

Annual Conference 2024
 25th - 29th November | University of Otago - Ōtepoti Dunedin




Monday, 25 November 2024

(Pre-conference Workshops)

12.00 – 14:15	<i>Otago Business School G17</i> Building a Framework for Earthquake Catalogues in Aotearoa New Zealand University of Otago Ōtākou Whakaihu Waka Leaders: Kenny Graham, Jonathan Hanson (GNS Science) and Calum Chamberlain (VUW)
14:30 – 16.45	<i>Otago Business School G17</i> New Zealand Community Velocity Model University of Otago Ōtākou Whakaihu Waka Leaders: Sanjay Bora, Donna Eberhart-Phillips, Russ Van Dissen (GNS Science) and Brendon Bradley (University of Canterbury)
16.00 - 19.00	<i>ISB Link Foyer (Information Services Building)</i> Registration Desk Open
17.15 - 17.30	<i>Castle 2 Lecture Theatre</i> Mihi Whakatau
17:30 – 19:00	<i>ISB Link Foyer</i> Icebreaker Reception
19:30 - Late	<i>Moons Restaurant and Bar</i> Early Career Catch-up

Tuesday, 26 November 2024

08:00 – 17.30	<i>ISB Link Foyer</i> Registration Desk Open		
08.45 - 09.30	<i>Castle 2 Lecture Theatre</i> Opening Ceremony Opening Speaker, Grant Robertson, University of Otago Vice Chancellor		
09.30 - 10.00	<i>Castle 2 Lecture Theatre</i> Plenary Speaker, Christina Hulbe, University of Otago How I stopped catastrophising and learned to think differently about climate tipping points: Dynamics of the marine ice sheet instability on Thwaites Glacier, West Antarctica		Kindly sponsored by GNS Science Te Pū Ao 
10.00 - 10.30	Morning Tea - ISB Link Foyer		
	<i>Castle 2 Lecture Theatre</i>	<i>Castle 1 Lecture Theatre</i>	<i>Burns 1 Lecture Theatre</i>
10.30 – 12.00	1.A Ensuring Invaluable Scientific Observations are Obtained Pre- and During the Next Alpine Fault Earthquake <i>Session Convenors: Phaedra Upton, Kate Clark, Sigrún Hreinsdóttir, Emily Warren-Smith, GNS Science</i>	1.B Geoscience Education, Outreach and Communication <i>Session Convenors: Sophie Briggs, University of Otago; Kate Pedley, University of Canterbury, Faye Nelson, University of Otago</i>	1.C Underwater Geosciences <i>Session Convenors: Dr Alan Orpin, NIWA; Dr Sally Watson, NIWA/University of Auckland</i>
10.30 - 10.45	<u>Keynote</u> Past, present, and future earthquakes on the Alpine Fault: what lies beneath and what lies ahead? - John Townend, Victoria University of Wellington	A Geoethical Vision for Aotearoa New Zealand - Matthew William Hughes, University of Canterbury	Cyclic Erosion and Infill of the Waitaki Canyon, Offshore Otago - Glenn Thrasher, GNS Science
10.45 - 11.00	Exploring Future Alpine Fault Earthquakes Using Ambient Seismic Noise Analysis - John Townend, Victoria University of Wellington	Redefining Geoscience through Photovoice - Emily Pasek, Michigan State University (student)	Near-bed sediment and organic carbon transport in Kaikōura Canyon and Hikurangi Channel - Scott Nodder, NIWA Taihoro Nukurangi
11.00 - 11.15	Enriching the Alpine Fault paleoseismic record using curved slickenlines to constrain paleo-epicenters - Nicolas Barth, University of California, Riverside	Maximising geoscience for societal benefit through evaluation of impact - Victoria Miller, GNS Science	Multi-proxy Provenance Analysis of the Pleistocene-Recent Giant Foresets Formation, Taranaki Basin, Aotearoa New Zealand - Glenn Sharman, University of Arkansas

