



QuakeCoRE  
NZ Centre for Earthquake Resilience  
Te Hiraŋga Rū

# QuakeCoRE

*supporting the development of an  
Earthquake Resilient NZ*

Brendon Bradley  
QuakeCoRE Director  
University of Canterbury

&

David Johnston  
Deputy Director  
Massey University

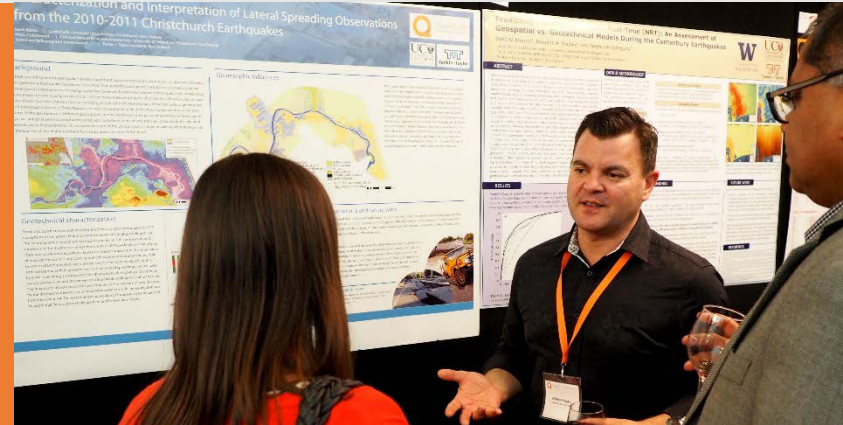
# Welcome to QuakeCoRE Annual Meeting



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**Collaboration: Bringing our community together**



**Poster Sessions: Showcasing research**



**Plenary Sessions: Focusing on key challenges**



**Informing future direction**

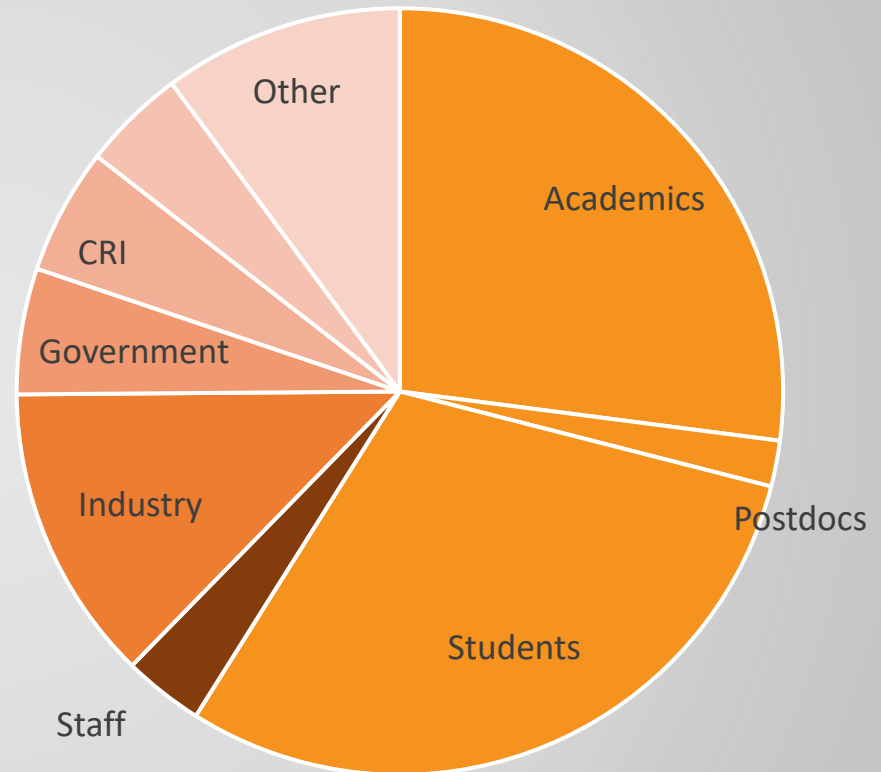
# QuakeCoRE Annual Meeting - Statistics



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- 247 participants
  - 53 from Industry / stakeholders
  - 0 from overseas!
- 8 workshops over two days
- Hui on Māori Research & Weaving the strands (capability building)
- QuakeCoRE Lightning Talk Finals (9 Students)
- 98 Research posters on display

