

Taiwan SSHAC Level 3 Project - Workshop #1 Agenda

March 14-18, 2016, National Taiwan University of Science and Technology, IB-101, Taipei, Taiwan

	Day 1	Day 2	Day 3	Day 4	Day 5
09:00 ~ 09:10	Opening and Introduction				
09:10 ~ 10:40	Project Introduction SSC Tasks and Issues	Active Faults - I	Subduction Zone - I	Taiwan Ground Motion Database - I	Site-Specific GM Data and Issues - I
10:40 ~ 11:00	<i>Break</i>				
11:00 ~ 12:30	Earthquake Catalog	Active Faults - II	Subduction Zone - II	Taiwan Ground Motion Database - II	Site-Specific GM Data and Issues - II
12:30 ~ 13:30	<i>Lunch (IB-302)</i>				
13:30 ~ 15:00	Areal Source	Primary Faults and Possible Linking - I	Project Introduction Interface Issues	Foreign Ground Motion Database	Candidate Ground Motion Model - I
15:00 ~ 15:20	<i>Break</i>				
15:20 ~ 16:50	Geophysics Data	Primary Faults and Possible Linking - II	GMC Issues and Data Needs	Ground Motion Simulation Databases	Candidate Ground Motion Model - II
16:50 ~ 17:00	<i>Break</i>				
17:00 ~ 17:40	Summary of the Day				
17:40 ~ 18:00	Comments and Questions from Observers				
18:00	<i>Adjourn</i>				
18:00 ~ 19:00	<i>Closed Meeting: PPRP, Sponsor, PM, PTI and TI Lead</i>				

Taiwan SSHAC Level 3 Project Workshop #1 Agenda – Day 1 Morning

March 14, 2016 (Monday), Morning

National Taiwan University of Science and Technology IB-101, Taipei, Taiwan

Session	Time	Topic	Dur. (min)	Speaker
09:00 ~ 10:40 Chaired by C.L. Wu				
Project Introduction	09:00 ~ 09:10	Opening and Sponsor's Perspectives	10	K.C. Chang F.F. Tsai
	09:10 ~ 09:20	Project Overview and Objectives	10	C.L. Wu
	09:20 ~ 09:40	PSHA Tutorial, SSHAC Procedure Training and Workshop Ground Rules	20	N. Abrahamson
SSC Tasks and Issues	09:40 ~ 10:00	SSC Tasks and Issues	20	B.S. Huang
	10:00 ~ 10:20	SSC Sensitivity Analysis	20	C.H. Loh
	10:20 ~ 10:40	<i>Discussion</i>	20	K. Clahan leads
10:40 ~ 10:50		<i>Break</i>		
10:50 ~12:30 Chaired by B.S. Huang				
Earthquake Catalog	10:50 ~10:55	Issues Related to Earthquake Catalog for HID	5	B.S. Huang
	10:55 ~ 11:25	Earthquake Catalog	30	Y.M. Wu
	11:25 ~ 11:50	Applications of Earthquake Catalog (Seismogenic Depth, Fault Plane, etc.)	25	B.S. Huang
	11:50 ~ 12:30	<i>Discussion</i>	40	B.S. Huang leads
12:30 ~ 13:20		<i>Lunch (IB-302)</i>		

