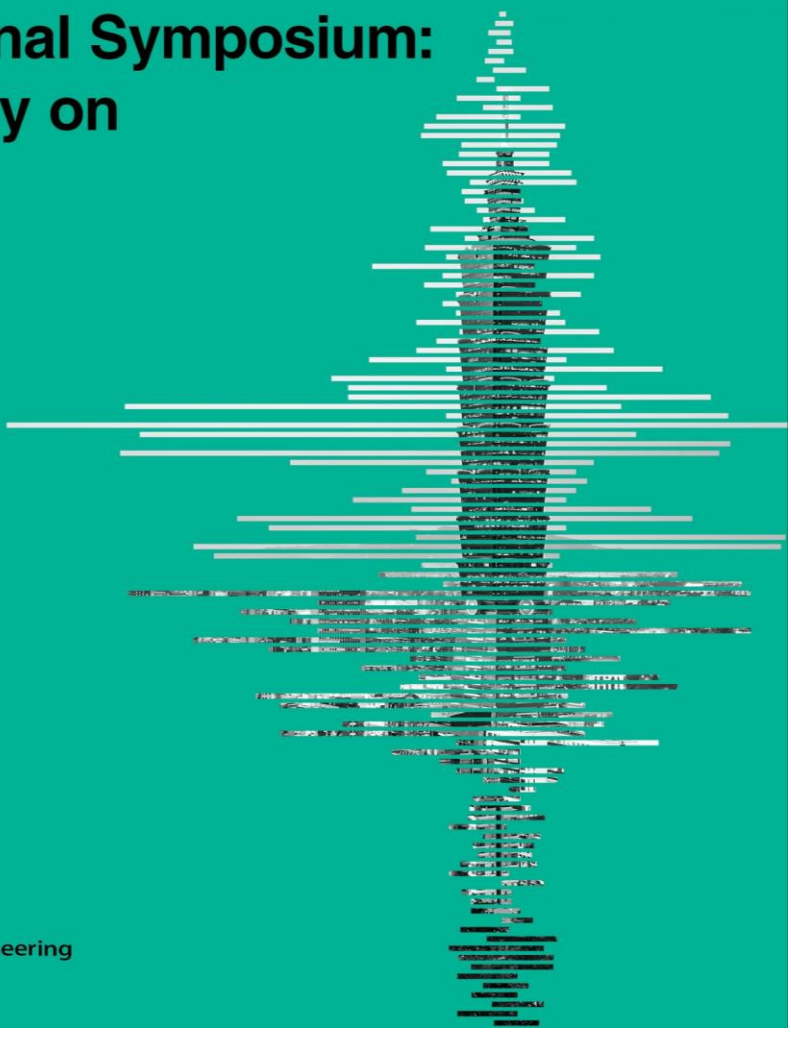
esg5

Program

5th IASPEI/IAEE International Symposium: Effects of Surface Geology on Seismic Motion



August 15-17, 2016
Taipei, Taiwan

NARLabs 國家實驗研究院
國家地震工程研究中心
National Center for Research on Earthquake Engineering

Content

Preface

It is my great pleasure and honor to welcome all of you to the 5th IASPEI/IAEE International Symposium on the Effects of Surface Geology on Seismic Motion (in short, ESG5). The National Center for Research on Earthquake Engineering (NCREE) is honored to host ESG5 with a good wealth of many top experts from more than twelve countries worldwide. As you may have already noticed, the M_L 6.6 Meinong Earthquake struck southern Taiwan this February and caused a disaster because of obvious seismic site effects and soil liquefaction. People were once again informed of the importance of surface geology on seismic ground motion by this unfortunate disaster.

The ESG symposiums are organized by ESG working group under joint auspices of the International Association of Seismology and Physics of the Earth's Interior (IASPEI) and the International Association of Earthquake Engineering (IAEE) since 1980's. The past four EGS symposiums focused on research and development of strong ground motion characterization. The first symposium was held in Odawara, Japan in 1992 with a main theme of blind prediction experiments at Ashigara Valley. The second symposium took place in Yokohama, Japan in 1998 featuring simulation of the 1995 Kobe earthquake. The third symposium was held in Grenoble, France in 2006 featuring noise blind test of simulation in Grenoble basin. The fourth symposium was held in Santa Barbara, California, USA in 2011 and had special discussions on the debate of V_{s30} usage.