## 2020 Annual Meeting Participants



# QuakeCoRE Leadership Team



**Brendon Bradley**  
(Director)  
University of Canterbury



**David Johnston**  
(Deputy Director)  
Massey University



**Ken Elwood**  
University of Auckland



**Misko Cubrinovski**  
University of Canterbury



**Tim Sullivan**  
University of Canterbury



**Liam Wotherspoon**  
University of Auckland



**Caroline Orchiston**  
Otago University



**Wendy Saunders**  
GNS Science



# QuakeCoRE Board



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**Dean Kimpton (Chair)**

Director, Tuhura Consulting



**Rosalind Archer**

Deputy Dean Engineering  
University of Auckland



**Mary Comerio**

Professor of the Graduate  
School, University of California,  
Berkeley



**Mike Mendonça**

Chief Resilience Officer,  
Wellington City Council



**Jan Evans  
Freeman**

PVC Engineering,  
University of Canterbury



**John Reid**

Ngāi Tahu Research Centre,  
University of Canterbury



**John Hare**

CEO, Holmes Consulting Group



**Tā Mark Solomon**

# Te Apārangi o Hiranga Rū (Māori Adv. Board)



# Te Apārangi o Hiranga Rū

QuakeCoRE | NZ Centre for Earthquake Resilience



**Tā Mark Solomon**  
(Chair)



**Dianne Bradshaw**  
GNS Science



**Marama Muru-  
Lanning**  
University of Auckland



**Shane Graham**  
Te Runanga o Ngati Rarua

# QuakeCoRE Support Team



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**Ruth Hartshorn**

(Operations Manager)  
University of Canterbury



**Amy McGeddie**

(Administrator)  
University of Canterbury



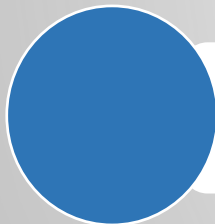
**Brandy Alger**

(Outreach Coordinator)  
University of Canterbury



**Rosemary Walton**

(Research Coordinator)  
University of Canterbury



**Siew Lee (starting Jan 2021)**

(Senior Finance Administrator)  
University of Canterbury

# QuakeCoRE's Outcomes



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1

## Improved Earthquake Resilience

*Research-informed policies and practices for step-change in earthquake resilience*

2

## Improved Economic and Commercial Outcomes

*Reduced losses in future earthquakes, rapid recovery, and **growth of NZ earthquake resilience innovation driving international competitiveness***

3

## Improved Societal Outcomes

*Enable communities to recover rapidly through mitigation and pre-disaster preparation*

4

## Highly Skilled and Diverse Workforce

*Work-ready graduates taught in national and international multi-disciplinary environment.  
**Support under-represented groups to promote equity in engineering***

5

## International Recognition

*Focal point for international earthquake resilience, attracting the best talent and developing research collaborations*

6

## Growing Mātauranga Māori

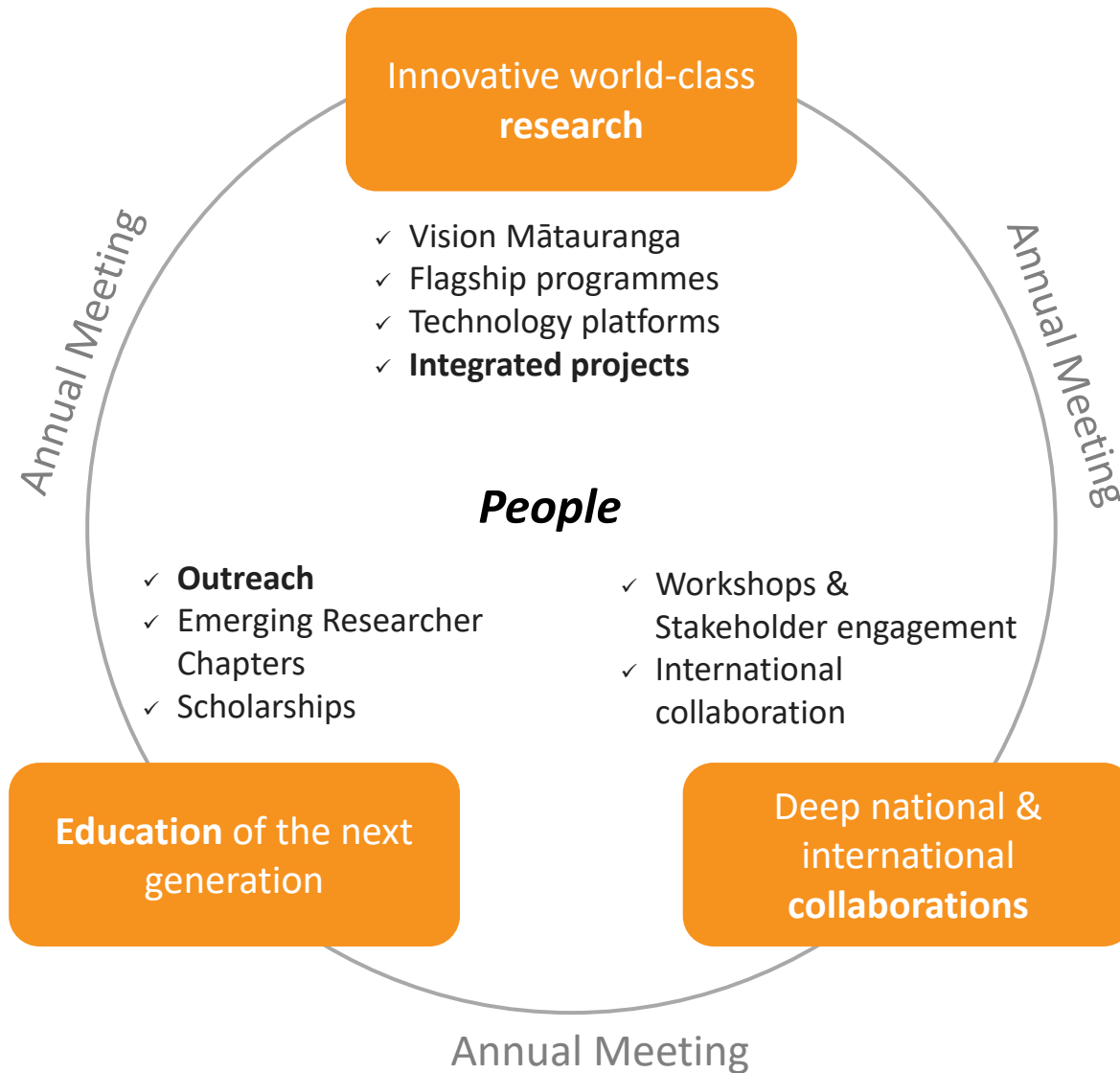
***Building close engagement with Māori leaders**, developing opportunities for capacity building and learning from indigenous knowledge*