11.15 - 11.30	Southern Alpine Fault segmentation and potential earthquake ruptures - Philip Barnes, NIWA	Advancing uncertainty communication of the scientific model- Using 'Uncertainty Doughnut' - Annal Dhungana, Massey University (student)	Overcoming the challenges in marine pollen records to create long records of past vegetation and climate - Laura McDonald, The University of Auckland (student)	
11.30 - 11.45	Opportunities for integrated multi-discipline monitoring of New Zealand's Southern Alps - Calum Chamberlain, Victoria University of Wellington	Interactive tools for the communication of the temporal and spatial distribution of disaster literature in British Columbia, Canada - Charlotte Milne, Institute for Resources, Environment, and Sustainability (UBC) (student)	Decoding the Deep: Automated Signal Classification in OBS Data – The RUMBLE Project - Christof Mueller, GNS Science	
11.45 - 12.00	<u>Keynote</u> Modelling the next Alpine Fault earthquake: Why measurements matter - Carolyn Boulton, Te Herenga Waka Victoria University of Wellington	Discovering 'The Secrets of Rocks' and lessons from other outreach projects in Chile - Javiera Ruz-Ginouves, University of Otago (student)	Unravelling the sediment signature of the lake tsunami: the potential of lake sediment records to reconstruct magnitude and frequency - Katie Hughes, Victoria University of Wellington (student)	
12.00 - 13.30	Lunch and SIG Meetings- ISB Link Foyer			
	<i>Castle 2 Lecture Theatre</i>	<i>Castle 1 Lecture Theatre</i>	<i>Burns 1 Lecture Theatre</i>	<i>Burns 5 Seminar Room</i>
12.30 - 13.25	GeoNet Programme Update <i>Led by: Elizabeth Abbott, Jonathan Hanson, Elisabetta D'Anastasio and the GeoNet Team, GNS Science</i>	GSNZ Proposed Awards Portfolio - Feedback Session <i>Led by: Sam McColl, GSNZ President</i>	Geoethics Special Interest Group <i>Led by: Matthew Hughes, University of Canterbury</i>	Natural Hazards and Resilience Platform establishment – information session <i>Led by: Dr Graham Leonard, Natural Hazard and Risk Theme Leader, GNS Science</i>
	<i>Castle 2 Lecture Theatre</i>	<i>Castle 1 Lecture Theatre</i>	<i>Burns 1 Lecture Theatre</i>	
13.30 - 14.45	2.A Ensuring Invaluable Scientific Observations are Obtained Pre- and During the Next Alpine Fault Earthquake <i>Session Convenors: Phaedra Upton, Kate Clark, Sigrún Hreinsdóttir, Emily Warren-Smith, GNS Science</i>	2.B Geoscience Education, Outreach and Communication <i>Session Convenors: Sophie Briggs, University of Otago; Kate Pedley, University of Canterbury, Faye Nelson, University of Otago</i>	2.C Changing Landscapes; Surface Process Dynamics, Evolution, and Impacts <i>Session Convenors: Sam McColl, GNS Science; Katie Jones, GNS Science; Kevin Norton, Victoria University of Wellington; Sean Fitzsimons, University of Otago; David Barrell, GNS Science</i>	
13.30 - 13.45	Complex fault traces on the northern Alpine Fault, Aotearoa New Zealand: roles of fault interactions and structural maturity in influencing earthquake ground surface rupture patterns - James La Greca, The University of Melbourne (student)	5 Minute: Volcano - Designing Educational Games about Geological Disaster Risks with and for New Zealand Classroom - Kieron Wall, University of Canterbury (student)	Scratching the surface: A catalogue of recognised human impacts across New Zealand's nearshore marine/freshwater environments - Sam Davidson, NIWA	

