

SUSAN NUNN AND IAIN LAMONT

Beauty is the Beast



Figure 1. Susan Nunn, *Beauty is the Beast*, 2017, fabric, polyester batting, cardboard, assorted threads, beads and sequins.

SUSAN NUNN

I came to the Art and Genetics selection process a little late and did not see the scientists presenting their field of genetics first hand. However, I did hear the presentations online and I was most impressed with Iain Lamont. His presentation was filled with humour about the serious subject of the *Pseudomonas aeruginosa* bacteria, which causes lung infections in cystic fibrosis sufferers. In his presentation, Iain had extolled the beauty of microbial art and on internet investigation I was finding beautiful images that were arousing my creative juices.

As a textile artist, my previous artworks have been on the larger scale, with oversized 3D vegetables and fruit representing household food waste going to landfill, as well as a full-sized table, six chairs and an assortment of textile fast food and its packaging again representing food and waste.

One of my first ideas was to make a large 3D replica of the bacteria – that is until I met Iain and he showed me exactly how unattractive these bacteria really are!

I had several other ideas, but the strongest idea was to put a message in the artwork in some way. So, we brainstormed about how to and what message to give. Would we concentrate on the research, the disease, the bacteria, the sufferer or all of these?



Figure 2. Susan Nunn, *Beauty is the Beast*, 2017, fabric, polyester batting, cardboard, assorted threads, beads and sequins.

Iain told me about the *Pseudomonas* bacteria and how it has been around for 52,000 years, how it is part of chromosome 7, how it affects those who have two of the genes that cause cystic fibrosis and how those of us who have one gene remain unaffected. He also took me on a meet-and-greet with the bacteria in the lab.

I had seen on the internet an artwork that covered two walls, with circles reminiscent of the Petri dishes the bacteria is grown in. A search through the US Cystic Fibrosis Society site brought the idea of using words of encouragement and affirmation in the discs. It triggered the idea for our finished work. A larger disc would have an affirming quote, while random-sized smaller circles had single words.

We discussed the words to be used and agreed that we would choose words that have several meanings. We wanted a message that would embrace all aspects of this chain: the bacteria, scientists, healthcare professionals, cystic fibrosis sufferers, their families and whanau.

Iain and his lab staff were charged with choosing from a paint chart the colours of the bacteria in their Petri dishes as a starting point for me to choose fabrics for the backgrounds before adding the words.

The large quote was found on the USCF Society site. It was a slogan used in a previous campaign: "Sometimes it's ok if the only thing you did today was BREATHE".



Figure 3. Susan Nunn, *Beauty is the Beast*, 2017, fabric, polyester batting, cardboard, assorted threads, beads and sequins.

I contacted the president of the Dunedin CF Society to get his take on this idea. He was very receptive and even asked on the NZCF Facebook page for words to add. The NZCF Society logo is in two shades of blue so this dictated the use of blue, for the words.

I selected background fabrics and chose 28 words that I felt defined the message we wanted to send. Due to time constraints I was unable to use all the words provided. I cut out the word letters in blue fabric, applied them to the back-ground and then from the many assorted blue beads and sequins selected, I proceeded to hand-stitch each and every one on to the applied lettering. Once beaded the fabric was mounted on to a 6- 7- 8- or 9-inch round cake base. The back was neatened with another round of card with sticky Velcro—fluffy side to the disc and hook to be attached to the wall when hung.

The larger disc had the saying whipped chain-stitched for all the words except Breathe, which was appliqued, beaded and sequined. It was then mounted around an artist's canvas and attached to the wall.

The whole work was placed to go around a corner to give maximum impact under the spotlight to the viewer, to lure them closer to study, read and think about the message.

The many assorted blue beads and sequins that twinkled, sparkled and shimmered in the spotlight highlighted how beautiful bacteria can be, even if it is harmful to us.



Figure 4. Susan Nunn, *Beauty is the Beast*, 2017, fabric, polyester batting, cardboard, assorted threads, beads and sequins.

Collaborating with Iain Lamont has been a wonderful experience and an opportunity to learn a great deal about a subject I have had very little personal experience with. I have enjoyed meeting the bacteria and hope that Iain will be successful in his ongoing research.