# QuakeCoRE Activities



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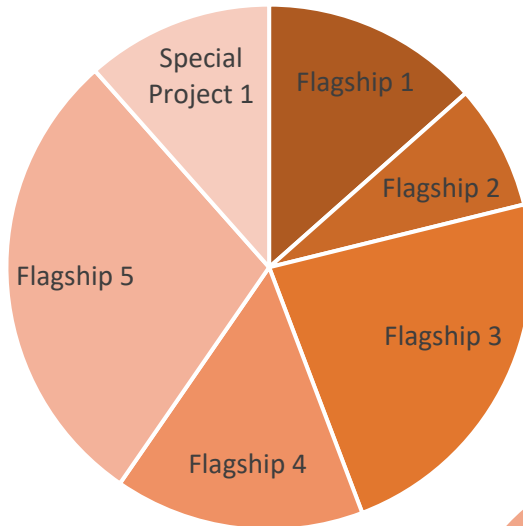
# Who are we?

- ✓ Eight CoRE Principal Investigators
  - Lead the direction of QuakeCoRE Research
- ✓ 53 CoRE Associate Investigators
  - Actively involved in QuakeCoRE Research
- ✓ 28 Industry Affiliates
  - End-users and stakeholders engaged with QuakeCoRE
- ✓ 18 Affiliate Organizations
  - International organisations collaborating with QuakeCoRE

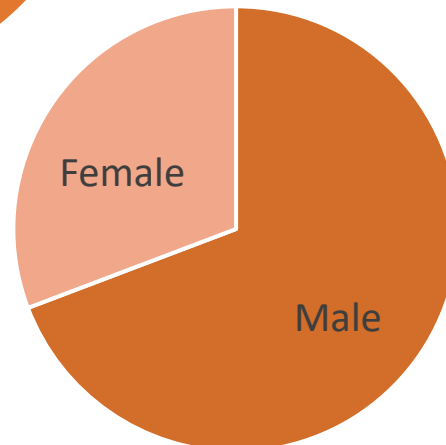
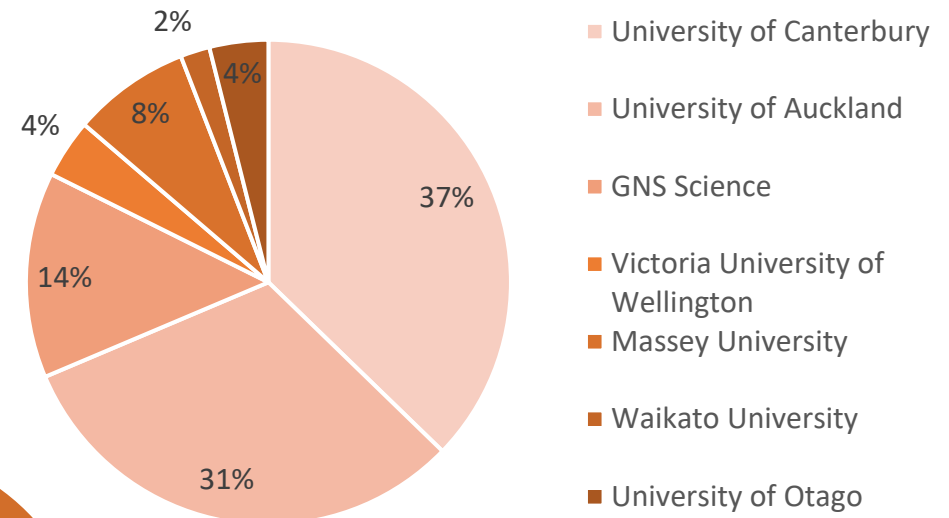
# Who are we?

