Distributed Infrastructure
Resilience Challenge

Group Meeting

7/6/2016

Summary

- **Introductions (All)**

- **Overview of RNC Research (Liam)**
  Brief overview of RNC, QuakeCoRE and interactions with other projects.
  Funding progress and upcoming calls for research.

- **Distributed Infrastructure Research (All)**
  Attendees provide overview of existing research and proposed research
  Group discussion.

- **Progress from here (All)**
  Monthly meetings.
  Existing end user relationships and data.
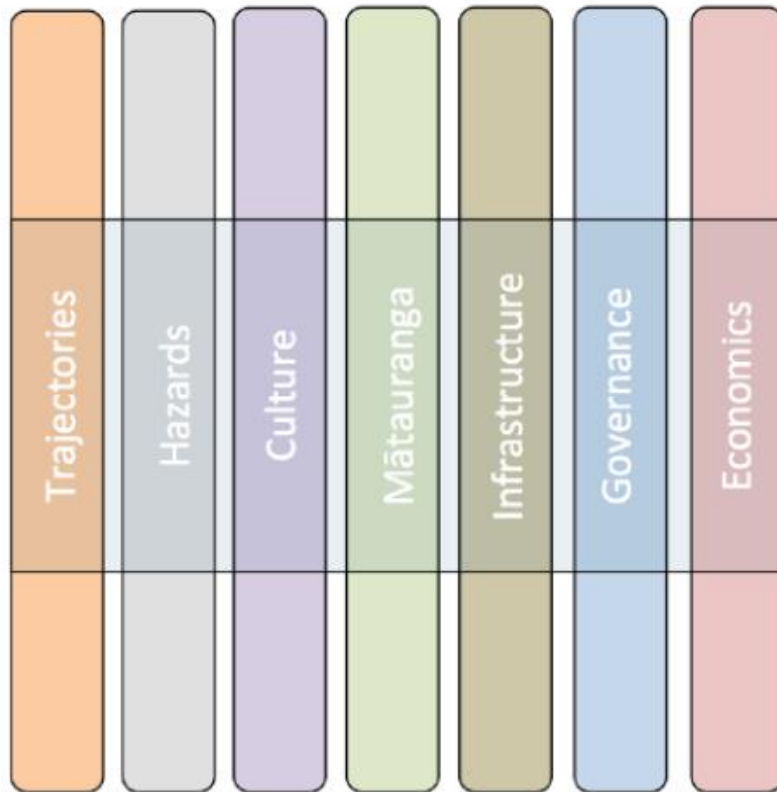 Student recruitment.
  QuakeCoRE Annual Meeting.

Introductions

- **University of Auckland**
  - Wotherspoon, Costello, Shamseldin, Nair
  - Ranjitkar, Wilkinson, Lindsay

- **University of Canterbury**
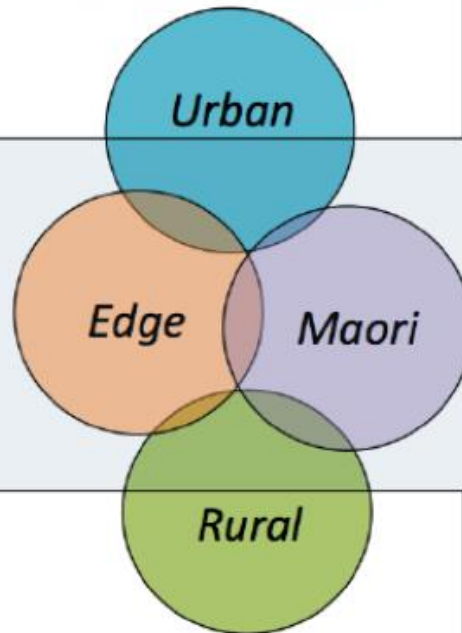 - Bradley, Hughes, Giovinazzi, Wilson
  - Cubrinovski

