TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI
VICTORIA
UNIVERSITY OF WELLINGTON

School of Geography, Environment and Earth Sciences

2015 Newsletter

"Sands of time" photo by Dr Dan Sinclair, Petone Beach, Wellington, 2015

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Review of the year by Head of School
Rewi Newnham

In this annual School newsletter we provide a snapshot of highlights for the School of Geography, Environment and Earth Sciences at Vic that played out during 2015. It was another Roller Coaster year for us, and I'm pleased to say that the 'highs' far exceeded the 'lows'. Academic achievements included Colin Wilson being made a Fellow of the Royal Society and Martha Savage a Fellow of the American Geophysical Union. Kevin Norton and Nick Golledge were awarded Rutherford Discovery Fellowships and Lionel Carter the Royal Society's prestigious Hutton medal. Late in the year, Mairead de Roiste received the New Zealand Spatial Excellence Awards (NZSEA) award for education and professional development. There were numerous other achievements as well - some of which are highlighted within - in recognition of the array of talent and skilful endeavour that enriches our teaching and research programmes. In terms of new academic staff, we welcomed Dr Rebecca Kiddle (Environmental Studies) and Dr Polly Stupples (Development Studies) to the fold and both have already proven to be popular and effective appointments. A huge event and highlight for the School was the annual Geoscience NZ Conference, which we hosted at Kelburn Campus in late November.

Most of the 'lows' in contrast, arose from external developments beyond our control but which required our response. We set up an Outreach Committee to investigate worrying trends in our student enrolments over the past couple of years - and learnt that we need to raise our game in particular by strengthening links with secondary schools and the teachers of our disciplines. Another difficulty arose from the pressing need to reconfigure the administration roles in the School Office, and led eventually to the departure of two long-serving and extremely popular admin colleagues, Sandra Fogliani and Alan Ball. Nevertheless, the newly restructured School Office is shaping up nicely and more closely aligned to our current needs and aspirations.

On a personal note, my three year term as Head of School is up. It has been a privilege for me to serve in this role and I'd like to take this opportunity to thank everyone for their support and to wish my successor, John Townend, every success in his new role. With a fresh face at the helm, the re-charged School Office brimming with exciting possibilities, a Technical Services team who continue to provide excellent support and outstanding academics and School Management team, we have everything to look forward to in 2016.

2015 School Management Team

Professor Rewi Newnham

Head of School

Associate Professor John Townend

Deputy Head of School

Monika Hanson

School Manager

Associate Professor Sara Kindon

Geography Programme Director

Associate Professor Mike Hannah

Earth Sciences Programme Director

Professor David Frame

Climate Change Research Institute Director

Professor Tim Naish

Antarctic Research Centre Director

For the list of current school staff and their profiles, go to:
http://www.victoria.ac.nz/sgees/about/staff

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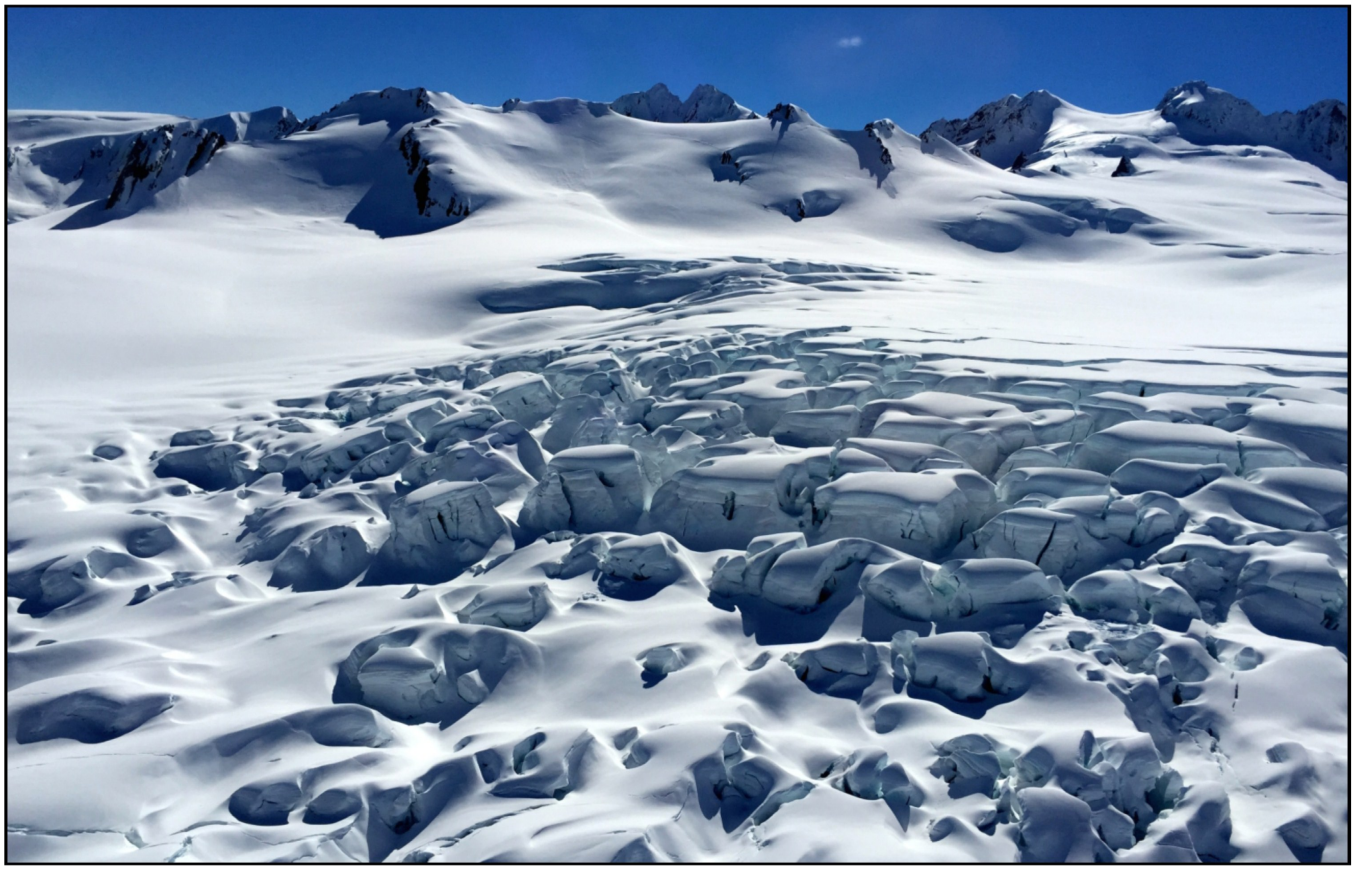
2015 SGEES School Photo Competition

Winners and Runner Ups

Earth Science Category



Winner: 'From a helicopter while servicing seimic network—the Southern Alps Microearthquake Borehole Array (SAMBA)', Fox Glacier, New Zealand. Taken October 2014, by Laura-May Baratin

Runner Up: 'Endurance', Kaiteriteri Beach, New Zealand. Taken March 2015, by Dr Dan Sinclair

Human Geography Category

Winner: 'Meteora", Greece. Taken 2013, by Lucia Sobiecki

Runner Up: 'Village Scene', Oia Santorini, Greece. Taken March 2011, by Emily Warren-Smith

Field Trip/ Research Category

Winner: 'This is what field work looks like in the VUW Geophysics team', Adrian Benson at work in Westland Tai Poutini National Park Southern Alps, New Zealand. Taken October 2014, by Laura-May Baratin

Runner Up: 'Volcanology Field trip', Red Crater, Tongariro. Taken 2012, by Jenni Hopkins

Onekaka Annual Field Station Maintenance Trip… Build, eradicate, conquer!

Our Technical Services Manager Kosta and his trusty team of technicians carried out annual maintenance at the Onekaka Field Station in December. Each year the nonagenarian wooden house and its grounds have a long to-do list that falls loosely into the sub-categories of historic preservation, ecological restoration and fire risk reduction.

Top of the list this year (under historic preservation) was a conservation effort on the woodshed, which had been saved from complete collapse last year with some stop-gap framing.

Left: Before shot Right: Kosta and Adrian after completion proving the shed's strength by leaning on the newly repositioned doorframes

Second on the agenda (under ecological restoration) was gorse eradication. *Ulex europaeus* is prickly stuff, to say the least.

Left: Sabrina and one of the gorse piles
Right: Dene and Jane finish up the mulching

A third task (tackling fire risk reduction) involved spending a couple of half days under the house, hauling out decades of rubbish, old building materials, panes of broken glass and pulling out plants that were trying their best to grow up into the floorboards.

Top left: Jane gets stuck in (not stuck!)
Top right: The chickens with their rooster on perimeter inspection
Below left and right: The piles now free of all obstructions

Left to Right: Sabrina, Dene and Jane gaily dealing to decades of dirt in the kitchen

<u>Reminder</u>: the Onekaka Field Station is available for hire when not in use for School activities, $15/person per night. Contact Kosta.Tashkoff@vuw.ac.nz for further information

2015 Continuing Education "Wairarapa Rocks" Field Trip

Cliff

James

In December, Dr Cliff Atkins and Assoc. Prof. James Crampton led a two-day Continuing Education trip "Wairarapa Rocks", with the logistical help of Keay Burridge (VUW Continuing Education). About 40 keen members of the public participated in a hands-on experience, learning to 'read the rocks' and interpret the fantastic geology and landscape features of the Wairarapa. The group ranged in age from 14 to 80 and included people from a wide spectrum of backgrounds.