✓ 61 CoRE Investigators

## Research Focus



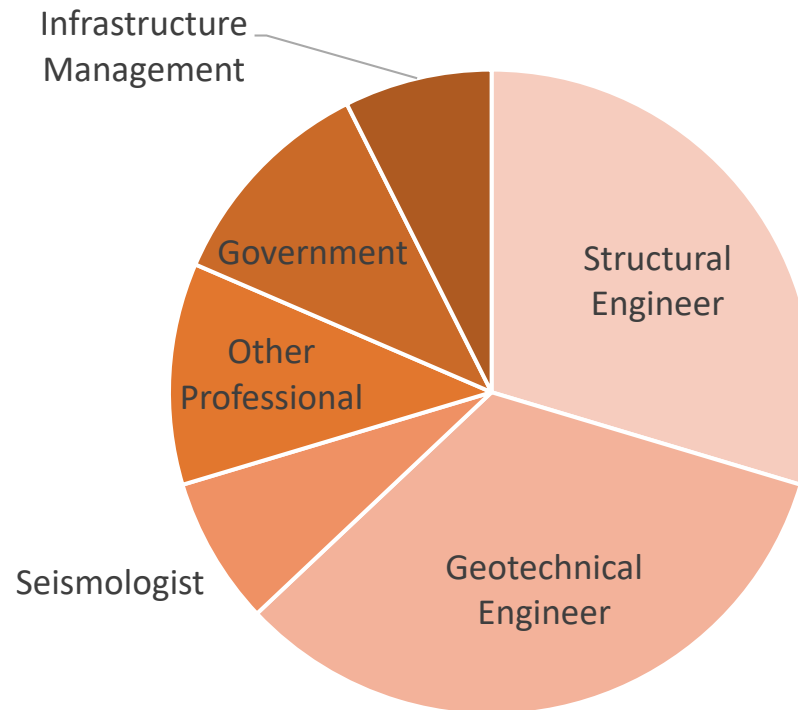
## Institutions



# Who are we?

## ✓ 28 Industry Affiliates

- End-users and stakeholders engaged with QuakeCoRE



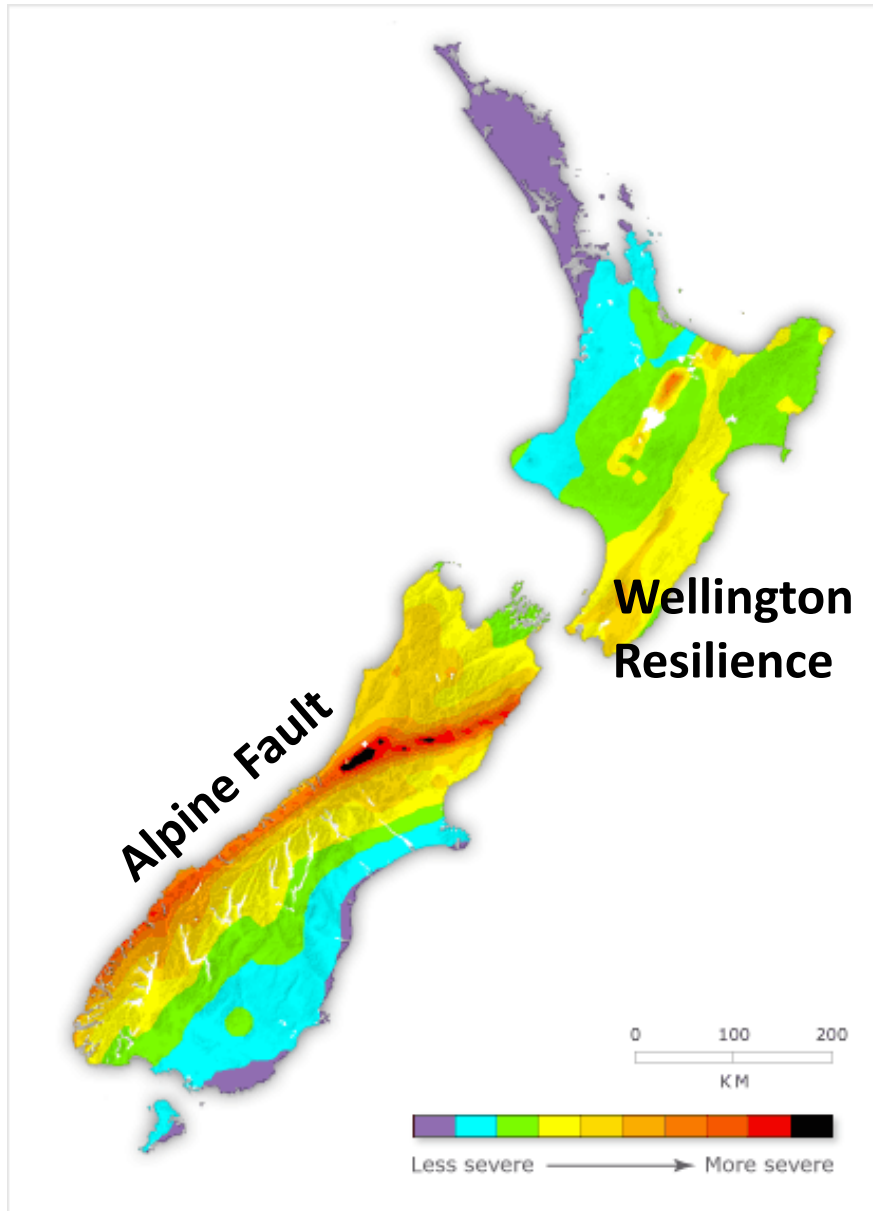
# Who are we?

