Dr. Mark Cameron Quigley

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1. Professional Statement:

Mark Quigley is Associate Professor of Earthquake Science (Teaching and Research) in the School of Earth Sciences at the University of Melbourne. He is a Senior Academic Advisor (SAA) in the university-wide *Student Life* initiative and was appointed SAA Network Chair in 2020. Mark has supervised over 30 Ph.D. and M.Sc. students from 8 different countries to thesis completion and supports several equity and inclusion initiatives in the Faculty of Science through his work with early career scientists, the Faculty of Science Mental Health Advisors, and the University of Melbourne Women in Science Network. Mark has instructed more than 1000 students in natural disaster science and geomorphology worldwide, delivered earthquake hazard short-courses in Thailand and The Philippines, and currently works extensively with government scientists, industry, the United Nations, and diverse stake-holders and decision-makers to ensure quality science informs seismic risk analysis and decision-making. He is a recipient of the prestigious *New Zealand Prime Minister's Science Communication Prize* and *Geological Society of America's Public Service Award*, and author of more than 100 peer-reviewed scientific research papers and geotechnical reports.

2. Employment:

2016 - present: Associate Professor (Level D), School of Earth Sciences, *University of Melbourne*
2014 - 2015: Associate Professor (Level D), *University of Canterbury,* New Zealand
2011 - 2013: Senior Lecturer (Level C), *University of Canterbury,* New Zealand
2008 - 2010: Lecturer (Level B), *University of Canterbury,* New Zealand
2007 - 2008: Postdoctoral Research Fellow (Level A), University of Melbourne

3. Education:

2007: Doctor of Philosophy, School of Earth Sciences, The University of Melbourne, Australia
Continental tectonics and landscape evolution in south-central Australia and southern Tibet
2002: Master of Science, Department of Earth and Planetary Sciences, University of New Mexico, USA
Tectonic development of Proterozoic structures and their influence on Laramide and Miocene deformation, North Virgin Mountains, SE Nevada and NW Arizona
1999: Bachelor of Science with Honours, Department of Geology, University of Toronto, Canada
Honours thesis: *Tectonothermal evolution of a segment of the Big Lake Shear Zone, Western Churchill Province, Northwest Territories, Canada*

4. Awards and Recognition:

2021: Faculty-nominated participant, Academic Leaders Program, *University of Melbourne*
2020: Exceptional Peer-Reviewer, *Geological Society of America: Geosphere*
2018: Invited speaker at the *Australian Academy of Science*, Science at the Shine Dome Symposium: Predict | Respond | Recover: science and natural disasters, Talk title: *The Science of Earthquakes*
2016: Invited Rapporteur, Theo Murphy High Flyers Think Tank, *Australian Academy of Science*
2016: E.U. Erasmus+ Teaching and Research Fellow, *Ludwig-Maximilians-Universität München*
2016: Invited Visiting Scientist, School of Earth and Space Exploration, *Arizona State University*
2015: Fellow of the *Geological Society of America*
2014: *Geological Society of America* Public Service Award
2013: *Geological Society of New Zealand* Hochstetter Lecturer
2012: Emerging Researcher Award, College of Science, *University of Canterbury*
2011: New Zealand Prime Minister's Science Communication Prize
2011: New Zealand Association of Scientists Science Communication Prize

2010: Smith Lecturer, Department of Earth and Environmental Science, *University of Michigan*
2007: Geological Society of Australia Powell Medal
2006: Geological Society of Australia David I Groves Award
2005: Fresh Scientist, Science In Public, Australia
2002: Top graduating M.Sc. student in Earth and Planetary Sciences, *University of New Mexico*

5. Service and Leadership:

2021: Invited participant, Faculty of Science Planning Conference, *University of Melbourne*
2021 to present: Editorial Board, *Frontiers in Earth Science*
2020 - present: Chair, Senior Academic Advisors Network, *University of Melbourne*
2020 - present: Senior Academic Advisor, Faculty of Science, *University of Melbourne*
2020 - present: Lead chapter author and advisor, *United Nations Office of Disaster Risk Reduction*
2020 - present: Editorial Board, *Geosciences*
2020 - present: Board member, Women in Science Network, *University of Melbourne*
2020 - present: Mental Health Advisor, Faculty of Science, *University of Melbourne*
2020: Editor and Compiler, Good Newsletter, School of Earth Sciences, *University of Melbourne*
2019 - present: Editorial Board, *Environment, Systems & Decisions*
2019: Speaker, Science Day One: Your subjects explained, Faculty of Science, *University of Melbourne*
2019: Selection panelist, Lecturer / Senior in Geophysics, School of Earth Sciences, *University of Melbourne*
2018 - 2019: Science International Advisory Committee member, Faculty of Science, *University of Melbourne*
2017 - 2019: Level B Promotions Committee, Faculty of Science, *University of Melbourne*
2017 - 2020: Co-chief Science Editor of *GEOLOGY*
2017 - 2020: Marsden Fund Research Evaluation Panel, Earth Sciences and Astronomy, *Royal Society of New Zealand*
2017 - 2018: Faculty of Science Open Day volunteer
2017: Instructor, Peking Summer Camp, Faculty of Science, University of Melbourne
2016 - present: Director, Geological Hazards for Critical Infrastructure (GeoHACI)
2016 - present: Director, DrQuigs Geological Hazards Consulting
2016-2018, 2020: Public Speaker, Science Festival, Faculty of Science, *University of Melbourne*
2015: Adviser, University of Berkeley Round Table, *University of Melbourne*
2014: Chair, Selection Panel, Lecturer / Senior in Structural Geology, Department of Geological Sciences, *University of Canterbury*
2012 - 2015: Judge, New Zealand Prime Minister's Science Communication Prize
2012 - 2015: Co-founder and educator, New Zealand Science Media Centre SAAVY Course in Science Communication
2009: Selection Panelist, Lecturer / Senior in Hazards and Risk, Department of Geological Sciences, *University of Canterbury*

6. Teaching and Learning:

*6.1. Courses taught (*Course co-ordinator, developed new curricula, led team-teaching or sole taught):*

2016 - present: *GEOL 30009: Advanced Field Geology* (University of Melbourne)*
2016 - 2019: *ERTH 10003: Geology For Engineers* (University of Melbourne)*
2016 - 2019: *ERTH 20001: Dangerous Earth* (University of Melbourne)*
2016 - 2017: *ENVS10012: Changing Melbourne (University of Melbourne)*
2011 - 2015: *GEOL 354: Geodynamics and Geohazards* (University of Canterbury)*
2009 - 2015: *GEOL 113: Environmental Geohazards (University of Canterbury)*
2009 - 2015: *GEOL 240: Field Studies A – Mapping (Island Hills) (University of Canterbury)*
2009 - 2012: *GEOL 245: Earth System Science (University of Canterbury)*
2009 - 2012: *GEOL 334: Tectonics and the New Zealand Continent (University of Canterbury)*
2009 - 2015: *GEOL 352: Advanced Field Mapping (Kaikoura)* (University of Canterbury)*
2009 - 2015: *GEOL 479 (postgraduate): Active Tectonics and Geomorphology* (University of Canterbury)*
2009 - 2014: *ENGE 476 (postgraduate): Earthquake and Volcanic Hazards (University of Canterbury)*
2009: *ENGE 486 (postgraduate): Engineering Geomorphology (University of Canterbury)*
2009: *GEOL 471 (postgraduate): Research Methods in Geoscience (University of Canterbury)*
2009: *GEOL 473 (postgraduate): Structural Geology (University of Canterbury)*

2007 - 2008: *VIEPS (postgraduate): Neotectonics and Landscape Evolution (University of Melbourne)*
2007: *625-203: Dangerous Earth (University of Melbourne)*
2006 - 2007: *625-023: Engineering Geology (University of Melbourne)*

6.2. Teaching modules developed:

2020: *Virtual Geology of Melbourne:* A series of 18 publicly available geoscience educational videos, instructed by Mark Quigley, produced in collaboration with media industry partners, and published on YouTube.

VIDEO 1: https://youtu.be/j_-6sSqvkYs; VIDEO 2: https://youtu.be/VCU0I47gBBs; VIDEO 3: https://youtu.be/S1HPM9mns-Q VIDEO 4: https://youtu.be/mqZh78hPGkI; VIDEO 5: https://youtu.be/K-5I8U5vGPY; VIDEO 6: https://youtu.be/YqvlfXg5E0M VIDEO 7: https://youtu.be/cW3JN1xKSOw; VIDEO 8: https://youtu.be/NqjyZNVGnec; VIDEO 9: https://youtu.be/PESv6Gkt8gQ; VIDEO 10: https://youtu.be/1w2vMwJtCC0; VIDEO 11: https://youtu.be/Px5CYQN3l_U VIDEO 12: https://youtu.be/uoSp1_lGmOY; VIDEO 13: https://youtu.be/KrqPPCFf7Q4; VIDEO 14: https://youtu.be/BKlB7v-anjc; VIDEO 15: https://youtu.be/1nObx5ykkqM; VIDEO 16: https://youtu.be/MH9OhQQm21I; VIDEO 17: https://youtu.be/m3RSOA6CMKE; VIDEO 18: https://youtu.be/XhcfUl0Ck74

6.3. Additional teaching seminars (invited)

2017: Quigley, M. "Scientific writing for research publication: Ten things we should talk about", Earth Sciences Postgraduate Group Friday Forum, University of Melbourne
2017: Quigley, M. "The environmental effects and statistics of earthquakes" Peking Summer Camp, University of Melbourne, June 27.

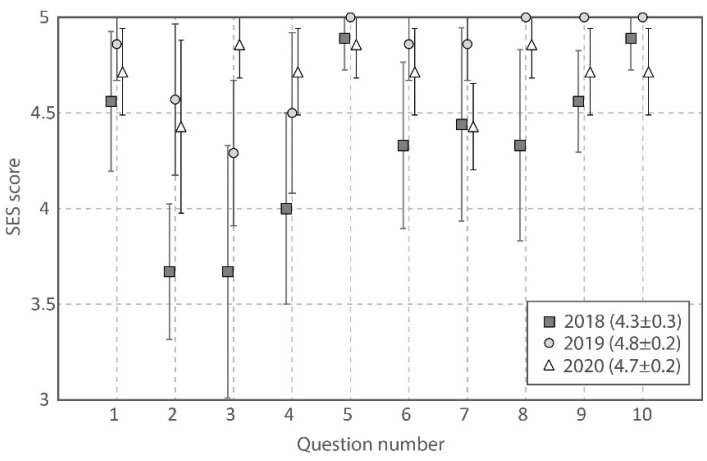
6.4. Teaching and learning research and opinion articles:

2020 - present: Quigley, M., Duffy, B., [y]McMahon, K., [x]Peryer, C., [x]La Greca, J., [x]Feng, W., [y]Li, K., [y]Ren, Y., [x]Sharma, A., [y]Su, R., (in review) Comparing field-based with virtual teaching modes in an advanced geoscience undergraduate subject through the COVID-19 crisis: perspectives on pedagogy, sustainability, and inclusivity (ongoing research program, draft article for G*eosciences (*[x]*= postgraduate student co-author;* [y] *= undergraduate student co-author)*
2016: Quigley, M., Commentary: Go to your bloody lectures, *Parkville Station, 2016 E19.*
2014: Quigley, M., Communicating Earthquake Science, *New Zealand Science Teacher, NZASE 129, p. 19,20, 26*

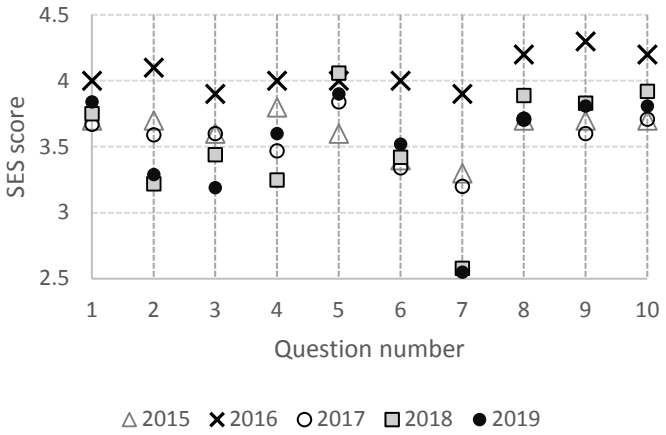
6.5. International educational workshops (co-) led:

2015: Quigley, M., Using paleoseismology to characterise seismic hazard, One day workshop for Thai Earthquake Scientists, Bangkok, Thailand, June 25.
2014: Quigley, M**.** and Gibson, G., Contribution of Seismology to Earthquake Risk Mitigation: 5 day workshop, Asian Seismological Commission: General Assembly pre-conference workshop, Quezon City, Philippines, November 12-16.

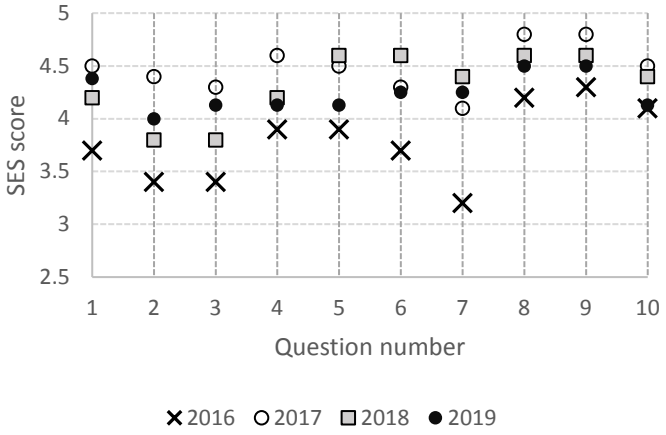
6.6 Summary of Undergraduate Student Experience Surveys



GEOL 30009: Mean Student Experience Survey (SES) numerical scores for standard SES questions (1-10) from 2018 to 2020 (the period over which I have acted as subject co-ordinator and lead instructor). Numerical values are recorded using a 5 point Likert scale with n=5 (positive, strongly agree) and n=1 (negative strongly disagree). Vertical bars denote 1 standard deviation in individual SES scores for each question. Legend shows year and mean value amalgamated across all questions with ± value showing 95% confidence interval centred on the mean. This subject has strong (>4) SES scores that have been maintained across field (2018, 2019) and virtual (2020) teaching modes.



ERTH 20001: Mean Student Experience Survey (SES) numerical scores for standard SES questions (1-10) showing comparison with SES scores prior to commencement of my teaching / co-ordination of this subject (2015) with my teaching / co-ordination period (2016-2019). Mean SES scores improved by 14% over my teaching period. The biggest improvements were made in the students' SES responses "to work at a high standard", "learn new ideas, approaches and/or skills" and "learn to apply knowledge to practice". Although this breadth subject is challenging to teach, given the knowledge diversity of the participants, it is a subject that continues to maintain high enrolments and student interest.



ERTH 10003: Mean Student Experience Survey (SES) numerical scores for standard SES questions (1-10) throughout my period of subject co-ordination and lead teaching. The most obvious signal here is the utility of 2016 SES results to improve teaching practise in 2017, and the subsequent maintenance of elevated SES scores from 2017-2019. The average SES score across all questions for the shown time period is 4.2.

7. Postgraduate student supervision:

7.1. Current (n=6: 4 PhD, 2 M.Sc.):

Hiwa Mohammadi (PhD, thesis currently under review), *Jessica Vermeer* (PhD), *Schirin Sellmann* (PhD), *Megan Withers* (PhD, Monash), *Catherine Peryer* (MSc), *James La Greca* (MSc)

7.2. Graduated (n=30: 11 PhD, 15 M.Sc., 4 B.Sc. Hons.):

Haibin Yang (PhD, now at ANU), *Tamarah King* (PhD, now at Oxford University), *Kevin Kuang* (MSc, now at GHD), *Andrew Wilson* (MSc, now at GHD), *Josh Borella* (PhD, now at U Canterbury), *Sharon Hornblow* (PhD, now at Otago Regional Council), *Sarah Bastin* (PhD, now at U Canterbury), *Narges Khajavi* (PhD, now at Adelaide Uni), *David Jacobson* (MSc, now at Temblor), *Ellyse Gore* (MSc), *Kieran Grace* (MSc), *Timothy Stahl* (PhD, now at U Canterbury), *Gregory De Pascale* (PhD, now at Univ of Chile), *Peri Sasnett* (MSc, now at US Parks Service), *Brendan Duffy* (PhD, now at U Melbourne), *Jonathon Claridge* (MSc), *Christian Ruegg* (MSc), *Nicholas Carson* (MSc), *Sam McColl* (PhD), *Eric Bilderback* (PhD, now at US Forestry Service), *Andrew Klahn* (MSc), *Louise Moody* (MSc), *Andrea Logan* (MSc), *Jana Mittelstaedt* (MSc), *Duncan Noble* (MSc), *Daniel Shulte* (MSc), *Sharon Hornblow* (BSc Hons), *James Ferguson* (BSc Hons), *Michael Green* (BSc Hons), *Ben Reid* (BSc Hons)

8. Research Funding:

8.1. Decision Pending:

2021: ARC Future Fellowship (2022-2025), *Australian earthquakes powered by sea-level change*, CI: M. Quigley, Total budget request: $1,152,562

2021: Australian Research Council Discovery Grant (2022-2024): *Add mountains and shake: fault and earthquake pattern controls in active plate boundaries*, CIs: Cruden, Finch , Quigley PI: Riller, budget request : ≈ $550,000

8.2. Awarded:

2017 - 2020: Australian Research Council Discovery Grant DP170103350: Origins and distributions of intraplate earthquakes, Value: $345,000, Role: Principal Investigator

2012 - 2015: NZ Earthquake Commission: Research Capacity Grant (Continuous Funding of ca. 300K per annum, successful rebid in 2012)

2012 - 2014: Ministry of Science and Innovation Grant: Living in the colour-coded city: building and understanding community resilience, Value: $32,130, Role: Associate Investigator

2012 - 2014: NZ Earthquake Commission Biennial Contestable Grant: Paleoearthquake History of the Greendale Fault, Canterbury (2012-2014), Value: $50,000, Role: Associate Investigator

2012 - 2013: NZ Earthquake Commission Contestable Grant: Detailed analysis of Greendale Fault ground surface rupture displacements and geometries (2012-2013), Value: $20,000, Role: Associate Investigator

2010 - 2013: Royal Society of New Zealand Marsden Fund 'Fast-Start' M1137: Did Indonesian Tectonic Uplift Change Ocean Circulation and Global Climate 3-4 Myr ago? Value: $300,000, Role: Principal Investigator

2010 - 2011: New Zealand Natural Hazards Research Platform: Precise Mapping of Near-Field Fault Deformation in NZ using LiDAR Technology, Value: $30,000, Role: Associate Investigator

9. Research publications:

9.1. Refereed Journal articles (as of 15 April, 2021):
For most updated list see http://www.drquigs.com/?page_id=122
Citation metrics (Google Scholar, 15 April 2020): Citations = 3277; h-index = 32, i10-index = 67

1. King, T., Quigley, M., Clark, D., Zondervan, A., May, J-H., Alimanovic, A. (2021) Paleoseismology of the 2016 M_W 6.1 Petermann earthquake source: implications for intraplate earthquake behaviour and the geomorphic longevity of bedrock fault scarps in a low strain-rate cratonic region, Earth Surface Processes and Landforms, in press.
   [10% contribution. Contributed to writing paper, interpreting data and designing some data analysis methods. Rank 18/86; Impact Factor 3.38].
2. Yang, H., Quigley, M., King, T. (2021) Surface slip distributions and geometric complexity of intraplate reverse-faulting earthquakes, Geological Society of America Bulletin, in press.
   [10% contribution. Contributed to writing paper, interpreting data and designing some data analysis methods. Rank 18/86; Impact Factor 3.38].
3. Quigley, M., Saunders, W., Massey, C., Van Dissen, R., Villamor, P., Jack, H., Litchfield, N. (2020) The utility of earth science information in post-earthquake land-use decision-making: the 2010-2011 Canterbury earthquake sequence, New Zealand, Natural Hazards and Earth System Sciences (NHESS) 20, 3361–3385, https://doi.org/10.5194/nhess-20-3361-2020
   [10% contribution. Contributed to writing paper, interpreting data and designing some data analysis methods. Rank 18/86; Impact Factor 3.38].
4. Quigley, M.C., Attanayake, J., King, A., Prideaux, F. (2020) A multi-hazards earth science perspective on the COVID-19 pandemic: the potential for concurrent and cascading crises, Environment Systems and Decisions 40, p. 199–215.
   [10% contribution. Contributed to writing paper, interpreting data and designing some data analysis methods. Rank 18/86; Impact Factor 3.38].
5. Quigley, M., Duffy, B., (2020), Effects of Earthquakes on Flood Hazards: A Case Study From Christchurch, New Zealand, Geosciences 10, 114; doi:10.3390/geosciences10030114.
   [10% contribution. Contributed to writing paper, interpreting data and designing some data analysis methods. Rank 18/86; Impact Factor 3.38].
6. Attanayake, J., King, T., Quigley, M.C., Gibson, G., Clark, D., Jones, A., Sandiford, M., (2020) Rupture Characteristics and the Structural Control of the 2016 Mwp 6.1 Intraplate Earthquake in the Petermann Ranges, Australia, Bulletin of the Seismological Society of America 110 (3): 1037–1045.
   [10% contribution. Contributed to writing paper, interpreting data and designing some data analysis methods. Rank 18/86; Impact Factor 3.38].
7. Borella, J., Quigley, M., Riley, M., Trutner, S., Jol, H., Borella, M., Hampton, S., Gravley, D., (2020) Influence of anthropogenic landscape modifications and infrastructure on the geological characteristics of liquefaction, Anthropocene, v. 29, 100235, 16 pages.
   [10% contribution. Contributed to writing paper, interpreting data and designing some data analysis methods. Rank 18/86; Impact Factor 3.38].
8. Yang, H., Moresi, L., Quigley, M. (2020) Fault spacing in continental strike-slip shear zones, Earth and Planetary

Science Letters 530, doi: https://doi.org/10.1016/j.epsl.2019.115906
[10% contribution. Contributed to writing paper, interpreting data and designing some data analysis methods. Rank 18/86; Impact Factor 3.38].

9. King, T., Quigley, M., Clark, D. (2019) Surface-rupturing historical earthquakes in Australia and their environmental effects: new insights from re-analyses of observational data, Geosciences 9(10), 408; https://doi.org/10.3390/geosciences9100408
10. Borella, J., Quigley, M., *Krauss, Z., *Lincoln, K., Attanayake, J., *Stamp, L., *Lanman, H., *Levine, S., Hampton, S. Gravley, D., (2019) Geologic and geomorphic controls on rockfall hazard: how well do past rockfalls predict future distributions? Natural Hazards and Earth System Sciences (NHESS)
11. Gold, R., Clark, D., Barnhart, W., *King, T., Quigley, M., Briggs, R.W., (2019) Surface rupture and distributed deformation revealed by optical satellite imagery: The intraplate 2016 Mw 6.0 Petermann Ranges earthquake, Australia Geophysical Research Letters, https://doi.org/10.1029/2019GL084926
12. Mohammadi, H., Quigley, M., Steacy, S., Duffy, B. (2019) Effects of source model variations on Coulomb stress analyses of a multi-fault intraplate earthquake sequence, Tectonophysics 766, 151-166
13. Quigley, M., Jimenez, A., Duffy, B., King, T. (2019), Physical and statistical behaviour of multi-fault earthquakes: Darfield earthquake case study, New Zealand, Journal of Geophysical Research – Solid Earth, 124, https://doi.org/10.1029/2019JB017508
14. Quigley, M.C., Bennetts, L.B., Durance, P., Kuhnert, P.M., Lindsay, M.D., Pembleton, K.G., Roberts, M.E., White, C.J., (2019), The Provision and Utility of Science and Uncertainty to Decision-Makers: Earth Science Case Studies, Environment Systems and Decisions
15. King, T., Quigley, M., Clark, D., (2018), Earthquake environmental effects produced by the Mw 6.1, 20th May 2016 Petermann earthquake, Australia, Tectonophysics v. 747–748, p. 357-372
16. Quigley, M. (2019), Chapter 3. Canterbury Earthquake Sequence, ASCE monograph "Earthquake-Flood Multi-hazard Impacts on Lifeline Systems"
17. Quigley, M. & Duffy, B. (2019), Chapter 5. Tectonic Deformation and Liquefaction Induced Ground Settlement, ASCE monograph "Earthquake-Flood Multi-hazard Impacts on Lifeline Systems"
18. Khajavi, N. Nicol, A., Quigley, M.C., Langridge, R.M. (2018), Temporal slip-rate stability and variations on the Hope Fault, New Zealand, during the late Quaternary, Tectonophysics 738, 112-123.
19. Quigley, M.C, Forte, A.M., (2017). Science website traffic in earthquakes. Seismological Research Letters, DOI: 10.1785/0220160172.
20. Duffy, B., Kalansky, J., Bassett, K., Harris, R., Quigley, M., van Hinsbergen, D., Strachan, L., Rosenthal, Y. (2017). Mélange versus forearc contributions to sedimentation and uplift, during rapid denudation of a young Banda forearc-continent collisional belt. Asian Journal of Earth Sciences 138, 186-21.
21. Rossi, M.W., Quigley, M.C., Fletcher, J., Whipple, K., Díaz-Torres, J.J., Seiler, C., Fifield, L.K., Heimsath, A.M. (2017) Along-strike variation in catchment morphology and cosmogenic denudation rates reveal the pattern and history of footwall uplift, Main Gulf Escarpment, Baja California, Geological Society of America Bulletin, doi: 10.1130/B31373.1.
22. Borella, J., Quigley, M., Vick, L. (2016) Anthropocene rockfalls travel farther than prehistoric predecessors, Science Advances, Vol. 2, no. 9, e1600969.
23. Sohbati, R., Borella, J., Murray, A., Quigley, M., Buylaert, J-P. (2016) Optical dating of loessic hillslope sediments constrains timing of prehistoric rockfalls, Christchurch, New Zealand, Journal of Quaternary Science, 31(7), 678-690.
24. Stahl, T., Quigley, M.C., McGill, A., Bebbington, M., 2016, Modeling earthquake moment magnitudes on imbricate reverse faults from paleoseismic data, Fox Peak and Forest Creek faults, South Island, New Zealand, Bulletin of the Seismological Society of America, 106(5), 2345-2363.
25. Quigley, M., Pettinga, J. (2016), Evolution and progressive geomorphic manifestation of surface faulting: A comparison of the Wairau and Awatere faults, South Island, New Zealand: Comment, Geology, 44, e391
26. Borella, J., Quigley, M., Sohbati, R., Almond, P., Gravley, D., Murray, A. (2016) Chronology and processes of late Quaternary hillslope sedimentation in the eastern South Island, New Zealand, Journal of Quaternary Science, 31(7), 691-712.
27. Stahl, T., Quigley, M., Bebbington, M. (2016), Tectonic geomorphology of the Fox Peak and Forest Creek Faults: slip rates, segmentation, and earthquake magnitudes, New Zealand Journal of Geology and Geophysics, 1-24.
28. Bastin, S., Bassett, K., Quigley, M., Maurer, B., Green, R.A., Bradley, B., Jacobson, D., 2016, Late Holocene liquefaction at sites of contemporary liquefaction during the 2010-2011 Canterbury Earthquake Sequence, New Zealand, Bulletin of the Seismological Society of America, 106(3), 881-903.
29. Villamor, P., Almond, P., Giona Bucci, M., Tuttle, M.T., Langridge, R., Clark, K., Ries, W., Bastin, S., Vandergoes, M., Quigley, M., Martin, F., Howarth, J., Eger A. (2016), Liquefaction features produced by the 2010-2011 Canterbury earthquake sequence in southwest Christchurch, New Zealand and preliminary assessment of paleoliquefaction

features, Bulletin Seismological Society of America, 106(4), 1747-1771.
30. Quigley, M., Hughes, M., Bradley, B., van Ballegooy, S., Reid, C., Morgenroth, J., Horton, T., Duffy, B., Pettinga, J., 2016, The 2010-2011 Canterbury earthquake sequence: environmental effects, seismic triggering thresholds, and geologic legacy, Tectonophysics, doi: 10.1016/j.tecto.2016.01.044.
31. Khajavi, N., Langridge, R., Quigley, M., Smart, C., Rezanejad, A., Martín-González, F., 2016, Late Holocene rupture behaviour and earthquake chronology on the Hope fault, New Zealand, Geological Society America Bulletin, 128, 11-12, 1736-1761.
32. Maurer, B. W., Green, R. A., Quigley, M. C., & Bastin, S. (2015). Development of magnitude-bound relations for paleoliquefaction analyses: New Zealand case study. Engineering Geology, 197, 253-266.
33. Egan, C. J., & Quigley, M. C. (2015). Dancing earthquake science assists recovery from the Christchurch earthquakes. Research in Dance Education, 16(2), 161-183.
34. Bastin, S. H., Quigley, M. C., & Bassett, K. (2015). Paleoliquefaction in Christchurch, New Zealand. Geological Society of America Bulletin, B31174-1.
35. Hughes, M., Quigley, M., van Ballegooy, S., Deam, B., Bradley, B, Hart, D., Measures, R. (2015) The sinking city: Earthquakes increase flood hazard in Christchurch, New Zealand, GSA Today 25, 3, 4-10.
36. Hornblow, S., Quigley, M., Nicol, A., Van Dissen, R., Wang, N. (2014) Paleoseismology of the 2010 Mw 7.1 Darfield (Canterbury) earthquake source, Greendale Fault, New Zealand, Tectonophysics, 637, 178-190.
37. Mackey, B., and Quigley, M. (2014) Strong proximal earthquakes revealed by cosmogenic 3He dating of prehistoric rockfalls, Christchurch, New Zealand, Geology 42 (11), 975-978.
38. Bilderback, E. L., Pettinga, J. R., Litchfield, N. J., Quigley, M., Marden, M., Roering, J. J., & Palmer, A. S. (2015). Hillslope response to climate-modulated river incision in the Waipaoa catchment, East Coast North Island, New Zealand. Geological Society of America Bulletin, 127(1-2), 131-148.
39. Khajavi, N., Quigley, M., & Langridge, R. M. (2014). Influence of topography and basement depth on surface rupture morphology revealed from LiDAR and field mapping, Hope Fault, New Zealand. Tectonophysics, 630, 265-284.
40. De Pascale, G. P., Quigley, M. C., & Davies, T. R. (2014) Lidar reveals uniform Alpine fault offsets and bimodal plate boundary rupture behavior, New Zealand. Geology, G35100-1.
41. Stahl, T., Bilderback, E., Quigley, M., Nobes, D., Massey, C., (2014) Coseismic landsliding during the Mw 7.1 Darfield (Canterbury) earthquake: implications for the paleoseismic studies of landslides, Geomorphology 241, 144-127.
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Fully refereed conference proceedings

1. Macklin, S.R., Quigley, M., Terzic, Z., Barter, J.F., Buchanan, P., 2019. A Multi-Disciplinary Approach to Active Fault Rupture Risk Characterization: 3D Geological Modelling of the Willunga Fault, Mt Bold Dam, South Australia, ICOLD 2019 Annual Meeting/Symposium: Sustainable and Safe Dams Around the World, June 9-14, Ottawa, Canada
2. Bastin, S., Green, R., Quigley, M., Bassett, K., (2017). Paleo-liquefaction; an Alternative Tool for Seismic Hazard Assessments, 8th International INQUA Meeting on Paleoseismology, Active Tectonics and Archeoseismology (PATA), 13 – 16 November, 2017, New Zealand, 6p.
3. Quigley, M., Mohammadi, H., Jiménez, A., Duffy, B., (2017). Multi-fault earthquakes with rupture complexity: how common? 8th International INQUA Meeting on Paleoseismology, Active Tectonics and Archeoseismology (PATA), 13 – 16 November, 2017, New Zealand, 3p.
4. Van Dissen, R., Hornblow, S., Villamor, P., Quigley, M., Litchfield, N., Nicol, A., Barrell, D., (2015), Greendale Fault rupture of 2010 (Darfield Earthquake, New Zealand): an Example of Recurrence Interval and Ground surface Displacement Characterisation for Land-use Planning and Engineering Design Purposes, 6th International Conference on Earthquake Geotechnical Engineering, 1-4 November 2015, Christchurch, New Zealand, 9p.
5. Bastin, S., Quigley, M.C., Bassett, K. (2015) Comparison of liquefaction-induced land damage and geomorphic variability in Avonside, New Zealand, 6th International Conference on Earthquake Geotechnical Engineering, 1-4 November 2015, Christchurch, New Zealand, 8p
6. Bastin, S., Quigley, M.C. and Bassett, K. (2013) Modern and paleo-liquefaction features in eastern Christchurch and strategies for locating pre-historic liquefaction. Queenstown, NZ: Proc. 19th NZGS Geotechnical Symposium, Nov 2013. In Proc. 19th NZGS Geotechnical Symposium conference papers, 8 pages.
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8. Holden, C., Beavan, J., Fry, B., Reyners, M., Ristau, J., Van Dissen, R., Villamor, P. and Quigley, M.C. (2011) Preliminary Source Model of the Mw 7.1 Darfield Earthquake from Geological, Geodetic and Seismic Data. Auckland, New Zealand: 9th Pacific Conference on Earthquake Engineering (PCEE 2011), 14-16 Apr 2011. In PCEE 2011: Building an Earthquake-Resilient Society Paper 186., 8 pages.
9. Van Dissen, R., Barrell, D., Litchfield, N., Villamor, P., Quigley, M.C., King, A., Furlong, K., Begg, J., Townsend, D., Mackenzie, H., Stahl, T., Noble, D., Duffy, B., Bilderback, E., Claridge, J., Klahn, A., Jongens, R., Cox, S., Langridge, R., Ries, W., Dhakal, R., Smith, A., Hornblow, S., Nicol, R., Pedley, K., Henham, H., Hunter, R., Zajac, A. and Mote, T. (2011) Surface rupture displacement on the Greendale Fault during the Mw 7.1 Darfield (Canterbury) earthquake, New Zealand, and its impact on man-made structures. Auckland, New Zealand: Ninth Pacific Conference on Earthquake Engineering: Building an Earthquake-Resilient Society, 14-16 Apr 2011. Paper 186. 8 p.

Other publication outputs (selected peer-reviewed technical consulting reports and government white papers)

1. Quigley, M., Wilson, A., (GeoHACI) (2019) Preliminary field investigations of faults intersecting the East African Crude Oil Pipeline and proposed paleoseismic trench locations: Report to GeoGROUP and Total Energy, 99p.
2. Quigley, M., Duffy, B. (GeoHACI) (2018), Tectonic setting and neotectonic faulting within the Snowy 2.0 Project area: Report to SMEC, 64 p.
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4. Griffin, J., Gerstenberger, M., Allen, T., Clark, D., Cummins, P., Cuthbertson, R., Dimas, V.-A., Gibson, G., Ghasemi, H., Hoult, R., Lam, N., Leonard, M., Mote, T., Quigley, M., Somerville, P., Sinadinovski, C., Stirling, M. & Venkatesan, S. (2018). Expert elicitation of model parameters for the 2018 National Seismic Hazard Assessment: Summary of workshop, methodology and outcomes. Geoscience Australia, Record 2018/28, Canberra, doi: 10.11636/Record.2018.028, https://d28rz98at9flks.cloudfront.net/123027/Rec2018_028.pdf.
5. Colyvan, M., Kitto, K., Quigley, M., Bennetts, L., Durance, P., Galton-Fenzi, B., Geenens, G., Hamilton, K., Ickowicz, A., Killedar, M., Kuhnert, P., Lindsay, M. Pembleton, K., Roberts, M., Verdejo-Garcia, A., White, C., (2017) Addressing Risk in Conditions of Uncertainty, Ignorance, and Partial Knowledge, In: Recommendations from the 2016 Theo

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6. Quigley, M., Wilson, A., Kuang, K. (2017), Phase 3 Geotechnical Investigation. Task 1.2: Geomorphological mapping and analysis, GHD Consultancy Report (confidential).
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9. Quigley, M., Wilson, A., Kuang, K. (2017), Phase 3 Geotechnical Investigation. Task 1.10: Hand-augering, GHD Consultancy Report (confidential).
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12. Quigley, M., (2015), Geologic Setting of Christchurch and Seismic Aspects of the 2010-2011 Canterbury Earthquake Sequence, University of Canterbury Consultancy Report CN4600001360-2, submission to Christchurch City Council, p.7-15.
13. Quigley, M., Bradley, B., (2015), Time Series of Earthquake-Induced Ground Motions at a Geographic Mean Site for CCC Assets From 1939 To 2014, University of Canterbury Consultancy Report CN4600001360-3, submission to Christchurch City Council, p.16-22.
14. Quigley, M., (2015), Christchurch Art Gallery and Christchurch City Library Study, University of Canterbury Consultancy Report CN4600001360-4, submission to Christchurch City Council, p.23-39.
15. Quigley, M., (2015), Manchester Street Carpark Study, University of Canterbury Consultancy Report CN4600001360-5, submission to Christchurch City Council, p. 40-52
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21. Villamor, P.; Giona-Bucci, M.; Almond, P.; Tuttle, M.; Langridge, R.; Clark, K.; Ries, W.; Vandergoes, M.; Barker, P.; Martin, F.; Bastin, S.; Watson, M.; Howarth, J.; Quigley, M. (2014). Exploring methods to assess paleoliquefaction in the Canterbury area, GNS Science Consultancy Report 2014/183. 142 p
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23. Stern, T., Berryman, K., Furlong, K., Quigley, M., Townend, J., Webb, T., Gerstenberger, M., Malahoff, A. (2011) New Zealand Government White Paper: The Canterbury Earthquakes: Scientific answers to critical questions, Office of the Prime Minister's Science Advisory Committee, 19 p.
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Selected popular science publications:
12 articles published on The Conversation with a combined total of 539,258 readers, as of 19 April 2021

1. Quigley, M. Duffy, B., Palmer, L., Attanayake, J., Vincent, C., King, A., Rutherfurd, I. (2021) Double trouble: floods and COVID-19 have merged to pose great danger for Timor-Leste, *The Conversation* 13/4.
2. Quigley, M., Duffy, B., Tilman de Jesus, O., Palmer, L., Attanayake, J., Vincent, C., King, A., Carvalho, D.A., Trindade, J., Rutherfurd, I. (2021) Floods And Covid-19 In Timor-Leste Reveal Risks Of Interacting Hazards, Geo★ Down

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3. Duffy, B., Tilman de Jesus, O., Quigley, M., Palmer, L., Attanayake, J., Vincent, C., King, A., Carvalho, D.A., Trindade, J., Rutherfurd, I. (2021) Flooding And Landsliding In Timor-Leste: Linked Hazards In A Young Mountain Belt, , Geo★ Down Under Blog, 13/4.
4. Quigley, M. (2021) The Fukushima quake may be an echo of the 2011 disaster — and a warning for the future. *The Conversation* 15/2.
5. Quigley, M. (2020) Looking for another perspective on the COVID-19 pandemic? Earth science might help, Speaking of Geoscience, *Geological Society of America's Guest Blog,* 2020/4/3
6. Quigley, M. (2020) 10 years since the Darfield earthquake rocked New Zealand: what have we learned? *The Conversation* 4/9.
7. Duffy, B. and Quigley, M. (2019) 'Like tearing a piece of cheese': here's why Darwin was rocked so hard by a distant quake. *The Conversation* 25/6.
8. Quigley, M. Ickowicz, A., Verdejo-Garcia, A. Galton-Fenzi, B., White, C.J., Geenens, G., Pembleton, K., Kitto, K., Hamilton, K., Bennetts, L., Killedar, M., Lindsay, M., Roberts, M., Durance, P., Kuhnert, P. (2017) Listen up: a plan to help scientists get their research heard by decision-makers, *The Conversation* 1/2.
9. Quigley, M. (2016) Can earthquakes on one side of the globe trigger ones on the other? *The Christchurch Press,* 20/4.
10. Quigley, M., Sandiford, M. (2016) Are the Japanese and Ecuador earthquakes related? *The Conversation* 20/4. (also featured in *Newsweek Japan* and *Australasian Science*)
11. Quigley.,M. (2016) The earthquakes keep coming for Christchurch, *The Conversation* 16/2; *Australasian Science Magazine* 17/2.
12. Duffy, B. and Quigley.,M. (2016) What happened in New Zealand's magnitude 7.5 earthquake, *The Conversation* 14/11
13. Quigley.,M. and Borella, J. (2016) Humans can make rockfalls from earthquakes more dangerous. *The Conversation* 18/11
14. Duffy, B., Caprani, C., and Quigley.,M. (2016) Still standing: how an ancient clock tower survived Italy's deadly earthquake, *The Conversation* 4/1
15. Duffy, B., Quigley.,M. and Sandiford, M. (2016) Italy's deadly earthquake is the latest in a history of destruction, *The Conversation* 24/8
16. Quigley, M., Hughes, M. (2014) OPINION: Where to next for our sinking city? *The Christchurch Press*, 15/8
17. Quigley, M., (2013) Earthquake clustering, complex fault ruptures, and the geologic record, *Speaking of Geoscience: Geological Society of America's Guest Blog*, 28/5
18. Quigley, M., (2012) L'Aquila charges leave scientists on shaky ground, *The Conversation*, 25/10
19. Quigley, M., (2012) Science standing on shaky ground, *The New Zealand Herald*, 26/10
20. Quigley, M., (2012) Lessons from L'Aquila, The Christchurch Press, 25/10
21. Quigley, M., (2012) Opinion: Scientist sees quieter times, The Christchurch Press, 22/2
22. Quigley, M., (2011) Communicating earthquake science, New Zealand Science Teacher, v. 129, p. 20-22.
23. Quigley, M., (2010) Why the aftershocks and when will they stop?, New Zealand Herald, 8/4

Documentaries:

1. Documentary Film: *Resume Play*, TVNZ, SKY and international distribution, 2015
2. C*hristchurch: From the Streets* (A documentary), Season 2, Episode 6, TV One, Oct 26, 2014
3. *Christchurch: From the Streets (A documentary),* Final Episode, CTV, July 16, 2013
4. *Christchurch: From the Streets (A documentary),* Episode 3, CTV, May 30, 2013
5. *Christchurch: From the Streets (A documentary),* Episode 2, CTV, May 23, 2013
6. *Christchurch: From the Streets (A documentary),* Episode 1, CTV, May 16, 2013
7. *Aftermath: Where the faults lie (A documentary),* Paua Productions, Feb 24, 2013 *http://www.pauaproductions.co.nz/productions/Aftermath%20Faults*
8. *The Christchurch Earthquake: A Case Study (Educational Documentary),* 2013
9. *Christchurch Earthquake,* Catalyst, ABC TV Science, 2012
10. *When A City Falls*, A feature length documentary on the Canterbury Earthquakes, Frank Film, Premier: Nov 16th, 2011
11. *Scope: Outback Science* – Channel Ten, 2005, Melbourne
12. *Catalyst: Fractured Future* – ABC TV Science, 2005

Selected recent scholarly lectures (career total of n=144 talks since 2007)
For most updated list see https://www.drquigs.com/?page_id=19

1. Quigley, M., Webster, M. Heath, M. (2020), "Mid-Afternoon Masterclass: Mapping the geology of Melbourne", 2020 Science Festival, Faculty of Science, *University of Melbourne*
2. Quigley, M. (2020), INVITED KEYNOTE: "On The Utility Of Earthquake Science In Decision-Making", *Centre for Observation and Modelling of Earthquakes, Volcanoes and Tectonics (COMET)*, Hosted by Oxford, Cambridge, Leeds Universities
3. Quigley, M., (2019), INVITED, "Work-life balance: research, outreach, and personal endeavours", Science Early Career Academic Network (SECAN) event, *University of Melbourne.*
4. Quigley, M.C. (2018), INVITED, "The science of earthquakes: from the backyard to the beehive" Science at the Shine Dome 2018, *Australian Academy of Science*
5. Quigley, M. (2017), INVITED, "Communicating scientific research to decision makers and the general public", McKenzie Fellows Research Communication Event, University of Melbourne
6. Quigley, M. (2017), INVITED KEYNOTE "Earthquake Science: From Postgraduate Research to Policy Inputs", 31st Annual Victorian Universities Earth and Environmental Sciences Conference, University of Melbourne
7. Quigley, M., Van Dissen, R., Nicol, A., Hornblow, S., Sasnett, P., Cruden, A., Jimenez, A., Steacy, S., Duffy, B., Pettinga, J., (2017) INVITED "Multi-disciplinary paleoseismic investigations of complex earthquake ruptures", Seismological Society of America 2017 Conference, Denver, CO, USA
8. Quigley, M. (2016) "The Science of Earthquakes", 2016 Science Festival, University of Melbourne, August 15.
9. Quigley, M., and Kitto, K. (2016) INVITED "Uncertainty, Ignorance and Partial Knowledge: Rapporteurs Report", Theo Murphy High Flyers Think Tank 2016: An Interdisciplinary Approach to Living in a Risky World, Australia Academy of Science, Canberra, July 22, 2016
10. Quigley, M. (2016) INVITED "The 2010-2011 Canterbury earthquake sequence", E.U. Erasmus+ Teaching and Research Fellow Lecture, Ludwig-Maximilians-Universität München, June 2016.
11. Quigley, M. (2016) INVITED "Frontiers in paleoseismology", E.U. Erasmus+ Teaching and Research Fellow Seminar, Ludwig-Maximilians-Universität München, June 2016.
12. Quigley, M. (2016) INVITED "Earthquakes in the Anthropocene and the Lusi mudflow disaster" Forum: The aftermath of environmental and human intervention, Fri May 20, Old Arts Gallery, University of Melbourne
13. Quigley, M. (2016) INVITED "Frontiers in earthquake geology and paleoseismology", Arizona State University School of Earth and Space Exploration Technical Seminar, April 7.
14. Quigley, M. (2016) INVITED "The 2010-2011 Canterbury earthquake sequence: from paleoseismology to policy", Arizona State University School of Earth and Space Exploration 2016 Colloquium Series, April 6.
15. Quigley, M., Bastin, S., Borella (2016) INVITED: "Geologic proxies for earthquake strong ground motion", Neotectonics on the Australian plate: New science for energy, mineral and groundwater systems, and hazard assessment, Geoscience Australia, ACT, Australia, 29 February- 1 March, 2016.
16. Quigley, M. (2015) INVITED: "Paleoseismology and Policy", *National Science Foundation*, Washington D.C.
17. Quigley, M. (2015) INVITED: "The 2010-2011 Canterbury Earthquake Sequence: From Paleoseismology to Policy", Lamont-Doherty Earth Observatory, Columbia University, New York
18. Quigley, M. (2014) KEYNOTE: "Predicting and reducing the impacts of future earthquakes", 31st General Assembly of the International Council for Science, Auckland, New Zealand
19. Quigley, M. (2013), INVITED: "The 2010-2012 Canterbury Earthquake Sequence: communicating earthquake science", Dipartimento della Protezione Civile, Roma, Italia.
20. Quigley, M. (2013) KEYNOTE: "Risk communication: Lessons from the Christchurch and L'Aquila earthquakes" Australian Co-operative Research Centre Annual Conference, Collaborate, Innovate Conference, Melbourne Australia.
21. Quigley, M., (2011) INVITED LECTURE TOUR: "The Mw 7.1 2010 Darfield (Canterbury) earthquake in New Zealand: ground deformation, seismology, and tectonic implications", delivered at: UC Berkeley, UC Santa Barbara, California Institute of Technology, University of Michigan (Smith Lecture), University of British Columbia, Simon Fraser University, University of Calgary, Western University

Hosted interviews and panel moderations:

1. Quigley, M. (2020), An interview with Deputy Vice-Chancellor (Student Life) and Deputy Provost Kerri-Lee Krause, *Ascending to Leadership*, 2020 Women in Science Network Seminar Series
2. Quigley, M. (2020), An interview with Associate Professor Siouxsie Wiles (2021 New Zealander of the Year) *Thriving under crisis*, Women in Science Network Seminar Series
3. Quigley, M. (2016) Moderator for "Mind the Gap: University of Melbourne Graduate Student Association Forum" Woodrow Conference Centre, University of Melbourne

Consultancy:

1. Quigley, M., (2020) Review of Napandee Stage 2 Seismic Hazards Technical Work Plan, Technical reviewer and consultant, Nuclear Waste Storage Facility, South Australia. Client: AECOM.
2. Quigley, M., (2019) Geospatial analysis of possible neotectonic lineaments proximal to the North East Link tunnel route using LiDAR data. Role: Lead consultant and report first-author. Client: GHD.
3. Quigley, M. and Wilson, A. (2018-2019) Preliminary field investigations of faults intersecting the East African Crude Oil Pipeline and proposed paleoseismic trench locations. Role: Chief consultant, fault rupture hazards. Lead author of report. Client: Total Energy (Paris) and GeoGROUP (SA)
4. Quigley, M. (2018-current) Tectonic setting and active faulting in the Snowy 2.0 hydroelectric scheme study area. Extensive investigation of potentially active faults using LiDAR and statistical analysis of fault length and displacement parameters. Probabilistic analyses of fault rupture displacements and recurrence. Role: Research director and report first-author. Client: SMEC
5. Quigley, M. (2018-2020) Causes of the Christchurch Earthquakes. Expert witness teleconferencing on the Canterbury earthquake sequence. Role: Science expert witness. Client: Parry Field Lawyers, Christchurch
6. Quigley, M. (2018): Characterisation of hazards associated with the 2018 PNG 7.5 earthquake and future seismicity. Teleconferencing on earthquake hazards. Role: Science expert. Client: Oil Search
7. Quigley, M. (2016-2018): Seismic hazard and geotechnical characterization of the Mount Bold Reservoir (South Australia) including the Willunga Fault. Paleoseismic trenching and mapping of Quaternary earthquake surface ruptures. Authorship of 5 technical reports (1.2) Geomorphological mapping and analysis,(1.3) Geologic mapping, (1.5) Historical seismicity data analysis, (1.10) Hand augering, (1.11) Fault trenching. Conducted new research on the Willunga Fault for the purposes of characterising seismic hazard to critical infrastructure posed by strong shaking and surface rupture. Role: Research director; Client: GHD Engineering and SA Water.
8. Quigley, M. (2016): Review of Geology and Geomorphology of Urban Christchurch and Eastern Canterbury maps and supporting text. Role: Expert reviewer; Client: Tonkin & Taylor.
9. Quigley, M. (2015): Geologic, Geotechnical, And Seismologic Context And Displacements Of Land And Buildings At Selected Sites Of Christchurch City Council Owned Reinforced Concrete Structures Damaged During The 2010-2011 Canterbury Earthquake. Authorship of 8 technical reports. Role: Research director; Client: Christchurch City Council.
10. Sandiford, M. and Quigley, M. (2006-2007): Neotectonics and seismic risk in the Mt Bold region: Preliminary results and plans for future investigations Technical reports on active faulting on the Willunga Fault in South Australia's Mt Lofty Ranges. Role: Research director; Client: Coffey.
11. Quigley, M. and Sandiford, M. 2006-2007: Mount Lofty Ranges Active Faults. Co-authorship of technical report on active faults in South Australia's Mt Lofty Ranges. Role: Research director; Client: URS.

Advisory scientific support to:

Australian Academy of Science (COVID-19 impact), Geoscience Australia, Office of the New Zealand Prime Minister, Westpac Bank, Lumley Insurance, Australian Co-operative Research Centres, International Council for Science, The Canterbury Earthquake Recovery Authority (CERA), NZ Earthquake Commission, Christchurch City Council, NZ Natural Hazards Research Platform, Royal Society of New Zealand, Canstaff and CECC Monthly Newcomers Network, NZ Emergency Media & Public Affairs, MacDiarmid Institute of Advanced Materials and Nanotechnology, Geonet, GNS Science, Tonkin and Taylor Engineers, Dipartimento della Protezione Civile, Roma, Italia, Science Communicators of New Zealand, NZ Office of Foreign Affairs

Anecdotes:

"This is great role modelling, Mark. The mark of a good leader! I'm sure your colleagues will have appreciated this too. I appreciate your positive engagement under great pressure." (2021) Professor Kerri-Lee Krause PhD PFHEA,

Deputy Vice-Chancellor (Student Life) and Deputy Provost, University of Melbourne

"Mark Quigley is an intuitive, natural leader…we have seen the emergence of Mark Quigley as not only one of our leading earth scientists, but also a leading science communicator – providing understanding, context and vision." (2014) Professor Jarg Pettinga, Head of School, Department of Geological Sciences, University of Canterbury

'[Mark] did an enormous amount of research in terms of Christchurch. He was communicating with people at a time when it was important that they understood what was happening in terms of the seismic activity in Christchurch.' (2011) The Honourable New Zealand Prime Minister John Key

'There is nobody in New Zealand who is not in admiration of the work that you have done and the great public impact you have made.' (2015) Dr. Simon Cox (Principal Scientist, GNS Science)

'The reason for my email is to congratulate you for your excellent work and your quality papers which makes our job easier and more robust' (2014) Dr. Andreas Giannakogiorgos (Senior Geotechnical Engineer, Coffey Geotechnics)

'An awesome article…the narrative is exactly what we need to encourage better understanding of the context in which so many issues are perceived and options debated. Thank you very much for taking the time to adapt your narrative for a general audience' (2014) Dr. Hugh Cowan (General Manager Reinsurance, Research and Education, NZ Earthquake Commission)

'This is an excellent paper documenting liquefaction that I doubt has ever been achieved before', (2013) Dr. Kelvin Berryman (Principal Scientist, GNS Science and Director of the New Zealand Seismic Hazards Platform)

'[Mark is] one of our best science communicators. He is a scientist who understands the need for effective science communication and is willing to step up and engage with the media in the name of improving the public's understanding of science. He is a great asset to natural hazards research in New Zealand and to science communication in general' (2014) Peter Griffen (Director of NZ Science Media Centre)

'Your talk showed me what a great communicator you are. For me, someone who tries to train people to do what you have done so well...I am not sure what makes the qualities that you have shown us here today, the ability to actually respond, respond quickly, and in terms of personality, you have a wonderful way of understanding that the public is hungry but also that they will understand the science, assuming that the science doesn't have to be 'dumbed down' or whatever' 2013 Prof. Jean Fleming (Director University of Otago Centre of Science Communication)