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APPLY



KING'S CROSS STATION

The transformation of King's Cross Station creates a remarkable dialogue between Cubitt's original 19th century station and 21st-century architecture. Opened to the public in March 2012, in advance of the 2012 London Olympics, King's Cross is now an iconic architectural gateway to the capital. The scheme has restored Grade I listed historic fabric, and added the highly innovative new Concourse. At 7,500 sqm, it is three times the size of the original concourse and has become the 'beating heart' of this multi-modal transport hub, linking St Pancras Station, Thameslink services, London Underground, taxis and bus services, and accommodating up to 150,000 passengers daily through a spacious and dynamic multi-modal interchange.

[Read more >](#)

RELATED LINKS



KING'S CROSS STATION MASTERPLAN
Widely praised for its design and refurbishment of the Grade I listed Station ...



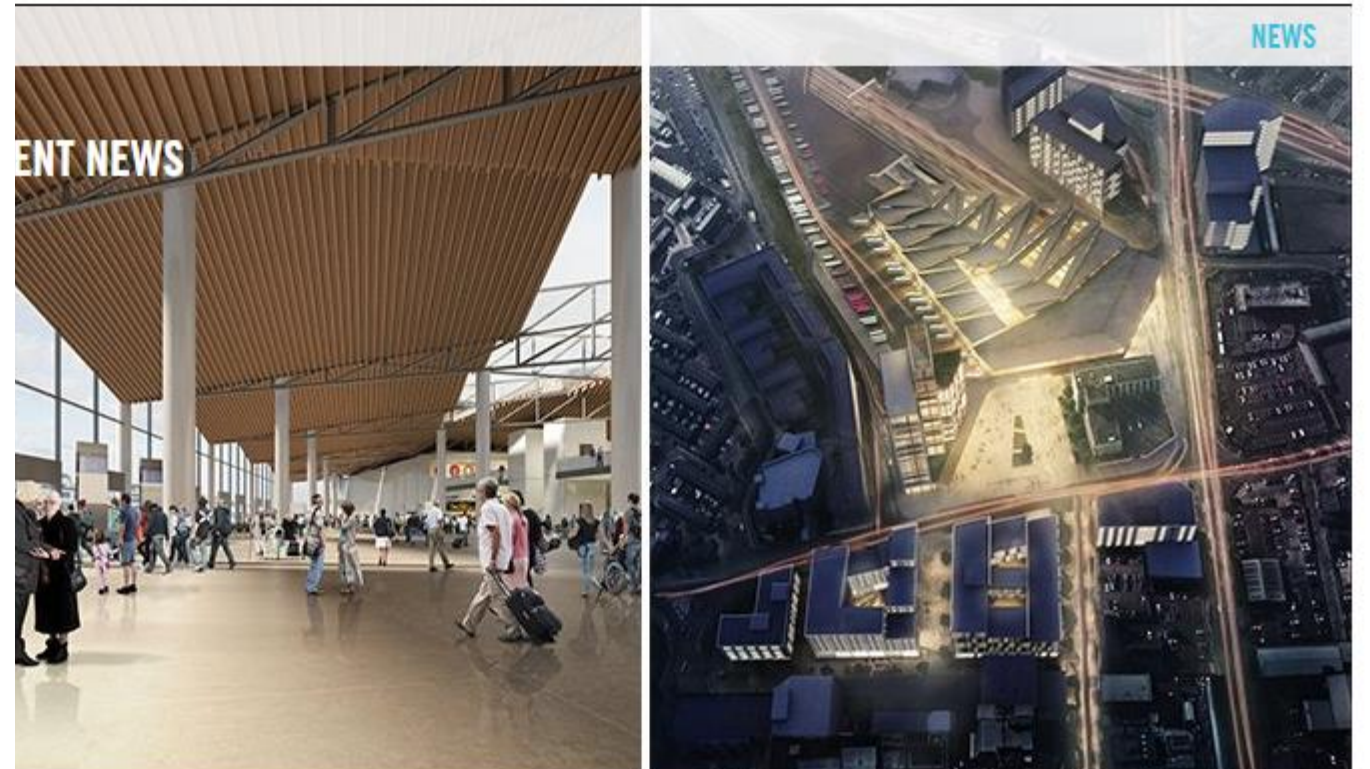
ANAND VIHAR TRANSPORT HUB
The 53ha Anand Vihar Transport Hub will be a major new multi-modal interchange ...



DOHA METRO
John McAslan + Partners is supporting the design of six Green Line stations ...



GOLDSMITHS COLLEGE MASTERPLAN
John McAslan + Partners was appointed to prepare a masterplan for Goldsmiths ...



10 SHORT-LISTED DESIGNS FOR UK HOLOCAUST MEMORIAL AT THE V&A
John McAslan + Partners' design for the Holocaust Memorial is one of ...



BELFAST HUB SUBMITTED FOR PLANNING
The Belfast Transport Hub, designed by John McAslan + Partners with Arup for ...



THE ART OF REGENERATION
An exhibition at the Museum of Russian Impressionism celebrates the Museum's ...



NICOLA STURGEON VISITS BURGH HALL
Following almost a decade of restoration work, Nicola Sturgeon, Scotland's First ...



JOHN McASLAN + PARTNERS ACCOLADE AT BRITISH ARCHITECTURE AWARDS
The Heart Cathedral of Doha, won this year's ...



BEST OFFICE AWARDS 2017
The Bolshevik Factory in Moscow has won first prize in the Best Office Awards 2017.



JMP'S SENIOR SCHOOL FOR BRITISH SCHOOL RIO DE JANEIRO OPENS
The practice's new senior school for The British School in Rio de Janeiro, was ...



PAUL EAST APPOINTED TO HEAD UP JMP'S EDINBURGH OFFICE
Paul East has been appointed to head up JMP's Edinburgh office. During his ...



SITUA

us Material Domains

SITUA as a collaborative lab has been to establish active research projects that utilise a Mātauranga Māori framework that support both the long developmental needs of Ngāi Tamanuhiri around their built environment and the research aims of the VUW School of Architecture.

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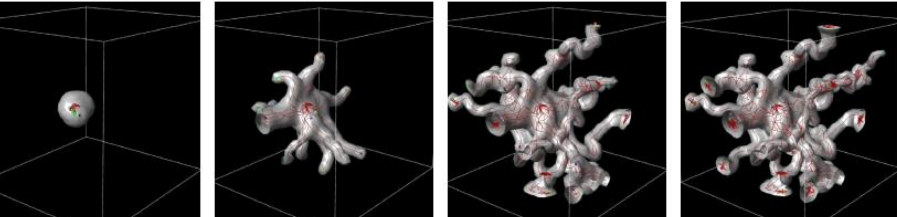
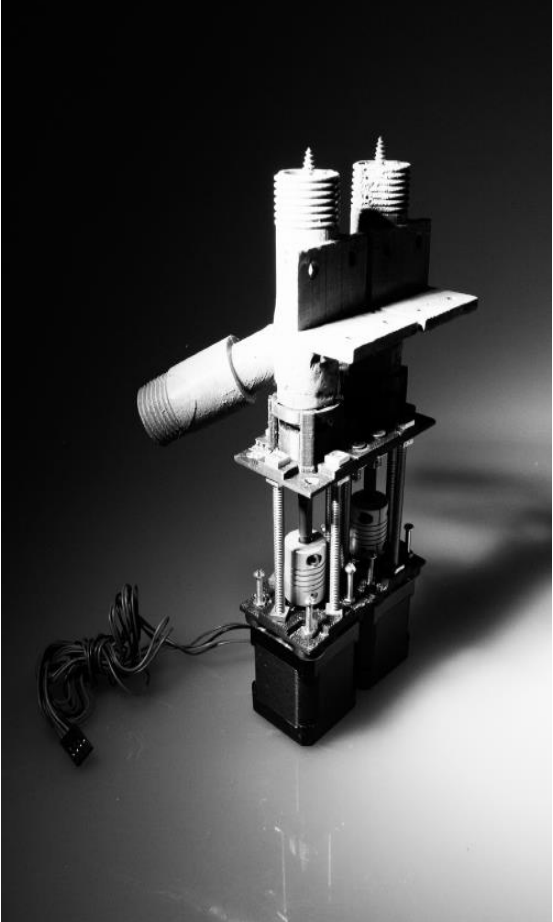
SITUA

Indigenous Material Domains

In early January of this year the Victoria University School of Architecture in close association with Ngāi Tamanuhiri, initiated an innovative 'domain based' materials analysis and design research lab: 'SITUA' (Site of Indigenous Technologies Understanding Alliance).

The leading objective of SITUA as a collaborative lab has been to establish active research projects that utilise a Mātauranga Māori framework that support both the long developmental needs of Ngāi Tamanuhiri around their built environment and the research aims of the VUW School of Architecture.

SITUA/ THE BIOLOGICAL
Research Sphere 2
 Biological Interpolation in Fabrication



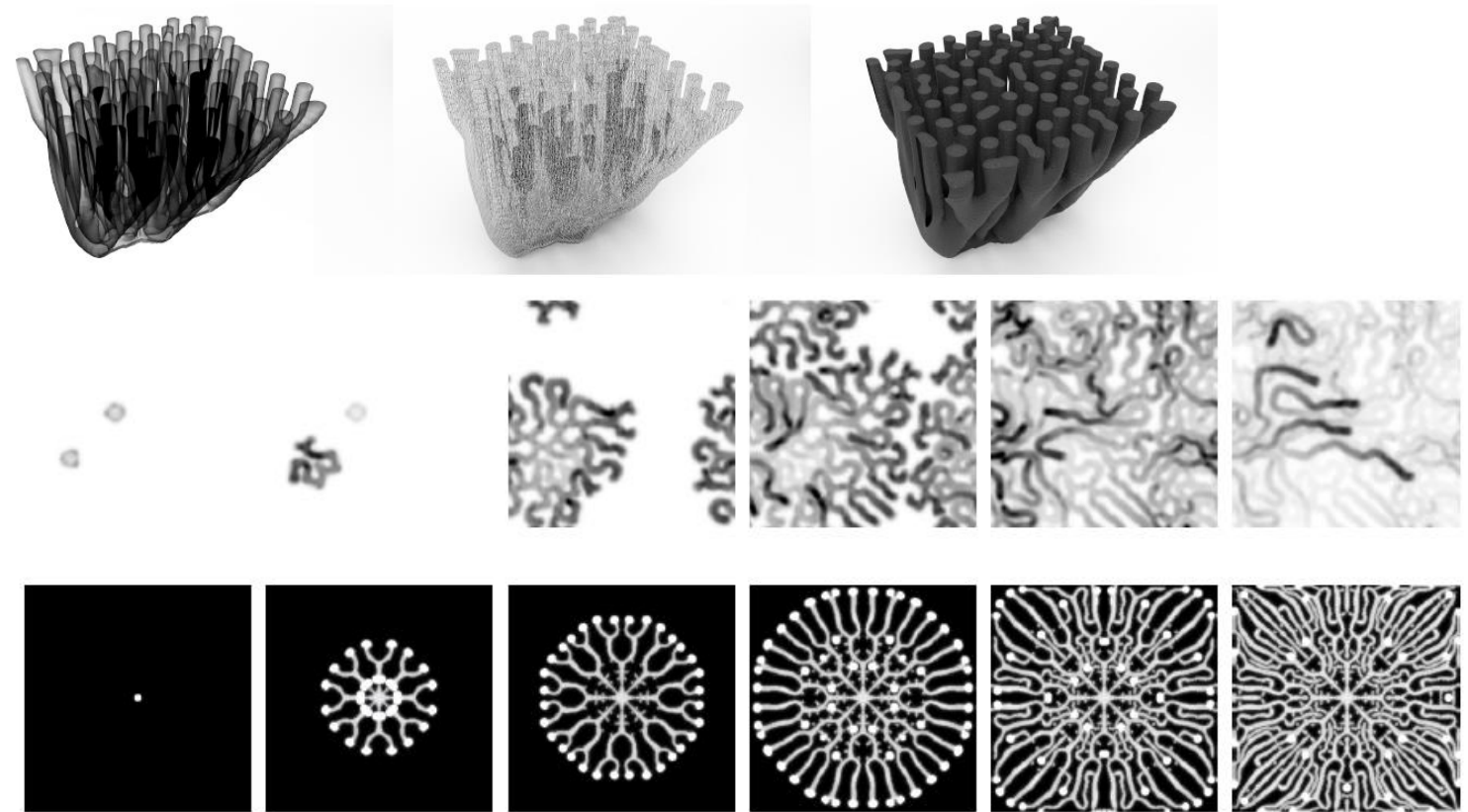
Puriri moth behaviour/ korero o nehe.