13.45 - 14.00	Determining the best core location to develop long lacustrine paleoseismic records - Adelaine Moody, Victoria University of Wellington (<i>student</i>)	Digital technologies coupled with practical and field experiences can enhance the ability of Geology students to practice 3D spatial skills - Kate Pedley, University of Canterbury	Impact of landscape evolution on the ocean circulation and glaciation: A forward modelling of basin and landscape dynamics, northern Barents Sea, Norwegian Arctic - Amando Lasabuda, The University of Sydney
14.00 - 14.15	Did the most recent surface-rupturing earthquake on the Alpine Fault occur in 1717 AD? - Sophie Newsham, University of Canterbury (<i>student</i>)	Integrating real and virtual field experiences for geoscience education - Alex Clarke, Johannes Gutenberg-universität Mainz	How accurate are benthic foraminifera as a proxy for estimating coseismic subsidence? - Bella Partington, University of Canterbury (<i>student</i>)
14.15 - 14.30	Surface rupture, displacement, and river avulsion impacts during the next large alpine fault earthquake - Rob Langridge, GNS Science	Mine geology experiential learning as we charge towards Net Zero: fieldtrip to 2 operating open-cast mines - Martin Brook, University of Auckland	Unravelling the Vertical Land Motion and Relative Sea Level Rise in Sumatra, Indonesia - Maritsa Faridatun Nisa - University of Otago (<i>student</i>)
14.30 - 14.45		Education of the next generation of geotechnical engineering and engineering geology professionals in New Zealand - Christoph Kraus, NZGS and Beca Ltd	Climate of the tropical South Pacific during the Last Glacial Period: Insights from the speleothem archives - Gavin Holden, Victoria University of Wellington (<i>student</i>)
14.45 - 15.00	(Short Break)		
	<i>Castle 2 Lecture Theatre</i>	<i>Castle 1 Lecture Theatre</i>	<i>Burns 1 Lecture Theatre</i>
15.00 – 16.00	3.A Applied Geosciences: Geotechnical, Resources and Technologies Session Convenors: Nick Mortimer, Donna Eberhart-Phillips, GNS Science	3.B Urban Geosciences <i>Session Convenor: David Barrell, GNS Science</i> Kindly sponsored by Natural Hazards Commission Toka Tū Ake 	3.C Changing Landscapes; Surface Process Dynamics, Evolution, and Impacts <i>Session Convenors: Sam McColl, GNS Science; Katie Jones, GNS Science; Kevin Norton, Victoria University of Wellington; Sean Fitzsimons, University of Otago; David Barrell, GNS Science</i>
15.00 - 15.15	Mineral Resource Estimation for gold mining at Macraes Mining Area, Hyde-Macraes Shear Zone, Otago, New Zealand - Matthew Grant, OceanaGold	Rediscovering the Past: Unveiling the Geological Legacy of the Albert Park Volcano, Auckland City - Steven Price, Riley Consultants Ltd	Detecting mass movements in alpine regions using infrasound - Leighton Watson, University of Canterbury
15.15 - 15.30	Call me a magnetician: digitising New Zealand's historical magnetic field data – Luke Easterbrook-Clarke, GNS Science	Identifying concealed structures in urban areas: Insights from Tāmaki Makaurau-Auckland, Aotearoa-New Zealand - Jan Lindsay, University of Auckland	Mapping the contemporary active channel evolution of braided rivers in New Zealand - Rodrigo Gomez Fell, University of Canterbury

15.30 - 15.45	Carbon dioxide removal potential of New Zealand river catchments under enhanced rock weathering applications - Sourajit Sahoo, University of Waikato (student)	Avoiding fault: Two decades of surface fault rupture hazard management on the Ostler Fault, Twizel, South Canterbury - Helen Jack, Environment Canterbury	Evolution of the Leader River in Response to a Landslide Dam, Triggered by the 2016 Mw 7.8 Kaikōura Earthquake - Anna McCarthy, University of Canterbury (student)
15.45 - 16.00	Improving Eruption Forecasting Through Transfer Machine Learning: A Global Approach Utilizing Models Trained on 24 Volcanoes - Alberto Ardid, University of Canterbury	Dunedin City's Shallow Groundwater and Multi-Hazard Flood Forecasts as Sea-Levels Rise - Simon Cox, GNS Science	A Sand Balance Model of the Lower Rangitata River - Justin Rogers, University of Canterbury (student)
16.00 - 17.30	<i>ISB Link Foyer</i> Poster Session and Afternoon Tea		
18.30 – 21.00	<i>Toitu Otago Settlers Museum</i> Night at the Museum		