On day one, the group travelled to Castlepoint and examined key outcrops along the way, including Kerosene Bluff and the Whakataki shore platform. These localities introduced participants to richly fossiliferous limestone, petroliferous shale, and wonderful tram-track turbidite bedding (see photo). The night was spent in Masterton with a great meal at the local Cosmopolitan Club followed by a one hour lecture by James and Cliff. Day two included a visit to limestone outcrops near Martinborough, coastal bluffs at Lake Ferry, and localities at Cape Palliser - the beautiful angular unconformity at Kupe's Sail and pillow lava.

James reported "The weather was fantastic and the group clearly enjoyed discovering the region. We were impressed by the enthusiasm of the group, and the number and calibre of their questions. It is a real pleasure to experience the appetite that exists for this sort of outreach, and to contribute in some small way to satisfying that appetite."

Cliff shares his pearls of wisdom at Te Muna

James preaching from the pulpit at Castlepoint

Keeping the group on the straight and narrow at Whakataki

The Social Theory/Spatial Praxis Research Group Celebrates 10 Years

2015 marked a decade of intellectual discussion, methodological exploration and collegial support between academic staff and postgraduate students involved in the Social Theory/Spatial Praxis Research Group (STSP). The STSP was established in 2005 by two academic staff (Sara Kindon and Bill Hipwell) and five PhD students (Eleanor Sanderson, Kelly Barclay, Kyro Selket, Peter Kitchenman and Sinith Sittirak) as a forum to explore relationships between the social and the spatial, and the ways in which qualitative, participatory and indigenous action-oriented research can make a difference to academic knowledge, research participants and wider society.

At that time, the STSP carved out an important space for critical scholarship in Human Geography, Development Studies and Environmental Studies as the first PBRF process was being implemented (2006) and research 'clusters' were being encouraged. It also raised the visibility of these programme areas as they became amalgamated into the new School of Earth Sciences (2007). Critical reflections on the interplay of personal and institutional politics has been a recurring theme throughout the STSP's regular seminar and workshop programme.

Since the late 2000s, the STSP has been host to a number of prominent human geographers such as Hester Parr (Glasgow), Divya Tolia-Kelly (Durham), Evelyn Peters (Saskatchewan), Rachel Pain (Durham) and Rosie Cox (Birkbeck, London). It has also fostered a number of staff and postgraduate conference presentations, supported the completion of theses, and has been a catalyst in the development of work that lead to published articles and book chapters internationally. Marcela Palomino-Schalscha has taken up that role.

Together the convenors have facilitated fortnightly sessions involving postgraduate researchers and colleagues from around and outside the university.

On December 14, 2015, Sara, Marcela and a range of past and present STSP members gathered to celebrate the group's 10th anniversary. Founding member Rev. Dr Eleanor Sanderson shared her memories of its inception and early days, and other members reflected on their participation and the significance of the group for the evolution of their own intellectual and applied research projects. In a world of increasingly 'wicked problems', the kinds of critically-informed and politically-engaged scholarship carried out by STSP members are more relevant and necessary than ever. 2016 will see another rich programme of research seminars, work-in-progress and methodological workshops.

For more information, please contact: sara.kindon@vuw.ac.nz and Marcela.Palomino-Schalscha@vuw.ac.nz, and see http://www.victoria.ac.nz/sgees/research/research-groups/social-spatial

Some Past and Present STSP Members at the December 14, 2015, 10-year Anniversary Celebration

Back row L-R: Ellie Sanderson; Rachel Tallon; Becky Kiddle; Alicia Sudden; Anna Rogers; Sam McLean; Bethany Haalboom; Avril MacFarlane;

Front row L-R: Zac Sanderson; Amanda Thomas; Sara Kindon; Marcela Palomina-Schalscha; Ximena Espina; Tui Arona;

Becoming enlightened, for better or for worse, on the ESCI343 Volcanic Field Trip

A report by Elliott Swallow, field tutor and Geology PhD Candidate

The annual Volcanic Field Geology (ESCI343) trip to the Central Plateau took place during the mid-trimester break and was an opportunity for the students, and some of the tutors, to experience the delight of encountering volcanic deposits in the field. From our base in Whakapapa we were able to explore the full range of Taupo Volcanic Zone products, from Mangatepopo Valley andesites to super-eruption deposits around Taupo, were within driving distance making for a varied and exciting field trip.

Students became enlightened in the power, variety and destructiveness of the volcanic field. The enhanced beauty of a snow-covered Tongariro National Park provided the perfect backdrop for the introduction to lava flow mapping and observing the deposits of historical volcanism from Ngauruhoe.

The students were enthralled by Prof Wilson's words of wisdom

Overall, a thoroughly enjoyable and enlightening week was had on the Central Plateau. Students became aware of the beauty of volcanic deposits and the history that can be teased out from them.

Prof. Colin Wilson's Royal Society Fellowship

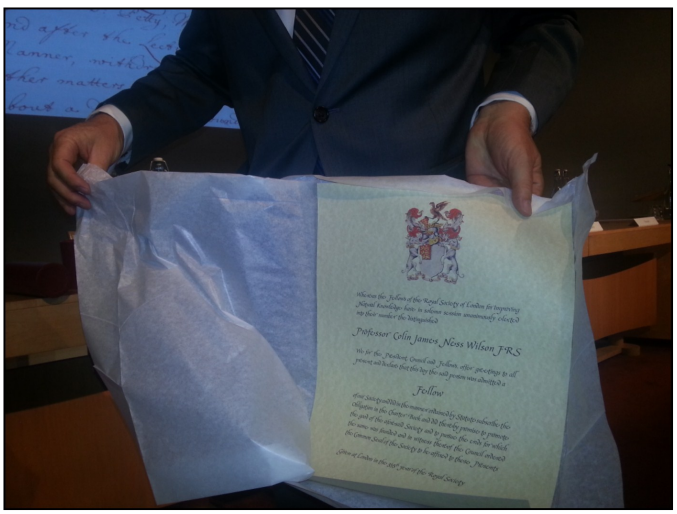
On Friday 10 July 2015 it was my very great pleasure to attend a meeting of the Royal Society at its rooms (6 Carlton House Terrace, London) as one of the guests of Professor Colin Wilson, on the occasion of his admission as a Fellow of the Royal Society. The previous two days of the meeting had consisted of seminars given to the Society by the new Fellows-to-be. Colin's talk was entitled: *Insights into the working of large silicic volcanoes*.

Other new Fellows this year included Professor Lord Stern of Brentford (of *Stern Report* fame), Clifford Cocks (who devised the widely used encryption algorithm RSA), and James Dyson (of vacuum cleaner fame).

It was a very prestigious occasion and a great honour for Colin and for Victoria University. This Honour recognises Colin as one of the World's top scientists. Congratulations!

Professor David Bibby

Prof Colin Wilson with his guests, Prof David Bibby and Bruce Charlier



Colin's certificate that states: 'Whereas the Fellows of the Royal Society of London for Improving Natural Knowledge have in solemn session unanimously elected into their number the distinguished Professor Colin James Ness Wilson FRS, Friday 10 July 2015

Ground-breaking honour for Professor Martha Savage

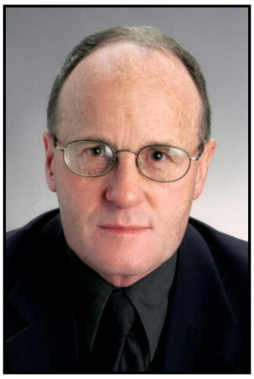
Professor Martha Savage has become the first woman in New Zealand to be elected a Fellow of the American Geophysical Union (AGU).

The AGU Fellows Programme, established in 1962, annually honours a select few members who have made exceptional contributions to the fields of Earth and space science. “I’m very proud and happy to have received recognition from such a great organisation, and I hope this encourages other female scientists,” Martha says. “I’m appreciative of the support I’ve had to carry out my work, particularly from my husband and the students and staff here at Victoria.”

Martha, who has been teaching geophysics here for 20 years, is one of only six people in New Zealand to be elected a Fellow of the AGU, four of whom also come from Victoria University.

Martha was recognised for her research on seismic anisotropy, which estimates the directions structures are moving below the surface of the earth. The research can be used to study stress changes in volcanoes and could lead to new methods for forecasting eruptions. “Being elected a Union Fellow serves as significant international recognition and we are very proud of Professor Savage,” says Dean of Science Professor David Harper. “This honour is given to less than 0.1 percent of the membership in any given year and is testimony to the high impact and quality of her research leadership in her field.”

Professor Phil Morrison gave a keynote address at international Regional Studies conference in Italy



In June Professor Phil Morrison travelled to Italy to deliver a keynote address to the *Regional Studies Association Annual Conference* held at the Universita Cattolica del Sacro Cuore, Piacenza, Italy (about 50 kms south west of Milan). The conference was attended by mainly geographers, economists and city & regional planners and was organised by the UK based Regional Studies Association.

The theme of the conference was '*Global Growth Agendas: Regions, Institutions and Sustainability*'. Phil's address was on wellbeing, a topic of considerable interest in regional planning circles, especially in Europe. His address entitled '*Subjective Wellbeing and the City*' outlined the conceptual framework driving contemporary international research, a range of key results identified so far, and listed of challenges to identifying wellbeing issues especially in very large metropolitan centres. Perhaps as an indication of the depth of interest in this topic, while in Italy Phil received offers from three publishers including Springer and Routledge for books on the subject.

The Palazzo Comunale (town hall) behind was built in 1281 and is still used for meetings, including the conference reception pictured here

Forecasting the future of Antarctica's ice receives funding from the NZARI

Kevin Norton

Andrew Mackintosh

Two of our researchers have each been awarded $100,000 to investigate how Antarctica's ice volume will change as the world warms. Dr Kevin Norton and Associate Professor Andrew Mackintosh are among six experts from around the country to receive funding from the New Zealand Antarctic Research Institute. Each research project will, over the next two years, explore various aspects of Antarctic ice, with a focus on how and why the ice may change in the future.

