UC UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

KMT
KRAFLA MAGMA TESTBED

Outreach and Education
Magma games and beyond

Ben Kennedy and the **KMT Consortium:**

Particularly: Jonathan Davidson, Alex Watson, Sriparna Saha, Marlène Villeneuve, Elodie Saubin

Traditional Māori Aotearoa NZ intro

Ko Firle Beacon te Maunga Mountain

Ko The Ooze te Awa River

E mihi ana ki ngā tohu o nehe o Sumner, Otautahi, e noho nei au

I recognize the ancestral landmarks of Sumner, Christchurch

E mahi ana ahau i raro i ngā Kaupapa o ako me ngā mātai puia.
I work under the themes of learning and teaching and volcanology.

Ā ānei tōku whainga tūturu, kia ngahau ngā mahi. Here is my true goal is for work to be fun

Ko Ben Kennedy tohu ingoa

Unprecedented opportunities to capture the imagination of a generation

Can we use drilling into magma as the hook to inspire innovative teaching in science, sustainable energy and engineering ?

- What we have already done
- What we will do
- What we could do
- Next steps

What we have already done

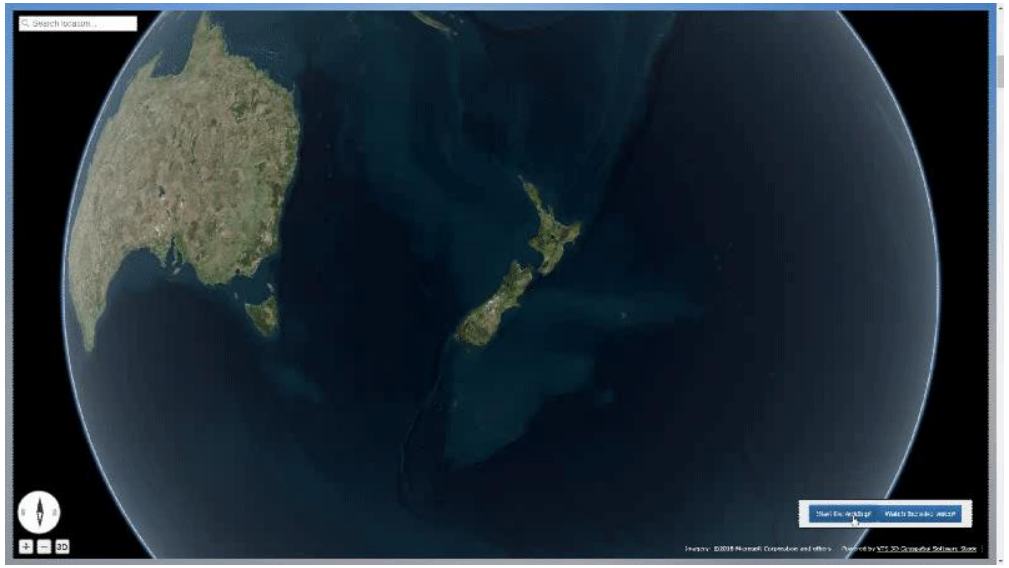
- KMT GEORG website and promo video
- IMPROVE network (upskilling of students and researchers)
- Massive open online course (s)- Exploring volcanoes Edx
- Natural hazards fieldtrip to Iceland Krafla focus
- Visualizations- leapfrog/ARANZ
- School targeted resources- Magma drillers save Planet Earth
- Magma Pop- computer game.
- Tens of media articles TV and radio