- 18 Affiliate Organisations





# Integrated Projects



# A Collaborative Dynamic

## EMPA Awards for Excellence in Resilience and Readiness Communication

- AF8 Video Series – 2018
- AF8 Roadshow – 2019

## SOLGM – BERL Award for Collaborative Government Action

- AF8 SAFER Framework – 2019



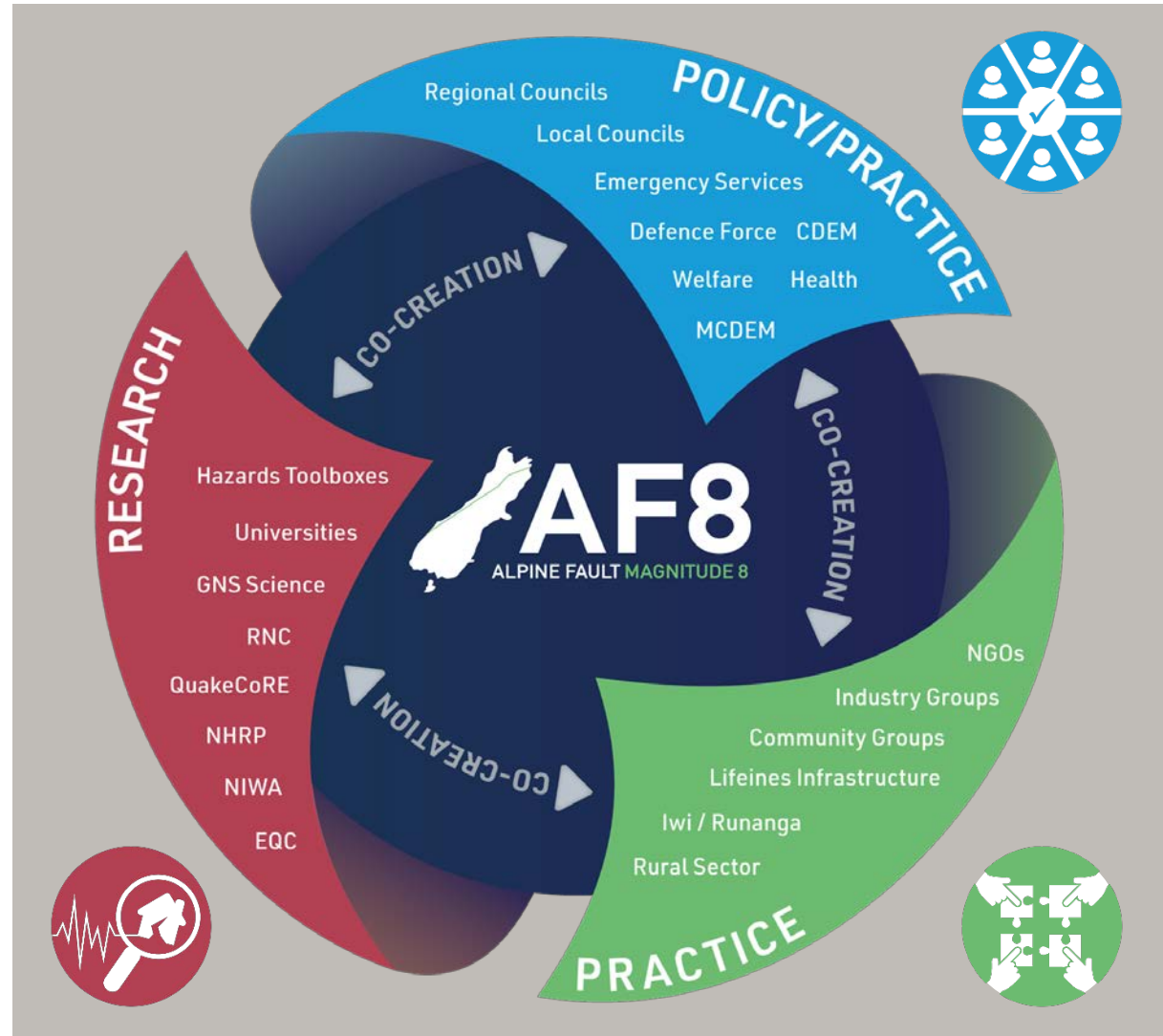
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Ministry of Civil Defence  
& Emergency Management

Te Rākau Whakamarumaru



# Wellington Earthquake Resilience: - *Imagine an earthquake in 2030...*



# Wellington Earthquake Resilience *Collaboratory*



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*A multi-agency collaborative work programme,  
open to any project with a focus on Wellington Earthquake Resilience.*

Includes projects funded under:

- It's Our Fault
- QuakeCoRE
- Resilience Challenge
- MBIE Endeavour
- GNS SSIF
- Anyone else...