Andrew's project will look back to a period known as the 'Antarctic Cold Reversal'—around 14,000 years ago. "During this period of global warming, some geological records and computer simulations suggest that a large Antarctic meltwater release actually caused Southern Hemisphere-wide climate cooling that affected New Zealand," Andrew commented. Andrew will work with Brian Anderson, Kevin, recent PhD student Shaun Eaves, Dr Andrew Lorrey and Dr Helen Bostock from NIWA and researchers from the University of Copenhagen and Columbia University in New York.

The team will examine the surface of glacial boulders from the Spenser Mountains in the South Island, and create a computer model of past climate changes to help understand the cause of the Antarctic Cold Reversal and its downstream impacts on New Zealand. "We want to find out if future Antarctic melting could have similar, unexpected consequences for New Zealand's climate," Andrew said.

Kevin's project will also look back 14,000 years to the 'Antarctic Cold Reversal', focussing on the possible source of rapid sea level rise at the time in Antarctica.

Working with Nick Golledge, Cliff Atkins, Andrew, PhD student Richard Jones and collaborators from the University of California Berkeley and Durham University, Kevin hopes to pinpoint the origin of the ice sheet melting, which may have caused a 20 metre rise in sea level in less than 500 years.

“We’re looking at an area in Northern Victoria Land, which was close to the limits of the ice sheet prior to its collapse at the end of the last ice age,” said Richard Jones. “We’ll use glacier modelling to test how sensitive the ice sheet was to possible collapse in this region.”

Kevin’s team will travel to Antarctica in 2016 to collect rock samples, which will be analysed in Victoria’s purpose-built laboratory. Both projects will date rocks using a technique called 'cosmogenic nuclide dating', which identifies small changes in rock composition that occur through time, and provides an estimate of the time since the boulders emerged from the glaciers. Kevin said understanding past changes in ice sheets are important for predicting their future response: “One of the big things to understand is around currently retreating ice sheets—is that just the beginning? Are we looking at 400 years of rapid retreat? Or are these natural fluctuations? It has very large repercussions for what the world may look like over the next few centuries.”

Richard Jones

During his PhD studies, Richard Jones created a video of the sort of field work and data collection the researchers will be doing in Antarctica.

Watch it at: **https://vimeo.com/80447422**
For more information see the New Zealand Antarctic Research Institute webpage.

Associate Professor Brent Alloway's collaborative research reveals the real risks of a recently active volcano in Southern Chile

Brent Alloway is senior co-author in collaborative research (Chile-New Zealand-Argentina-United Kingdom) which was the cover story in January, 2015's issue of the leading journal *Geology*. The article reveals the past history of the Chaitén volcano in southern Chile, which erupted in 2008, resulting in the partial destruction of nearby Chaitén township and serious disruption to population centres, infrastructure and economy downwind in Argentina. "The 2008 Chaitén eruption made international headlines at the time since, in the eyes of the media, it was an out-of-the-blue event occurring without warning," Brent comments.

From a scientific point of view it was a unique and exciting opportunity to view an explosive rhyolitic (high silica) eruption—the first of its type to be experienced world-wide since the Novarupta (Alaska) eruption of 1912. The eruption provided an unprecedented scientific opportunity to examine all facets of such an eruption ranging from magma ascendency rates to ash-fall effects on infrastructure and organisms. This eruption was also recognised as being similar in magnitude, as well as physical and chemical characteristics, to what could be reasonably be expected in future eruptions from volcanic centers situated in the Taupo Volcanic Zone here in New Zealand. Sediments from a small lake located close to Chaitén Volcano revealed 26 volcanic ash layers that were deposited over the last 10,000 years, 10 of which came from Chaitén Volcano. So, in addition to the 2008 eruption, there had been three previously unknown eruptions between 600 and 850 A.D. as well as another at around 420 A.D. That means eruptions have been occurring at Chaitén about every 200 years over the last 1000 years.

"It's pretty clear that our results will need to be carefully considered by both the Chilean authorities and the local community as they continue with restoration and rebuilding in the aftermath of the 2008 eruption. There's always a likelihood that there will be another eruption at Chaitén, the timing of which, along with its magnitude, cannot be predicted with any certainty. Real-time seismic monitoring of Chaitén Volcano should assist in providing timely advance warning of an impending eruption and help to prevent any loss of life in the future," says Brent.

An abandoned house in the centre of Chaitén township partially buried by ash from the 2008 eruption of Chaitén Volcano

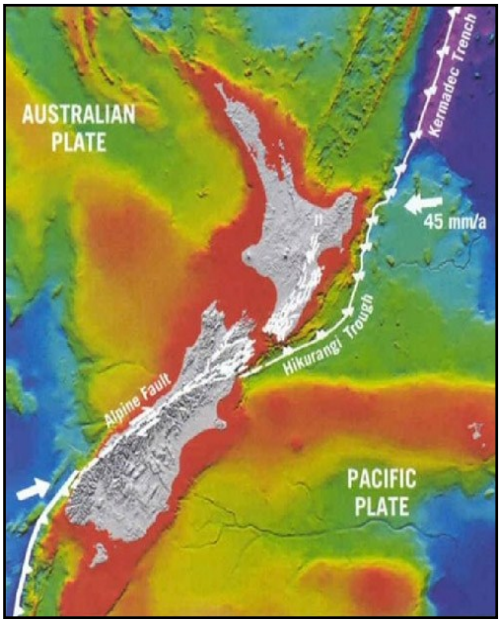
Professor Ralph Chapman attains a research grant for collaborative greener mobility research with Germany

Environmental Studies Professor Ralph Chapman has been awarded $100,000 from the Ministry of Business, Innovation and Employment (MBIE) to research sustainable mobility. Ralph will collaborate with scientists in Berlin, Germany to develop a better understanding of sustainable mobility.

"Sustainable mobility looks at our transport systems and how we can enable movement with minimal environmental impact. It is critical for transitioning New Zealand to a zero carbon economy," says Ralph. Working alongside the Wuppertal Institute for Climate, Environment and Energy, Ralph and a postdoctoral researcher Nadine Dodge will look at policy choice, process and effectiveness, including opportunities for synergy between sustainable mobility, climate change mitigation, health, and well-being. "We aim to find out what policies work best in Europe to support mobility and access while cutting emissions. For example, how do policies support digital technologies which can help avoid trips or enable more efficient vehicle use, like car sharing—and other strategies to cut emissions. We want to find out why and how such policies work well."

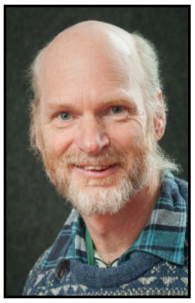
Ralph is also a member of the New Zealand Centre for Sustainable Cities, with his primary research focus being on resilient urban futures, looking at climate change, housing, transport, energy and environmental policy.

The grant comes from MBIE's International Relationships Fund which supports activities that foster international scientific contacts and research collaboration of particular benefit to New Zealand.



Research by SGEES staff results in a rethink about the structure of the Alpine Fault

Simon Lamb



New research by SGEES staff, led by Dr Simon Lamb, has prompted a shift in thinking about the South Island's Alpine Fault. The major fault line, which runs almost the entire length of the South Island, has been assumed to be a near vertical crack. However, studies of seismic data have revealed the fault line becomes flatter at depth. "What we've found is that for approximately 350 kilometres of the length of the South Island, the land mass of the Pacific Plate is actually sitting and sliding right on top of the Australian Plate," says Simon. "So, rather than thinking of the fault line as a vertical crack, we should be thinking of it as a nearly horizontal one that curves up to the surface where the fault line is exposed."

The region where the Pacific Plate is stacked on top of the Australian Plate is believed to be up to 100 kilometres wide in some places. "As well as vastly increasing the area where the two plates are in contact with each other, the research tells us that the effects of earthquakes may be quite different, and in some big earthquakes, the rupture zone may never break the surface."

According to Simon, although more research needs to be done to better define the possible rupture zone, this poses a very different geological problem when assessing earthquake risk. "Someone in the centre of the South Island, for instance, might think they are miles away from the fault line, when, in actual fact, the fault could be right underneath them, making these regions more vulnerable than first thought."

The conclusions were drawn from research into both the thickness of the South Island's crust and the speed of seismic waves. "The crust is very thick beneath the South Island, which is not what you would expect if the two tectonic plates were just sliding past each other on a near vertical fault. Also, seismic waves generally travel faster the deeper down you go, and yet the wave speeds get slower beneath the Southern Alps," says Simon "The seismic data made complete sense from a recalculation of the physical relationship between the two plates." The research findings have been published in the American Geophysical Union journal *G³*.

Working in collaboration with Simon were:

Emeritus Professor Euan Smith

Professor Tim Stern

PhD Candidate Emily Warren-Smith

Alpine Fault Research Update

Earthquake scientists from around the world, including SGEES Professor John Townend have been working in a remote West Coast valley as part of a major study into New Zealand's most dangerous fault line. The scientists are trying to get an image like an X-ray of the Alpine Fault, which runs through Whataroa Valley. Specialised measuring equipment and some of the world's smartest rock scientists are converging on the isolated valley.

The Alpine Fault is expected to rupture some time this century and cause a major earthquake of around magnitude 8. "This is an opportunity for New Zealand and overseas scientists to understand the state of this fault, the pressures acting on it, the temperatures, ahead of a big earthquake," John says.

The vibe truck that featured after the Christchurch earthquakes has been brought from Canada as part of the project. Sensor lines being laid around the valley pick up the vibrations it makes. The signals that come back create a picture, like a medical X-ray or a CAT scan, and will show what the Alpine Fault looks like. "This truck has enough power to get down maybe 2km, perhaps a bit more, so we can see the different rock levels to that depth," says vibe truck driver Malcolm Bertram.