Dual nozzle construction/ print simulation studies.

Noah Orr/ Derek Kawiti/ Nga Tāmanuhiri: Double Extruder Study/ Clay + Bio matter scaffolding. Pūriri Moth/ Ngāpuhi kaupapa for tool making. Bio-computational partnering/ design orchestration. References to term 'Whakairo' Whaka-Iro. To subtract to carve to eat away/ dissolve.



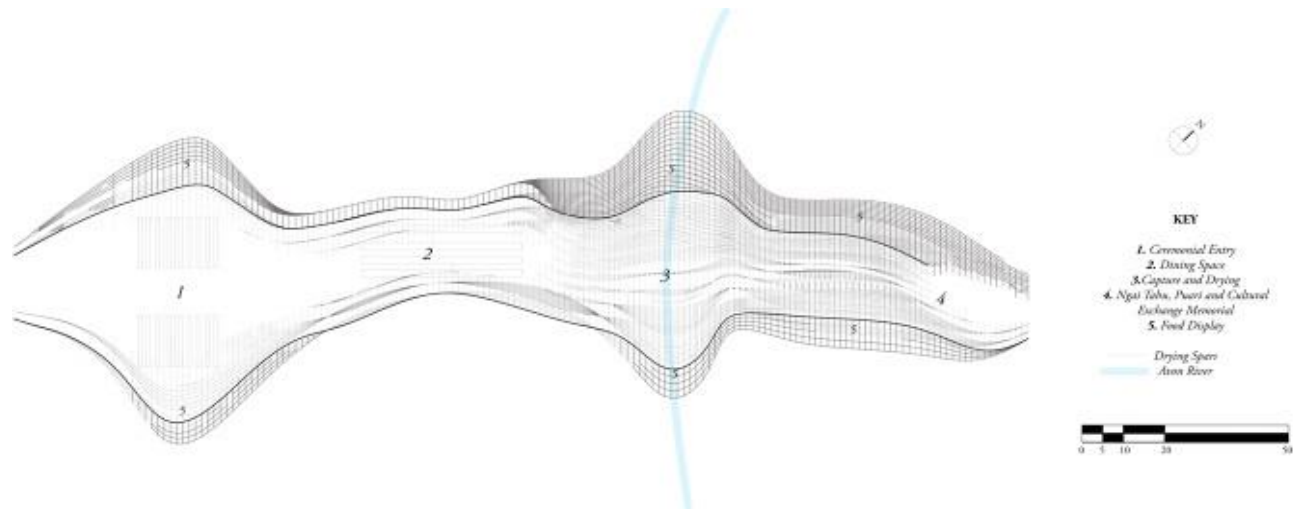
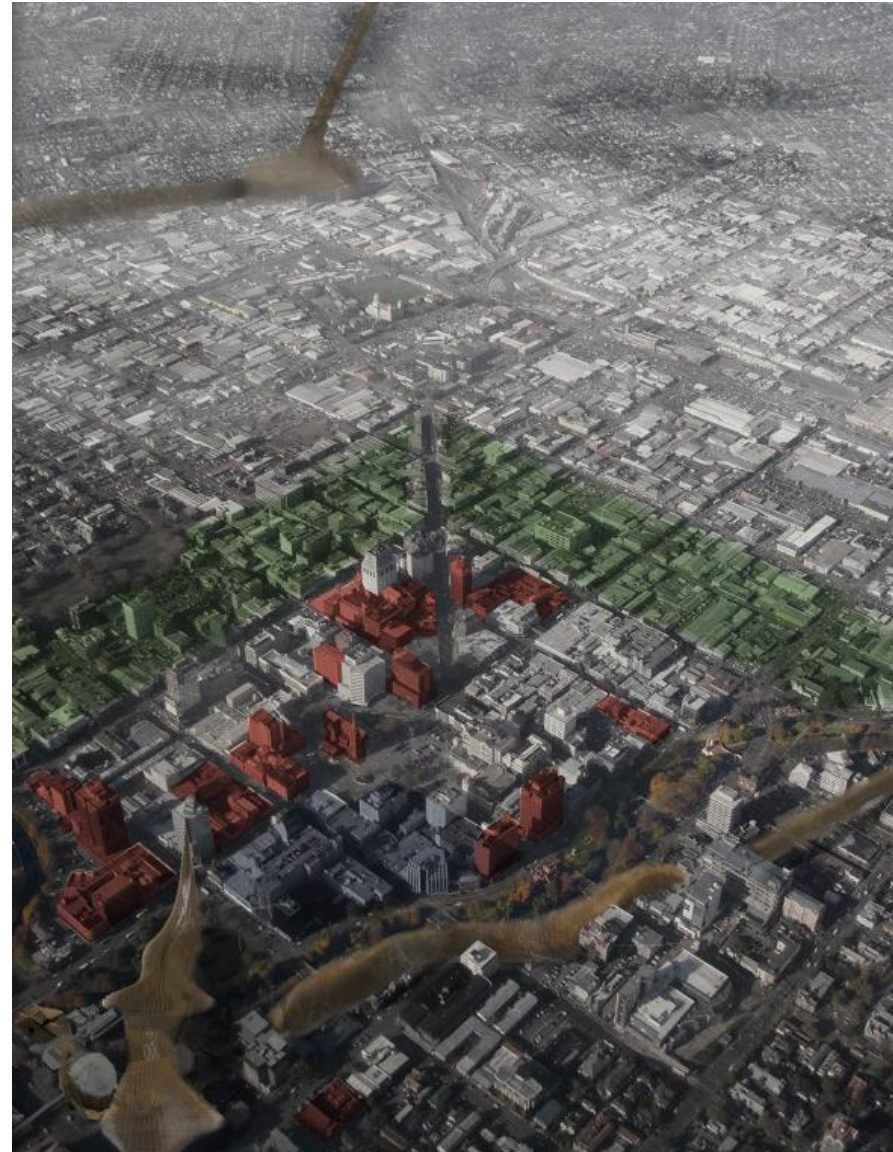
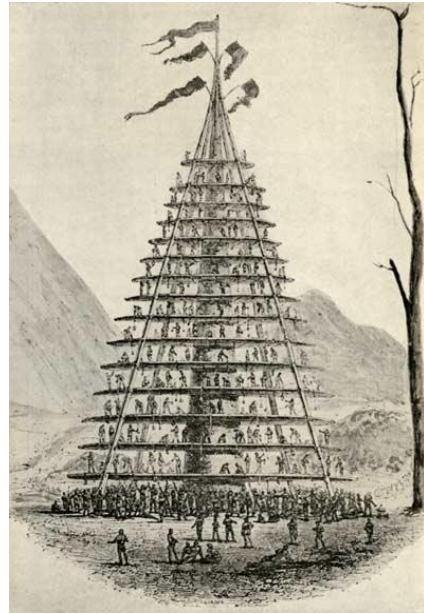
Material subtraction through biological tooling.
References to term 'Whakairo' Whaka-Iro. To subtract to carve to eat away/ dissolve.