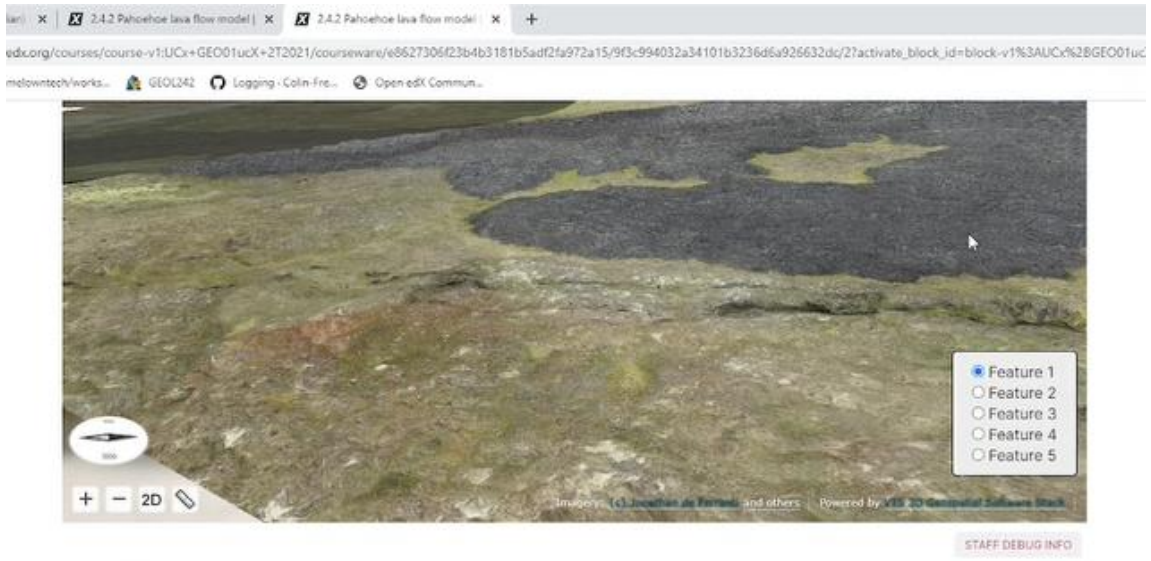
Exploring Volcanoes and Their Hazards: Iceland and New Zealand

- 1000+ students have already taken this course.
- Drilling into magma is the hook and the lynch pin for this course
- The course won the global 2021 Edx innovation in online teaching award- showcasing 3D visualizations and virtual rocks and fieldtrips.
- Research driven- the way we teach is researched to maximise the opportunity. MSc and PhD projects actively researching effectiveness of tools.

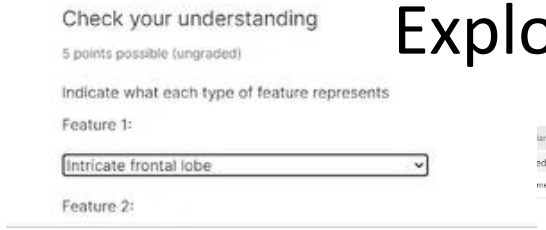
Taking the public to Krafla to learn

Google “EdX exploring volcanoes”