Work began on the site in 2014, when a 900-metre borehole was drilled towards the fault. It ended in hot rock about 200 metres short of the actual fault, where the Australian and Pacific tectonic plates meet. "It's the Holy Grail of seismology to understand what controls the timing of earthquakes, and we are focusing on the physical geological property of the fault zone that hopefully will help," John says.

It's vital for New Zealand that scientists understand the fault, which last ruptured in 1717. More than 120 scientists and technicians from a dozen countries are involved. Read more at: http://www.3news.co.nz/nznews/quake-scientists-look-at-nzs-most-dangerous-fault-line-2016011717#ixzz3xd0XaZYU

Dr Ian Schipper was part of a team of volcanologists on a trip of a lifetime, who under-took a "Trail by Fire" expedition exploring over 15 volcanoes along the South American Andes

The Trail by Fire team: Yves Moussallam, Ian Schipper, Aaron Curtis, Talfan Barnie, Philipson Bani and Nial Peters

A team of volcanologists undertook an expedition exploring over 15 volcanoes along the South American Andes, including Ian Schipper, our expert in igneous processes. It is an international six-person team taking part in the 4,000km 'Trail by Fire' research trip. From November 2015 to January 2016 the team undertook research into gas emissions from volcanoes located above the Nazca Plate subduction zone, from Peru to the southern tip of Chile.

Ian says it's the first time anyone has attempted a study of this kind on such a large scale. "Gas measurements have been done by many observers and scientists, but what's new about this study is we're looking at the entire system in one go," he says. The gases that form the atmosphere are continually recycled back deep into the earth at the subduction zones, where one tectonic plate sinks under another. During this process, the sinking plate releases gases that fuel volcanic eruptions. "We can estimate how many volatiles (gases) are inputted into this system, but we don't have an estimate of how many volatiles are outputted through volcanic emissions. "This study will give us a better understanding of how volatile recycling works on a continental scale, and it'll also give us information about the particular volatile behaviour at each individual volcano," Ian says.

The South American Andes is one of the world's most volcanically-active regions and yet little is known about some of the volcanoes, largely because of their inaccessibility.

The team's biggest safety concern is navigating the high mountainous roads to reach the remote locations of altitudes up to 5000m. Elevation is another big concern, especially as some of the equipment has never been used at that altitude before. The team received a bursary from Land Rover, in partnership with the Royal Geographical Society (with Institute of British Geographers), which has supplied funding and the use of a Defender vehicle, specially modified by Land Rover Special Vehicle Operations to operate as a mobile laboratory and withstand the climate, terrain and altitude.

The team will also be using state-of-the-art technology to attain measurements of volcanic degassing, including unmanned aerial vehicles to take readings from inaccessible locations. Ian says it's rare to have the opportunity to take part in research of such a large scale. "Volcanoes are a difficult area to study because of the cost of specialist technology and getting to remote locations. Our largest instrument—the Thermo Fisher Delta Ray Spectrometer—requires continuous power and reference gas supplies. I can't imagine how we'd do a survey of this magnitude, in such remote places, without the bursary."

Ian's other team members are Dr Yves Moussallam (Scripps Institute of Oceanography), Dr Nial Peters (University of Cambridge), Aaron Curtis (New Mexico Institute of Mining and Technology), Dr Talfan Barnie (The Open University, United Kingdom) and Dr Philipson Bani (Institut de Recherche pour le Développement, France).

www.facebook.com/trailbyfire.volcanoes and www.twitter.com/trailbyfire

Dave Frame leads Deep South National Science Challenge

Professor Dave Frame, Director of the Climate Change Research Institute, has taken up a half-time role as Director of the Deep South National Science Challenge. This Challenge will enable New Zealanders to adapt, manage risk and thrive in a changing climate. Working with our communities and industry, we will guide planning and policy to enhance resilience and exploit opportunities. This will be built on improved predictions of future climate, supported by new understanding of Antarctic and Southern Ocean processes. The Challenge will focus on the effects of a changing climate on key climate sensitive economic sectors, infrastructure and natural resources.

The Deep South Challenge will be doing fundamental physical climate science in the region south of New Zealand. Scientists will be looking at processes such as clouds and aerosols, sea-ice-climate interactions and so on, in order to improve scientists' ability to simulate the climate. By improving models, we can improve the information people have regarding current and future climates; and this offers people a better basis on which to plan their responses.

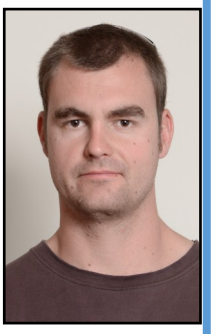
Dave comments "We know from the extensive literature on climate change adaptation that physical science information alone is not a sufficient basis on which to make decisions – few decisions are made on the basis of climate information alone. This is why another key part of the Deep South Challenge will be a significant investment in deepening our understanding of people's information needs. By improving our scientific understanding of the fundamental drivers of southern hemisphere climate, and by working alongside people to help them make better use of information, we hope to help New Zealanders become better prepared to live in a 21st Century climate."

Professor Martha Savage and Masters student Tom Wilson part of major international study of slow-slip earthquakes to drill off Gisborne

Drilling ship JOIDES Resolution

Martha Savage

A $10-$20 million project to drill into the seabed off Gisborne aims to significantly improve the understanding of slow-slip earthquakes. Professor Martha Savage and Masters student Tom Wilson were part of the scientific crew.



Tom Wilson

Three sites will be drilled up to 1.5km below the seafloor by the International Ocean Discovery Programme (IODP), of which New Zealand is a member. The work has been scheduled for 2018 using the research ship JOIDES Resolution. About 50 scientists from eight countries were likely to be involved. An international research project offshore from Gisborne should provide a big boost to the understanding of slow-slip earthquakes.

The drilling will be done around the Hikurangi subduction zone where the Pacific tectonic plate is being thrust beneath the Australian plate.

The most easterly of the proposed sites is in sediment on the Pacific plate which will eventually be subducted beneath the North Island. The middle site is slightly to the west of the fault front between the two plates, while the most westerly site - closest to land - is over the Australian plate at a point where the Pacific plate is about 5km down.

The study will be the first undersea drilling project in the world aimed specifically at understanding the mechanisms of so-called silent earthquakes, also known as slow-slip events, which can take weeks or months, compared to just seconds in a normal earthquake. The slow-slip events off Gisborne have attracted international interest because they are relatively close to the surface - typically about 5km below the seafloor, making them accessible by scientific drilling. Slow-slip quakes were not felt and did not do any damage but might be precursors to more violent quakes, Henrys said. Another hypothesis was that they relieved stress. "We really want to know the answer to that."

All the slow-slip events mapped in the area had been below the drill site closest to land - about 40km east of Gisborne - and instruments would be placed at the site to measure such events. Instruments placed at the middle drill site should show whether slow-slip events were also happening at places where the Pacific plate was at shallower depths below the Australian plate.

In other work already under way, instruments left on the seafloor offshore from Gisborne and retrieved after 12 months had recorded a large slow-slip event of about magnitude-6.8 last October and November. While it was still early days, it looked as if the instruments had captured some interesting information.

Professor James Renwick and fellow researchers met to discuss paleoclimate, data rescue and climate dynamics!

James Renwick

Kyle Clem

In the last week of March, Professor James Renwick and PhD student Kyle Clem participated in a workshop on Antarctic climate, in the non-Antarctic setting of Scripps Institution of Oceanography in La Jolla, Southern California. The meeting was one of the first of a new partnership between the World Climate Research Programme (WCRP) and the PAGES (Past Global Changes) programme, bringing together paleoclimate researchers and climate dynamics researchers. The meeting covered ice core records, the instrumental record, and modern-day (and projected future) climate variability. One fascinating aspect was around "data rescue" – it turns out that there are huge stores of ships' logs from the old sailing ship days, most of which contain very careful weather readings, which have yet to be digitised and analysed. This even applies across the southern oceans. Through the late 18th and the 19th centuries, there was a lot of commercial traffic around the Cape of Good Hope across the Indian Ocean to Australia, then east to Cape Horn and up into the Atlantic. Being able to incorporate such observations into global analyses would help our understanding of Southern Hemisphere/ southern ocean climate variability immensely. There is a "Citizen Science" angle to all this – go to www.oldweather.org and you can join in the effort to digitise pre-scanned pages from historic voyages across the world's oceans.

James then travelled to Geneva to take part in the 2015 meeting of the WCRP Joint Scientific Committee. One of the emerging areas of research, which is now being recognised as a WCRP "Grand Challenge" for climate research, is that of decadal prediction. Part of VUW's new work with NIWA under the "Deep South" National Science Challenge will be to advance decadal climate prediction for New Zealand and the Southern Hemisphere.

Leadership milestone for four Pasifika students, including Environmental Studies graduate student Chelcia Gomese

Four students from Victoria University had the honour of being amongst the first Pasifika students to graduate from the Victoria International Leadership Programme (VILP) at a special awards ceremony in May. Environmental Studies graduate Chelcia Gomese, plus Sonny Togiatama, Anderias Tani and Higano Perez, who come from the Solomon Islands, Niue, Timor-Leste and Tokelau, were part of the group of fifty one students to graduate from the intensive, degree-long programme designed to prepare students for international careers.

Chelcia came to Victoria from the Solomon Islands with some leadership experience, but says VILP opened up a whole new perspective. “I learned from VILP that leadership is more than just leading a group of people towards achieving a common goal. Leadership is being part of those you lead. You have to have the heart and respect for the people.”

Chelcia came to the University on a New Zealand Aid Scholarship to gain a Postgraduate diploma in Environmental Studies. But she wanted more out of her university experience than just a qualification. “When I decided to study in New Zealand, I made up my mind that the experience I was going to bring back to my home country would be more than just academic. I wanted to be able to contribute to society, and more importantly, I wanted to make a difference. VILP was one of the reasons why I chose to study at Victoria,” she says.