Wednesday, 27 November 2024


08.00 – 17.00	<i>ISB Link Foyer</i> Registration Open		
08.00-17.00	<i>Castle D Seminar Room</i> Science Media Savvy Express Training		
	<i>Castle 2 Lecture Theatre</i>	<i>Castle 1 Lecture Theatre</i>	<i>Burns 1 Lecture Theatre</i>
09.00 – 10.30	4.A Earthquake Science from Intraplate to Interplate <i>Session Convenors: Mark Stirling, University of Otago; Ting Wang, University of Otago; Genevieve Coffey, GNS Science</i>	4.B Evolution of the New Zealand Biota: In Honour of R. Ewan Fordyce <i>Session Convenors: Daphne Lee, University of Otago; Daniel Thomas, University of Auckland</i>	4.C Magmas and Volcanoes of Zealandia and Beyond <i>Session Convenors: Marco Brenna, James White, Jie Wu, University of Otago</i>
09.00 - 09.15	<u>Keynote</u> Enhanced earthquake detection enables advancements in our understanding of earthquake physics - Calum Chamberlain, Victoria University of Wellington	<u>Keynote</u> Chimaeroids to Carcharodon: Ewan Fordyce's Contributions to Expanding the New Zealand Fossil Record of Chondrichthyans and Bony Fishes - Michael Gottfried, Michigan State University	<u>Keynote</u> The skirmish between arc and intraplate magma below Karioi – a stratigraphic perspective - Oliver Emerson McLeod, Waikato Regional Council
09.15 - 09.30	The southern extent of active Hikurangi subduction: insights from seismicity catalogues - Daria Batteux, University of Canterbury (student)		

09.30 - 09.45	Seismicity and moment tensors from a dense deployment spanning slow slip earthquakes near Pōrongahau, central Hikurangi margin - Martha Savage, Victoria University of Wellington	Landon Series Biostratigraphy - Developments over the last few decades and Ewan Fordyce's role in shaping our understanding of Zealandia's Oligocene Epoch - Marcus Richards, Stay at Home Parent	What happened here? Mapping and re-interpreting the volcanic rocks underlying Dunedin - Graham Leonard, GNS Science
09.45 - 10.00	<u>Keynote</u> Statistical insights regarding the relationship between seismicity and slow slip events in the Hikurangi Subduction Zone - Jessica Allen, University of Otago (student)	Winners and losers in the New Zealand flora since the Miocene: the effects of changing climate on vegetation in southern Zealandia - Tammo Reichgelt, University of Connecticut	Hot and cold storage within a long-lived crystal mush beneath the Dunedin Volcano - Ayla Stenning, University of Otago (student)
10.00 - 10.15	Recurrence Patterns of Shallow Hikurangi SSEs Change Along the Strike of the Margin and after 2016 Mw7.8 Kaikoura Earthquake - Andrea Carolina Perez Silva, University of Otago	Cenozoic fossil wood records of extinct and extant angiosperm tree lineages from southern Zealandia - Mathew Vanner, University of Otago	Conduit establishment and evolution at Taranaki Mouna - Henry Hoult, University of Canterbury (student)
10.15 - 10.30	Deep and clustered microseismicity at the peripheral edge of southern New Zealand's plate boundary: results from the Southland Otago Seismic Array (SOSA) - Jack Williams, University of Otago	Eocene spiny fruits and seeds from the Waihao Greensand, New Zealand - John Conran, The University of Adelaide	Unravelling the story of Kuwae, Vanuatu, in Stratigraphy, Bathymetry, and Geochemistry - Sönke Stern, University of Auckland (student)
10.30 - 11.00	Morning Tea - ISB Link Foyer		
	<i>Castle 2 Lecture Theatre</i>	<i>Castle 1 Lecture Theatre</i>	<i>Burns 1 Lecture Theatre</i>
11.00 – 12.30	5.A Earthquake Science from Intraplate to Interplate <i>Session Convenors: Mark Stirling, University of Otago; Ting Wang, University of Otago; Genevieve Coffey, GNS Science</i>	5.B Evolution of the New Zealand Biota: In Honour of R. Ewan Fordyce <i>Session Convenors: Daphne Lee, University of Otago; Daniel Thomas, University of Auckland</i>	5.C (part 1) Magmas and Volcanoes of Zealandia and Beyond <i>Session Convenors: Marco Brenna, James White, Jie Wu, University of Otago</i>
11.00 - 11.15	One tune, many tempos: Faults trade off slip in time and space to accommodate relative plate motions - Russ Van Dissen, GNS Science	100 years of spore-pollen biostratigraphy in New Zealand: progress and possibilities - Ian Raine, GNS Science	Measuring a volcano's breath: Young volcanic plume emissions reveal elevated magmatic degassing amidst a long heating cycle of a hyper-acidic volcanic crater lake (Mt. Ruapehu) - Marco Rebecchi, Te Herenga Waka-Victoria University of Wellington (student)
11.15 - 11.30	Progress towards untangling earthquake sources in the Central Hikurangi Subduction Zone: Holocene marine terraces between Clifton and Waimārama - Nicola Litchfield, GNS Science	New insights into the fossil record of sea pens (Octocorallia) based on a new find from the mid-Cretaceous of New Zealand - Alexey Ippolitov, Victoria University of Wellington (student)	Linking hydrothermal alteration to rock mechanics: comparative analysis of andesitic volcanoes in Aotearoa - New Zealand - Maia Kidd, Massey University (student)