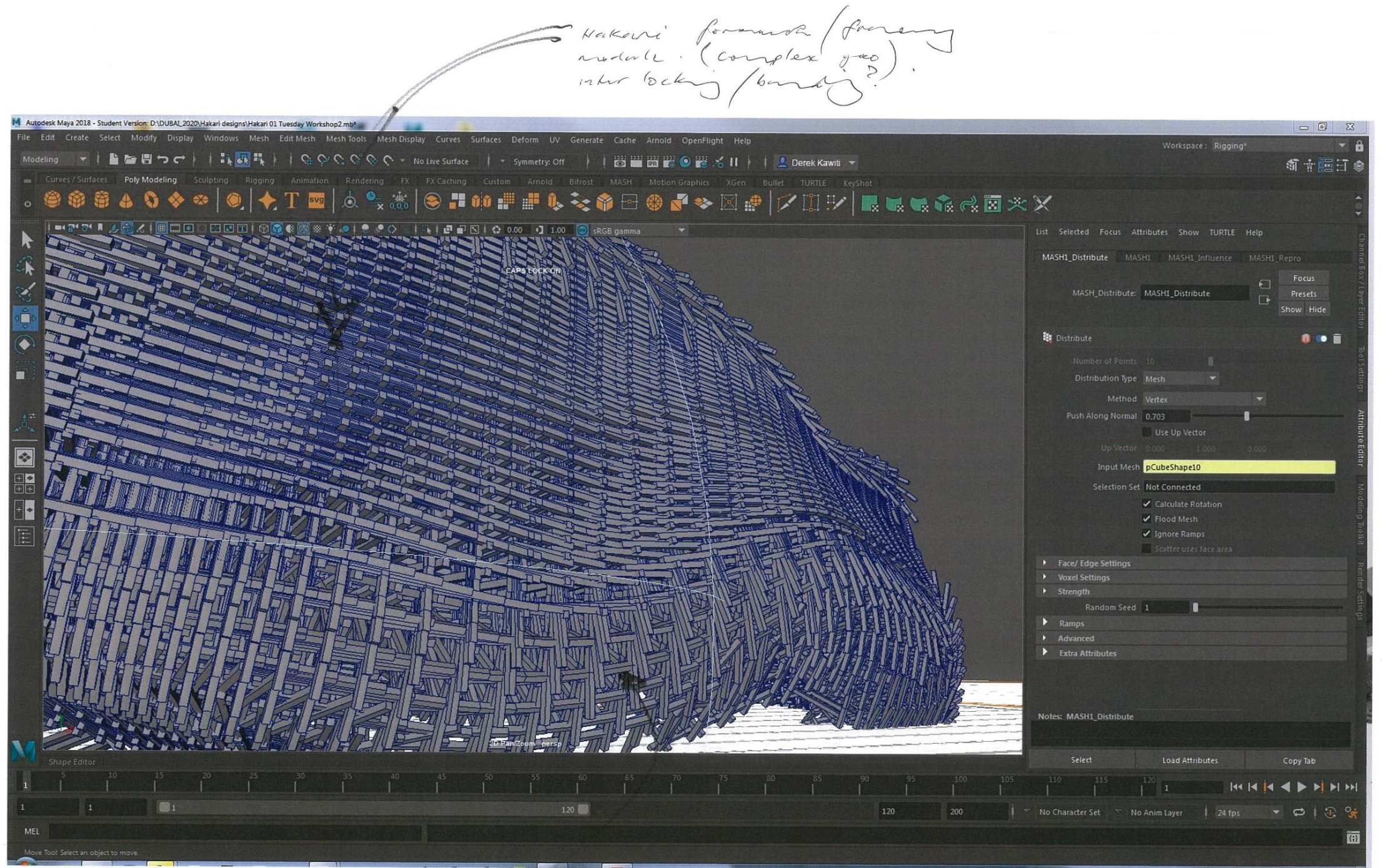
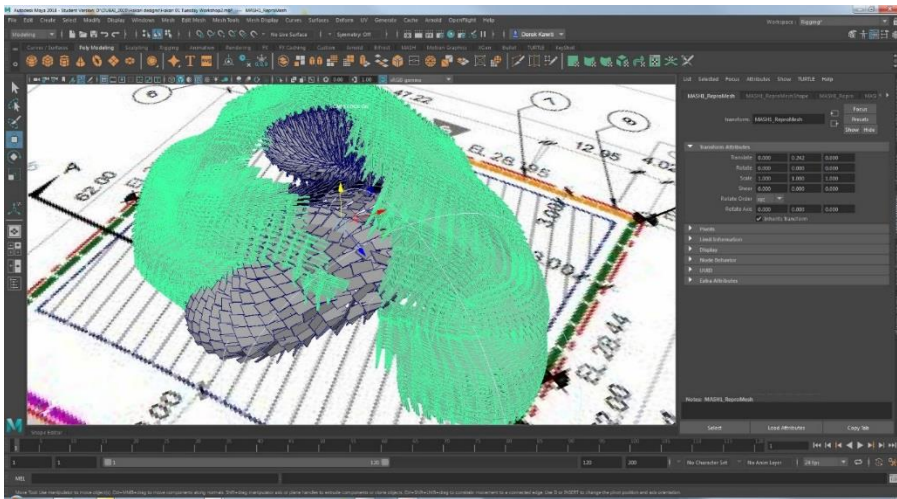
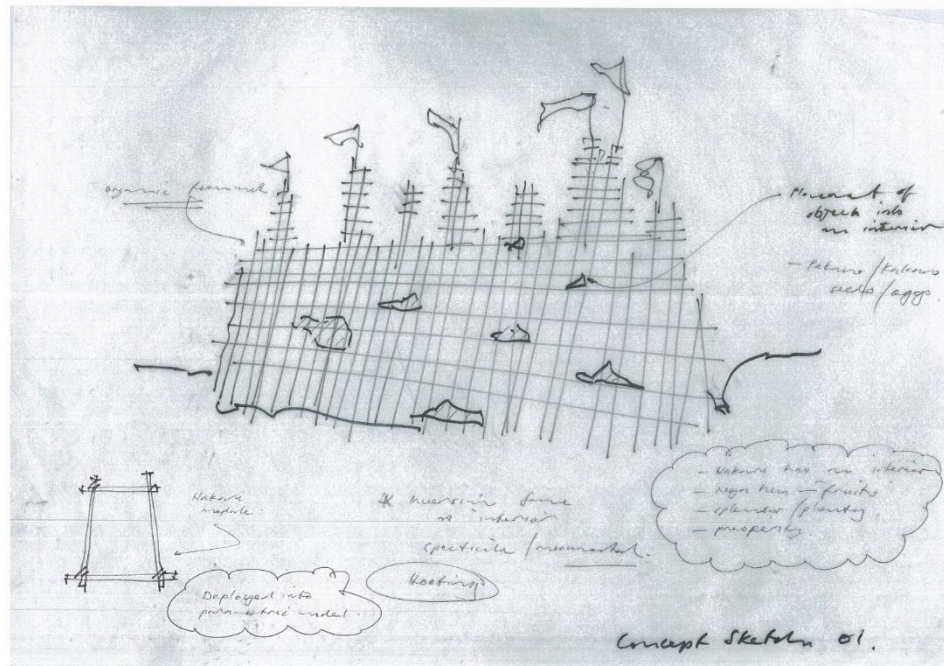
Material subtraction through biological tooling.
Toolpath orchestration/ cellulose depositions.

Noah Orr/ Derek Kawiti/ Ngai Tāmanuhiri: Double Extruder Study/ Clay + Bio matter scaffolding. Pūriri Moth/ Ngāpuhi kaupapa for tool making.
Bio-computational partnering/ design orchestration.

SITUA/ FORENSIC RE- SETTLEMENT
Research Sphere 3
Digital heritage, re modulation, re vitalisation



FORENSIC RECOLONISATION MODULATION; HAKARI STAGES. Guy Newton/ Derek Kawiti: Development of historic typologies, structures through performative investigations. Digitisation and prototyping with further formal structural generation. Collaborative project on a proposal for CHCH CBD.



Formula will vary in modulation.

Concept SK 04

Digital re generation, procedural modulation of Hakari structural module and deployment..

FORENSIC RECOLONISATION MODULATION; HAKARI STAGES. Guy Newton/ Derek Kawiti: Development of historic typologies, structures through performative investigations. Digitisation and prototyping with further formal structural generation. Collaborative project on a proposal for CHCH CBD.



SITUA/ TECTONIC RE-ENGINEERING

Research Sphere 4 **NGA ATUA - RUAUMOKO**

Tectonic re engineering/ High pressure ground grouting

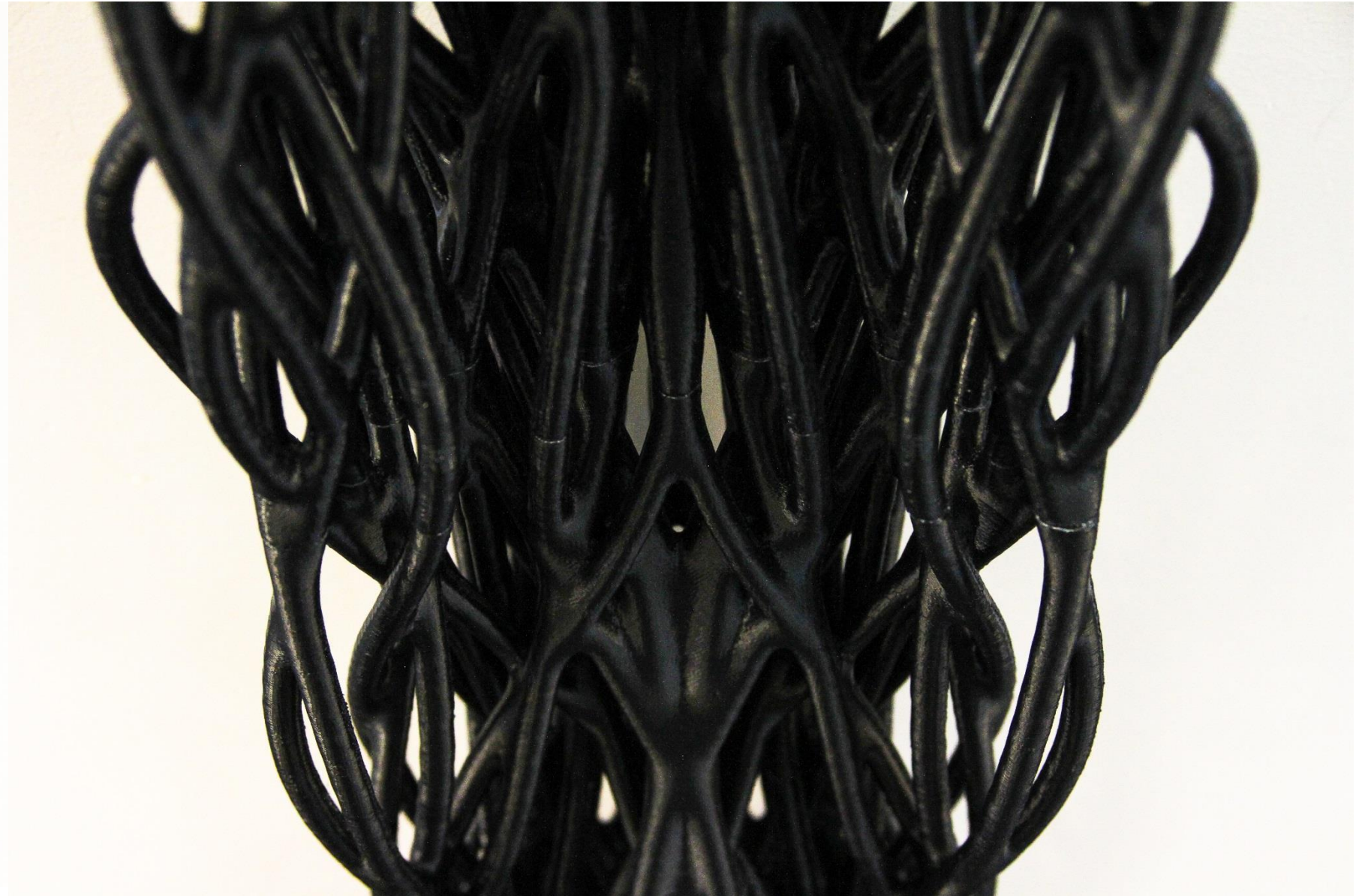
Tyler Harlen/ Derek Kawiti/Huhana Smith/ Ngati Tukorehe: High Pressure Injected Structures run through 3 scenarios:

Sandhill coastal erosion mitigation, Post Disaster scaffold, small scale foundation system. Small scale prototyping in the use of Anenome for GH/RH. Currently under 1:100 scale moving to 1:5 then to 1:1