Chelcia particularly enjoyed being able to attend seminars through the programme. “The seminars helped me communicate effectively with people from the region and abroad. And also being in the capital city, you get to hear from really high-profile people from Parliament and experts from overseas.”

Chelcia put her VILP skills into practice as president of the University’s Melanesian Students’ Association. She looks forward to gaining more experience when she returns to the Solomons where she has already started a number of not-for-profit community development projects.

Her initial focus is on environmental awareness and education, and she is currently building a library for children in her community. “I am very fortunate to be able to get a good education, but there are a lot of children who don't have the same opportunity as I do. I don't have the money to send all the children to read books in school, so I'm sending the books to them.”

Chelcia says the programme’s networking and volunteering opportunities not only connected her to people and organisations in the environmental sector, VILP was also a fun, practical way of gaining skills such as critical thinking and improving confidence. “VILP is a great programme and will always be one of my best memories at Victoria. It has made me more passionate about leadership. In the end, I not only found something that I love to do, but I found myself,” she says.

Environmental Studies Masters student Sophia Murphy spent seven weeks in Japan doing cross-cultural research

ENVI Masters student Sophia Murphy spent seven weeks conducting research in Japan. Sophia received a scholarship, which made this trip possible. Sophia's project is a mixed-methods, cross-cultural study exploring the relationship between values and reductions in in-home energy use during an electricity shortage scenario. More specifically, the interest lies in building an understanding of what cultural values motivate people to reduce electricity consumption, the role of environmental concern in this process, and what differences and similarities are present across two cultures. Semi-structured interviews were conducted in New Zealand and Japan and an online questionnaire created.

Sophia explained, "I arrived to a 36 degree heat and immensely humid environment, a perfect setting for research around electricity consumption and reduction. The plan was clear, make contact and conduct semi-structured interviews, transcribe and translate these, and finish translating the online questionnaire. In reality, the research was happening with every encounter every day. Although strictly speaking it is not my methodological approach, when you spend nearly two months living in a home-stay environment immersed in another culture, it naturally becomes a more ethnographic experience.

I wasn't merely asking people in interviews how they use electricity at home, and questions around reduced consumption; daily interactions built an understanding of the people, the culture, and their worldview, all adding a little piece to the puzzle.

The majority of the time I was in Ehime Prefecture, which is on Shikoku Island. I had lived here previously, and so returned to utilise the existing relationships that I had. I was very lucky to receive help in more ways than one, from a number of people. This led to a deeper appreciation of, and lessons learned in research collaboration, especially when working cross-culturally and on a shoe-string budget."

Sophia had the guidance and advice from two supervisors, Dr. Wokje Abrahamse from SGEES and Dr. Taciano Milfont from the School of Psychology and Centre for Applied Cross-Cultural Research.

End of summer sunset, Ainan, Ehime Prefecture

Post-typoon view of rice paddies by the riverbank, Ainan, Ehime Prefecture

Geology PhD Graduate Jenni Hopkins, in collaboration with GNS, has been undertaking research on Predicting the impact of an Auckland eruption

Rangitoto, Mt Albert, Lake Pupuke, Orakei Basin, Mt Eden and One Tree Hill are some of Auckland's most familiar landmarks. But they are also reminders of the city's fiery history and the looming threat of future disasters.

A clearer understanding of the risk posed by a new volcanic eruption in Auckland has emerged from doctoral research undertaken by Jenni.

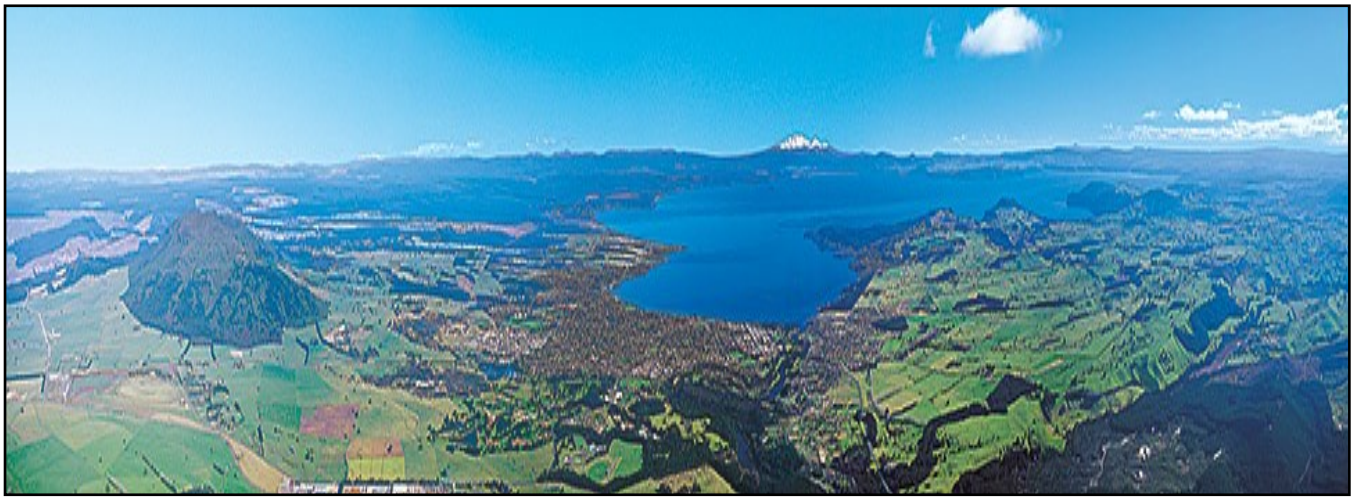
Jenni, in collaboration with GNS Science and the University of Auckland, has reconstructed the eruptive history of Auckland's volcanic field, which comprises more than 50 craters dating back around 200,000 years. While currently dormant, the field is expected to erupt again from a new site within potentially as little as a few hundred years.

To reconstruct the eruptive history, Jenni examined the ash deposits taken from a number of lake sediment cores to see the thickness of the layers and the order in which they'd been deposited. She also helped develop ground-breaking new geochemical techniques which have allowed, for the first time, the ash deposits to be accurately linked to their source volcanoes.

Using core samples that were drilled by GNS Science and The Auckland Council's research programme DEVORA (DEtermining VOlcanic Risk in Auckland), Jenni analysed the elemental make-up of ash deposits with an electron microprobe and laser ablation techniques. Each layer was shown to have a unique geochemical 'fingerprint' of trace elements which could then be matched to lava from the source volcanoes.

Jenni's research has been funded by the Earthquake Commission (EQC) and Auckland Council through DEVORA, and GNS Science.

Jenni is currently working for GNS Science and will conduct further research on Auckland's volcanic field. She then would like to apply the skills developed during her PhD research to the ancient super-eruption of Taupo by examining its far-flung ash deposits to unravel some if its long-held secrets.



Lake Taupo

A photo essay of field work in the Spenser Mountains (30 April – 3 May 2015) by Geology PhD Candidate Shaun Eaves

In late April, Andrew Mackintosh, Kevin Norton, Richard Jones and myself undertook fieldwork in the Spenser Mountains, situated within the southern region of Nelson Lakes National Park. Our goal was to investigate the glacial geomorphology and collect samples for cosmogenic surface exposure dating of moraine boulders. Measuring the cosmogenic nuclide concentrations in the boulder surfaces will tell us when the rocks were deposited by the former ice mass. Our overall aim is to use the geological evidence of past glacier fluctuations to work out how climate has varied in the recent geological past (c. 15,000 years ago to present).

Here is a photo essay that documents our fieldwork:

Our study site is very remote and almost inaccessible by foot. We took a spectacular 20 minute flight from Hamner in this Squirrel helicopter.

The first view of the cirque on the approach from the air. A light dusting of snow the previous evening covered the basin floor. The low-angle early morning sun highlights the moraines that we were there to study.

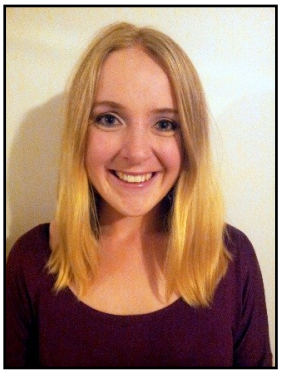
Sample selection involved a lot of pointing and discussion. Many 'boulder conferences' were called prior to rock being cut.

We used portable rock saws to remove the tops of glacially-transported rocks. The boulder surface contains the cosmogenic nuclides that have accumulated since it was deposited by the former glacier.

Flat-topped boulders make the best samples for a number of reasons.

Our field site in the Matakitaki River East Branch. The small tarn in the middle ground is impounded by rocks left by the glacier. This provided our water source after the snow melted (note our camp on the far side of the lake).

Before long, our work was completed and it was time to leave the mountains before bad weather rolled in. We were collected by the Squirrel, which transported us and our 34 rock samples back to Hanmer Springs.



Summer research project by an SGEES Geology student is engaging primary students to raise awareness about climate change

SGEES student Shawnee Westerman worked with children to help raise awareness and educate the public about ways to mitigate the effects of climate change. Shawnee, who studies Geology and Law, is working with groups of five to twelve year olds from two school holiday programmes to promote an understanding of climate change issues in a positive way. Shawnee's project supervisor is Professor James Renwick.

