**SCEC Utilization of Ground Motion Simulation (UGMS) Committee**

**Action items from the Nov. 30th, 2015 meeting, SCEC Room 265 from 10:00 a.m. – 3:00 p.m.**

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| --- | --- | --- | --- |
| **Member attendees (in person)** | **Member attendees**  **(online)** | **Members**  **Absent** | **Observers** |
| C.B. Crouse – chair  R. Bachman  R. Graves  J. Hooper  M. Hudson  T. Jordan  N. Luco  P. Somerville | N. Abrahamson  J. Anderson  A. Frankel  J. Baker  S. Razaeian | J. Bielak  R. Hamburger  M. Lew  F. Naeim  C. Haselton  C. Kircher | D. Asimaki  B. Aagard  A. Baltay  D. Gill  C. Goulet  S. Callaghan  T. Huynh  T. Lin  K. Milner  M. Moschetti  K. Olsen  R. Taborda  A. Skarlatoudis |

Meeting page with agenda, copies of presentations and links to results:

<http://scec.usc.edu/scecpedia/SCEC_UGMS_Committee_Meeting_5>

**Important points still needing to be resolved**

* Define the procedure for addressing site effects. VS30 scaling only applied to GMPE part of the model? Retrieve VS30 from the CVM or from the NGA-West2 database (consistent with GMPE development)? Consider instead only providing results for a reference site condition?
* CyberShake data dissemination / interface with the USGS (site-specific hazard curves, disaggregation, time series, etc.).

**Action items, grouped per topic**

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| --- | --- | --- | --- |
| **Action Item** | **Responsibility** | **Start** | **End** |
| **CyberShake validation** | | | |
| Generate simulation results from small **M** events used in the inversion. Compare simulations performance relative to GMPE results, relative to recorded data. Need to consider how to address the depth issue. | Goulet, Jordan, Callaghan, Milner | Now | Provide update at May workshop, results within 12 months |
| Consider combining a subset of event results and to aggregate them for comparison to GMPEs in the M, R ranges for which they are well constrained (similar to “Part B” BBP type of validation). | Graves, Goulet, Jordan | ? | Provide update at May workshop, results within 12 months |
| Repeat the average-base factorization (ABF) study with the CyberShake 15.4 results. | Jordan, Wang? | Now | Provide update at May workshop, results within 12 months |
| Repeat the Villani study (residual analyses conducted with CyberShake1 results) using the latest data. | Abrahamson, Villani | Now | Provide update at May workshop, results within 12 months |
| Develop tools to automatically complete suites of validation exercises (items 1-2 above) for each CyberShake model inversions/calcs. | Maechling, Goulet, Jordan, Callaghan, Milner | Now | ? |
| Start thinking of FAS validation schemes. Start with NGA process and think about metrics for the future. | Goulet, Jordan | March | Within a year |
| **Documentation and additional data products for evaluation** | | | |
| Document the process for the selection of the newly added 50 sites, such as the desire to increase the resolution near sharp ground-motion gradients | Goulet, Jordan, Milner | Now | May workshop |
| Generate hazard disaggregation plots and data for the 14 sites to go with the MCEr results. | Milner | Now | Provide update at May workshop, results within 10 months |
| Consider showing the epistemic uncertainty and the aleatory variability from GMPEs in the MCER spectra – this would provide a basis for judging differences implied by site-specific Cybershake results. | Crouse, Milner? | ? | ? |
| Define spectrum smoothing protocol: try alternative approaches, apply them to a large number of sites and make a decision. | Crouse | Now | May workshop |
| **Dissemination of committee goals to engineers and building officials** | | | |
| Develop a single-page prospectus summarizing the goals and approach of the UGMS committee. Have F. Naeim provide feedback on the write-up. | Crouse, Goulet | Now | May workshop |
| Develop a list of relevant building officials in the Los Angeles area; initiate/continue contact. Do not limit to the City of LA territory. | Bachman | Now | Provide update in 6 months |
| Contact SEAOSC and the ASCE Geotech group to organize a joint meeting on UGMS in the fall of 2016 | Hudson, Bachman | Now | May workshop |
| **Site effects modeling** | | | |
| Need to get ratio of NL site-specific to Lin. Cybershake profile response. | Asimaki, Crouse to disseminate | Now | May workshop |
| Need to look at disag to see what would be a reasonable scaling of the Tabas event – to establish the threshold. | Crouse | Now | May workshop |
| Consider other sites and/or input records to obtain a statistical representation of the issue. Is this pervasive for most sites or only for specific profiles? | Asimaki | Now | May workshop |
| **Computational web tool – intermediate products** | | | |
| Interface with the USGS on tool development – define resource requirements and roles. | Jordan, Luco, Goulet? | Now | May workshop |
| Implement trial version of the tool. | ? | March 2016 | July 2016 |
| Evaluate the interpolation of results from the tool. Are there drastic differences between results at a given distance? | Crouse | May 2016 | Nov. 2016 |
| Define the procedure for addressing site effects in terms of tool implementation (see bigger underlying site effects issue described above). | Crouse | ? | ? |