SITUA/ TECTONIC RE-ENGINEERING

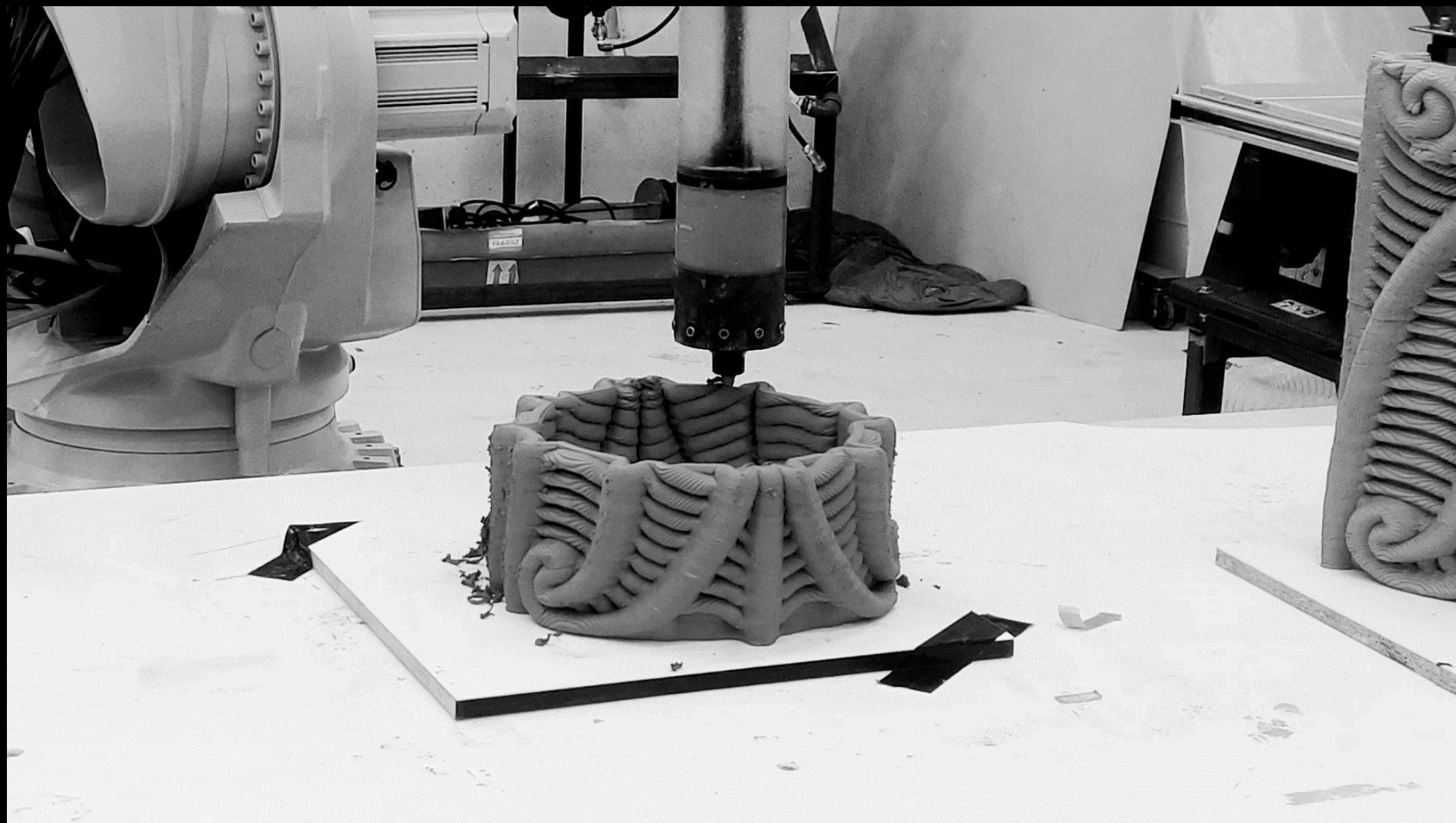
Research Sphere 4

Tectonic re engineering/ High pressure ground grouting

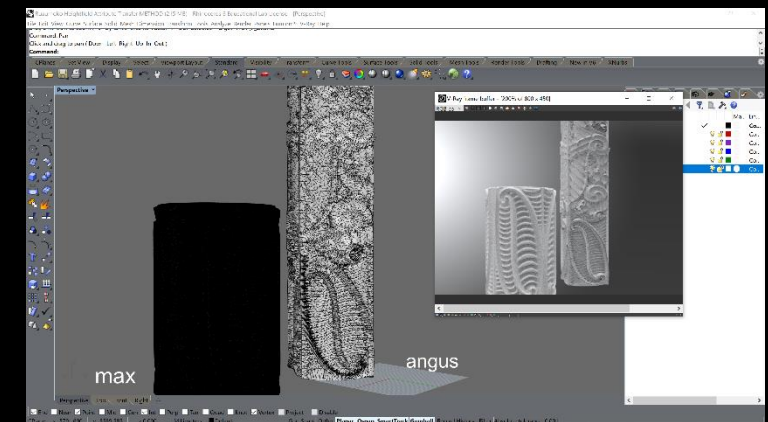
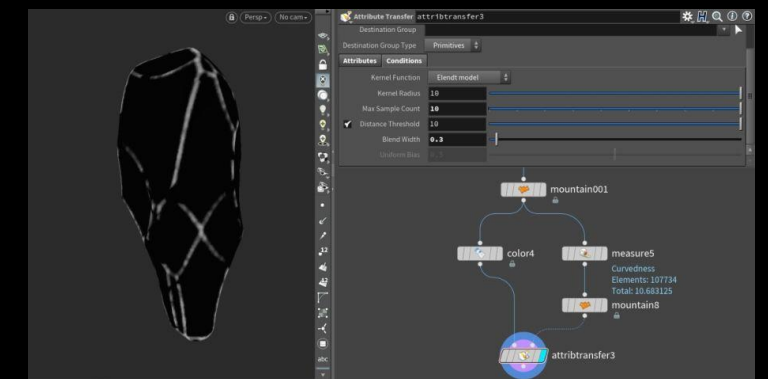
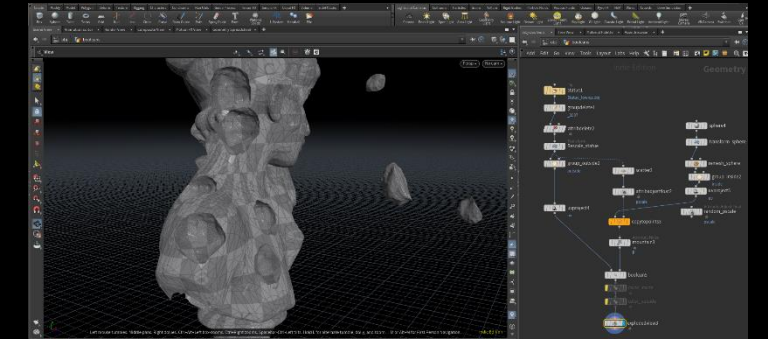
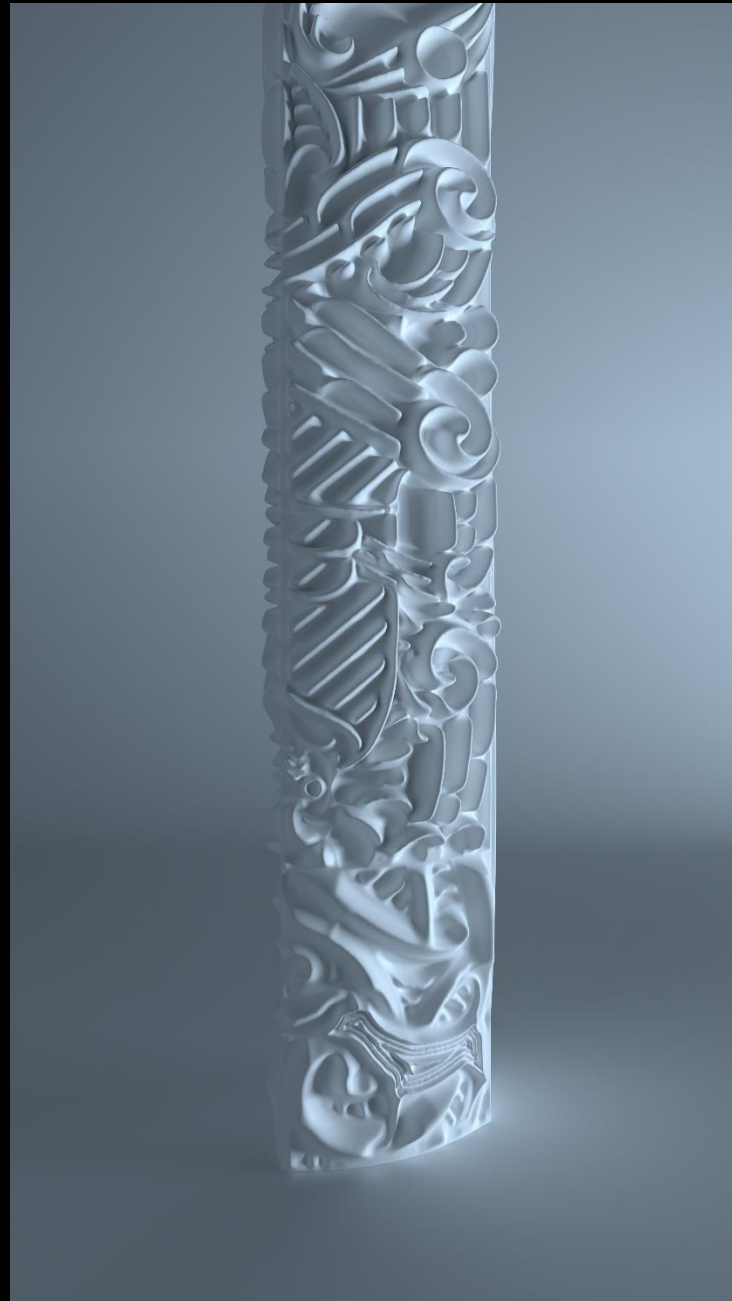


Tyler Harlen/ Derek Kawiti/Huhana Smith/ Ngati Tukorehe: High Pressure Injected Structures run through 3 scenarios:

Sandhill coastal erosion mitigation, Post Disaster scaffold, small scale foundation system. Small scale prototyping in the use of Anenome for GH/RH. Currently under 1:100 scale moving to 1:5 then to 1:1



SITUA/ CILOARC - ALLAN WIHONGI / Derek Kawiti/ ANGUS HORNE/ 3D Robotic Clay Printing
Revitalisation via robotic augmentation, sustainable practices in material exploration. Work undertaken for Te Parahirahi Trust, NGAWHA WAIARIKI. 2020 - 2022



SITUA/ CILOARC - Derek Kawiti/ Max Clifford/ Volumetric resampling of complex surface geometry
Procedural re surfacing towards replication. Polyline driven quad meshes from voxel geometry. HOUDINI/ PROCEDURAL ALGORITHM. 2021 - 2022