- **Neoleaf**
  - Fairclough

RNC

Research Strategy – Resilience to Nature's Challenges
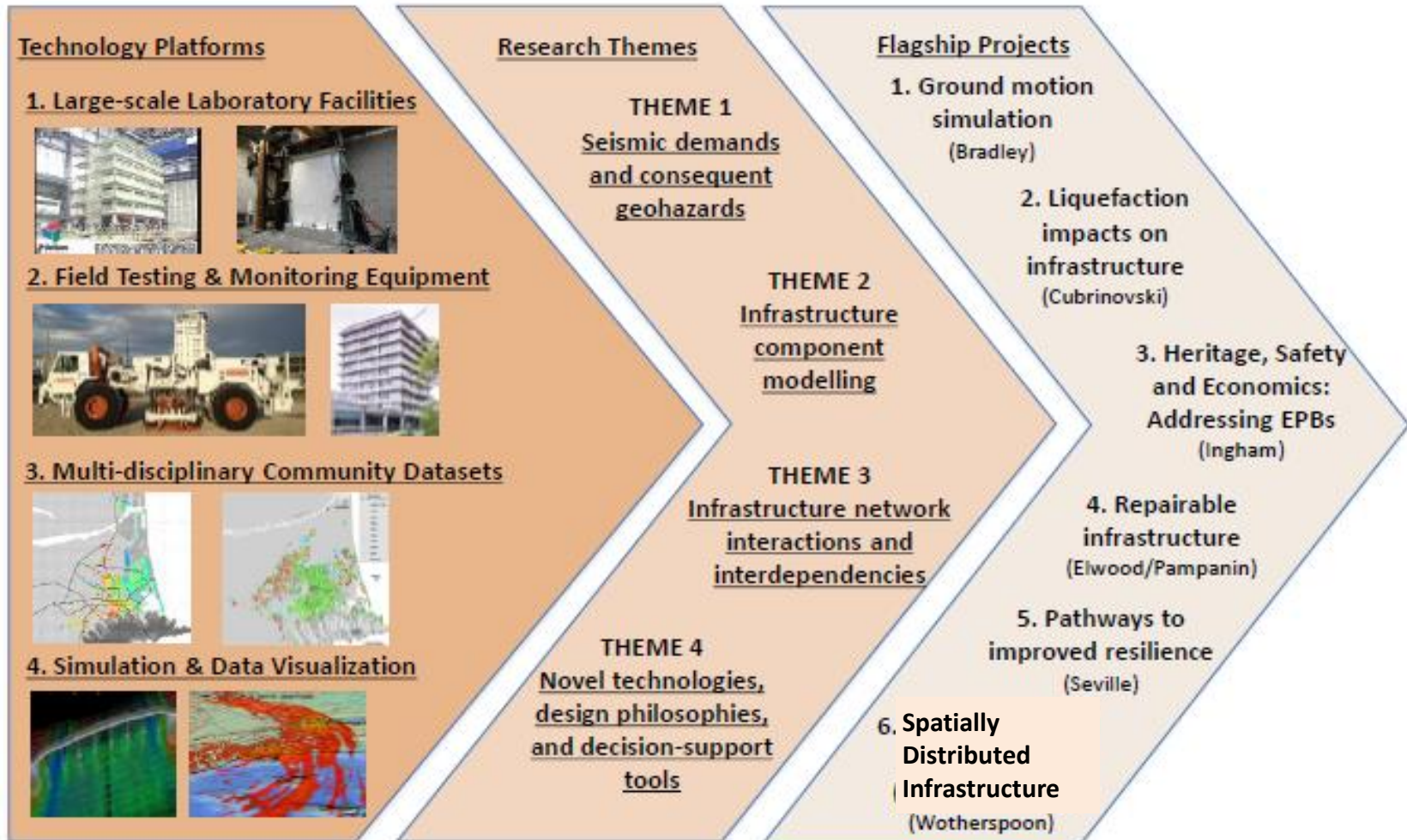
Underpinning Resilience Disciplines

Trajectories | Hazards | Culture | Mātauranga | Infrastructure | Governance | Economics

Co-creation Labs

Urban

Edge

Maori

Rural

Resilience Pipeline

A Resilient New Zealand

Priority Partnerships

Innovative Enabling Technologies

QuakeCoRE

Funding

- RNC Core
  - Subcontracts being finalised – with UC

- RNC Contestable
  - Process TBD   ~$500k pa

- RNC/QuakeCoRE Infrastructure Contestable
  - RfP for 1 year projects ~Sept 2016
  - Projects that link into core projects
  - ~100k pa

Spatially Distributed Infrastructure

- Develop an improved understanding of the resilience of spatially-distributed infrastructure networks to extreme natural hazards
  - Detailed characterisation of components – multi hazard
  - Current network performance
  - Pre-disaster mitigation and post-disaster prioritisation effects
  - Improve resilience of lifeline providers

  - National report card framework
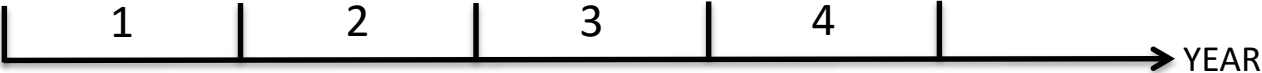 - Infrastructure resilience rating system

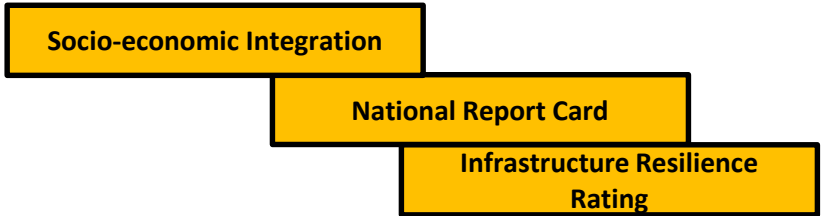 - Feed into socio-economic aspects of RNC