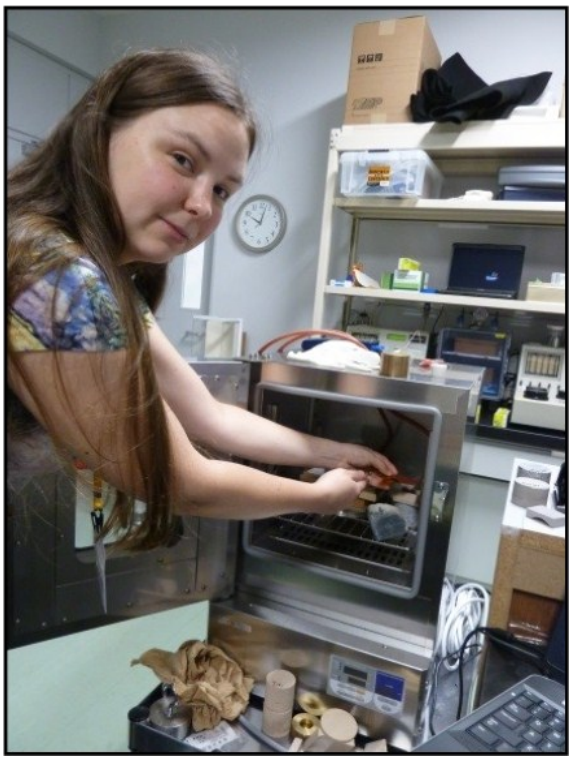
Shawnee ran the pilot project in collaboration with Wellington City Council and as part of Victoria's Summer Research Scholarships Programme, which providesd10-week research placements for top performing students. As part of her summer project, Shawnee visited holiday programmes in Karori and Khandallah to give a short presentation about climate change before helping the children to create posters that focus on actions people can take to reduce their impact on the environment.

The project is based on a similar initiative carried out in the United States that found promoting an understanding of science through art is an effective way of raising awareness of climate change.

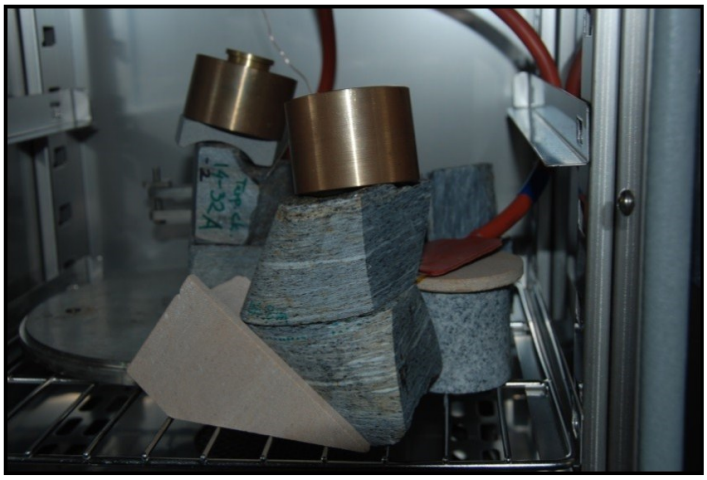
Labs in the Land of the Rising Sun: A Report by Geophysics PhD Candidate Lucie Capova

The New Zealand/Japan collaboration programme of the Deep Fault Drilling Project Science Team was a great opportunity for several VUW geophysicists, including Lucie, to visit Japan in 2015

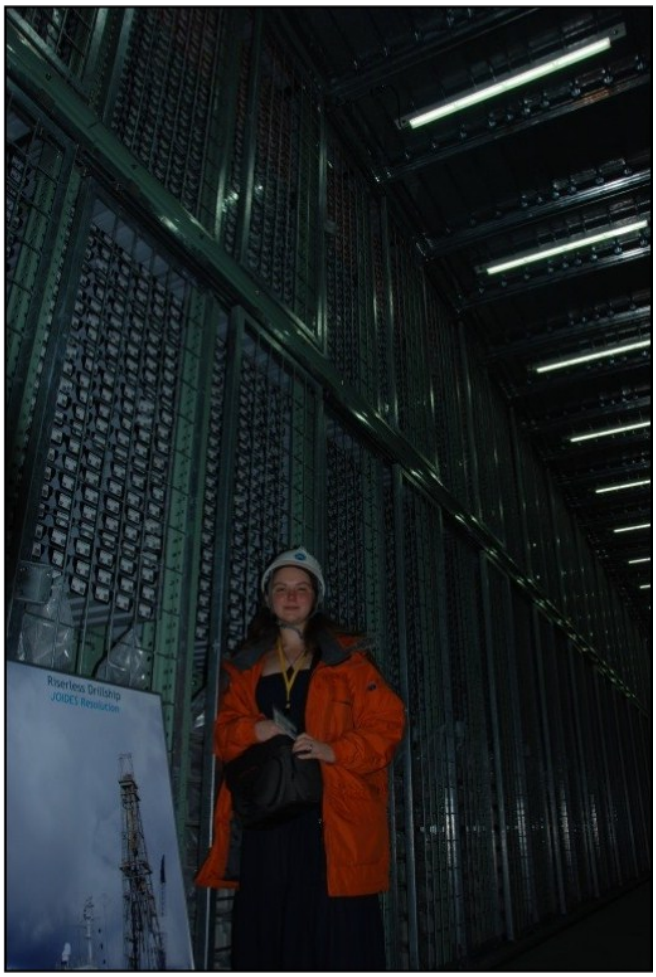
In September Lucie went to Shikoku to work at the Kochi Institute of Core Sample Research, JAMSTEC. Lucie brought 12kg of rock samples from the Southern Alps and spent 3 weeks measuring their thermal conductivity and thermal diffusivity at different temperatures.



Lucie installing samples in the furnace with sensors



Sample layout



Lucie visiting one of the three world's IODP core repositories

The World Geothermal Congress 2015: Renewable, sustainable, community involvement and women empowerment
A report from PhD Candidate Cécile Massiot

Along with 2000 geothermalists, I attended the World Geothermal Congress in Melbourne.

The WGC is an occasion to sum-up all the new geothermal-related development in each country and worldwide. With a significant contribution to the global increase in geothermal installed capacity since the last congress, New Zealand is en-route for the 90% renewable electricity target for 2025. The direct use of geothermal heat has also grown, surprisingly lead by Scandinavian countries, with some increase in Australia. The New Zealand geothermal community will face new challenges with a flat electricity demand. However, as winter is coming, it is a good time to realise how much the direct use of the abundant heat throughout the country could be increased for domestic and industrial applications. New Zealand also has a big implication in geothermal training (e.g. the Auckland Geothermal Institute, teaching in Indonesia) and aid programs in Asia-Pacific.

I presented results from my PhD project about the fracture distribution in wells of a high temperature Geothermal field located north of Taupo, in view of better understanding processes and contributing to better models for improved management. There is also potentials to improve the exploration of similar systems hosted in volcanic rocks in Indonesia and Latin America, widely represented at the congress. There were lots of talks about fractures, with the French and German still working on the Soultz Enhanced/Engineered Geothermal Systems) project 30 years after drilling the wells, for a field producing a record of 0.8 MWe, but still good research coming out of it!

I was also surprised to hear that there are now lots of wells drilled under Paris to use a hot reservoirs in the sedimentary basin for district heating. With so much heat accessible everywhere in NZ, it seems like an over-looked opportunity to have cheap heating!!

I saw a poster about one of the only developments in the Himalayas, using a combination of a shallow well near a hot spring and solar panels to heat-up a hotel, up in the mountain and with only 3 hours electricity per day. These small-scale projects are actually very exciting.

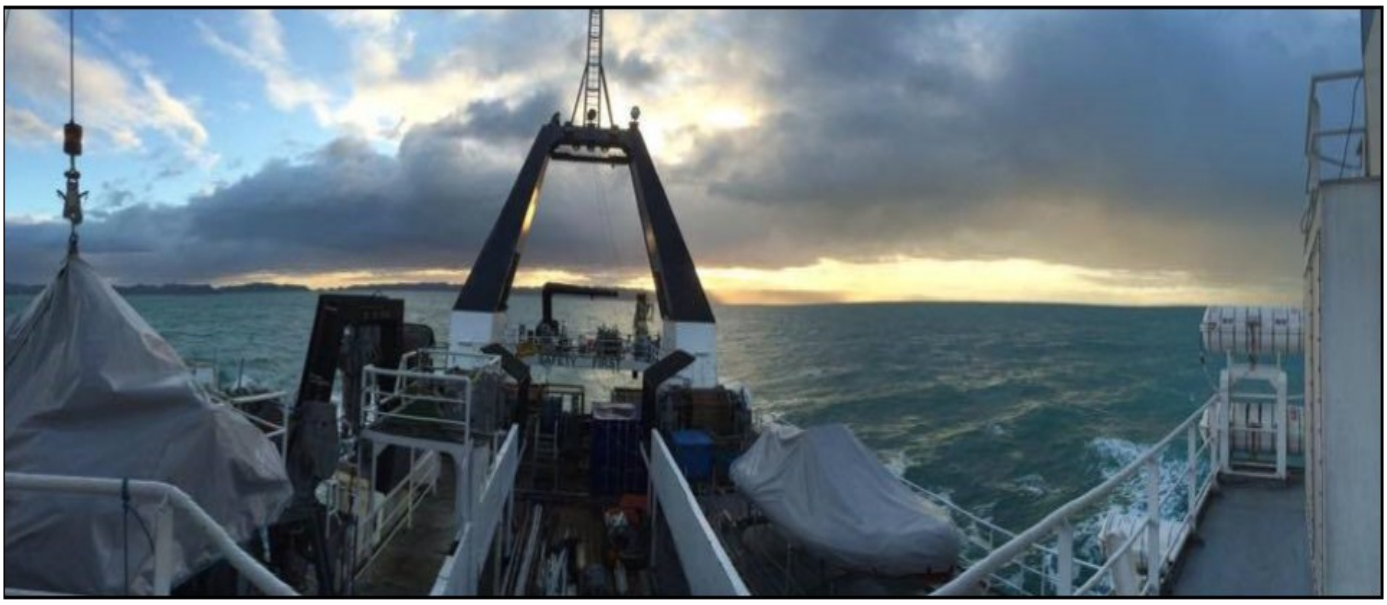
New boundaries will be pushed in the near future with projects in Iceland, Japan and the U.S.A. aiming at reaching supercritical fluids. If the technological and financing challenges can be overcome, such drill holes could provide 10 times more energy than conventional ones, and resources are huge. New Zealand has a program in the pipeline but will take a long time to get started, let's say until energy demand increases again. I even heard about potentials for offshore geothermal at mid-ocean ridges.

