

2020 Monthly Webconferences: Ground Motion Simulation & Validation (GMSV)

Objective: To coordinate and obtain feedback on the plans of the 2020 QuakeCoRE GMSV research projects and other related 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 They may contain unpublished or preliminary information and should only be used while viewing the talk.

26 November 2020 (9:00-10:30am NZT, web link: <https://canterbury.zoom.us/j/374852384>)

Purpose: To coordinate and share research activities on, and related to, 2020 QuakeCoRE GMSV research projects (questions following each presentation)

Agenda:

- "On the influence of ground densification on seismic site effects and nonlinear SSI problems" (Romain Meite, 25min)
- "Ground motion classification and reduction of the magnitude of completeness of RMT solutions for the New Zealand earthquake database, 2003-2020" (Jesse Hutchinson, 25min)
- "Opportunities in the QuakeCoRE Phase 2 programme from a FP1/GMSV perspective" (Brendon Bradley, 15min)

Participants: Vahid Loghman, Sarah Neill, Chris de la Torre, Robin Lee, Andrei Nguyen, Brendon Bradley, Claudio Schill, Mike Dupuis, Jason Motha, Ethan Thomson, Maxim Millen, Jesse Hutchinson (UC), Paul Somerville, Jeff Bayless (AECOM), Anna Kowal, Mark Stirling (Otago), Romain Meite, Liam Wotherspoon, Anne Hulse, Tahoura Khansari (UA), Felipe Kuncar (Chile), Jim Kaklamanos (Merrimack), Karim Tarbali (UCL), Didier Pettinga (Holmes).

22 October 2020 (9:00-10:30am NZT, web link: <https://canterbury.zoom.us/j/374852384>)

Purpose: To coordinate and share research activities on, and related to, 2020 QuakeCoRE GMSV research projects (questions following each presentation)

Agenda:

- "National seismic hazard model: the old working on the new" (Mark Stirling, 25min)
- "Ground Motion Simulation of Hypothetical Earthquakes in the Upper North Island of New Zealand" (David Dempsey, 25min)
- "Full Waveform Tomography for the upper South Island region, New Zealand" (Andrei Nguyen, 20min)

Participants: Vahid Loghman, Sarah Neill, Chris de la Torre, Robin Lee, Andrei Nguyen, Brendon Bradley, Claudio Schill, Mike Dupuis, Jason Motha (UC), Paul Somerville (AECOM), Anna Kowal, Mark Stirling (Otago), David Dempsey (UA), James Dismuke (Golder), Felipe Kuncar (Chile), Jim Kaklamanos (Merrimack), Kyle Withers (USGS Golden), Karim Tarbali (UCL), Seokho Jeong (Changwon), Didier Pettinga (Holmes).

27 August 2020 (9:00-10:30am NZT, web link: <https://canterbury.zoom.us/j/374852384>)

Purpose: To coordinate and share research activities on, and related to, 2020 QuakeCoRE GMSV research projects (questions following each presentation)

Agenda:

- "A rupture directivity adjustment model applicable to the NGA-W2 ground motion models and complex fault geometries" (Jeff Bayless, 25min)
- "Ground motion simulation validation using advanced intensity measures: NZ small magnitude events" (Vahid Loghman, 25min)
- "Advances in the NZ velocity model: Additional basins, visualisation and stochastic perturbations" (Ethan Thomson, 20min)
- "Recent NZ site investigation data collection and visualisation" (Andrew Stolte, 10min)

Participants: Vahid Loghman, Andrew Stolte, Sarah Neill, Chris de la Torre, Robin Lee, Andrei Nguyen, Brendon Bradley, Claudio Schill, Ethan Thomson, Jason Motha, Mike Dupuis, Reagan Chandramohan (UC), Jeff Bayless, Paul Somerville, Andreas Skarlatoudis (AECOM), Anna Kowal, Mark Stirling (Otago), Connor Hayden, David Dempsey, Liam Wotherspoon, Tahoura Khansari (UA), Fei Li (Golder), Felipe Kuncar (Chile), Jim Kaklamanos (Merrimack), Kyle Withers (USGS Golden), Karim Tarbali (UCL)

