

# 2019 Monthly Webconferences: Ground Motion Simulation & Validation (GMSV)

**Objective:** To coordinate and obtain feedback on the plans of the [2019 QuakeCoRE GMSV research projects](#).

**PLEASE NOTE:** Presentation slides below are the author's property. They may contain unpublished or preliminary information and should only be used while viewing the talk.

**28 November 2019 (9:00-10:30am NZT, web link: <https://canterbury.zoom.us/j/374852384> )**

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**Purpose:** To coordinate and share research activities on, and related to, 2019 QuakeCoRE GMSV research projects

**Agenda:**

- Update: "[Recent developments in quantifying uncertainties and limitations of 1D site response constitutive models](#)" (Jim Kaklamanos, 20min)
- Update: "[Future Steps for Validation of Site Response with Soil Heterogeneity and Wave Scattering](#)" (Chris de la Torre, 20min)
- "[Evaluation of a new iterative linear procedure using frequency-dependent soil parameters for site response analyses at KiK-net stations](#)" (Romain Meite, 20min)
- Questions/Discussion (20min)

**Participants:** Sarah Neill, Robin Lee, Kevin Foster, Andrew Stolte, Brendon Bradley, Andrei Nguyen, Chris de la Torre, Vahid Loghman, Maxim Millen, Mike Dupis (UC), Paul Somerville (AECOM), James Dismuke, Jie Cao (Golder), Liam Wotherspoon (UA), Jim Kaklamanos (Merrimack), Anna Kowal (Otago), Karim Tarbali (POLIMI), Hoby Razafindrakoto (Potsdam), Seokho Jeong (UWaikato).

**24 October 2019 (9:00-10:30am NZT, web link: <https://canterbury.zoom.us/j/374852384> )**

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**Purpose:** To coordinate and share research activities on, and related to, 2019 QuakeCoRE GMSV research projects

**Agenda:**

- Update: "[Ground motion simulation validation of active shallow crustal events in NZ](#)" (Robin Lee, 20min)
- Update: "[Explicit consideration of uncertainties in ground motion simulation validation](#)" (Sarah Neill, 20min)
- "[Visualization of ground motion simulations in NZ: Hikurangi subduction animations and the Simulation Altas tool](#)" (Brendon Bradley, 20min)
- Questions/Discussion (20min)

**Participants:** Sarah Neill, Robin Lee, Kevin Foster, Andrew Stolte, Brendon Bradley, Andrei Nguyen, Chris de la Torre, Vahid Loghman, Jae Park (UC), Paul Somerville, Andreas Skarlatoudis, Jeff Bayless (AECOM), David Dempsey (UA), Erin Todd (Golder), Jim Kaklamanos (Merrimack), Anna Kowal (Otago), Karim Tarbali (POLIMI), Hoby Razafindrakoto (Potsdam), Seokho Jeong (UWaikato).

**26 September 2019 (9:00-10:30am NZT, web link: <https://canterbury.zoom.us/j/374852384> )**

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**Purpose:** To coordinate and share research activities on, and related to, 2019 QuakeCoRE GMSV research projects

**Agenda:**

- "[Effect of Hauraki and Hamilton Basins on Ground Motions from Future Upper North Island Earthquakes](#)" (David Dempsey, 20min)
- "[Summary of research presented at the 2019 SCEC meeting and reflection of QuakeCoRE GMSV activities](#)" (Brendon Bradley, 20min)
- Questions/Discussion (20min)

**Participants:** Sarah Neill, Maxim Millen, Andrew Stolte, Brendon Bradley, Jae Park (UC), Paul Somerville (AECOM), David Dempsey, Liam Wotherspoon, Connor Hayden, Romain Meite (UA), Ben Higgs, Fei Lee, Jie Cao (Golder), Aasha Pancha (Aurecon), Jim Kaklamanos (Merrimack), Mark Stirling (Otago), Karim Tarbali (POLIMI)

**22 August 2019 (9:00-10:30am NZT, web link: <https://canterbury.zoom.us/j/374852384> )**

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**Purpose:** To coordinate and share research activities on, and related to, 2019 QuakeCoRE GMSV research projects

**Agenda:**

- Overview (Brendon Bradley, ~5 min)
- "[Hamilton/Hauraki basin model and initial Hauraki rift rupture simulations](#)" (Andrew Stolte / Seokho Jeong, 20 min)

- "Validation of NZVM2.03 Wellington Basin implementation at 50m grid scales and recent 3D Hikurangi interface simulations" (Brendon Bradley, 20 min)
- "A new state-of-the-art platform for probabilistic and deterministic hazard assessment" (Jorge Macedo, 20min)

**Participants:** Robin Lee, Vahid Loghman, Andrew Stolte, Sarah Neill, Maxim Millen, Brendon Bradley, Jae Park, Reagan Chandramohan, Chris McGann (UC), Ben Higgs (Golder), Connor Hayden, Liam Wotherspoon (UA), Jorge Macedo (GeorgiaTech), Seokho Jeong (UWaikato), Jeff Bayless, Paul Somerville (AECOM), Karim Tarbali (POLIMI), Jagdish Vyas (KAUST), Marco Stupazzini (Munich RE), Scott Callaghan (SCEC), Mark Stirling, Anna Kowal (Otago), Gareth Morris (Holmes), Rick Wentz (Wentz Pacific).