5 year outcomes
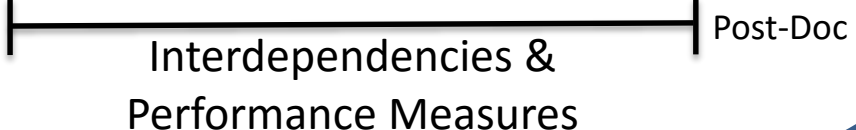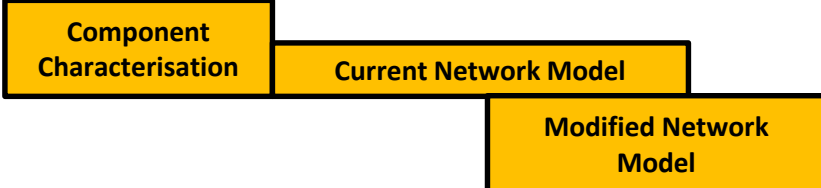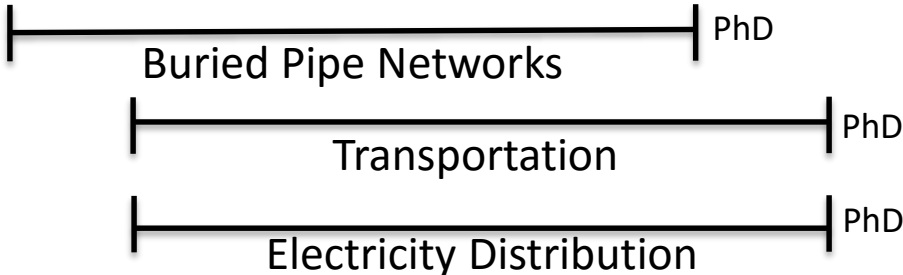
- Infrastructure owners, and society at large, more resilient to extreme natural hazards as a result of actions taken
  - Formal partnerships with infrastructure asset/lifeline groups
  - Analysis of regional scenarios
  - Demonstrate improvement in resilience practices

- Case study regions
  - West Coast, Canterbury, Auckland
  - NZTA, Transpower, WCELG, WCDC, CELG, ECan

