D printed nylon, hand-dyed, CNC milled, vacuum metalized chrome

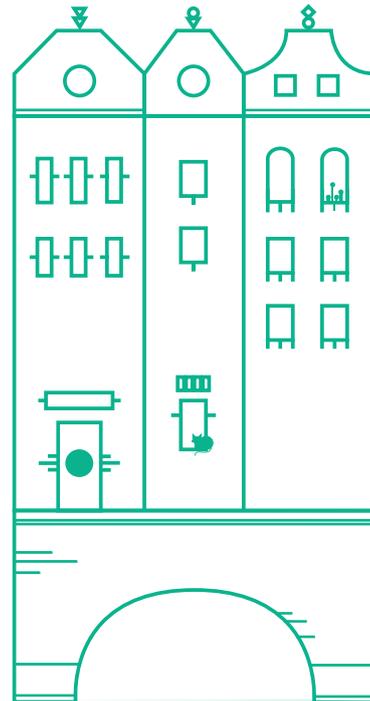
Lousje Skala is a silversmith. Trained traditionally, she has expanded her skills and resources to include non-traditional tools, such as computer-aided design software, 3D printing and CNC milling. She is fascinated with language, social disconnection, and the negative social impact of digital media. So, it is her intention that when people wear her bold jewellery, the pieces encourage social connections. In 2013, Lousje featured in Melbourne Now at the National Gallery of Victoria's major exhibition, and she has also exhibited across the globe from Europe and Japan.



**Louis Pratt, *King Coal*, 2015, coal and coal dust, resin, fibreglass and steel.**

Louis Pratt's *King Coal* differs from the other objects in the room - the surface you see is not actually 3D-printed. It's what's underneath that counts. He created the mould for the work with a 3D scanner and printer. In order to produce such a large sculpture from the relatively small printer in his studio, he broke up the data from the scan into parts, printing each in smaller sections. 2000 printing hours later, the mould was complete.

Louis' work is well known nationally and internationally, including Sydney Contemporary and Mt Buller Sculpture Prize.



**Michael Eden, *A Twisted Oval Wedgwoodn't Tureen*, 2012, nylon with mineral coating.**

Since 2008, Michael has been investigating the relationship between the handmade and digital tools. After spending 25 years as a ceramicist, 3D printing offered this British maker a new way of working. It's clear that *A Twisted Oval Wedgwoodn't Tureen* simply couldn't be made under the limitations of wheel and clay. Michael has paved the way for a new generation of artists to explore the creative freedom that 3D printing provides.

Building off a body of work he began developing in 2008, Michael's work has been exhibited at the Museum of Arts and Design & Cooper-Hewitt in New York, Victoria and Albert Museum in London and the Museum of Fine Arts in Boston.



**Dr. David C. Ackland, *Prosthetic Joint Replacement for the Human Jaw*, 2015, grade-5 titanium and high-density polyethylene.**

David is a bioengineer and a senior lecturer in the Department of Mechanical Engineering at the University of Melbourne. His team at UoM collaborated with surgeon George Dimitroulis to design a prosthetic joint replacement using musculoskeletal modeling techniques. The joint was 3D-printed in titanium before being implanted into the patient. The prosthesis is set to improve the quality of life of countless others. It will revolutionise joint replacement surgery, allowing the creation of fully customised implants tailored to the anatomy of each patient.

Presented by:



WESTERN PLAINS CULTURAL CENTRE



Principle Partner:



Learning Partner:



Government Funding Partners:

