Disciplinary Themes

Research areas that collectively span the disciplinary pipeline of earthquake resilience and focus on transformative research questions in which NZ researchers have shown global leadership.

DT1: Integrated Seismic Geohazards: Advance understanding and modelling of individual earthquake-induced geohazards (ground motions, liquefaction, and slope instability), as well as unified data collection and modelling approaches to enable an integrated prediction in order to more efficiently mitigate future impacts and stimulate rapid advances in the profession.

DT2: Whole-of-Building Seismic Performance: Develop fundamental understanding, and methods and models for the quantification of, whole-of-building seismic performance through direct consideration of structural and non-structural component interactions, as well as advances in seismic design and assessment considering life-cycle analysis.

DT3: Law, Planning, Economics: Investigate economic impacts of earthquakes, and create the evidence base to inform regulation for effective planning, policy and mitigation to build resilience - including whole-of-economy earthquake impact modelling, assessment of specific resilience- building legal and planning tools and processes, and behavioural ‘nudges’ to incentivize resilience.

DT4: Cultural and Social Factors Shaping Resilience: Collaboratively understand, model and improve the critical cultural and social factors determining societal resilience to earthquakes in NZ, including human responses to earthquakes, temporal and spatial variation of risk, and building an earthquake-resilient society.

DT5: Matauranga Maori and Earthquake Resilience: Community-led and co-designed participatory research to create and innovate matauranga Maori (Mao ri knowledge) that will facilitate achievement of the earthquake resilience aspirations of tangata whenua. Knowledge translation of research findings will encourage increased understanding within QuakeCoRE, of iwi, hapu and whanau perspectives on earthquakes and disaster risk reduction.