Taiwan SSHAC Level 3 Project Workshop #1 Agenda – Day 1 Afternoon

March 14, 2016 (Monday), Afternoon

National Taiwan University of Science and Technology IB-101, Taipei, Taiwan

Session	Time	Topic	Dur. (min)	Speaker
13:20 ~ 15:00 Chaired by K. Clahan				
Areal Source	13:20 ~13:35	Introduction of Areal Source and M _L 6.4 Meinong Earthquake	15	K. Clahan
	13:35 ~14:05	Zoning Schemes of Areal Source Collected and Used for Hazard Sensitivity Study	30	C.T. Cheng
	14:05 ~14:20	Magnitude Scaling Relationships	15	Y.T. Yen
	14:20 ~14:35	Volcanic Seismic Sources	15	C.H. Lin
	14:35 ~15:00	<i>Discussion</i>	25	K. Clahan leads
15:00 ~ 15:20		<i>Break</i>		
15:20 ~16:50 Chaired by A.T.S. Lin				
Geophysics Data	15:20 ~ 15:25	Geophysics Data Considered (Gravity/Magnetic data)	5	A.T.S. Lin
	15:25 ~15:40	Global Positioning System	15	K.E Ching
	15:40~ 15:55	Persistent Scatterer Interferometric Synthetic Aperture Radar (PS-InSAR)	15	J.C. Hu
	15:55 ~16:10	Light Detection and Ranging (LiDAR)	15	Y.C. Chan
	16:10 ~16:50	<i>Discussion</i>	40	A.T.S. Lin leads
16:50 ~ 17:00		<i>Break</i>		
17:00 ~ 17:40		Summary of Workshop #1 – Day 1 (N. Abrahamson)		
17:40 ~ 18:00		Comments and Questions from Observers		
18:00		<i>Adjourn</i>		
18:00~19:00		<i>Closed Meeting: PPRP, Sponsor, PM, PTI and TI Lead</i>		

Taiwan SSHAC Level 3 Project Workshop #1 Agenda – Day 2 Morning

March 15, 2016 (Tuesday), Morning

National Taiwan University of Science and Technology IB-101, Taipei, Taiwan

Session	Time	Topic	Dur. (min.)	Speaker
09:00 ~ 10:40 Chaired by A.T.S. Lin				
Active Faults - I	09:00 ~ 09:10	Opening and Introduction	10	C.L. Wu
	09:10 ~ 09:15	Active Faults Maps	5	C.H. Yeh
	09:15 ~ 09:45	CGS Geologic Maps and Active Faults	30	S.T. Lu
	09:45 ~ 10:05	TEM 2016 Active Faults	20	J. Bruce H. Shyu
	10:05 ~ 10:40	<i>Discussion</i>	35	A.T.S. Lin leads
10:40 ~ 10:50		<i>Break</i>		
10:50 ~ 12:30 Chaired by K. Clahan				
Active Faults - II	10:50 ~ 10:55	Introduction	5	K. Clahan
	10:55 ~ 11:20	Observations from Trench of Active Faults	25	W.S. Chen
	11:20 ~ 11:35	Lishan Fault and Binhai Fault	15	H. Kou-Chen
	11:35 ~ 11:50	Summarize Key Fault Parameters	15	C.T. Cheng
	11:50 ~ 12:30	<i>Discussion</i>	40	K. Clahan leads
12:30 ~ 13:30		<i>Lunch (IB-302)</i>		

Taiwan SSHAC Level 3 Project Workshop #1 Agenda – Day 2 Afternoon

March 15, 2016 (Tuesday), Afternoon

National Taiwan University of Science and Technology IB-101, Taipei, Taiwan

Session	Time	Topic	Dur. (min.)	Speaker
13:30 ~ 15:00 Chaired by A.T.S. Lin				
Primary Faults and Possible Linking-I	13:30 ~ 13:40	Briefing	10	A.T.S. Lin
	13:40 ~ 14:10	Nuclear Power Plants #1 and #2 Geology, Offshore Data, and Shanchiao Fault	30	N.W. Haung
	14:10 ~ 14:40	Active Faults around Nuclear Power Plant #4 (Onshore/Offshore)	30	G.S. Song
	14:40 ~ 15:00	<i>Discussion</i>	20	A.T.S. Lin leads
15:00 ~ 15:20		<i>Break</i>		
15:20 ~16:50 Chaired by K. Clahan				
Primary Faults and Possible Linking-II	15:20 ~ 15:30	Introduction of Hengchun Fault and Chaochou Fault	10	K. Clahan
	15:30 ~ 16:00	Nuclear Power Plant #3, Hengchun Fault (Extension Offshore)	30	N.W. Huang
	16:00 ~ 16:30	Chaochou Fault	30	C. Huang
	16:30 ~ 16:50	<i>Discussion</i>	20	K. Clahan leads
16:50 ~ 17:00		<i>Break</i>		
17:00 ~ 17:40		Summary of Workshop #1 - Day 2 (N. Abrahamson)		
17:40 ~ 18:00		Comments and Questions from Observers		
18:00		<i>Adjourn</i>		
18:00~19:00		<i>Closed Meeting: PPRP, Sponsor, PM, PTI and TI Lead</i>		