Andy Blair, myself and Hon. Simon Bridges, New Zealand minister of Energy and Resources. On the banner, a citation from Hillary Clinton: "Women are the largest untapped reservoir of talent in the world"

Field work At Sea: A report by Geophysics Masters student Ben Higgs

Data for my Masters project has been collected over two voyages run by NIWA in June and July 2015. These totalled 4 weeks at sea on the RV Tangaroa (shown in the picture) in an area roughly 50km off of the coast of Gisborne. It's here that a concentrated area of unusually shallow (~250m below sea level) hydrocarbon gas flares were recently discovered. These seeps are potentially capable of releasing greenhouse gasses directly into the atmosphere, which was the motive for returning to the site for further investigation.

A tremendous amount of data was collected over the course of the voyages using a range of different instrumentation. It's been predicted from preliminary results there could be up to 700 flares in the 50km^2 surveyed section. A selection of these were analysed visually using sonar echo-sounders and footage collected from underwater video camera tows. These convincingly show bubbles rising almost the entire extent of the water column.



Rear facing view of the RV Tangaroa taken by Ike Sho from just outside the Bridge

Victoria University's first ever Master of Geographic Information Science (GIS) was capped at the May 2015 graduation ceremony

Andrew Clouston, Geospatial Team Manager at Land Information New Zealand (LINZ), was the first graduate since the programme's inception in 2012.

Mairead and Andrew at the Graduation Ceremony

Andrew's thesis explored the issues of including citizen data collection or crowdsourcing in government datasets with a specific focus on the New Zealand Cadastre (the system responsible for recording land surveys and property boundaries information).

Programme Director Dr Mairead de Roiste says the programme attracts recent graduates and professionals like Andrew already in the workforce looking to upskill.

"The Master of GIS was introduced in response to a national geospatial skills shortage in a collaboration between Victoria University, the University of Canterbury and AUT. "It's a unique programme internationally. We make use of innovative technologies to join students and staff based at the three different institutions into the same courses and programme. The skills our students gain are invaluable – in fact we've had the unusual problem of a number of our students getting jobs before they've finished" says Mairead.

Human Geography student Rebekah Smith attains her Masters and a job in Canberra

Rebekah Smith was awarded a Master of Science with Merit in 2015 for her thesis entitled *'Loneliness, connectivity and place in New Zealand'*. Supervised by Professor Philip Morrison, her thesis addresses the high level of loneliness now experienced by adults and particularly young people in New Zealand and the role played by social connection. Rebekah used two separate data sets: a sample of nearly 8000 from the 2012 *New Zealands General Social Survey* and a sample of nearly 2000 students aged 10-16 who were attending schools in Wellington, Taranaki and Auckland in 2006. The latter were based on field data collected through the VUW Psychology's *Youth Connectedness Project*. In both cases Rebekah modelled the responses to questions on loneliness, social connection and engagement.

Examiners found her thesis 'well-written and well-argued on an important topic' and her analysis 'rigorous and systematic'. Rebekah is currently co-authoring two papers based on the respective surveys with her supervisor for the journals *Geografiska Annaler: Series B, Human Geography* and *Children's Geographies*.

On the basis of her thesis, prior counselling experience, and the experience gained in analysing quantitative data, Rebekah has been offered a fulltime position as e-hub Project Officer at the National Institute for Mental Health Research at the ANU College of Medicine, Biology and Environment, Canberra: http://nimhr.anu.edu.au/about-us Among Rebekah's longer term plans are a PhD in Public Health.

Development Studies Masters Student Rebecca Ross at Children's Geographies Conference in San Diego

Development Studies Masters student Rebecca Ross presented her thesis research, on understanding the lifeworlds of young Burmese migrants living in a Thai border town, in San Diego, USA. In January 2015, San Diego State University hosted 'The Fourth International Conference on the Geographies of Children, Youth and Families' with speakers hailing from over twenty countries, including key note speakers Professor Katharyne Mitchell (University of Washington) and Professor Tracey Skelton (National University of Singapore).

Rebecca is pleased to report that her presentation was well received. Delegates were interested in her use of photovoice methodology and the findings this generated about young people's migration histories, daily lives and future aspirations. She paid particular attention to how youth agency had been theorised in Children's Geographies' literature and how her research participants practised agency in less-obvious, but no less important ways. Her presentation resulted in an invitation for her to also present her work at an upcoming UK conference. Rebecca has been supervised by Associate Professor Sara Kindon and is looking forward to handing in her thesis in early March 2016.

Update from Geology Masters Graduate Shane Rooyakkers

I'm now in Montreal, working on my PhD at McGill University under the supervision of John Stix and Kim Berlo. My project is concerned with rhyolites at Krafla caldera, a dominantly basaltic volcano in northern Iceland. Krafla is a bit of a hotspot for volcano research at the moment; in 2009, a shallow rhyolite magma body was unexpectedly intersected during geothermal drilling at a very shallow depth of ~2 km. Magma flowed up the well and immediately halted drilling. The unexpected occurrence of shallow rhyolite beneath Krafla raises questions regarding the origin of this magma body and its characteristics, and also provides an excellent opportunity to study a rhyolite magma body in situ. In response to this a large international collaboration, the Krafla Magma Drilling Project (KMDP), was established, with the aim of drilling again into the magma body and studying it in detail. My work is funded by the KMDP, although for the most part I'll be working on the older rhyolites at Krafla.

I'm aiming to provide context for understanding the modern rhyolitic system by determining how previous Krafla rhyolites have been generated, stored and erupted, and the timescales of the magmatic processes operating. I'll also possibly be looking at the flux and C-isotope compositions of diffuse CO_2 emitted from the caldera, to characterise the degassing of the contemporary rhyolite.

In late August/ early September I headed off to Iceland for some preliminary fieldwork. What an amazing place!

Despite some interesting Icelandic "summer" weather to kick things off (20m visibility, freezing cold and pouring rain for three days straight), we were eventually treated to some clear skies and stunning scenes. I brought back a tonne of rock samples and lots of nice gas data to get things started, and am looking forward to getting stuck into some analytical work soon. Next "summer" while the magma drilling is in action I'll be back at Krafla, mapping the rhyolite units in detail and collecting more samples. I can't wait to get back over there!

1960s Geography Alumni Ranjit de Silva shares his life story post-Vic

I came to Vic in 1961 as a Colombo Plan student from Ceylon (as we were then known). I undertook a BA Degree with Geography and Political Science as the major subjects, which I completed in 1963, and then studied for my B.A (Hons) in Geography and Theory of Planning (Political Science) and Masters degree for my thesis. This I completed in 1965, and got back to Colombo in Sri Lanka in April 1966. I worked in Sri Lanka from that time till 1978 August, at which stage I migrated to Canada, due to political reasons. I held the position of General Manager/C.E.O of the Ceylon Shipping Corporation, which did very well during this time. I was very fortunate to join this new organisation and progress as the company developed. I was not able to get suitable work in Canada, hence in January 1979 I was offered a rewarding assignment in Hong Kong in a multi - national shipping company. From that time till July 1991 I lived and worked in Hong Kong. In 1991 I was asked to assist a Norwegian Shipping group in their growth/development. They were based in Bangkok, Thailand. I took up the consultancy appointment for 6 months, but each year I was asked to stay on.. thus I managed to leave Bangkok in May 2000, having taken early retirement, and returned to Vancouver.

I have been fortunate during my working life to travel a lot (in fact I have covered almost 100 countries) and even today take two or three trips a year, one of which is to Sri Lanka for at least four months from mid-November until mid-February in order to avoid the harsh winter in Canada, though winter in British Columbia is not too bad at all compared to East Asia. I have got back to NZ many times since I left this wonderful, friendly landmass in April 1966, I do keep in touch with a few from my NZ days, and sure wish I could know where other people I studied with are.

I have had a happy personal life, married with two children, in fact my wife studied at Vic Uni too during the same period as I did. At 70 plus if you are healthy, (to a large extent I am), at and can afford the life style you desire, then one should be content in life. I feel I am.

Geography graduate Mieke Welvaert is utilising her knowledge gained at Vic in her economist role

Mieke Welvaert attained a Geography and a Commerce degree at Victoria. Meike currently works at an economic forecasting and data visualisation firm called Infometrics Ltd.

Mieke says "My study in geography gave me better insight into what the key issues are for different groups of people, industries, and regions, in both New Zealand and the world.

A big part of my job is to communicate how socio-political, cultural, and economic events have or will affect outcomes for clients. Geography teaches you how to pull events apart and put them back together again; to find the beginning, middle, and end of the story and to read it forwards and backwards. The main questions we get from clients are: What is behind this change? And what does it mean for my organisation going ahead? Geography for me was a degree in finding answers that make a difference for people.

Geography has played a role either explicitly or implicitly in almost anything I do here. Any given day for me involves a wide range of tasks, from explaining to clients and media why migration levels are so high, to constructing maps on public transport use, to writing about the relationship between earthquakes and GDP growth. Each of these tasks involve geography. From this experience, and from observing others in different roles, I find that the data analysis, research, and communication skills developed through studying geography are applicable to most tasks in many areas of employment."

Environmental Studies Masters Graduate Liz Willoughby-Martin oversees the creation of a community garden in her role as Community Centre Coordinator

News item in the *Cook Straight News* 20 April 2015 by Sam Duff

Fresh fruit and vegetables will soon be sprouting from the grounds of the Miramar and Maupuia Community Centre [Wellington]. On April 18th 2015 local residents got their hands dirty as they created two vegetable gardens, in what is known as a permablitz. Community Centre Coordinator Liz Willoghby-Martin says the Centre is working alongside gardening organisation Grow Aotearoa on the project. "As a community centre we're all about connecting people," she says. "Everybody eats, so providing a space where people can get together and share is great." Liz says as the winter months are coming, the first crops to be planted will be brassicas, which include cabbage, cauliflower and broccoli.