World's largest 3D printed sculpture finally installed in Rotorua

Benn Bathgate • 11:06, Sep 12 2020

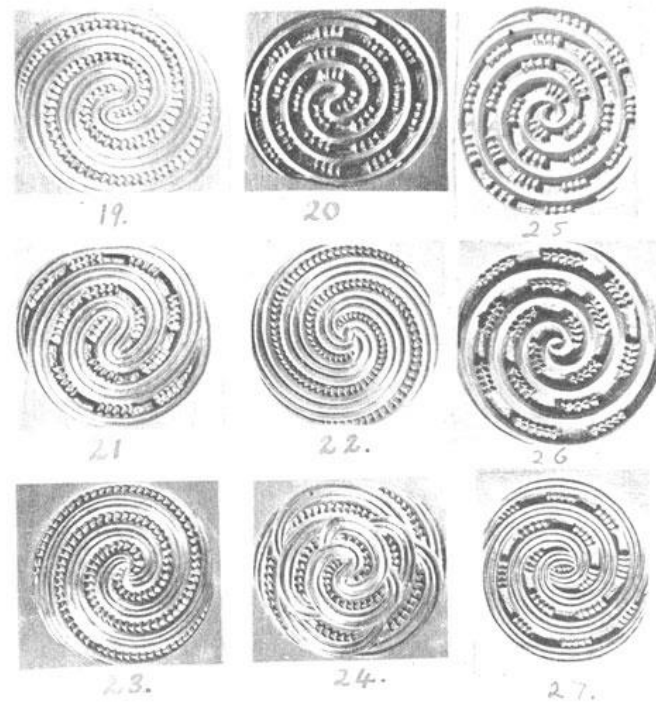


BENN BATHGATE/STUFF

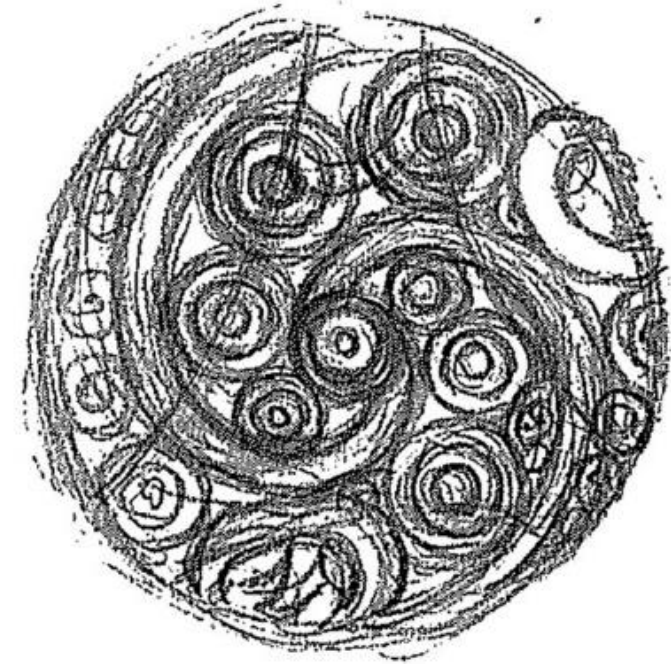
More than three years after its original installation date the Hemo Gorge sculpture, Te Ahi Tupau, is finally in place

Trustworthy, accurate and reliable news stories are more important now than ever. Support our newsrooms by **making a contribution.**

Rotorua's Hemo Gorge sculpture, the largest 3D printed sculpture in the world, has finally been helicoptered into place more than



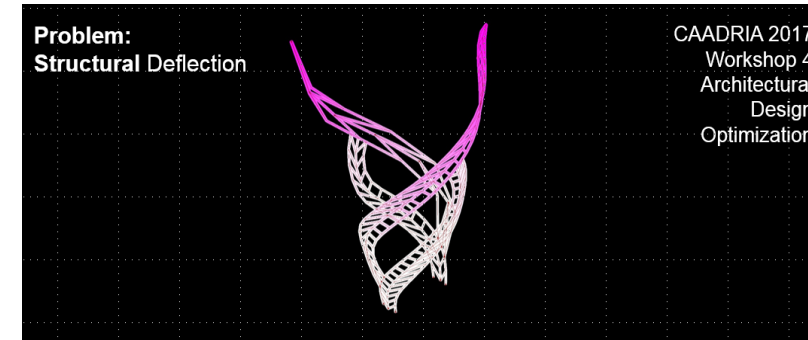
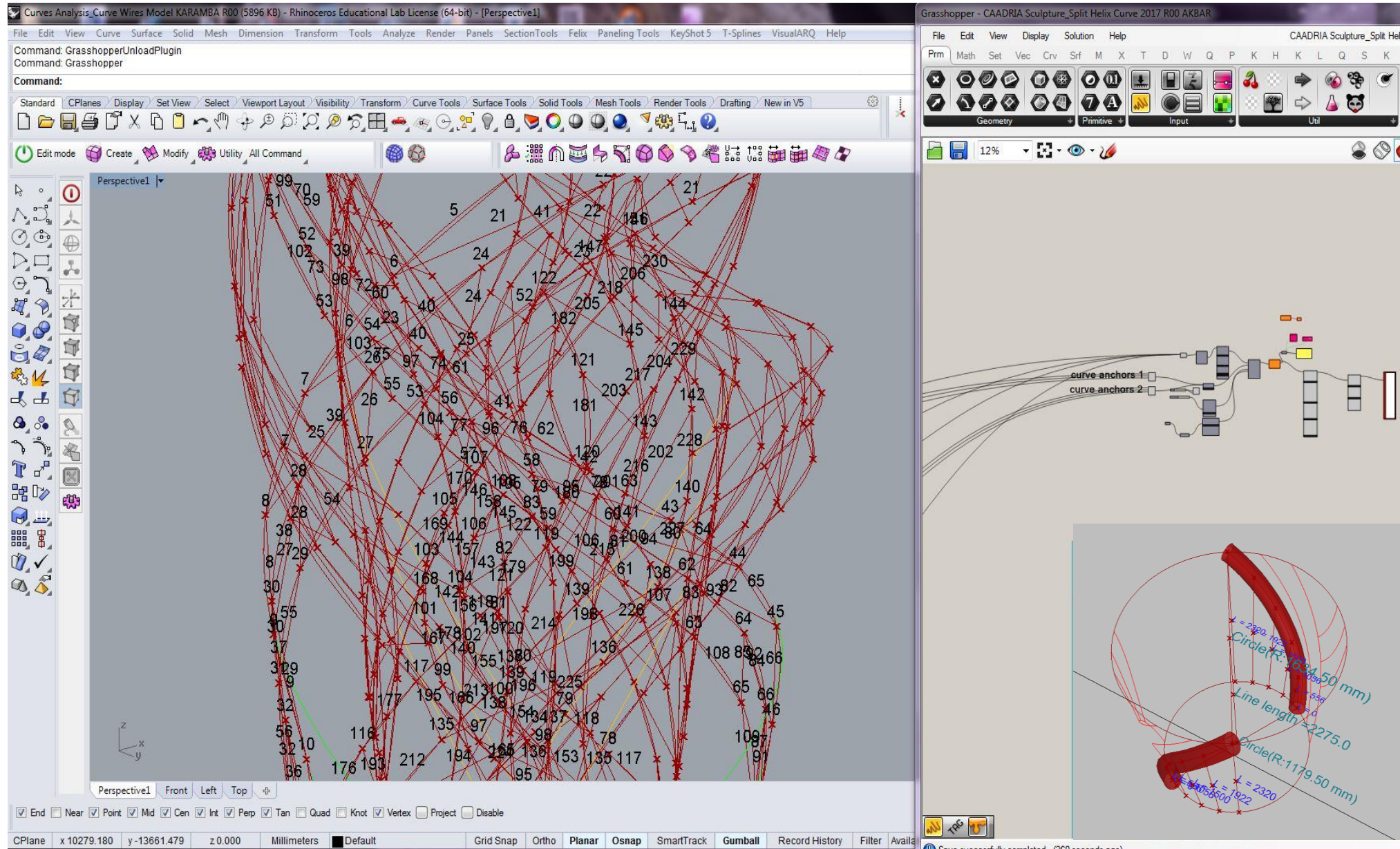
B. W. Hall, photo.



Hemo Rd Sculpture Project Rhinoceros/ Grasshopper Parametric Model. Structurally Optimised PLA Printed & Carbon Fiber Tubing

Project Leads://Stacy Gordine, New Zealand Maori Arts and Crafts Institute, Te Puia Rotorua, Derek Kawiti CILOARC // **GURIT Engineering**// Project Manager Marc Spikerbosch & Nick Dallimore //

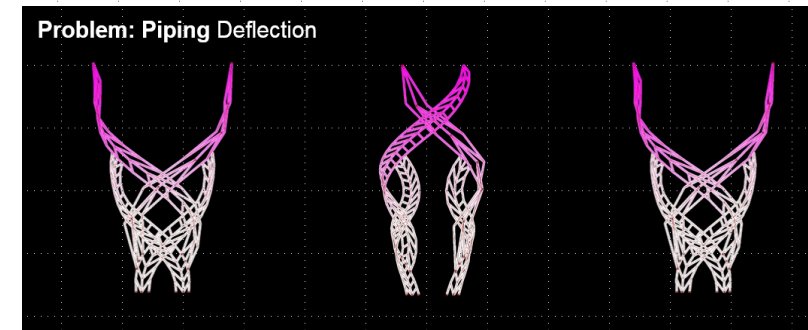




Gravity + Wind Loading

Minimize member deflection in relation to flange support numbers.

Constraints: 100mm – 141 piping diameter Stainless Steel
constant wind direction, structure cantilevered (anchored) at ground.

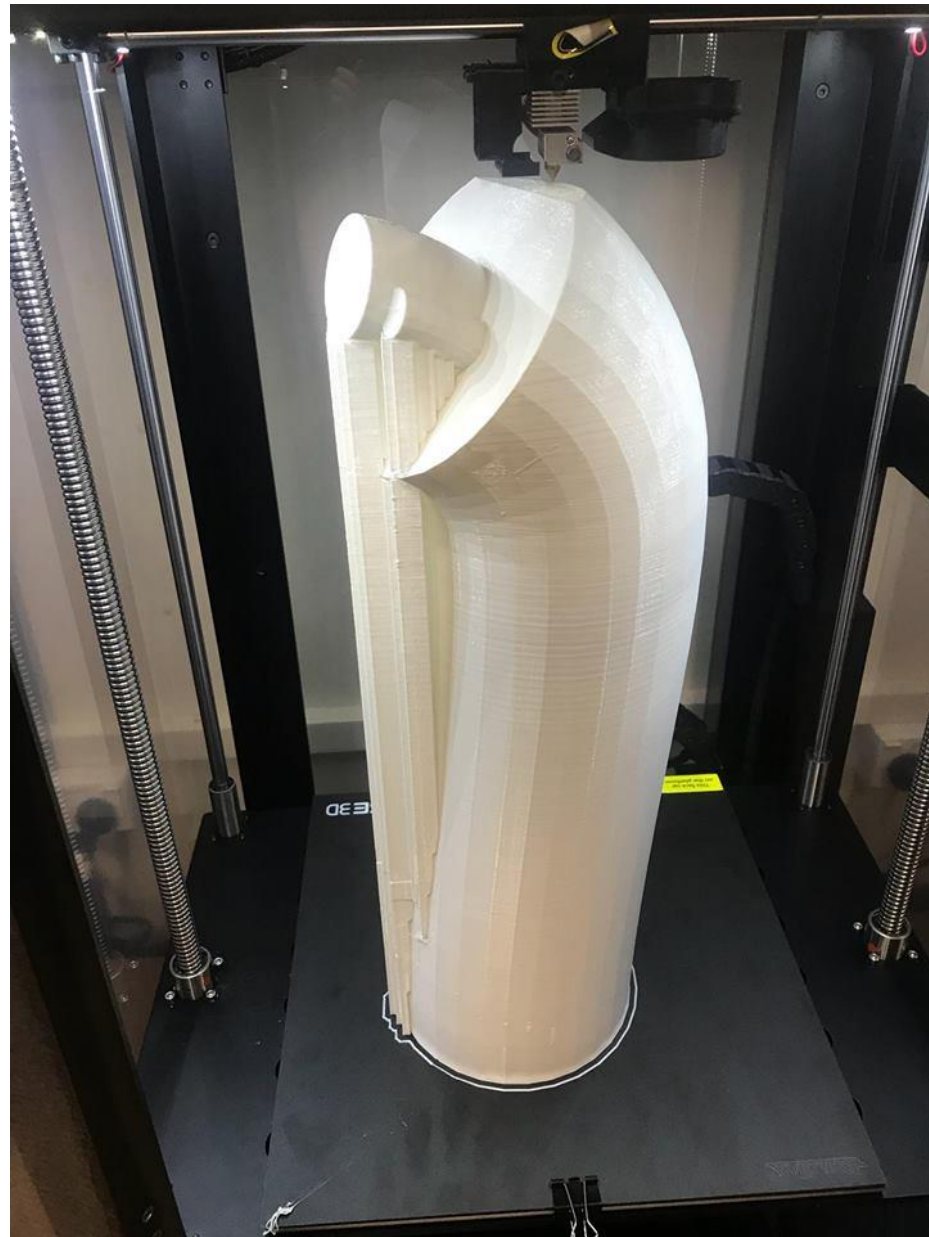


Galapagos (GA)	Silver Eye (GA)	Opossum (RBF)
Average Best Solutions	Average Best Solutions	Average Best Solutions
after 200 evaluations	after 200 evaluations	after 200 evaluations
Deflection = 23.1799	Deflection = 21.3448	Deflection = 21.6404
After 50 minutes	After 10 minutes	25 minutes
Frame 150	Frame 25	Frame 80