Taiwan SSHAC Level 3 Project Workshop #1 Agenda – Day 3 Morning

March 16, 2016 (Wednesday), Morning

National Taiwan University of Science and Technology IB-101, Taipei, Taiwan

Session	Time	Topic	Dur. (min.)	Speaker
09:00 ~ 10:30 Chaired by A.T.S. Lin				
Subduction Zone-I	09:00 ~ 09:10	Opening and Introduction	10	C.L. Wu
	09:10 ~ 09:20	Overview of Data Available for Subduction Zones	10	A.T.S. Lin
	09:20 ~ 09:45	Data of Ryukyu Subduction Zone	25	S.K. Hsu
	09:45 ~ 10:10	Data of Manila Subduction Zone	25	C.S. Liu
	10:10 ~ 10:40	<i>Discussion</i>	30	A.T.S. Lin leads
10:40 ~ 11:00		<i>Break</i>		
11:00 ~12:30 Chaired by B.S. Huang				
Subduction Zone-II	11:00 ~ 11:05	Introduction	5	B.S. Huang
	11:05 ~ 11:30	Offshore Active Faults Identified from Seismic Reflection Data	25	C.S. Liu
	11:30 ~ 11:55	Taitung Canyon Fault and Manila Accretionary Wedge Fault	25	S.K. Hsu
	11:55 ~ 12:30	<i>Discussion</i>	35	B.S. Huang leads
12:30 ~ 13:30		<i>Lunch (IB-302)</i>		

Taiwan SSHAC Level 3 Project Workshop #1 Agenda – Day 3 Afternoon

March 16, 2016 (Wednesday), Afternoon

National Taiwan University of Science and Technology, IB-101, Taipei, Taiwan

Session	Time	Topic	Dur. (min.)	Speaker
13:30 ~ 15:00 Chaired by C.L. Wu				
Project Introduction & Interface Issues	13:30 ~ 13:40	Opening and Sponsor's Perspectives	10	K.C. Chang, D.F. Lin
	13:40 ~ 13:50	Project Overview and Objectives	10	C.L. Wu
	13:50 ~ 14:10	PSHA Tutorial, SSHAC Procedure Training, and Workshop Ground Rules	20	N. Abrahamson
	14:10 ~ 14:20	Introduction to Workshop Agenda and Roadmap of Following Presentations	10	K.L. Wen
	14:20 ~ 14:40	Preliminary SSC for Sensitivity Analysis	20	C.H. Loh
	14:40 ~ 15:00	<i>Discussion: SSC-GMC Interface Issues</i>	20	N. Abrahamson leads
15:00 ~ 15:20		<i>Break</i>		
15:20 ~ 16:50 Chaired by K.L. Wen				
GMC Issues and Data Needs	15:20 ~ 15:40	Preliminary GMC for Sensitivity Analysis	20	N. Abrahamson
	15:40 ~ 16:00	Hazard Sensitivity Results for GMC	20	N. Abrahamson
	16:00 ~ 16:20	Current GMC Significant Issues and Data Needs	20	B. Chiou
	16:20 ~ 16:50	<i>Discussions: Are there other GMC significant issues and data needs that should be addressed by the TI Team</i>	30	K.L. Wen leads
16:50 ~ 17:00		<i>Break</i>		
17:00 ~ 17:40		Summary of Day 3 (N. Abrahamson)		
17:40 ~ 18:00		Comments and Questions from Observers		
18:00		<i>Adjourn</i>		
18:30 ~ 19:30		<i>Closed Meeting: PPRP, Sponsor, PM, PTI and TI Lead</i>		