Structure

MBIE

Callaghan

Repairable Infrastructure

Distributed Infrastructure Components

Other NHRP

EQC Biennial

Liquefaction Impacts

GNS Core

GM Simulation

EQE Parameters

EQC Biennial

NVHM

Other NHRP

NZ Hazard Spectrum

NIWA Core

RiskScape

NSC10

QuakeCoRE

NHRP

Other

Component Fragility

Hazards

Distributed Infrastructure Networks

Implementation

Case Studies

MERIT

Economic Resilience

Resilient Governance

Resilient Trajectories

Pathways to Resilience

NSC11

Rural PCL

Edge PCL

Cities PCL

VM PCL

Its Our Fault

East Coast Labs

DEVORA
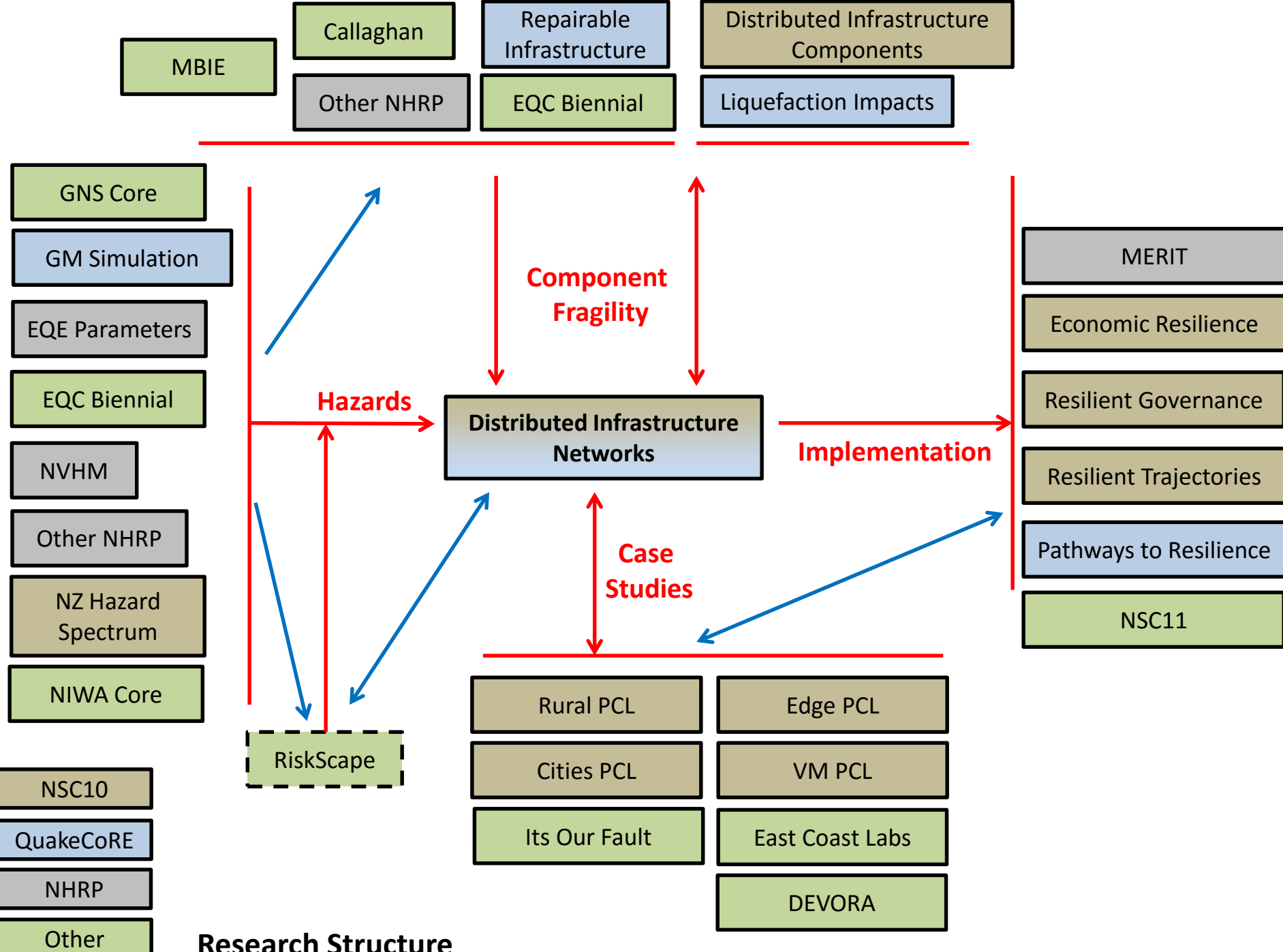
Research Structure

Additional Research in RNC

- Recruitment for existing projects

- Year long targeted projects
  - ME/MSc

- Summer student projects
  - Align with existing projects

Project Coordination

- Monthly meetings
- Project Management: Trello – www.trello.com
- Information
- Meetings and workshops
- QuakeCoRE Annual Meeting

Information Repository

- Stakeholder relationships
  - Lead contact for stakeholder and researcher

- Calendar of meetings with stakeholders
  - Enable efficient engagement

- Researcher lists
  - Academic, post-docs + projects

- Data repository
  - Infrastructure, hazards, impacts
  - GIS data and reference documents

QuakeCoRE Annual Meeting

- Workshops: Wed 31 Aug
- Meeting: Wed evening, Thursday, Friday (till 3pm)
- 10 x 90 min 'sessions' – 4 types:
  - Welcome session; the State of QuakeCoRE
  - 4 x Plenary and discussion sessions with a specific theme (25mins x 2, 10min Q&A, 30mins moderated discussion)
  - 3 x Poster sessions (90 mins), all PI's
  - 1 x Lightning session – PhD thesis talks (12 x 5mins, 30 mins discussion)

- Similar to SCEC/PEER/EERI meetings; different than 'conference' layouts

Day 1 - Wednesday

8am-5pm:
Pre-meeting focused workshops

Time	Session
5-6pm	Welcome Reception
6-7pm	Distinguished Lecture – Tom Jordan
7 – 8:30pm	Dinner
8:30 – 10:30pm	Poster Session 1: (+ drinks & dessert)

Day 2

Time	Session
7:00 - 8:30	Breakfast - networking
8:30 – 10am	Session 1: Welcome and state of QuakeCoRE
10:00 – 10:30	Coffee
10:30 – 12:00	Technical Plenary 1
12:00 – 1:30	Lunch
1:30 – 3:00	Technical Plenary 2
3:00- 3:30	Coffee
3:30 – 5:00	Technical Plenary 3
5:00 – 7:00	Free time
7:00 – 8:30	QuakeCoRE Honours Dinner
8:30 – 10:30	Poster session 2 (+Drinks & Dessert)

Day 3

Time	Session
7:00 – onwards	Take down posters
7:00 - 8:30	Breakfast
8:30 – 10am	Technical Plenary 4
10:00 – 10:30	Coffee
10:30 – 12:00	Lightening talks: Celebrating emerging PhD researchers
12:00 – 1:30	Lunch – long for networking
1:30 – 3:00	Technical Plenary 5
3:00- 3:30	Awards + closing