11.30 - 11.45	Late Quaternary activity of the Pisa Fault, Otago - Mark Stirling, University of Otago	Size trends in Zealandian Mesozoic Brachiopods - Donald MacFarlan, Independent	The Volcanic Lakes of Te Ahi Tupua (Central Taupō Volcanic Zone, Aotearoa New Zealand) - AJ Marshall, Te Herenga Waka-Victoria University of Wellington (student)
			5.C (part 2) Understanding Diverse Volcanic Processes Session Convenors: Eleanor Mestel, Finnigan Illsley-Kemp, Simon Barker, Stephen Piva, Te Herenga Waka Victoria University of Wellington; Sigrún Hreinsdóttir, GNS Science Te Pū Ao
11.45 - 12.00	Structural controls on the geometries and displacements of Kaikōura Earthquake fault ruptures - Andy Nicol, University of Canterbury	Fossil arthropods from Zealandia reveal a complex ecological and biogeographic history - Daphne Lee, University of Otago	Recent inflation episodes beneath Taupō Volcano - Sigrún Hreinsdóttir, GNS Science
12.00 - 12.15	How greywacke faults heal: Results from hydrothermal friction experiments - Carolyn Boulton, Te Herenga Waka Victoria University of Wellington	Potential new turtle species from the Neogene of North Canterbury, New Zealand - Morne Wium, Canterbury University (student)	Fibre optic sensing of earthquakes at Ruapehu - Leighton Watson, University of Canterbury
12.15 - 12.30	Geometries and slip rates of recently discovered active faults in Taranaki - Matt Parker, University of Canterbury	The University of Otago Geology Museum fossil database - Jeffrey Robinson, University of Otago	Monitoring Volcanic Degassing at Ruapehu - Agnes Mazot, GNS Science
12.30 - 14.00	Lunch and SIG Meetings - ISB Link Foyer		
	Castle 2 Lecture Theatre	Castle 1 Lecture Theatre	Burns 1 Lecture Theatre
13.00 - 13.55	Kickstarting a Seismology Special Interest Group Led by: Matt Gerstenberger, Kiran Kumar Thingbaijam, GNS Science, Jack Williams University of Otago	GeOID SIG Meeting Led by: Jenny Stein, Massey University	Friends of Pleistocene Special Interest Group Led by: David Barrell, GNS Science
	Castle 2 Lecture Theatre	Castle 1 Lecture Theatre	Burns 1 Lecture Theatre
14.00 – 15.30	6.A Earthquake Science from Intraplate to Interplate Session Convenors: Mark Stirling, University of Otago; Ting Wang, University of Otago; Genevieve Coffey, GNS Science	6.B Evolution of the New Zealand Biota: In Honour of R. Ewan Fordyce Session Convenors: Daphne Lee, University of Otago; Daniel Thomas, University of Auckland	6.C Understanding Diverse Volcanic Processes Session Convenors: Eleanor Mestel, Finnigan Illsley-Kemp, Simon Barker, Stephen Piva, Te Herenga Waka Victoria University of Wellington; Sigrún Hreinsdóttir, GNS Science Te Pū Ao