The ESG5 symposium will widely discuss key issues related to seismic site effects with a main theme devoted to the “Challenges of Applying Ground Motion Simulation to Seismology and Earthquake Engineering”. This arrangement intends to bring attentions to the progressions and obstructions we have encountered thus far in the regard of seismic disaster reduction by applying ground motion simulation. All the technical sessions put together in this symposium can play a pivotal role to help us gain a greater understanding of these key issues.

Last but not least, I have to thank you all for your enthusiasm and commitment that makes this symposium a great success. In particular, I wish our prestigious international guests a fruitful and enjoyable stay in Taiwan.

Kuo-Chun Chang
Director General,
National Center for Research on Earthquake Engineering

Committee

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    Professor
    Department of Earth Sciences, National Central University, Taiwan
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Hosts and Sponsors

Hosts

National Center for Research on Earthquake Engineering,
National Applied Research Laboratories

Co-hosts

- International Association of Seismology and Physics of the Earth's Interior (IASPEI)
- International Association for Earthquake Engineering (IAEE)
- National Taiwan University
- National Central University
- Ministry of Science and Technology, R.O.C.
- Institute of Earth Sciences, Academia Sinica
- Disaster Prevention Research Institute, Kyoto University (DPRI)
- Kinemetrics Inc.

Sponsors and Exhibitors

- Chinese Taipei Geophysical Society
- CECI Engineering Consultants, Inc., Taiwan
- Earth Science Research Promotion Center, Ministry of Science and Technology
- Sam Ho Technology & Engineering Co., Ltd.
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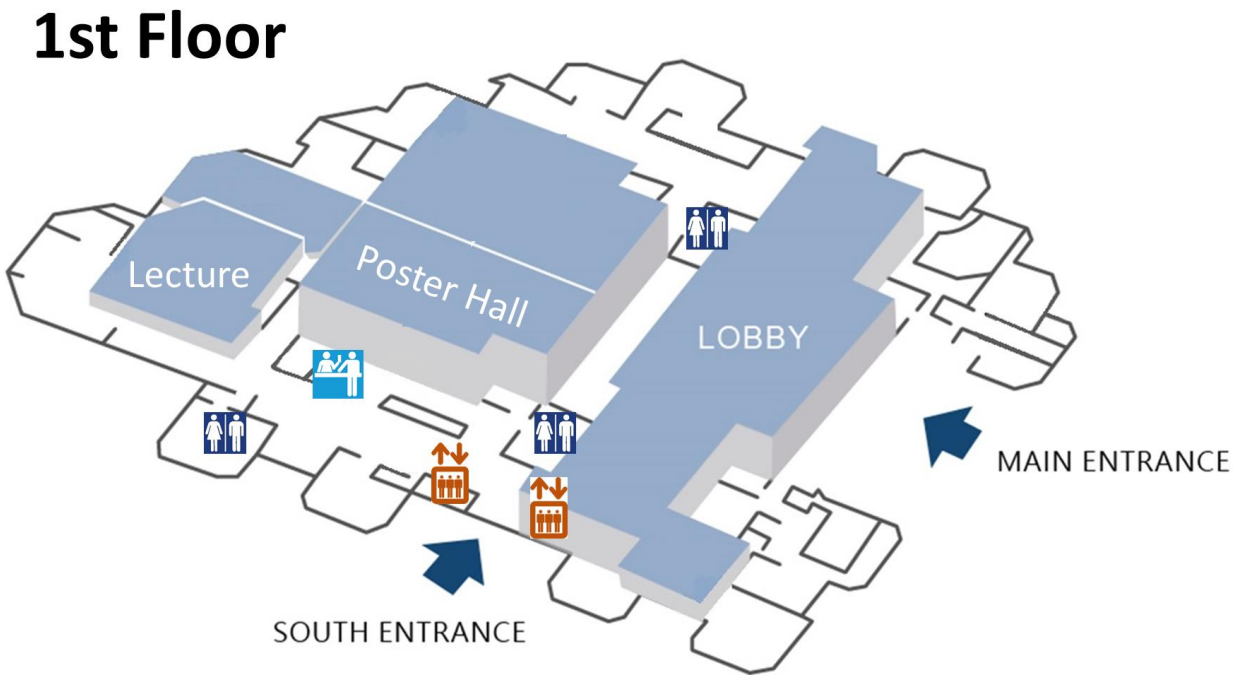
- Taiwan Earthquake Research Center (Booth)
- San Lien Technology Corp. (Booth)
- Taiwan Secom Co., Ltd. (Booth)
- Japan Association for Earthquake Engineering(Booth)