Land use planning and policy  
Community-based resilience  
Kura e Tai Āniwhaniwha

Subduction Hazard  
Tsunamic risk  
Landslide hazards  
Basin-edge effects

***Wellington Earthquake  
Resilience Collaboratory***



**Key Wellington  
Stakeholders**

Waterfront liquefaction risks  
Existing buildings – risks and retrofit  
Residential performance  
Cordon planning  
Smart Seismic Cities  
Fire Following Earthquake  
Advanced building monitoring

# Research funding landscape





# Research Ecosystem

*QuakeCoRE provides a focal point for research excellence in NZ earthquake resilience and connections with an ecosystem of stakeholders and funders.*



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Local government

Iwi Engineering Practitioners

Natural Hazards Research Platform

MCDEM EQC GNS

QuakeCoRE

Universities

GeoNet

Resilience to Nature's Challenges

MBIE – Building Performance BRANZ

CoREs

UC Quake Centre

# Outreach



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Community

- **QuakeCraft**
- School visits
- Community Programmes

- **Seminars**
- QuakeScape
- Earthquake Resilience Resource
- Career Flyers
- Community Events
- Undergraduate Internships

Industry

- Master's Programme
- Standards Committees
- Relationship Development
- Workshops

- Emerging Researchers Chapters
- Post Doctoral Development
- Media Training

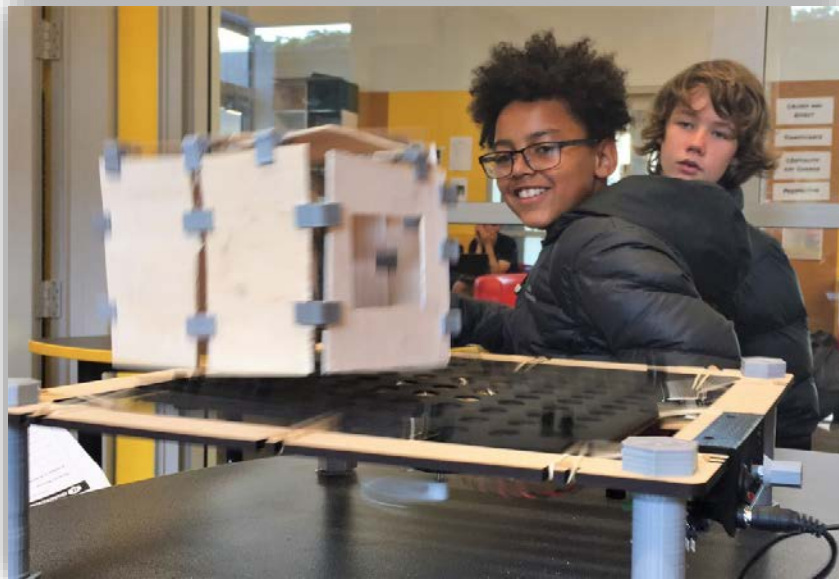
Researchers

*Several awards, including "International Chevron STEM Education Award"  
(2018 Fab Lab Conference, Toulouse, France)*

# QuakeCoRE Outreach Highlights

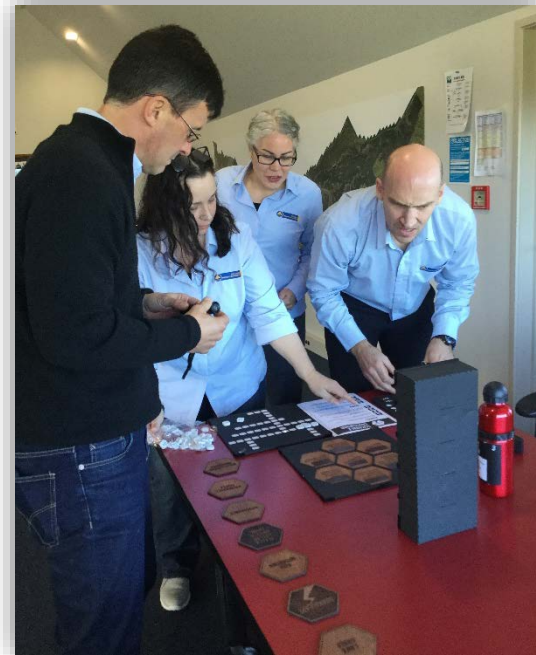
## QuakeCraft/Papa Wiri Learning Modules

Fun, hands-on learning modules to teach children about seismic engineering and community resilience.