14.00 - 14.15	An integrated 3D "interseismic" GNSS velocity field, updated strain-rate maps, and geodetic slip-deficit-rate models for Aotearoa New Zealand, plus some questions - Chris Rollins, GNS Science	A bite of evolution: elucidating cetacean evolutionary history through their teeth - Carolina Loch, University of Otago	Cracks and Thermal Flow: Thermo-structural Analysis at Maunga Kakarama, Waiotapu Geothermal Field - Gerd Sielfeld, University of Auckland
14.15 - 14.30	Cataloguing and promoting the use of paper records in the national earthquake information database - Paul Viskovic, GNS Science	The oldest New Zealand sea lion - Felix Georg Marx, Museum of New Zealand Te Papa Tongarewa	A Summary and Interpretation of The Recent Potential Field and Carbon Dioxide Gas Flux Data of Rangitoto Volcano, Auckland Volcanic Field - Alutsyah Luthfian, The University of Auckland (student)
14.30 - 14.45	New Zealand National Seismic Hazard Model Revision 2022: Hazard changes with respect to NZ NSHM 2010 - Sanjay Bora, GNS Science	A New Diving Pliocene Ardenna Shearwater (Aves: Procellariidae) from New Zealand - Alan Tennyson, Museum of New Zealand Te Papa Tongarewa	Investigating conditions for phreatic volcanic eruptions with comparison to Whakaari volcano, New Zealand - Sophie Pearson-Grant, GNS Science
14.45 - 15.00	The 2022 New Zealand National Seismic Hazard Model applied in the Wellington Basin - Anna Kaiser, GNS Science	Ancient mitogenomes and morphometrics reveal a new species of extinct large insular shelduck from Rēkohu Chatham Islands - Nic Rawlence, University of Otago	Better shape up! The impact of irregular shape in numerical modelling of volcanic bombs - Amilea Sork, University of Canterbury (student)
15.00 - 15.15	Empirical validation of physics-based ground motion modelling in Wellington Basin: Insights on Basin Amplification - Duo Li, GNS Science	Kyeburn Moa Footprints and the Maniototo Conglomerate - Kane Fleury, Tūhura Otago Museum	Insights into rapidly transitioning eruptions at Ambrym volcano (Vanuatu, SW Pacific) through melt inclusions from the 1913 Hospital Tuff - Kristen Lewis, University of Canterbury (student)
15.15 - 15.30		Fossil footprints from the rohe of Ngāti Whātua o Kaipara are educational assets - Daniel Thomas, University of Auckland	Magmatic processes and the obsidians of Tūhua (Mayor Island) - Frankie Haywood, University of Bristol (student)
15.30 - 17.00	Poster Session and Afternoon Tea - ISB Link Foyer		
17.00 - 18.00	GSNZ AGM - Castle 2 Lecture Theatre		
19.00 - late	Business School Atrium, University of Otago Ōtākou Whakaihu Waka "It's Always Sunny in Dunedin" Awards Dinner		

Thursday, 28 November 2024

08.00 – 15.00	<i>ISB Link Foyer</i> Registration Desk Open		
	<i>Castle 2 Lecture Theatre</i>	<i>Castle 1 Lecture Theatre</i>	<i>Burns 1 Lecture Theatre</i>
09.00 – 10.30	7.A Preparation for the Next Big Quake Rapid Response Science, Cascading Hazard & Scenario Development <i>Session Convenors: Anna Kaiser, GNS Science; Caroline Orchiston, University of Otago; Elena Manea, GNS Science</i> Kindly sponsored by GNS Science Te Pū Ao 	7.B Future-Proofing Energy and Minerals: Geoscience in the Low-Emissions Era <i>Session Convenors: David Dempsey, University of Canterbury; Ludmila Adam, University of Auckland; Jess Hillman, NIWA</i>	7.C Great Southern Land (and Ocean): Research from Antarctica and the Southern Ocean <i>Session Convenors: Greer Gilmer, GNS Science; Meghan Duffy, University of Otago</i>
09.00 - 09.15	Exercise Rū Whenua: Building an Alpine Fault earthquake scenario for a national-scale emergency management exercise - Tom Robinson, University of Canterbury	<u>Keynote</u> A minerals strategy for New Zealand - Richard Garlick, MBIE	<u>Keynote</u> Structure and mechanics of the McMurdo Ice Shelf: news from the K062 field camp - David Prior, University of Otago
09.15 - 09.30	Developing The GNS Incident Management System in Preparation for Rū Whenua and The Next Large Earthquake - Gerry Blair, GNS Science	New Zealand's mineral resources for the low carbon emissions future - Tony Christie, GNS Science	
09.30 - 09.45	Spatio-Temporal Variability in Disaster Exposure: Insights from the Alpine Fault Earthquake Scenario (Rū Whenua) - Mat Darling, University of Canterbury (student)	<u>Keynote</u> Resourcing the future: changing the concept of ore - Julie Rowland, University of Auckland	Estimating Marine Ice Thickness Beneath the Amery Ice Shelf from Airborne Radio-Echo Sounding - Lijuan Wang, Tongji University (student)
09.45 - 10.00	From Science to Operation within the Rapid Characterisation of Earthquake and Tsunami (RCET) Program - Jen Andrews, GNS Science		Comparing 2D and 3D models of Antarctic ice shelf rift fronts - Martin Forbes, Otago Polytechnic