Hemo Rd Sculpture Project Rhinoceros/ Grasshopper Parametric Model. Structurally Optimised piping – Maori Geometries Analysis/ CILOARC

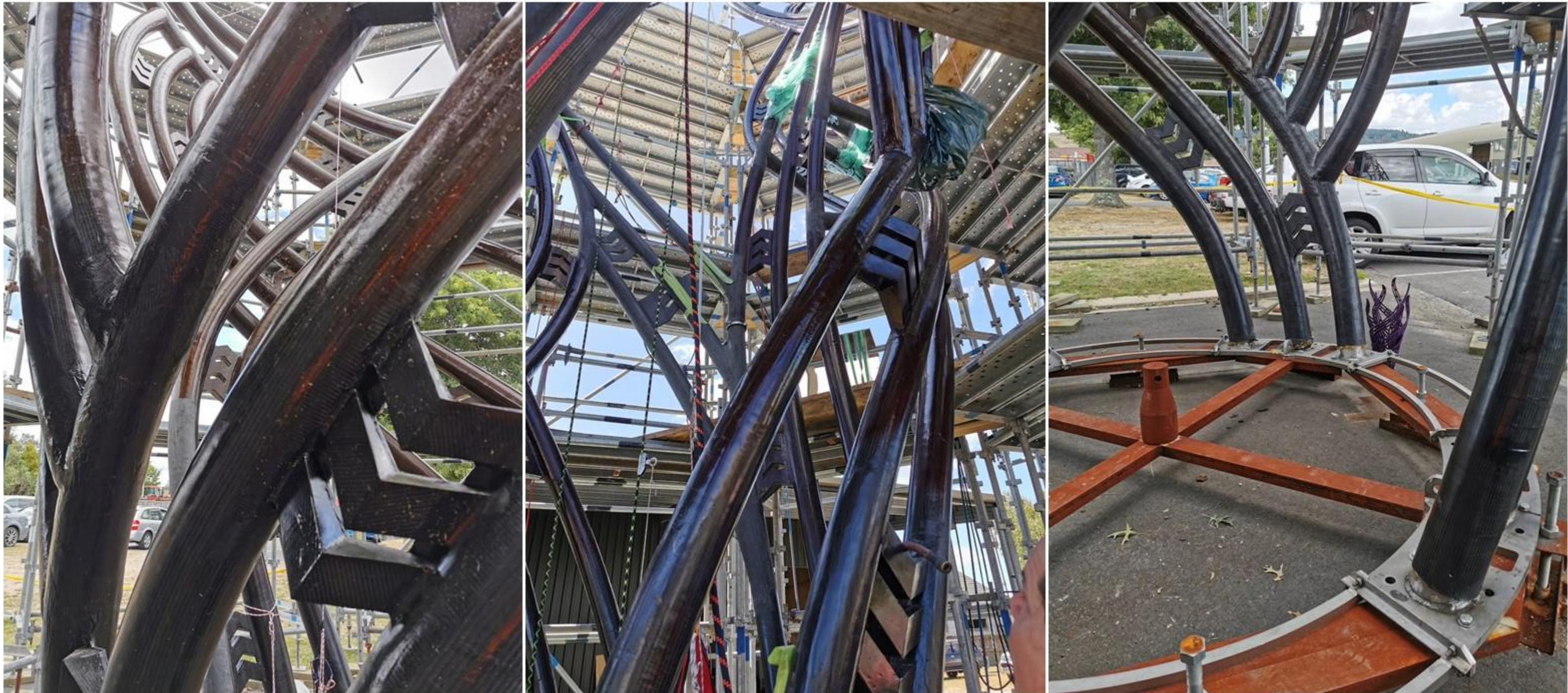
Project Leads://Derek Kawiti (CILOARC) Stacy Gordine, New Zealand Maori Arts and Crafts Institute, Te Puia Rotorua // **OPUS Engineering**// Project Manager Marc Spikerbosch & Nick Dallimore //





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 Project Leads://Stacy Gordine, New Zealand Maori Arts and Crafts Institute, Te Puia Rotorua, Derek Kawiti CILOARC // **GURIT Engineering**// Project Manager Marc Spikerbosch & Nick Dallimore //





“Technological Mis-alignments: re-aligning fabrication and materials with cultural complexity.”

Hemo Rd. Sculpture ‘Te Ahi Tupua’ Project Leads://Stacy Gordine/Derek Kawiti/Nick Dallimore New Zealand Maori Arts and Crafts Institute, Te Puia Rotorua // **GURIT/ Opus Engineering**// Kilwell Fiber tube Ltd.

// CURRENT MODEL TO FABRICATION
Model sectional cut
164 Curves + Pipe Sections



Hemo Rd Sculpture Project Rhinoceros/ Grasshopper Parametric Model. Structurally Optimised piping – Maori Geometries Analysis/ **CILOARC**
Project Leads://Derek Kawiti (CILOARC) Stacy Gordine, New Zealand Maori Arts and Crafts Institute, Te Puia Rotorua // **OPUS Engineering**// Project Manager Marc Spikerbosch & Nick Dallimore //

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Hemo Rd Sculpture Project Rhinoceros/ Grasshopper Parametric Model. Structurally Optimised piping – Maori Geometries Analysis/ CILOARC
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Research

Superconductivity. Electromagnetics. Materials. Where we provide science and engineering expertise to solve problems and develop new high-value products.



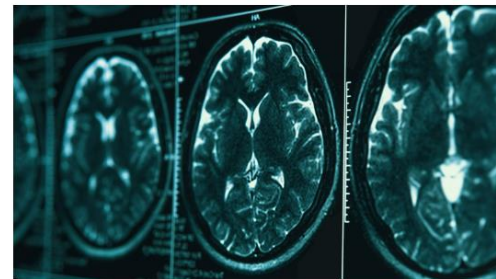
Superconductivity

High-temperature superconductors and their applications—ultra-efficient motors, generators, bearings, flywheels, and transformers—are one of our key strengths.



Material science

Our materials science research programmes include room-temperature superconductors, magnetic composites, spintronics, and more sustainable steel production.



Electromagnetics

We're harnessing the power of electromagnetics to bring elite medical systems into the mainstream and ensure the quality of superconducting wires.



Case studies

Find out about some of our projects and partnerships, including a compact MRI and machines for testing superconductor wires.

CubeSats Overview

CubeSats are a class of research spacecraft called nanosatellites. CubeSats are built to standard dimensions (Units or "U") of 10 cm x 10 cm x 10 cm. They can be 1U, 2U, 3U, or 6U in size, and typically weigh less than 1.33 kg (3 lbs) per U. NASA's CubeSats are deployed from a Poly-Picosatellite Orbital Deployer, or P-POD.

NASA's [CubeSat Launch Initiative \(CSLI\)](#) provides opportunities for small satellite payloads to fly on rockets planned for upcoming launches. These CubeSats are flown as auxiliary payloads on previously planned missions.

The cube-shaped satellites are approximately four inches long, have a volume of about one quart and weigh about 3 pounds. To participate in the CSLI program, CubeSat investigations should be consistent with NASA's Strategic Plan and the Education Strategic Coordination Framework. The research should address aspects of science, exploration, technology development, education or operations.

By providing a progression of educational opportunities including CSLI for students, teachers, and faculty, NASA assists the Nation in attracting and retaining students in STEM disciplines. This strengthens NASA's and the Nation's future workforce. Further, the CSLI promotes and develops innovative technology partnerships among NASA, U.S. industry, and other sectors for the benefit of Agency programs and projects. NASA thus gains a mechanism to use CubeSats for low-cost technology development or pathfinders.