## QuakeScape Scenario Training Game

Engaging game to educate and facilitate discussions surrounding local and regional natural hazards and enable a more empowered community through puzzles and scenarios

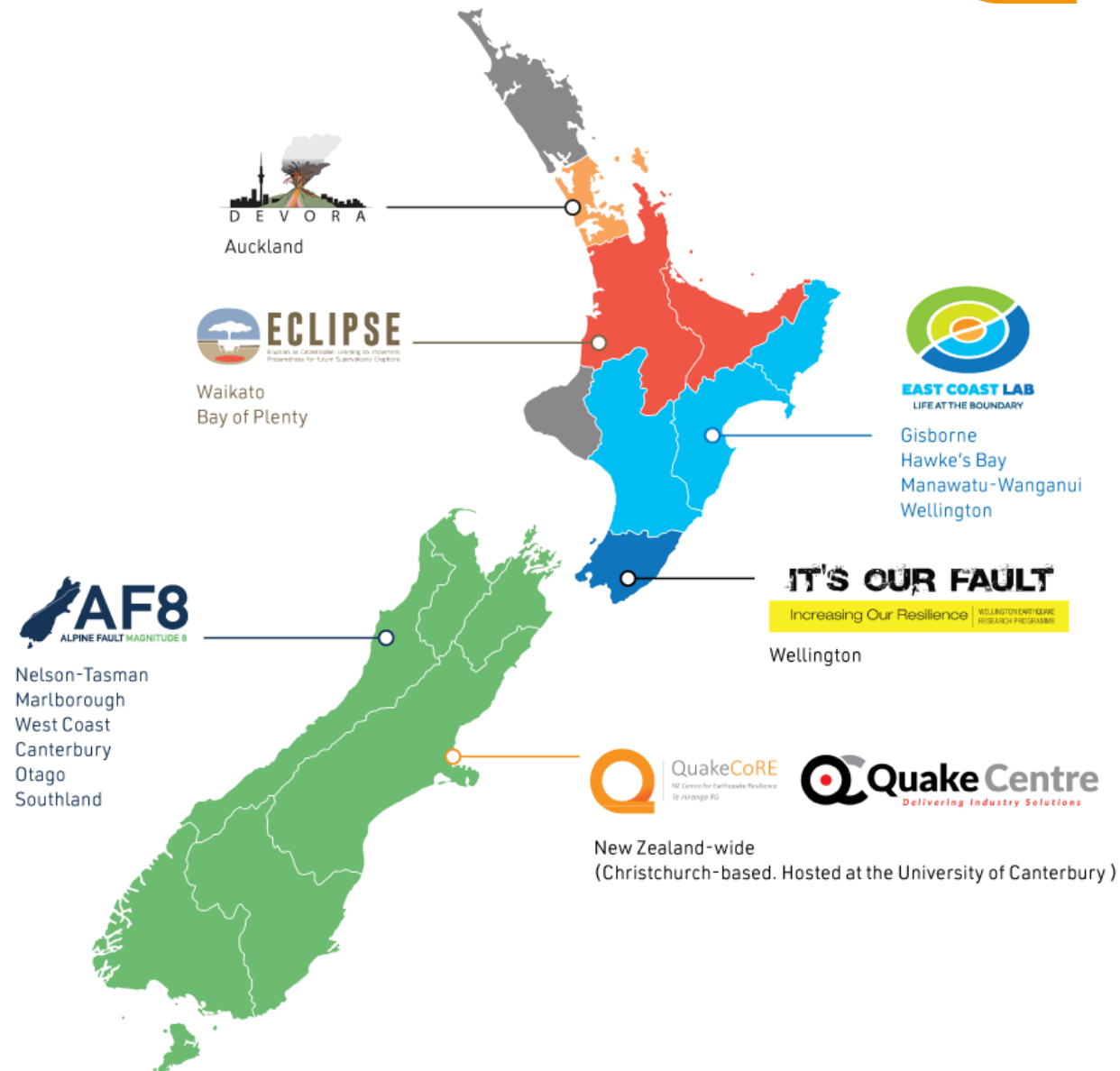


# Outreach Collaboration



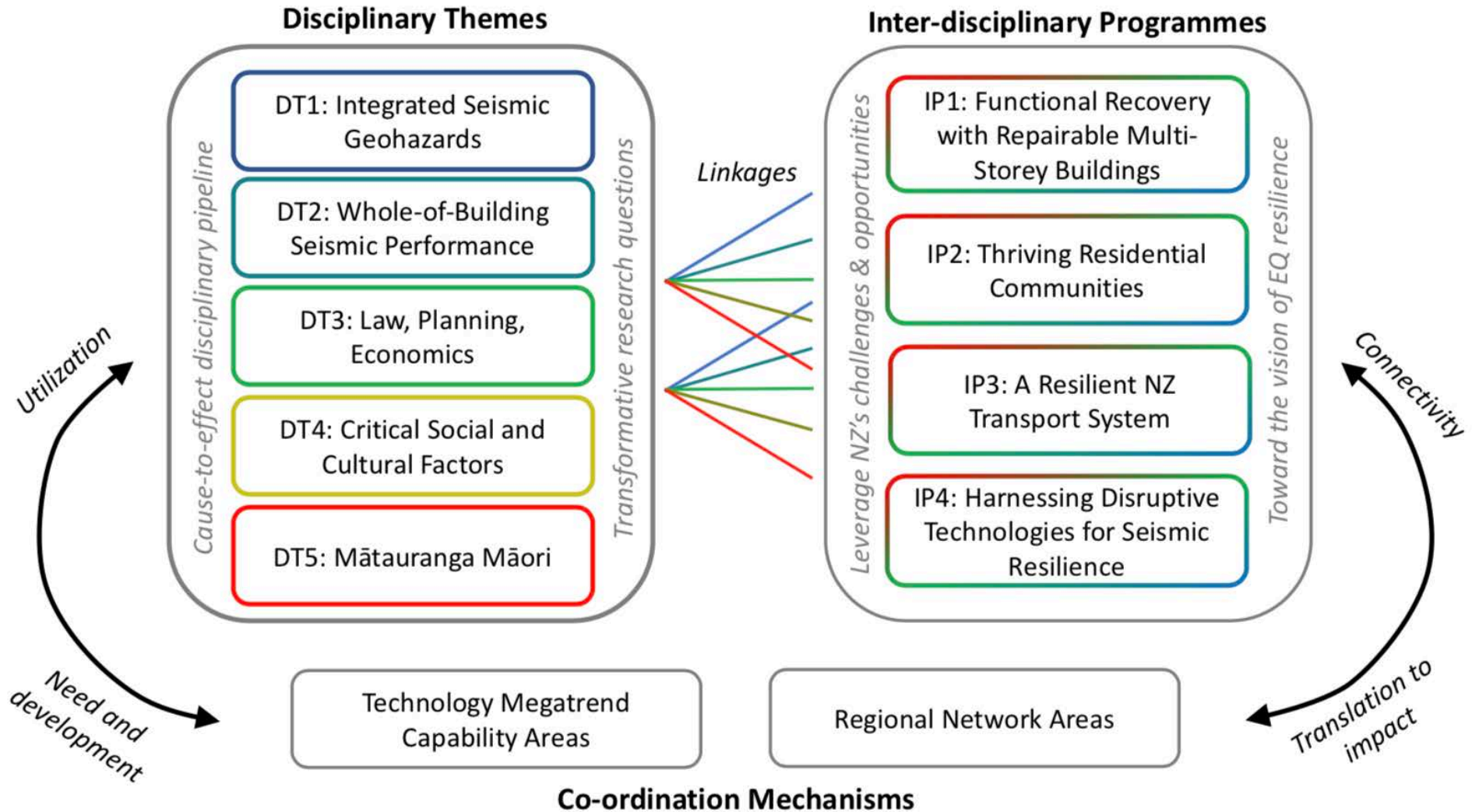
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# QuakeCoRE 2 (2021-2028)



# Getting involved in QuakeCoRE2 ?

More info at: <http://www.quakecore.nz/te-hiranga-ru-quakecore-funding-proposal-2021-2028/>

- Nine new disciplinary themes and interdisciplinary programmes
- Regional Network and Technology Megatrend Capability areas
- Committee on Communication, Education and Engagement
- Committee on Equity, Diversity and Wellbeing
- Student Chapters
- Emerging Researcher Chapter
- Māori Researcher Network
- And many more with details to follow ....

# Interactive Plenaries via Pigeonhole



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1. Go to [www.pigeonhole.at](http://www.pigeonhole.at)



The Simplest  
Interactive Q&A Platform  
At Events

2. Passcode QUAKECORE2020 (all caps)



# How to get involved

*QuakeCoRE is much more than a funding source*



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## Apply for PhD Scholarships

If you are a PhD student, contact a QuakeCoRE research supervisor about opportunities for joining QuakeCoRE.

## Apply to our RfP

Our annual request for proposals is released in the third quarter of each year

## Collaborate with us

If you have a significant research activity which aligns with that of QuakeCoRE please get in touch. We welcome you to join any of our monthly Flagship video conference calls.

## Apply to be an Associate Investigator

NZ-based researchers who are committed to advancing the goals of QuakeCoRE and contributing to the QuakeCoRE mission.

## Apply to be an Industry Affiliate

Any stakeholder or industry practitioner who is engaged with QuakeCoRE and would like to acknowledge this relationship by being named as an Industry Affiliate.

Have your say!!



## **QuakeCoRE Annual Meeting Survey**

What: Quick feedback on the Annual Meeting itself

When: Open on last day of Annual Meeting (Thursday)

Link: <https://www.surveymonkey.com/r/QCAM2019>

*Thank you!*