10.00 - 10.15	Improving Earthquake Forecasting in New Zealand: The Development and Implementation of the Hybrid Forecast Tool (HFT) - Kenny Graham, GNS Science	Brine-reactivity for studies of injecting CO2 and H2 in New Zealand Rocks – Ludmila Adam, University of Auckland	Glacial-interglacial uranium isotope systematics of coccolithophore from the Southern Ocean: New insights for ocean temperature, pH, carbonate ion concentration and redox reconstructions - Marie Hennequin, The University of Otago (student)
10.15 - 10.30	Operational Template-Matching for Rapid Aftershock Analysis and Source Characterisation - Emily Warren-Smith, GNS Science	Understanding geophysical properties of fluids for monitoring a CCS project at the Kapuni field - Steve Morice, Todd Energy	Pleistocene paleoenvironmental reconstructions from the Pacific Sector of the Antarctic Circumpolar Current: Diatom and sediment geochemistry proxies from IODP 383 Site U1539 - Meghan Duffy, University of Otago (student)
10.30 - 11.00	Morning Tea - ISB Link Foyer		
	<i>Castle 2 Lecture Theatre</i>	<i>Castle 1 Lecture Theatre</i>	<i>Burns 1 Lecture Theatre</i>
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11.00 - 11.15	Waikato Region Hikurangi Subduction Zone Consequence Planning - Whitney Mills, Waikato Regional Council	Geological assessment of underground hydrogen storage prospectivity, Taranaki Basin: a multi-criteria decision-making approach - Dominic Paul Strogon, GNS Science	Magnetic fabric analysis of laboratory deposited sediments to investigate paleo Antarctic Bottom Water velocity - Natalie-Jane Reid, University of Otago (student)
11.15 - 11.30	Comprehensive physics-based multi-hazard and multi-risk modelling for Aotearoa New Zealand: a progress report - Bill Fry, Te Pū Ao	Correlation or causation? Influences of topography, heat sources, and geology on regional-scale geothermal fluid flow in the Taupō Volcanic Zone, New Zealand - Sophie Pearson-Grant & Lucy Carson, GNS Science	Linking oceanographic-driven sediment and organic carbon flux to geologic records in Antarctic submarine canyons - Jess Hillman, NIWA
11.30 - 11.45	A National Probabilistic Coseismic Displacement Model for Aotearoa New Zealand - Andy Howell & Jack McGrath, University of Canterbury	Achieving Carbon Neutrality in Geothermal Energy: A Model for High-Emission Industries - Eylem Kaya, University of Auckland	9.C Mountains to Sea Research in Fiordland <i>Session Convenor: Greer Gilmer, GNS Science</i>
	9.A Tsunamis in the Southwest Pacific – Monitoring, Evaluation, Response and Mitigation	9.B Regional and General Geology: In Honour of Jane Forsyth <i>Session Convenor: Nick Mortimer, GNS Science</i>	Over the misty mountains – Fiordland’s climatic development during the Holocene - Julian Eschenroeder, University of Otago (student)