## 27 June 2019 (9:00-10:30am NZT, web link: <https://canterbury.zoom.us/j/374852384> )

**Purpose:** To coordinate and share research activities on, and related to, 2019 QuakeCoRE GMSV research projects

### Agenda:

- Overview (Brendon Bradley, ~5 minutes)
- "Feasibility of uniformly-applicable basin amplification models for the United States" (Andreas Skarlatoudis, ~25 minutes)
- "Hybrid broadband ground motion simulation validation of small magnitude NZ earthquakes using an improved method" (Robin Lee, ~25 minutes)
- "Uncertainty validation for small magnitude earthquake ground motion simulations in the Canterbury region" (Sarah Neill, ~25 minutes)
- Discussion (All, ~10 minutes)

## 23 May 2019 (9:00-10:30am NZT, web link: <https://canterbury.zoom.us/j/374852384> )

**Purpose:** To coordinate and share research activities on, and related to, 2019 QuakeCoRE GMSV research projects

### Agenda:

- Overview (Brendon Bradley, ~5 minutes)
- Progress of "Investigating Ground Motion Sensitivity to Kinematic Source Model Parameters: Hikurangi Megathrust Application" [QuakeCore-AECOM-compressed.pdf](#) (Jeff Bayless, ~15 minutes)
- Discussion (All, ~5 minutes)
- Progress of: "3D seismic site response with soil heterogeneity and wave scattering" (Chris de la Torre, ~15 minutes)
- Discussion (All, ~5 minutes)
- Progress of: "Hybrid Broadband Ground Motion Simulation Validation of Small Magnitude NZ Earthquakes Using NZVM 2.0" [LeeRobin\\_Flagship1\\_20190523.pdf](#) (Robin Lee, ~15 minutes)
- Discussion (All, ~5 minutes)
- QuakeCoRE2 rebid: (1) Strategic direction of QuakeCoRE2 Re-bid related to current GMSV research domain ; (2) White paper on 'seismic demands and consequent geohazards (as at 23 May 2019)' (Brendon Bradley, ~10 minutes)
- Discussion (All, ~20 minutes)

**Participants:** Robin Lee, Vahid Loghman, Andrew Stolte, Sarah Neill, Chris de la Torre, Maxim Millen, Brendon Bradley (UC), Jeff Fraser, James Dismuke (Golder), Anna Kowal, Mark Stirling (UOtago), David Dempsey, Liam Wotherspoon (UA), Didier Pettinga, Gareth Morris (Holmes), Jim Kaklamanos (Merrimack), Jorge Macedo (GeorgiaTech), Seokho Jeong (UWaikato), Jeff Bayless, Andreas Skarlatoudis, Paul Somerville (AECOM), Karim Tarbali (POLIMI).

### Apologies:

## 28 March 2019 (9:00-10:30am NZT, web link: <https://canterbury.zoom.us/j/374852384> )

**Purpose:** To coordinate and share research activities on, and related to, 2019 QuakeCoRE GMSV research projects

### Agenda:

- Overview (Brendon Bradley, ~5 minutes)
- Progress of "Ground motion simulations for Dunedin: recent progress" (Anna Kowal, ~15 minutes)
- Discussion (All, ~5 minutes)
- Progress of "Validation of Ground Motion Simulations via Response History Analysis of Complex Seismic Systems" (Vahid Loghman, ~15 minutes)
- Discussion (All, ~5 minutes)
- Invited: "Seismic source model for Wellington" (Jeff Fraser, ~15 minutes)
- Discussion (All, ~5 minutes)
- Invited: "Implementation of GCIM methodology for selection of shallow crustal and subduction interface ground motions in Wellington" (James Dismuke, ~15 minutes)
- Discussion (All, ~10 minutes)

**Participants:** Robin Lee, Vahid Loghman, Jagdish Vyas, Andrew Stolte, Sarah Neill, Reagan Chandramohan, Brendon Bradley (UC), Jeff Fraser, James Dismuke (Golder), Anna Kowal, Mark Stirling (UOtago), David Dempsey, Liam Wotherspoon (UA), Didier Pettinga (Holmes), Jim Kaklamanos (Merrimack), Jorge Macedo (GeorgiaTech), Seokho Jeong (UWaikato).

**Apologies:**

**28 February 2019 (9:00-10:30am NZT, web link: <https://canterbury.zoom.us/j/374852384> )**

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**Purpose:** To coordinate and share research activities on, and related to, 2019 QuakeCoRE GMSV research projects

**Agenda:**

- Overview of the 2019-2020 FP1 coordinated project (Brendon Bradley, ~5 minutes)
- Plans for ["Field testing for the development of NZ basin models"](#) (Andrew Stolte and Seokho Jeong, ~15 minutes)
- Discussion (All, ~5 minutes)
- Plans for ["Plane strain models of basin-edge effects in Wellington"](#) (Chris McGann, ~15 minutes)
- Discussion (All, ~5 minutes)
- Progress of ["NZVM2.0 and use for Hope Fault scenario simulations"](#) (Brendon Bradley (for Ethan Thomson), ~15 minutes)
- Discussion (All, ~10 minutes)

**Participants:** Seokho Jeong (UWaikato), Andreas Skarlatoudis, Jeff Bayless (AECOM), Andrew Stolte, Chris McGann, Robin Lee, Sarah Neill, Vahid Loghman, Chris de la Torre, Jagdish Vyas, Brendon Bradley (UC), Jim Kaklamanos (Merrimack), Rebecca McMahon (Beca), Mark Stirling, Anna Kowal (UOtago), Karim Tarbali (Politech Milano), Tahoura Khansari (UA), Hoby Razafindrakoto (Potsdam)

**Apologies:** Liam Wotherspoon, Paul Somerville.