Taiwan SSHAC Level 3 Project Workshop #1 Agenda – Day 4 Morning

March 17, 2016 (Thursday), Morning

National Taiwan University of Science and Technology, IB-101, Taipei, Taiwan

Session	Time	Topic	Dur. (min.)	Speaker
09:00 ~ 10:40 Chaired by P.S. Lin				
Taiwan Ground Motion Database - I	09:00 ~ 09:10	Opening and Introduction	10	C.L. Wu
	09:10 ~ 09:20	Overview of Taiwan Ground Motion (GM) Database	10	P.S. Lin
	09:20 ~ 09:40	Taiwan Central Weather Bureau: Strong Motion Network and Available GM Data	20	N.C. Hsiao
	09:40 ~ 10:00	Institute of Earth Sciences: Strong Motion Networks and Available GM Data	20	W.G. Huang
	10:00 ~ 10:10	GM Database of Shallow Crustal, Subduction Earthquakes and Non-Standard Earthquake Sources in Taiwan	10	P.S. Lin
	10:10 ~ 10:25	Record Processing and GM Data Quality: Evaluation Approach and Results	15	P.S. Lin
	10:25 ~ 10:40	Finite Fault Models of Taiwan Earthquakes	15	Y.T. Yen
10:40 ~ 11:00		<i>Break</i>		
11:00 ~ 12:30 Chaired by P.S. Lin				
Taiwan Ground Motion Database - II	11:00 ~ 11:20	V_s Profiles of Taiwan Strong Motion Stations	20	C.H. Kuo
	11:20 ~ 11:40	Kappa of Taiwan Strong Motion Stations	20	K.L. Wen
	11:40 ~ 12:00	$Z_{1.0}$ of Taiwan Strong Motion Stations	20	C.M. Lin
	12:00 ~ 12:30	<i>Discussions: GM data needs and plan of collecting new Taiwan data for constraining near-fault ground motion scaling;</i>	30	P.S. Lin leads
12:30 ~ 13:30		<i>Lunch(IB-302)</i>		

Taiwan SSHAC Level 3 Project Workshop #1 Agenda – Day 4 Afternoon

March 17, 2016 (Thursday), Afternoon

National Taiwan University of Science and Technology, IB-101, Taipei, Taiwan

Session	Time	Topic	Dur. (min.)	Speaker
13:30 ~ 15:00 Chaired by P.S. Lin				
Foreign Ground Motion Database	13:30 ~ 13:40	Overview of Available Foreign GM Databases	10	P.S. Lin
	13:40 ~ 13:50	GM Database of Japan	10	P.S. Lin
	13:50 ~ 14:10	GM Database of Europe	20	S. Akkar
	14:10 ~ 14:30	PEER's NGA Database for Crustal and Subduction Zone Earthquakes	20	T. Kishida
	14:30 ~ 15:00	<i>Discussion: GM data needs and plan for incorporating foreign data</i>	30	P.S. Lin leads
15:00 ~ 15:20		<i>Break</i>		
15:20 ~ 16:50 Chaired by P.S. Lin				
Ground Motion Simulation Database	15:20 ~ 15:30	Overview of Available Simulations to Address Hazard Significant Issues	10	Y.T. Yen
	15:30 ~ 16:00	Simulations for Crustal Earthquakes by SCEC's Broadband Platform	30	Y.T. Yen
	16:00 ~ 16:30	Simulations for Subduction Zone Earthquakes	30	M.C. Hsieh
	16:30 ~ 16:50	<i>Discussions: Best use of available simulations and their limitations; plan for new simulation cases</i>	20	P.S. Lin leads
16:50 ~ 17:00		<i>Break</i>		
17:00 ~ 17:40		Summary of Day 4 (N. Abrahamson)		
17:40 ~ 18:00		Comments and Questions from Observers		
18:00		<i>Adjourn</i>		
18:00 ~ 19:00		<i>Closed Meeting: PPRP, Sponsor, PM, PTI and TI Lead</i>		