23 July 2020 (9:00-10:30am NZT, web link: <https://canterbury.zoom.us/j/374852384>)

Purpose: To coordinate and share research activities on, and related to, 2020 QuakeCoRE GMSV research projects (questions following each presentation)

Agenda:

- "Ground-motion simulation validation with explicit uncertainty incorporation" (Sarah Neill, 30min)
- "A neural network-based ground-motion model trained on ground-motion simulations in New Zealand" (Claudio Schill, 30min)

Participants: Sarah Neill, Jason Motha, Vahid Loghman, Andrew Stolte, Chris de la Torre, Andrei Nguyen, Ethan Thomson, Claudio Schill, Robin Lee, Maxim Millen, Reagan Chandramohan (UC), Liam Wotherspoon, David Dempsey (UA), Anna Kowal (Otago), Andrea Skarlatoudis, Paul Somerville, Jeff Bayless (AECOM), Felipe Kuncar (Chile), Hoby Razafindrakoto (Potsdam)

25 June 2020 (9:00-10:30am NZT, web link: <https://canterbury.zoom.us/j/374852384>)

Purpose: To coordinate and share research activities on, and related to, 2020 QuakeCoRE GMSV research projects (questions following each presentation)

Agenda:

- ["Ground motion simulations for Dunedin - Mosgiel area: recent progress"](#) (Anna Kowal, 30min)
- ["CybershakeNZ 20.4-20.6: Implementation and comparison with CS19.5"](#) (Jason Motha and Brendon Bradley, 30min)

Participants: Jason Motha, Brendon Bradley, Chris de la Torre, Andrew Stolte, Andrei Nguyen, Sarah Neill, Robin Lee, Vahid Loghman, Mike Dupuis (UC), Anna Kowal, Mark Stirling (UOtago), Andreas Skarlatoudis, Paul Somerville (AECOM), David Dempsey (UA), Felipe Kuncar (Chile), Hoby Razafindrakoto (Potsdam), Seokho Jeong (Changwon)

23 April 2020 (9:00-10:30am NZT, web link: <https://canterbury.zoom.us/j/374852384>)

Purpose: To coordinate and share research activities on, and related to, 2020 QuakeCoRE GMSV research projects (questions following each presentation)

Agenda:

- ["Estimating Vs30 at strong motion stations using early P-wave arrivals"](#) (Kevin Foster, 30min)
- ["Source considerations for moderate magnitude earthquake ground motion simulation validation"](#) (Robin Lee, 30min)
- Questions/Discussion (30min)

Participants: Kevin Foster, Vahid Loghman, Andrew Stolte, Robin Lee, Sarah Neill, Brendon Bradley, Chris de la Torre (UC), David Dempsey, Liam Wotherspoon (UA), James Dismuke (Golder), Andreas Skarlatoudis, Paul Somerville (AECOM), Anna Kowal (Otago), Chen Huang, Karim Tarbali (UCL), Felipe Kuncar (Chile)

27 February 2020 (9:00-10:30am NZT, web link: <https://canterbury.zoom.us/j/374852384>)

Purpose: To coordinate and share research activities on, and related to, 2020 QuakeCoRE GMSV research projects (questions following each presentation)

Agenda:

- ["Ground motion simulation validation using advanced MDOF systems: Test using small magnitude Canterbury earthquake ground motions"](#) (Vahid Loghman, 25min)
- ["Ground motion simulation of subduction zone earthquakes: Thesis plan"](#) (Mike Dupis, 25min)
- ["2020 NZ National Seismic Hazard Model update: Thoughts on ground motion modelling priorities"](#) (Brendon Bradley, 25min)
- Questions/Discussion (15min)

Participants: Vahid Loghman, Mike Dupis, Andrew Stolte, Andrei Nguyen, Robin Lee, Maxim Millen, Sarah Neill, Brendon Bradley (UC), David Dempsey, Connor Hayden, Romain Meite (UA), Rick Wentz (WP), Jeff Fraser (Golder)