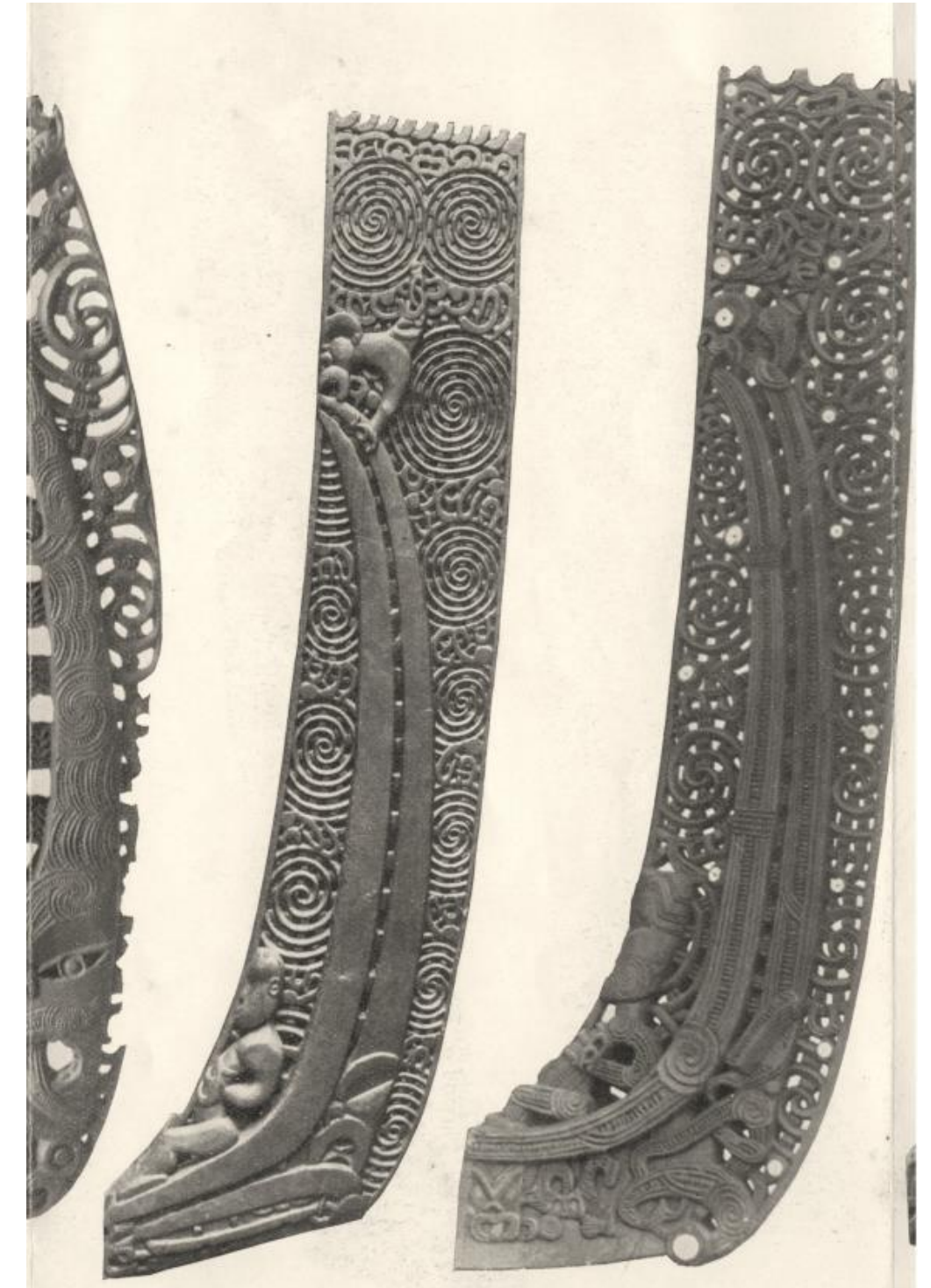
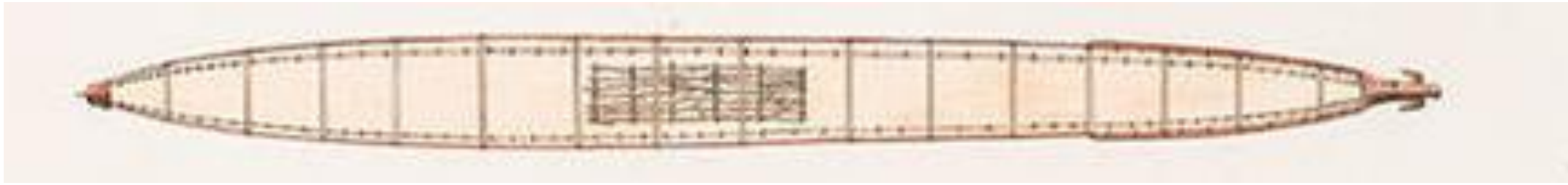
Satellites selected to date come from 29 states: Alabama, Alaska, Arizona, California, Colorado, Connecticut, Florida, Hawaii, Illinois, Indiana, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Missouri, Montana, New Mexico, New York, North Dakota, Ohio, Pennsylvania, Rhode Island, Tennessee, Texas, Utah, Vermont, Virginia and Wisconsin. [NASA is broadening the CubeSat Launch Initiative](#) to promote a spacecraft nation and develop innovative technology partnerships among NASA, U.S. industry and educational institutions to build upon an existing successful initiative and expand it to include launching 50 small satellites from 50 states within five years.

A set of NanoRacks CubeSats is photographed by an Expedition 38 crew member after the deployment by the NanoRacks Launcher attached to the end of the Japanese robotic arm.
Credits: NASA

National Aeronautics and Space Administration
Page Last Updated: Feb 15, 2018
Page Editor: Sarah Loff

CUBESAT/ Waka Taurapa Research Project 2021 – 2024

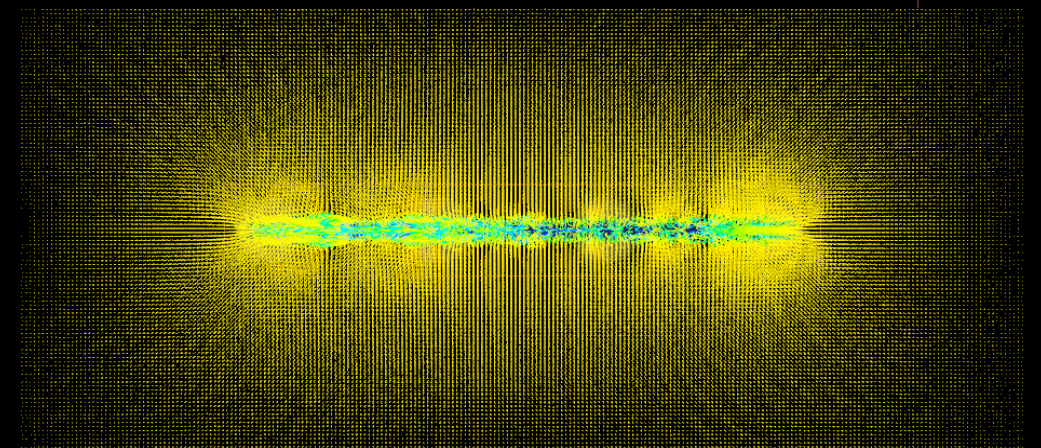
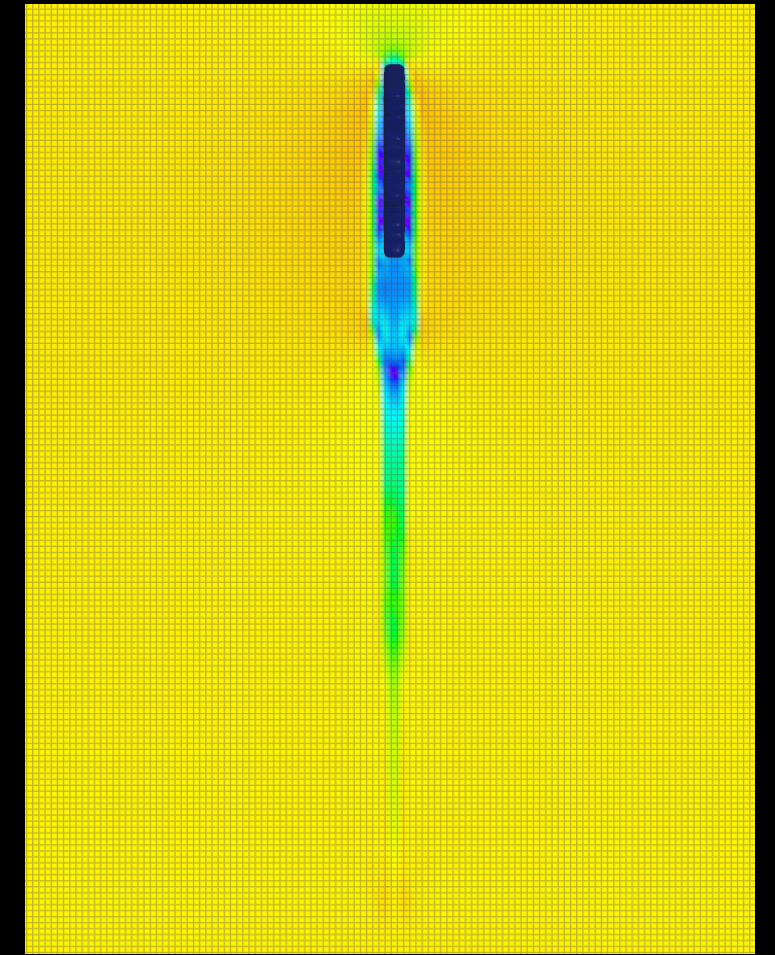
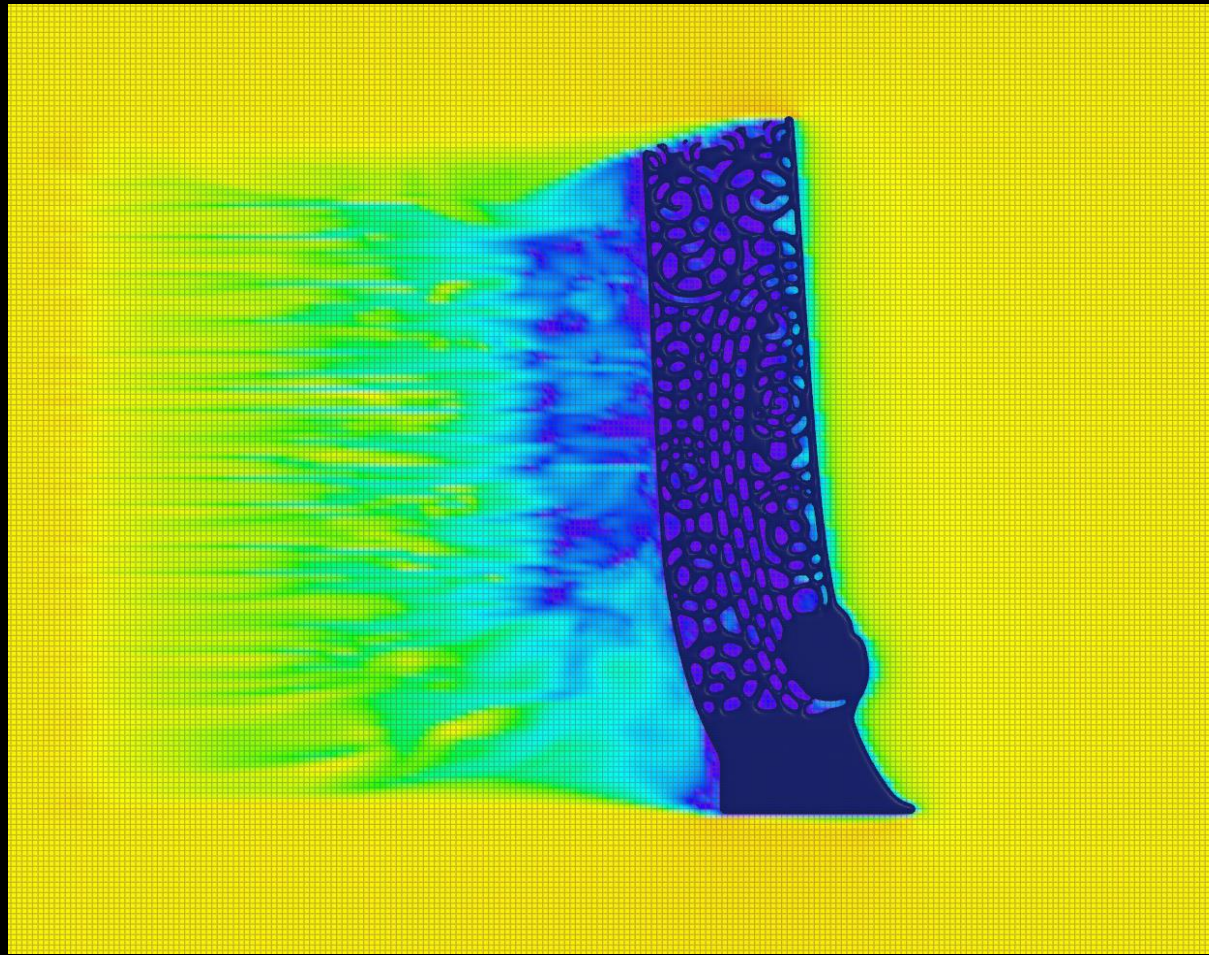
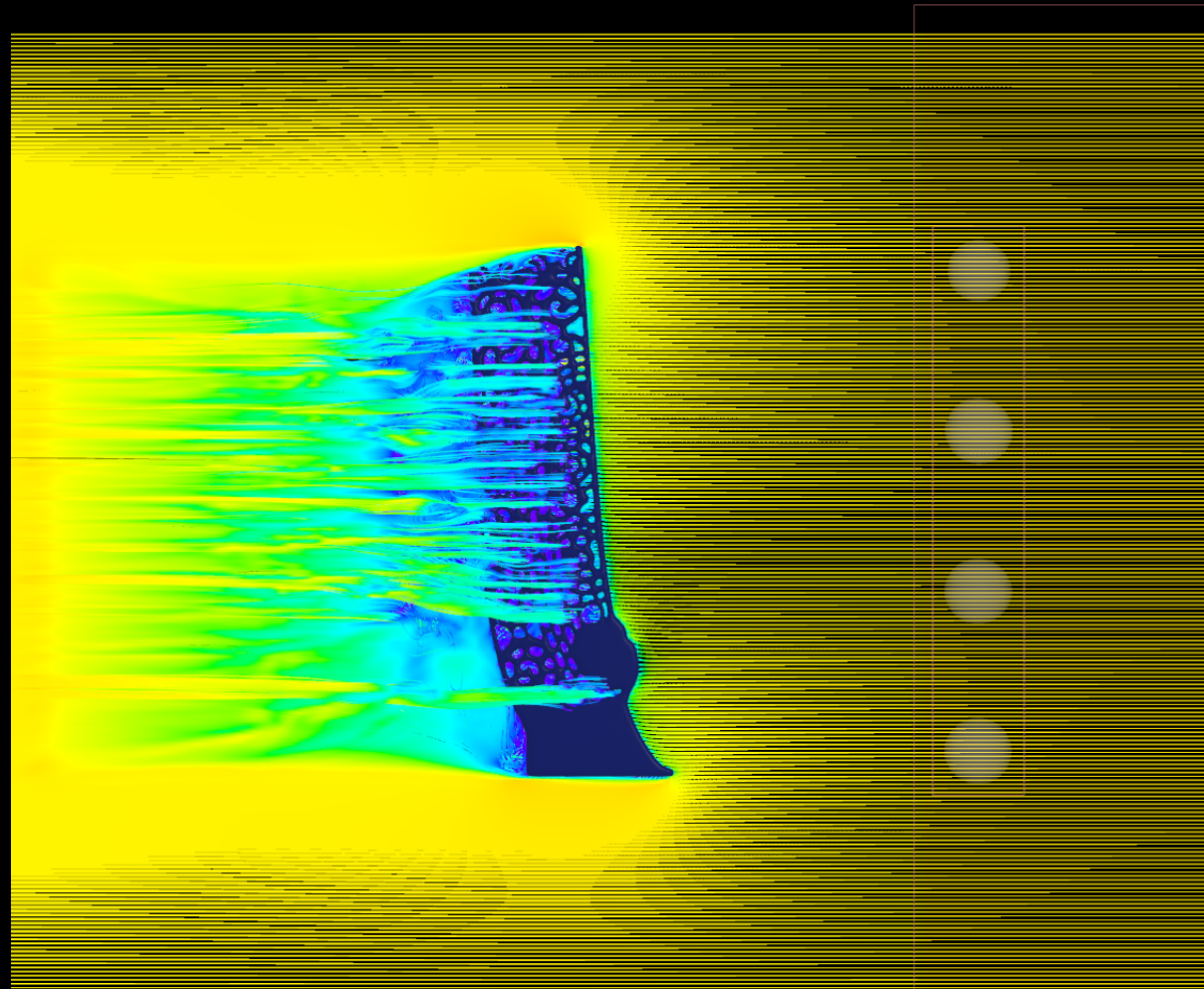
Lead Researchers: Jakub Glowacki, Tulasi Parashar, Logan Evans, Max Clifford, Hemi Eruera, Karl Johnstone, Derek Kawiti
SATCUBE GLOBAL CHALLENGE// Development of micro satellite outer casing. Launch 2025. Robinson Space Programme Collaboration