Fredd Marshall, from Grow Aoteraroa, says he approached the Wellington City Council about what his organisation could do in the community for Earth Day [22 April 2015], and that is how he connected with the community centre. Fredd says Grow Aotearoa was started by a group of Wellingtonians about six months ago to help communities and neighbourhoods boost the amount of fresh food they grow for their households. "The good thing about the community garden is that it will put food in a public space," Fredd says, "Food should be free as much as possible."

Liz says she is very excited for the nearby crèche and Kohanga Reo, as well as other community groups, to get involved in the garden.

Development Studies graduate uses Photovoice in Thailand

Maria Paula La Monica (PGDip Development Studies 2014) has been travelling since November 2014 and got to use participatory photography research skills developed in GEOG 404 (Young People and Participatory Development) to good effect with an organisation supporting single mothers in Thailand.

In a semi-rural area, outside Chiang Mai, Thailand. Maria volunteered for one month in an organization that provides shelter to single mothers and focuses on capacity-building. Maria did all sorts of things, from working in the farm and in the office, to collecting food, babysitting and teaching. It was an intense month, but a most rewarding experience.

Maria was able to facilitate a photovoice project with the mothers negotiating with the authorities so they allocated some time for the project in the afternoons and let all the mothers participate.

Maria and her team taught the mothers how to use digital cameras and not only taught them how to operate them but also explained basic concepts of photography. The mothers were really engaged. They took all sorts of pictures, but the best part was when they saw the printed photographs. They chose two of their favourite pictures and prepared a frame for them.

“For some of them, the pictures were one of the first things they were able to produce themselves. It was also an opportunity to focus on the good things in their lives. Most of their days are based on what they need to learn, what they don't have to do and little attention is paid to the positive aspects” Maria said.

Geography PhD Graduate Gradon Diprose's research focused on engaging in alternative economies, leading to a Social Science lecturer position plus a steering committee role

The growth of alternative exchange systems operating outside of the traditional waged economy is the focus of research undertaken by Gradon Diprose, who graduated in May with a PhD in Geography. Gradon studied two alternative exchange networks in Wellington—the Wellington Timebank and an arts collective called Letting Space. "My research started after the global financial crisis hit—there were a lot of people being made redundant here and around the world, and many people were very uncertain about the future," Gradon says. "I was interested to find out about any alternatives to the classic capitalist ways of meeting peoples' needs."

Gradon discovered two organisations doing that work on his own doorstep. "The Wellington Timebank is a network of about 500 people from all walks of life who swap skills and services—all time is valued equally, no matter what a member's special skill is," he explains. "Participants keep track of the hours they provide, and that is turned into time credits that they can exchange for services offered by other members. It could range from walking dogs or cleaning to dietary advice or help with budgeting. Time is the currency, and the idea behind it is to equalise the inherent inequality that occurs in waged work."

Letting Space, an arts collective that at times has worked with the Wellington City Council to stage projects in vacant office space, works slightly differently.

“Letting Space stages temporary art installations that offer a form of critique or exchange in unused urban spaces—one high profile example of these projects was the Free Store, [which redistributes edible surplus food to those that determine themselves in need of it]. Members of the public become involved—and it’s all taking place outside of the traditional gallery setting.” Gradon says.

Gradon observed how both organisations function and assessed the impact on the lives of people who took part in them. “I wanted to find out why people got involved and the effect it was having on their day to day lives. Some people took part because it met their political goals whereas others were interested in the Timebank, for example, because they had no money but wanted a specific service.” Gradon’s research came from a personal desire to explore ideas about economic development outside of dominant business-focused approaches. “Both of these organisations are about changing how people interact, and connecting bigger political ideas with everyday actions that meet peoples’ needs,” he says. “Both projects have made a real difference in the Wellington community, meeting material needs, and helping to build a stronger sense of community and connection amongst people.”

Gradon is working as a lecturer in Social Sciences at the Open Polytechnic and, since completing his research, has been invited to join the Wellington Timebank steering committee. For more information, go to the websites for Wellington Timebank and Letting Space.

Development Studies Masters graduates work for the Wellington Timebank and at the Newtown Community and Cultural Centre

Renee Rushton is currently a Wellington Timebank steering committee member plus Wellington's Newtown Community Centre and Cultural Centre Coordinator. Renee completed a Masters in Development Studies in 2011, focusing on community economies. Through her research she engaged with groups in Bolivia encouraging them to think critically about what they wanted their economy to look like. She is now really enjoying thinking about the economy she wants to live in - and taking action to work towards it. Renee was one of the Timebank's first members and is an enthusiastic trader.

Hannah with Gradon Diprose

Hannah Mackintosh is the Wellington Timebank Coordinator; the friendly 'front-of-house' face. Hannah completed a Masters in Development Studies in 2011. Hannah works three days a week out of the Newtown Community Centre in Wellington, concentrating on Timebanking client needs. Hannah says she loves the fact that she gets to chat to and engage with different people every day.

And finally…

If you have reached this point, then you should consider yourself a genuine supporter of the School.

There are many ways in which our alumni offer support, and not just in terms of financial contributions. We would be delighted to hear about your exploits since leaving Victoria and are always on the lookout for former students who are prepared to share their work (or life) experiences and advice with current students. Above all, we are interested in finding out what our students go on to achieve. We encourage you to keep in touch.

It is a sad but unavoidable fact that many students are unable to complete, or even commence, their aspiration because of the rising costs of study. If you would like to contribute towards setting up a scholarship, make a donation to the School's ongoing efforts, or have another idea, please don't hesitate to get in touch with Em Lewis, Development Manager (em.lewis@vuw.ac.nz) or Monika Hanson, School Manager, contact details on page 3.

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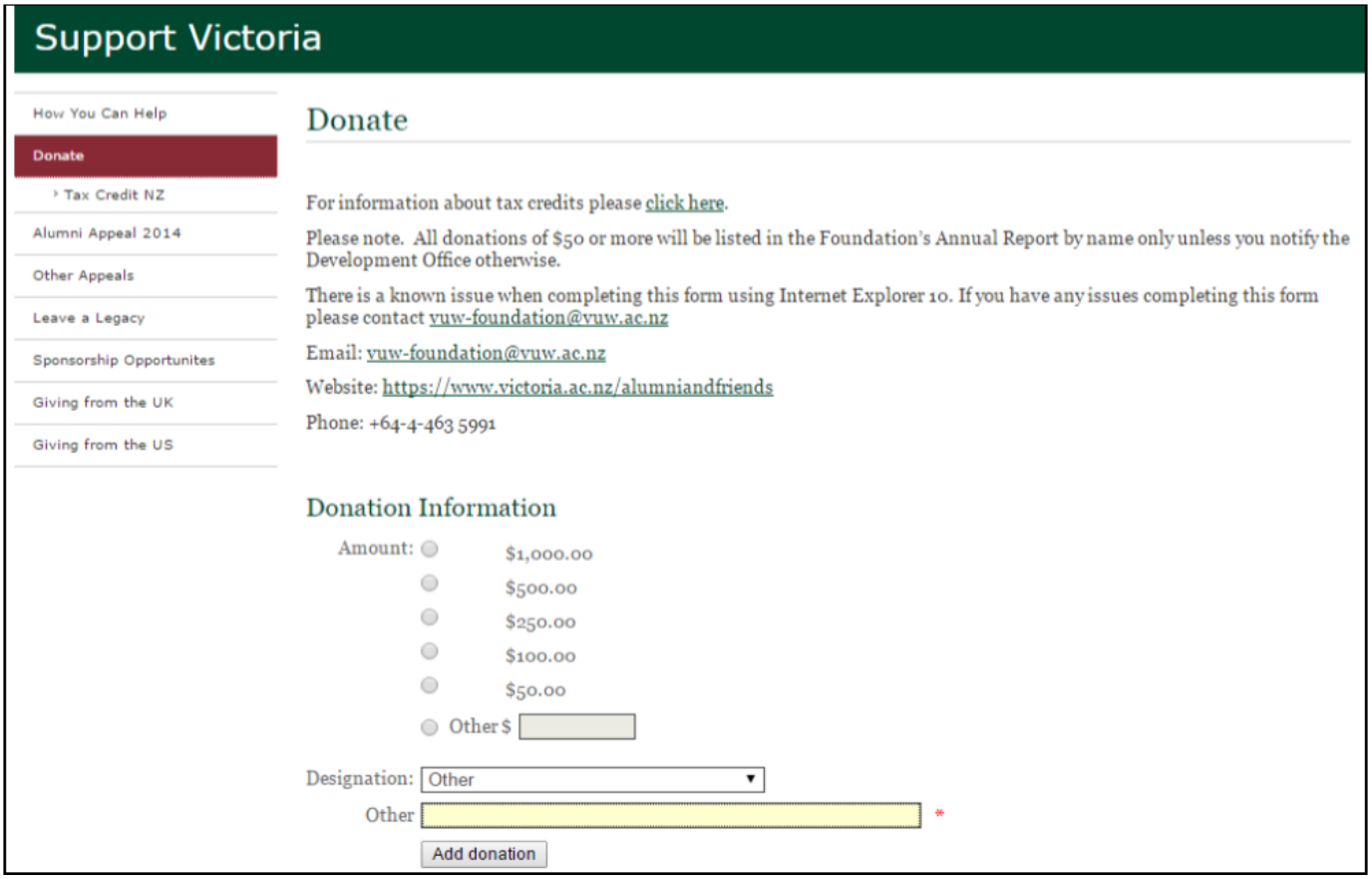

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