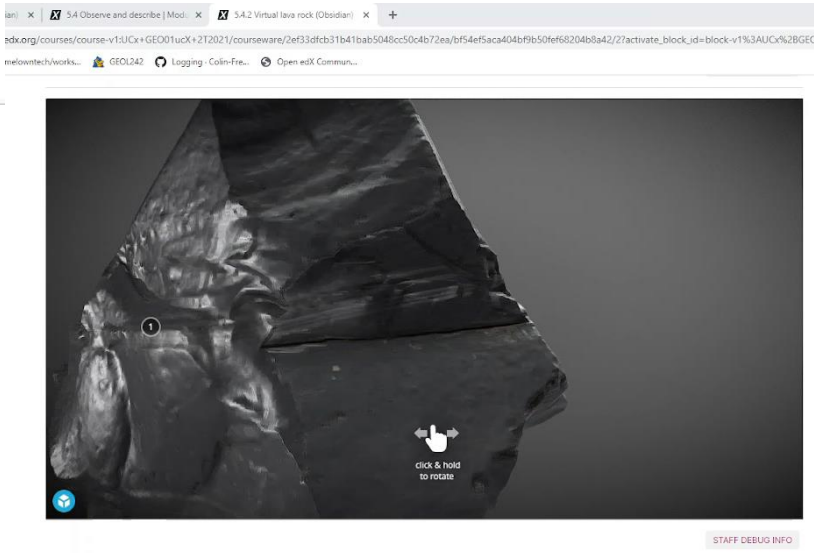




Exploring the place

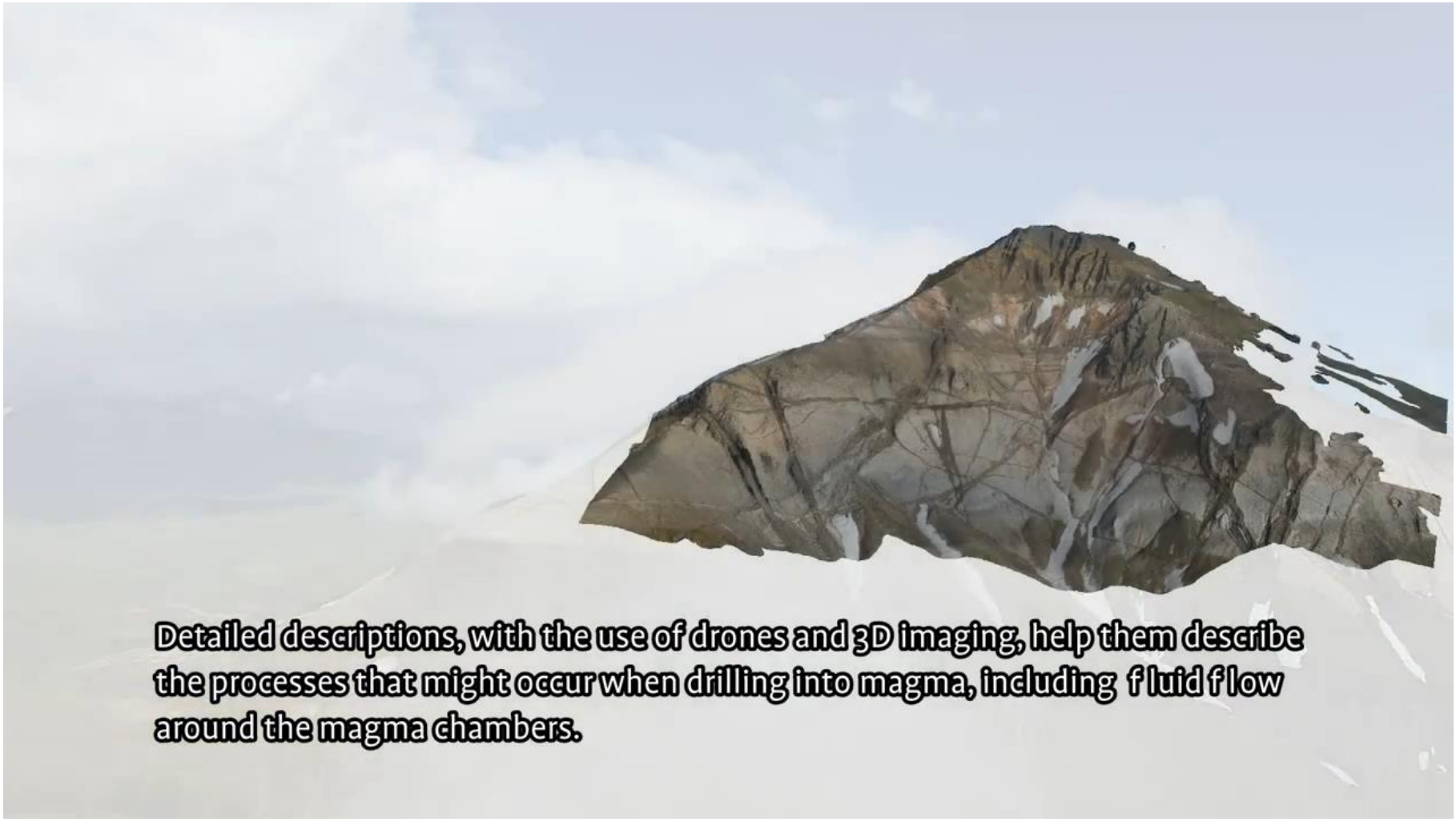


Virtual rocks

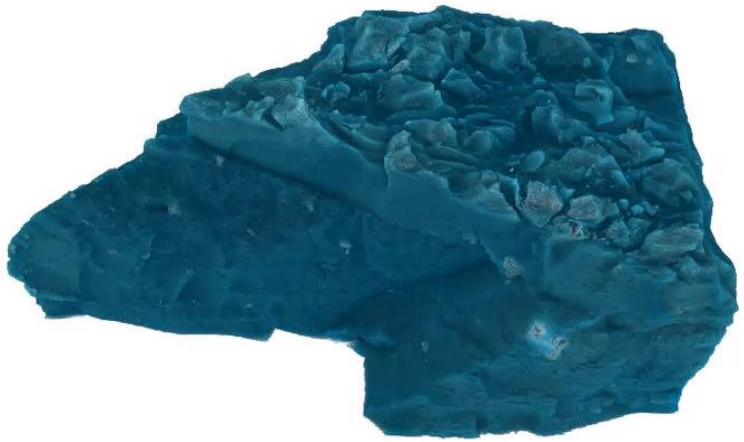


360 video

Visualising magma in new ways with real data



Visualizing the micro IDDP magma chips



Micro ct Images from Konstatin Pavlov and collaborators at ANU and processed by Elodie Saubin UC and Ian Schipper and

Primary and Secondary level- live virtual fieldtrip

- Video conferences live with schools
- 4000+ students participated live

Volcanic delights for virtual field trippers

School News · Tuesday, August 20, 2019 · 406 · 2 minutes read

Exploring Iceland from rural New Zealand

By Education Gazette editors

ISSUE: VOLUME 97, NUMBER 21

Share Print

Term 3 starting 30 August 2018.

Photo: Olikristinn (Own work) CC BY-SA 3.0 - Source.

Go to | Enrol

Field trips:

Previous | Next | All

Introductory video for this trip: Watch, embed or share Vimeo or click below to watch

PLD about this field trip? Webinar Schedule and Recordings.

LEARNZ Powered by CORE

HOME Kāinga | ABOUT Mātou nei | SUBSCRIBE Ohaurutia | FIELD TRIPS Ngā haerenga | USING LEARNZ Tautoko | MYLEARNZ Uru mai

Natural hazards

Field Trip Home
Teacher Support
Curriculum
Resources
Prepare Students
Activities
Background: Easy
Background: Standard
Glossary
Field Trip
Ambassadors
Diaries
Evaluation & Prize
Experts & Careers
Photo Gallery
Videos
Web Conferences

Curriculum

All LEARNZ field trips targeting primary and secondary schools are closely linked to the New Zealand curriculum, in particular science, social studies and geography. They can also be used by other subject teachers.

Key concepts

Citizenship, earth processes, earth science, earthquake research, earthquakes, fossils, future focus, geohazards, hazards, Iceland, landslides, plate tectonics, science, scientific research, seismic monitoring, tectonic plates, tsunami, volcanoes.

The New Zealand Curriculum - NZC

Key Competencies

LEARNZ virtual field trips contribute to the development of all five key competencies:

Key Competencies	Examples of Related Field Trip Components
Thinking	Constructing questions to put to experts during Web conferences.
Using language, symbols and texts	Interpreting and making meaning of a variety of language and symbols in the Background Pages and throughout the web site.
Managing self	Numerous content-related Activities provide students with