	<i>Session Convenors: William Power, Craig Miller, Jonathan Hanson, Jean Roger, GNS Science</i>		
11.45 - 12.00	24/7 Monitoring and Rapid Response to Tsunamigenic events in Aotearoa - Heather J Rawcliffe, GNS Science	<u>Keynote</u> A sub-Quaternary geological map, Te Waipounamu South Island and Rakiura Stewart Island - Mark Rattenbury, GNS Science	Carbon Loss from Earthquake-Induced Landslides in Fiordland - Charles Cox, University of Otago (student)
12.00 - 12.15	Constraining Tsunamigenic Earthquake Sources: Integrating Array Seismological Methods with the W-Phase Solution for Improved Far-Field Tsunami Warning - Bill Fry, GNS Science	On the origin of tremolite in New Zealand nephrite (including Pounamu)- Mike Palin, University of Otago	Assessing Carbon Storage Capacities in Fiordland Fjords: Insights from high-resolution seismic imaging - Ellen Unland, University of Otago (student)
12.15 - 12.30	Earthquake cycle models of the Hikurangi-Kermadec and Tonga-Vanuatu subduction zones - Yi-wun Mika Liao, GNS Science/University of Canterbury (student)	The sedimentology, stratigraphy and geochemistry of the Waipara Greensand- Ted Spinks, University of Canterbury (student)	The secrets of sequestration: Assessing the modern carbon stocks in Tamatea / Dusky Sound - Luke Whibley, University of Otago (student)
12.30-13.30	Lunch - ISB Link Foyer		
	<i>Castle 2 Lecture Theatre</i>	<i>Castle 1 Lecture Theatre</i>	<i>Burns 1 Lecture Theatre</i>
13.30 - 14.30	10.A Tsunamis in the Southwest Pacific – Monitoring, Evaluation, Response and Mitigation <i>Session Convenors: William Power, Craig Miller, Jonathan Hanson, Jean Roger, GNS Science</i>	10.B Regional and General Geology: In Honour of Jane Forsyth <i>Session Convenor: Nick Mortimer, GNS Science</i>	10.C Mountains to Sea Research in Fiordland <i>Session Convenor: Greer Gilmer, GNS Science</i>
13.30 - 13.45	Five years of tsunami monitoring with the New Zealand DART network: detections, issues & perspectives - Jean Roger, GNS Science	New Zealand's earliest geological maps and the argument they generated between Hochstetter and Heaphy - Bruce W. Hayward, Geomarine Research	Mountains to sea in 3D: Fiordland plutonic block is key to the southern South Island New Zealand Plate Boundary - Donna Eberhart-Phillips, GNS Science
13.45 - 14.00	Database Development for Volcanic Tsunami Threat Levels - Aditya Gusman, GNS Science	Deformation history of the Waimea-Flaxmore Fault System in Nelson-Tasman Bay (New Zealand): implications of alternative restorations - Francesca Ghisetti, Terrageologica	Fiordland saltmarshes: sediments, salinity, and vegetation - Peter Johnson, Manaaki Whenua Landcare Research
14.00 - 14.15	The National Tsunami Hazard Model - 2021 Update and Example Applications – William Power, GNS Science	Structural reinterpretation of the McKee field using a thrust-fault growth and linkage model – Lawrence Grant-Woolley, Todd Energy	The impact of land dynamics on the terrestrial carbon cycle in Fiordland - Elizabeth Keller, GNS Science

14.15 - 14.30	Tsunami Hazard from Afar: Implications for Aotearoa New Zealand - Aisling O'Kane, University of Canterbury	Geology and origins of Te Riu-a-Māui / Zealandia – Nick Mortimer, GNS Science	Where does the carbon go? Reconciling atmospheric observations, surface observations, and lateral transport of carbon in Fiordland - Jocelyn Turnbull, GNS Science
14.30 - 15.00	<i>Castle 2 Lecture Theatre</i> Closing Ceremony Student Presentation Awards NZJGG Journal Update by Fei He at the Royal Society Photo Competition Awards presented by Tourism New Zealand		

Friday, 29 November 2024

(Field Trips)

Starts Thursday at 15.30. Ends Friday at 16.00	Explore the Stories of New Zealand's First UNESCO Global Geopark – Two Day Field Trip Thursday 28th and Friday 29th November Leader: Sasha Morriss (Waitaki Whitestone Geopark)
09.00 – 16.30	A Geological Tour through Dunedin's Landscape and Scenery Friday 29th November Leaders: David Barrell & Nick Mortimer (GNS Science)
09.30 – 16.30	Akatore Fault Earthquake Geology: Otago's Most Active Fault Friday 29th November Leader: Mark Stirling (University of Otago)
08.00 – 15.00	Dunedin's Volcanic Geology Friday 29th November Leaders: Ayla Stenning, Marco Brenna (University of Otago)
09.00 – 15.00	Geology Along Te Aka Ōtakou/Otago Harbour Cycleway Friday 29th November Leaders: Greer Gilmer (GNS Science) & Sophie Briggs (University of Otago)