

FOREWORD

I first had the honour of having my research artistically interpreted when University House commissioned Valerie Kirk, Higher Degree Research Convenor at the ANU School of Art & Design, to create a tapestry commemorating the supernovae research that led to the award of my Nobel Prize for Physics. Whilst I must admit to initial difficulty in expressing my research in a way that could be effectively translated into a woven expression, the resulting tapestry is stunning and gives me great pleasure every time I glance it as I enter The Hall at University House. Since then I have had several opportunities to help express my research through a number of mediums including painting, photography, digital and video.

Art gives us the ability to explore complex research discoveries in visually interesting and accessible ways. The Vice-Chancellor's College Visiting Artist Fellows Scheme ensures that a collaborative culture between artists and researchers is alive and well on campus. I hope you enjoy this collection from the 2016 Fellows and I congratulate everyone involved in the program.

Professor Brian Schmidt AC

Vice-Chancellor and President

The Australian National University



VCCAFS 2016

ANU VICE-CHANCELLOR'S COLLEGE ARTIST FELLOWS SCHEME (VCCAFS)

In 2012, a report on interdisciplinary research by the Australian Council of Learned Academies noted that "The real world does not always present its problems and opportunities conveniently aligned with traditional academic disciplines so mechanisms are needed to facilitate interactions and collaborations between researchers working in widely different fields." The Vice-Chancellor's College Visiting Artist Fellows Scheme (VCCAFS) is one such mechanism, established by The Australian National University (ANU) in the same year.

The first scheme of its kind in an Australian university, VCCAFS supports interdisciplinary research relationships across the seven colleges of the ANU, sustaining a wider mutual understanding of collaborative working practices. Staff, advanced students and recent alumni of the School of Art & Design have worked with academic partners to develop, pursue and report on research projects in such diverse fields as botany, geology, chemistry, computer science, anatomy, climate change and herpetology. Practice-led research, robust intellectual dialogue and innovative research methods are developed in the pursuit of creative solutions to real world challenges.

Each fellowship lasts one academic year, is supported by a personal award and material costs, and is completed by a group show with an exhibition catalogue. These prestigious fellowships offer an exciting opportunity for our top creative practitioners to work with high-flying researchers in other fields: an important stepping stone in the career development of young artists, many of whom have defined their practice in terms of interdisciplinary engagement. Artist fellows are selected each year on the basis of their work, research

interests, the strength of the project proposal and collaboration. Prospective artist fellows identify an appropriate research field and collaborator within one of the ANU Colleges. An interdisciplinary panel, comprising senior University staff and external advisors selects successful applicants.

The entire VCCAFS process – devising a project, identifying a collaborator, reviewing submissions, pursuing research in the field and in the studio, articulating findings in an exhibition – establishes a community of practitioners and researchers, students and scholars, specialists and an engaged audience around interdisciplinary research. We congratulate the 2016 Artist Fellows and warmly thank their academic collaborators.

Professor Denise Ferris

Head

School of Art & Design

College of Arts and Social Sciences, ANU

CATHY FRANZI

ANU COLLEGE OF MEDICINE, BIOLOGY AND ENVIRONMENT
RESEARCH SCHOOL OF BIOLOGY

Artist Statement

We are delicately sloshing around on a snowy November day in the boggy moss and soft grass of Upper Spencers Creek in Kosciuszko National Park. It's the ANU Research School of Biology fieldtrip and we are looking for Alpine Buttercups. Our aim is to observe the variation in leaf shape between five species of *Ranunculus* and their hybrids across a moisture gradient.

This year I have been embedded in the Nicotra Lab, where a highly engaged student team led by Professor Adrienne Nicotra researches plant physiological ecology and plant evolutionary biology. The statistics and graphs have been challenging, but what I have found particularly fascinating is phenotypic plasticity, or the range of leaf form a given genetic individual can exhibit under different environments. Leaf function is largely understood, but the functional significance of leaf shape - the purpose of diversity of form - surprisingly remains unclear. This research might be key to understanding how species could adapt to climate change and therefore assist with conservation.

In the lab I cut and weighed Yellow Box Gum leaves, in the experimental glasshouse I saw how *Pelargonium* species grow across a wide range of habitats and in the field I examined Buttercups, unfortunately unable to crack the big question. However through the fellowship I gained a deeper understanding of leaf complexity and scientific process and reasoning, and applied my knowledge of ceramic material and visual language to the enquiry.

Rather than use my customary practice of mark making into the clay surface of a wheel thrown form, I explored ways to accurately image each leaf, rather like the way the digital scanner in the lab collects data. Porcelain has the ability to capture the finest detail of an impressed leaf and its translucency reveals each variation when held to light. The techniques I applied to utilise these properties determined the essential structure of the form, but like in biology, ceramic vessel vocabulary has its own scope of function, shape and variation. The structure stayed constant but the proportion and addition of spouts, tubes, handles and openings shifted shape. Form follows function, in a ceramic vessel as well as in a leaf. Or does it?