GEOTHERMAL DRILLERS SAVE PLANET EARTH

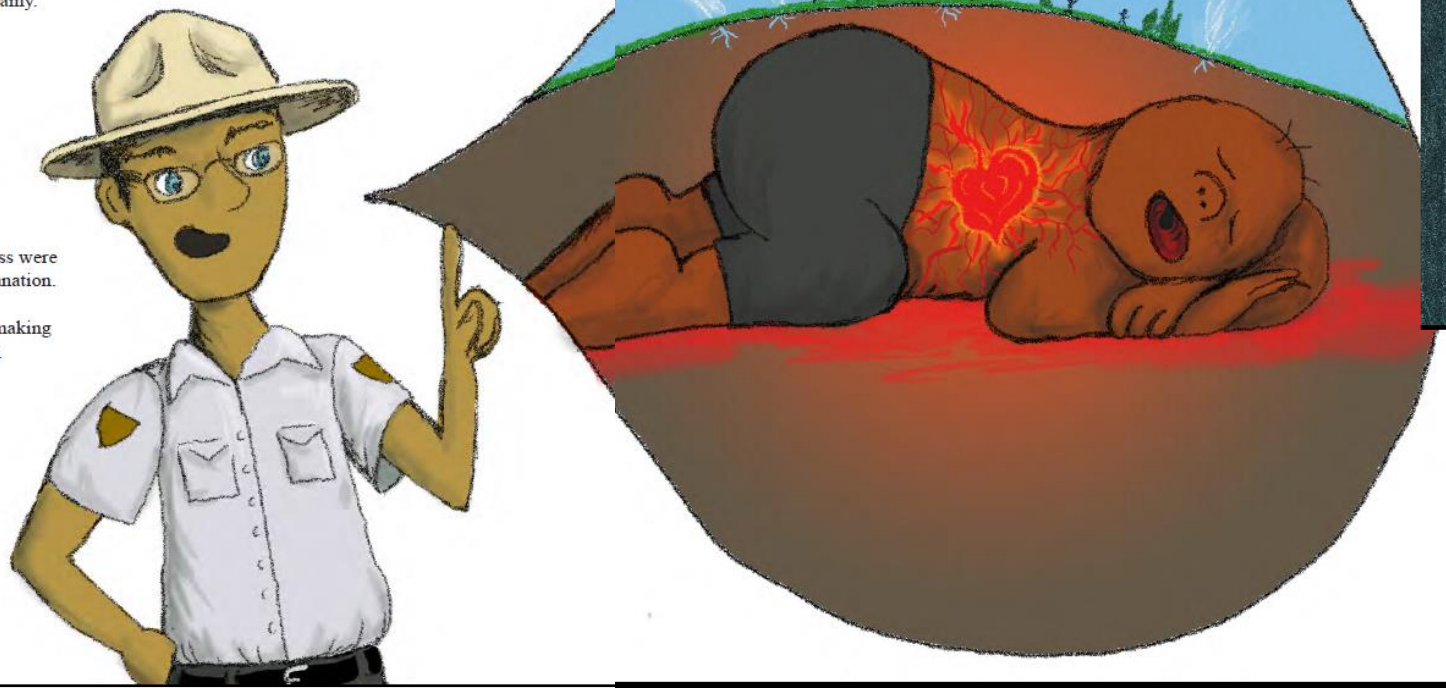
Ongoing work- Gaming in labs

HITLabNZ
Human Interface Technology Lab New Zealand
Hangarau Tangata, Tangata Hangarau

Childrens book
The kid who cried supervolcano

The scientist explained that "The Supervolcano is not a big mean erupting supermonster, but more like a sleepy stone giant.

The giant sleeps for thousands of years at a time. It has a heart of hot magma and is always breathing. The giant's magma heart and sleepy breaths are why Yellowstone is always hot and steamy.



The teachers and class were happy with the explanation.

Ash apologised for making everyone so worried.

Sriparna Saha and
Etch Mordensky

What we will do- next steps ?

- Education engagement strategy – who is our priority target audience ? Local versus global ?
- Set up Community of Practice of teachers and educators
- Onsite workshops and training

icdp

IMPROVE

European Training Network

What could we do ? Opportunities ?

- Visitor and teaching centre- could this make money to fund outreach ?
- Documentary- Netflix - Story of getting to magma ?
- Mascots

What could we do ? Challenges ?

- Different languages ? Curriculums ?
- Linkages and relationships with communities ?
- Funding for outreach ?
- Coordination and global dissemination


SLEEPING BENEATH THE SURFACE OF THE EARTH
SUPERVOLCANO