PEGASUS U3A GEOLOGY/BOTANY GROUP July 2025 Newsletter

Hello Everyone,
What a good turn out for the trip to the Earth Science Garden at the University. It was so interesting that I think we might give it a second visit next year, hopefully on a warmer day. The area is shaded by all the tall buildings near the library and the frost was thick.

We won't have an outing in July as the weather is too dicey, but Gill has arranged for us to go to the Mineral and Lapidary Club in August. She attended one of their meetings and they were keen to tell us about the club and show us around. It's local so easy to get to. More about that nearer the time. Our next talk is by Margaret Metherell who I know through the garden Guides. She is going to talk to us about a trip to Iceland, which will be a bit different.

Recent trip

University of Canterbury Earth Science Garden

Geology is the study of the earth and how the planet works, not just rocks. Dr Kate Pedley has been responsible for constructing this garden of different rocks which map the geology of the South Island. After planning it for a different site over eight years, she was given one week to do it on this spot opposite the library on Science Road. She uses it to teach her students skills in recognizing features of rocks when out in the field.

It has a volcano which she uses with school parties to demonstrate an eruption. She pours liquid nitrogen into water containing multi-sized plastic balls. This causes an explosion 20m high with the largest balls being thrown furthest. The model also shows the 3 sorts of lava from quick flowing to stickiest, depending how much silica is in it. Native plants are scattered around according to the soil types.

The garden shows a cross section of the South Island from rocks on the West Coast nearest to the road, working down through to the Canterbury Plains limestone, (good for wine), the Southern Alps schist and further South.

The West Coast rock is dunite and it soaks up CO_2. It is slightly green like olivine, and if it was under pressure it turned into pounamu. Some rocks have QR codes for further information on the website. Metamorphic rock, formed 400 million years ago, muscovite, is a form of granite with silvery flexible crystals in it. (2) Layers due to pressure by tectonic plates can be seen and there was a lump of pink schist. Some rocks had a lot of different colours due to minerals in them. (3) On the right is a huge lump of limestone from underwater. Sea creatures take CO_2 into their shells, die, and fall to the ocean floor where pressure compacts them into rock. Kowhais grow well in limestone soil which helps to identify the rocks.

At the far end of the garden there were several concretions including this 5-ton monster from Waipara. Concretions form in layers round a nucleus of fossil or bone. One of these concretions got broken in transit and allowed us to see the ribs of a marine sea creature. It lived 50 million years ago and has a 4m leg bone.

The whole site is a work in progress. Under it are ground source heat pumps which warm all the nearby buildings. Heat is sourced from the water which is then pumped back. Apart from the cold, this was an excellent outing and 19 people attended.

Future dates

Mon 7th July	Iceland, elements earth, water, fire, air by Margaret Metherell.
Wed 16th July	No outing planned
Mon 4th August	Weeds by Charles Merfield
Wed 20th August	Visit to Canterbury Mineral and Lapidary Club, 10.30, 11 Waltham Road
Mon 1st Sept	Birds. Andrew Crossland
Wed 17th Sept	Rusty Acre Garden???
Mon 6th Oct	Corals, Paul Broady
Wed 25th Oct	Ideas welcome
Mon 3rd Nov	Toxic Plants Ian Shaw
Wed 19th Nov	Bus trip to Castle Hill with Kate Pedley.

Our **bank account is U3A Botany/Geology 03 1599 0139475 000.**

You can contact me on 384 3475 or by email patwandpate@gmail.com