CUBESAT/ Waka Taurapa Research Project 2021 – 2024

Lead Researchers: Jakub Glowacki, Tulasi Parashar, Logan Evans, Max Clifford, Hemi Eruera, Karl Johnstone, Derek Kawiti

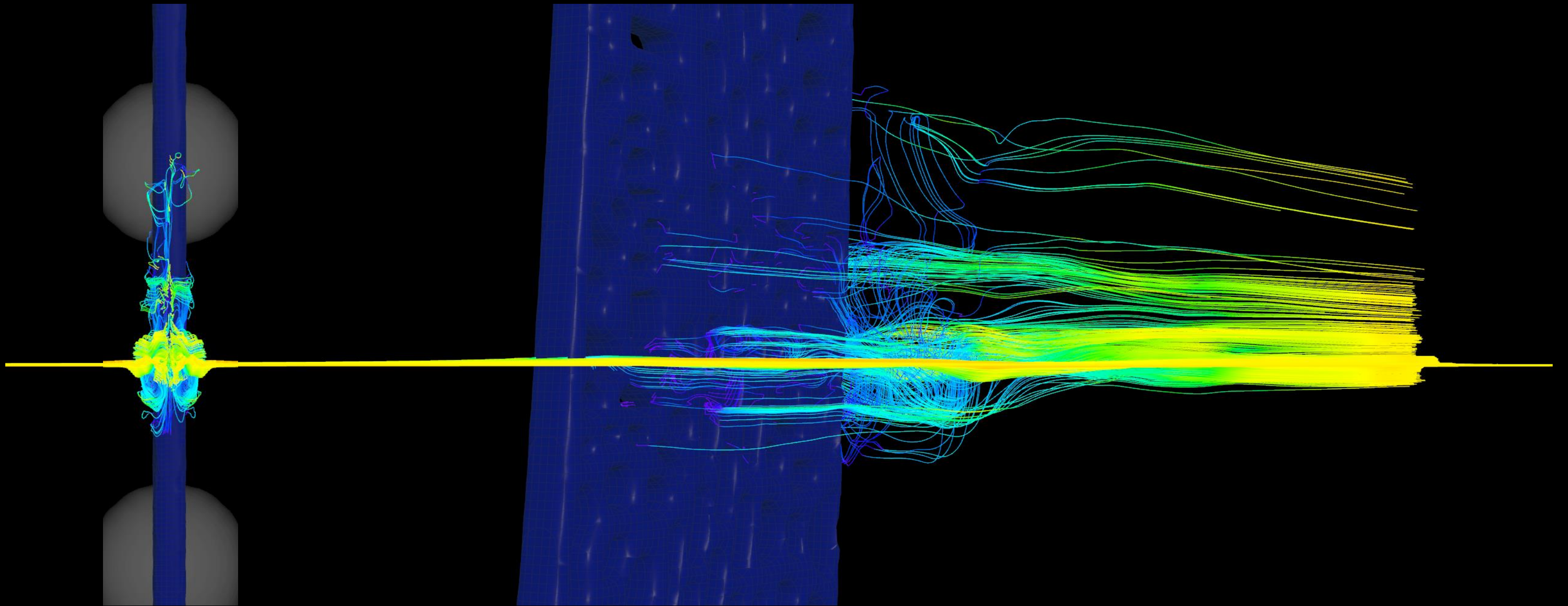
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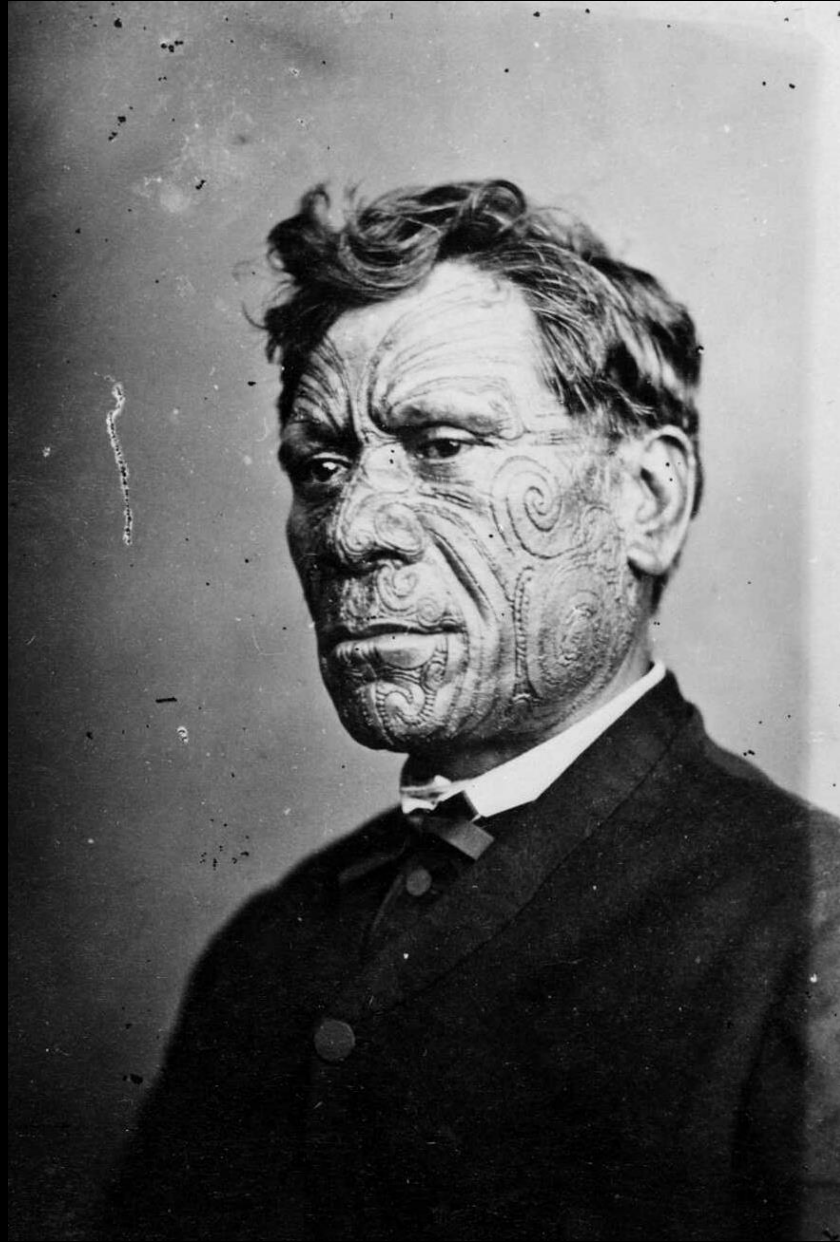
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CUBESAT GLOBAL CHALLENGE// Development of micro satellite outer casing. Launch 2025. Robinson Space Programme Collaboration





Te Ruki Kawiti (The Duke) 1770 - 1854



Te Kuhanga Maihi Kawiti 1807 - 1889