Taiwan SSHAC Level 3 Project Workshop #1 Agenda – Day 5 Morning

March 18, 2016 (Friday), Morning

National Taiwan University of Science and Technology, IB-101, Taipei, Taiwan

Session	Time	Topic	Dur. (min.)	Speaker
09:00 ~ 10:40 Chaired by K.L. Wen				
Site-Specific Ground Motion Data and Issues - I	09:00 ~ 09:10	Opening and Introduction	10	C.L. Wu
	09:10 ~ 09:20	Overview of Site-Specific Ground Motion Data and Interface with the Site Response Analysis Team	10	K.L. Wen
	09:20 ~ 09:50	Geological Condition of NPP Sites and Neighboring Regions	30	C.Y. Lo
	09:50 ~ 10:10	Approach to Compute Site-Specific GMRS from Reference Rock Hazard	20	S.Y. Hsu
	10:10 ~ 10:40	<i>Discussions: Are there any foreseen challenges in using reference rock hazard for calculation of GMRS for NPP Sites?</i>	30	K.L. Wen leads
10:40 ~ 11:00		<i>Break</i>		
11:00 ~ 12:30 Chaired by K.L. Wen				
Site-Specific Ground Motion Data and Issues - II	11:00 ~ 11:30	On-Site and Near-Site Ground Motion Data of NPP Sites	30	C.M. Lin
	11:30 ~ 12:00	V_S Profile and Kappa at NPP Sites	30	K.L. Wen
	12:00 ~ 12:30	<i>Discussion: Best use of the abundant site-specific data</i>	30	K.L. Wen leads
12:30 ~ 13:30		<i>Lunch(IB-302)</i>		

Taiwan SSHAC Level 3 Project Workshop #1 Agenda – Day 5 Afternoon

March 18, 2016 (Friday), Afternoon

National Taiwan University of Science and Technology, IB-101, Taipei, Taiwan

Session	Time	Topic	Dur. (min.)	Speaker
13:30 ~ 15:00 Chaired by B. Chiou				
Candidate Ground Motion Models - I	13:30 ~ 13:40	Overview of Candidate Ground Motion Models (GMMs)	10	B. Chiou
	13:40 ~ 13:55	Available Taiwan Ground Motion Prediction Equations (GMPEs)	15	S.H. Chao
	13:55 ~ 14:25	Median and Sigma of Shallow Crustal and Subduction GMPEs	30	N. Abrahamson
	14:25 ~ 14:40	Statistical Uncertainty for Shallow Crustal and Subduction GMPEs	15	B. Chiou
	14:40 ~ 15:00	<i>Discussions: Needs for Taiwan GMPEs that meet Project's needs</i>	20	B. Chiou leads
15:00 ~ 15:20		<i>Break</i>		
15:20 ~ 16:50 Chaired by B. Chiou				
Candidate Ground Motion Models - II	15:20 ~ 15:50	Single-Station Sigma Model for Shallow Crustal and Subduction Earthquakes	30	P.S. Lin
	15:50 ~ 16:10	Models for the Upper Tail of Ground Motion Distribution	20	N. Abrahamson
	16:10 ~ 16:30	Approaches for Selecting and Ranking Candidate GMMs for Median Motion	20	C.H. Loh
	16:30 ~ 16:50	<i>Discussions: Data needs and issues with single station sigma models and models for the upper tail</i>	20	B. Chiou leads
16:50 ~ 17:00		<i>Break</i>		
17:00 ~ 17:40		Summary of Day 5 (N. Abrahamson)		
17:40 ~ 18:00		Comments and Questions from Observers		
18:00		<i>Adjourn</i>		
18:00 ~ 19:00		<i>Closed Meeting: PPRP, Sponsor, PM, PTI and TI Lead</i>		