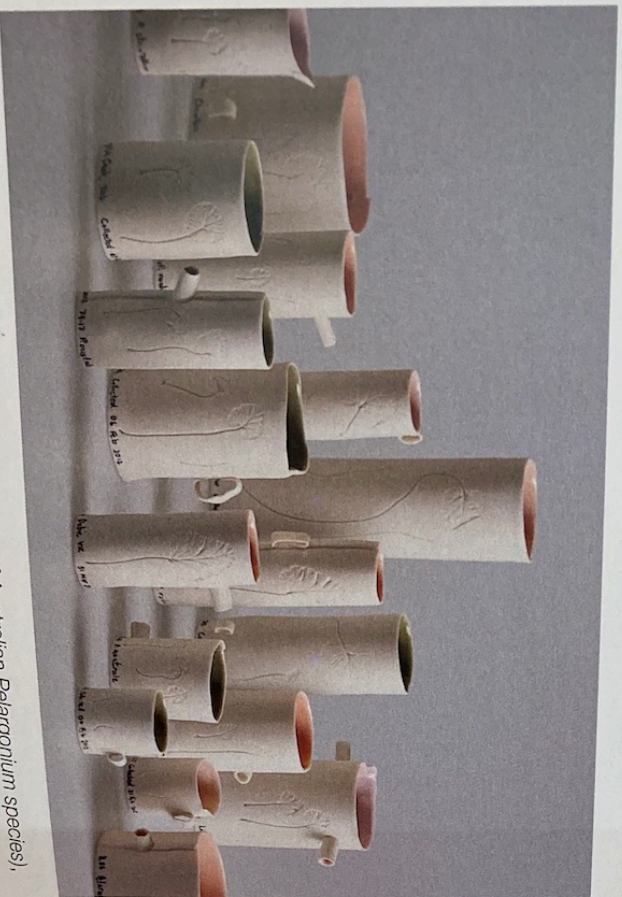
Cathy Franzl, FSB fieldtrip, Upper Spencers Creek, November 2016. Image courtesy the artist.

Collaborator Statement - Professor Adrienne Nicotra, Research School of Biology, ANU College of Medicine, Biology and Environment

When Dr Cathy Franzl approached me about being a VOCAF in my group, I had never before had a collaboration with an artist, and wasn't quite sure what such a collaboration might mean. Our school had hosted a Fellow previously and found it a rewarding experience, so this seemed an apt opportunity to continue that engagement. Cathy has considerable experience working with Australian native plants and thus the complementarity between her work and the

evolutionary ecology research in my lab was striking from the outset. For me, it was an experiment to explore how our approach to botanical research would be incorporated in Cathy's work, and how her perspective could provide opportunity to reflect on and potentially to inform what and why we do what we do.

While we all study plants, the interests of members of my group are fairly broad. Cathy showed great perseverance working to gain an understanding of what, me, it's obvious what those themes are, so I was bemused to observe that even to members of my group the inter-relations are not always easy to explain. For year, participating as we discussed, designed, and interpreted the science that members were undertaking. I enjoyed the challenge of conveying why we do what we do in a different vein. It was fascinating, and often illuminating, to probe Cathy's reflections on and queries about the work.

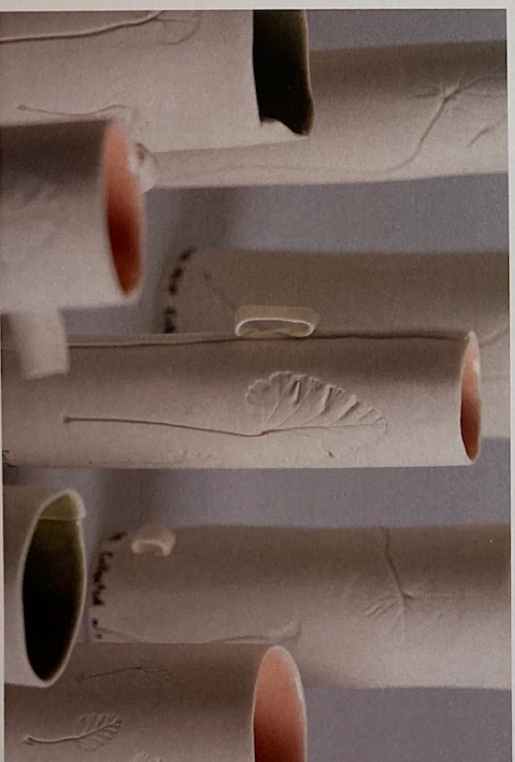


Cathy Franzl, *Patterns of Distribution* (in leaf shape of Australian *Peltargonium* species), detail, 2016. Porcelain, 16 x 108 x 36 cm. Image: Andrew Sikorski: Art Atelier

At the core, we explore how plants function in their diverse environments: from coastal dunes, to desert, to mountain. We are particularly drawn to leaves, and how their shape, and internal and external form are driven by and interact with

environment to determine the functional characteristics and limits of the leaf and plant. We explore the extent to which variation among plants reflects innate differences, versus plastic responses to environment. We ask how, and whether, the internal and external structures and physiology we observe convey's an evolutionary advantage.

As Cathy's project came together she explored and captured many elements of what we study – how light passes through the surface of the leaf, how water travels through the veins and their constituent vessel cells, how distinctive the shapes and surface textures of the leaves are. It was simply delightful to participate as the work has come together, it captures the beauty of the leaf as an organ, and also the connections and complexity and eternal curiosity of the relationship between form and function.



Cathy Franzl, *Patterns of Distribution* (in leaf shape of Australian *Peltargonium* species), detail, 2016. Porcelain, 16 x 108 x 36 cm. Image: Andrew Sikorski: Art Atelier