In this artwork, I had hoped to draw a parallel between science and cystic fibrosis sufferers by using a series of words they themselves have provided.

The beauty of the bacteria growing in the lab is in stark contrast to the ugliness of how it manifests itself in cystic fibrosis sufferers.

The words provide both a positive and a negative element, depending on where in the link a person stands.

For example, HOPE:

there is HOPE for a cure,

there is HOPE for finding the right antibiotic,

there is HOPE to be able to breathe easily,

there is HOPE that the suffering eases,

there is HOPE for a future,

and there is HOPE for a greater awareness and understanding
for the sufferers of this debilitating disease.

IAIN LAMONT

Cystic fibrosis is the most common inherited disease in New Zealand. Sufferers have a range of symptoms that are managed with medications, regular physiotherapy and hospitalization if required.

The lungs develop a thick sticky mucus that can become infected by *Pseudomonas aeruginosa* bacteria. These infections are difficult to cure, affecting the general health of those with the disease.

We work with *Pseudomonas* bacteria, isolated from samples from the lungs of patients, grown on a nutrient-containing gel within a Petri dish. Our aim is to find out why antibiotics given to people with *Pseudomonas* infections do not kill the bacteria and clear the infections, endeavouring to find better ways in which to treat the patients.

Pseudomonas has a low antibiotic resistance, but constant exposure to antibiotics has led to an “alarming” increase in resistant strains difficult or impossible to treat. Research into *Pseudomonas aeruginosa* is part of a growing superbug problem around the world caused by overuse or misuse of antibiotics.

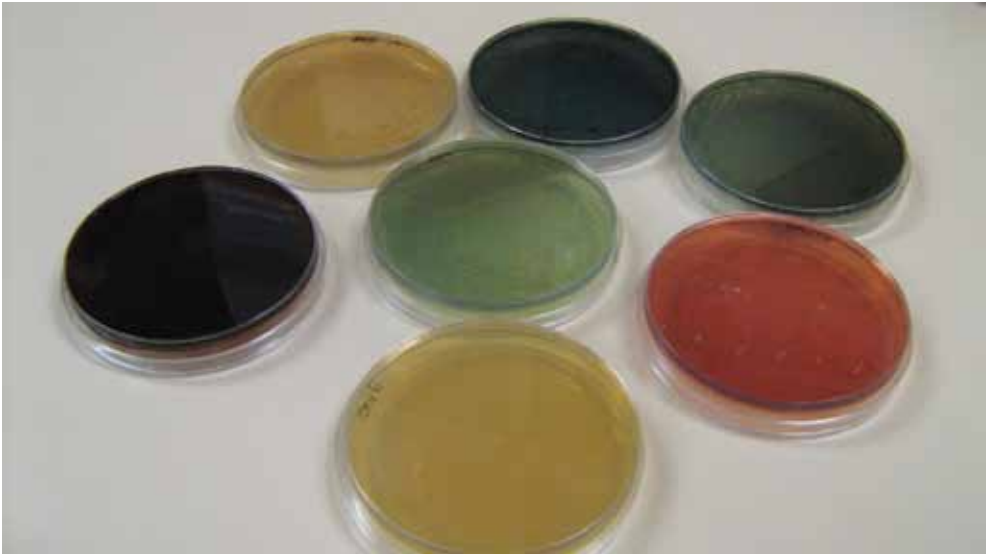


Figure 5. This photo shows seven dishes each containing a different sample of *Pseudomonas* bacteria. The bacteria can have different colours – we don't know exactly what that means!

Susan Nunn completed her Bachelor of Visual Art (Hons) from the Dunedin School of Art in 2016.

Iain Lamont is a professor in biochemistry at the University of Otago. After completing an undergraduate degree in microbiology (University of Edinburgh, Scotland) and a PhD in bacterial genetics (University of Oxford, England), he carried out postdoctoral training in molecular biology at the University of Adelaide (Australia). He then moved to the University of Otago, where for over 25 years he has directed a research programme investigating molecular aspects of pathogenic *Pseudomonas* bacteria and in particular how they infect patients with cystic fibrosis.