

We will have two discussion sessions at this meeting, during which we will break into small subgroups of about five people each. Think about the following questions ahead of the meeting and be ready to discuss them within your subgroup.

Morning Session: GMSV in relation to ground motion characterization (including GMPEs)

1. Should we focus on validation of the current versions of simulations, or on tools for validation of current and future simulations?
2. What are the roles of Broadband Platform (BBP) versus Cybershake simulations moving forward?
3. Are high frequency components of ground motion needed as a product of physics-based simulations ($f > 1\text{-}2\text{ Hz}$)?
4. Are vertical ground motion simulations needed?
5. What aspects of ground motion prediction equations (GMPEs) are simulations best suited to resolve (e.g., large M scaling, basin effects, etc.)? What validation can be undertaken to provide confidence in simulations for these purposes?
6. How can uncertainties in the scaling relationships (e.g., GMPEs) be identified if there is an absence of observations?
7. How to get regionally appropriate simulations or validate them?

Afternoon Session: GMSV in relation to engineering applications

1. Organization:
 - a. Should the validations be done by SCEC-funded researchers, or a group of engineering users? Or some combination of both?
 - b. What form of communication to the professional community will be most impactful in advancing practice in this area? (e.g., a white paper on utilization of simulations in engineering applications, a NEHRP Part 3 document, *see Bradley et al. 2017 EQS paper as an example*)
2. What frequency bandwidths are most relevant to what problems? Are verticals needed?
3. What would practicing engineers like to see from validations to have confidence in using simulated ground motions for derivations of fragility? For example:
 - a. Motions scaled to a spectral shape should have a reasonable range of other parameters known to affect fragility (duration etc., *see Bijelic et al. 2018 paper as an example*)
 - b. Motions should have realistic period-to-period correlations.
4. What are the research and development steps needed to get us to a point to provide this guidance?
5. What new topics should we pursue? For example:
 - a. Validation parallel to what has been done for GMPEs, but for engineering demand parameters (EDPs)
 - b. Validation for long period structures, site-specific analysis, or dams
 - c. Validation for response of nonstructural components (i.e. floors spectra)