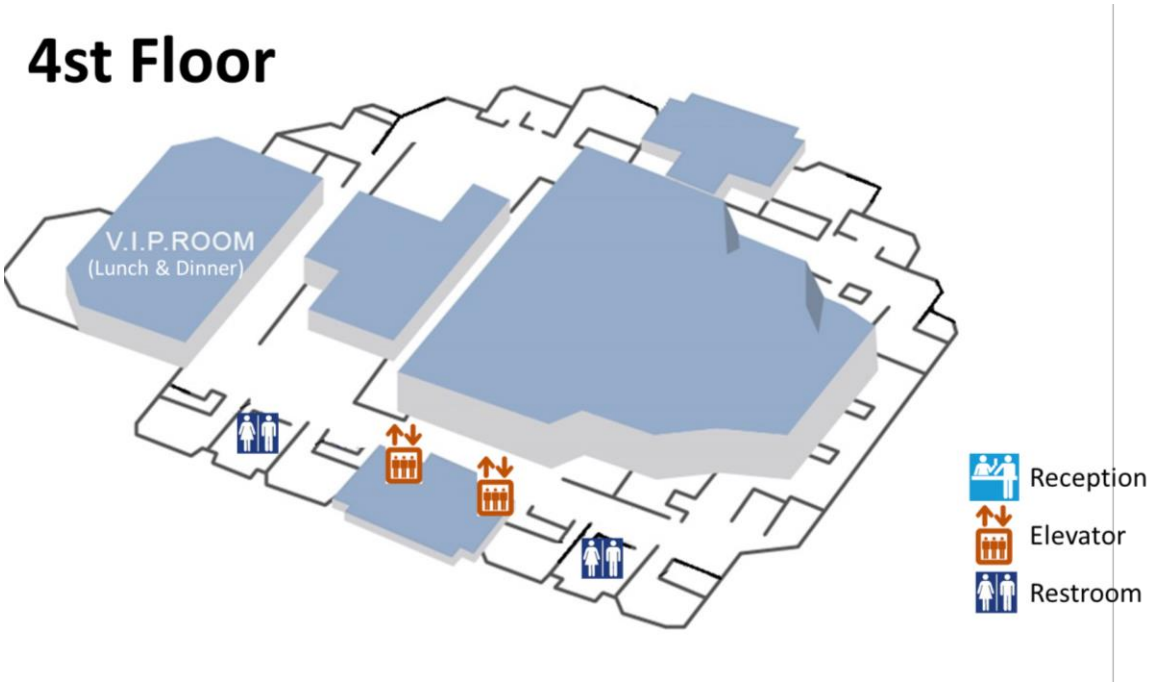
Meeting information

Transportation

- From Exit 1 of MRT Taipei 101 / World Trade Center station to TICC

Convention center map





Information for poster

Preparation of your Poster

Poster sessions will divide into two sequences on ESG5. Each sequence will content from several poster session during coffee break, lunch break and break before dinner with total active time of one and half days.
Authors are expected to stay at their posters and communicate with the audience during core time (last break before dinner on 16:40-18:00, 15th August/ 16:30-18:00, 16th August).
Display Time:

- **First round**
  Participants in this round should place their poster on their own board before the end of first break (10:40) on 15th August, 2016. And please remove at beginning of lunch time (12:00) on 16th August, 2016.
  * Posters did not removed by 12:30 on 16th August are discarded by the ESG5 office.
- **Second round**
  Participants in this round should place their poster on their own board before the end of lunch time (13:00-13:30) on 16th August, 2016. And please remove at the end of final break (16:30) on 17th August, 2016.
  * Posters did not removed by 16:30 on 17th August are discarded by the ESG5 office.

Poster Size:
Size of the poster board is W100 * H200 (cm)

Interactive Presentation Program

According to all oral sessions will be invited as keynote or invited speakers from ESG5 office, other submission papers will present their findings in poster session. The ESG5 office had prepared an interactive presentation during poster sessions to subjoin additional discussion opportunities for each participant.

The interactive presentation is an innovative type that provides advantages for both authors and attendees, the authors can present emphasis of their work orally during short time and attract attendees to discuss details at their posters.

The interactive presentations might be a power point, a movie, an animation, a pdf file showing your work on a TV screen within 5 min for each volunteer participant. The interactive presentation will take place at one corner at poster and exhibition hall on ESG5, which is a combination of several audience sits in front of a TV screen displays.

Each volunteer participants have to sign up by following website “https://goo.gl/TWPWzs", on-site participation are also available. The ESG5 office will arrange the presenting schedule and announce it before 11th August, 2016. The ESG5 office had also prepared admission ticket of observatory of Taipei 101 (foreigner only) as a reward for volunteer participants.

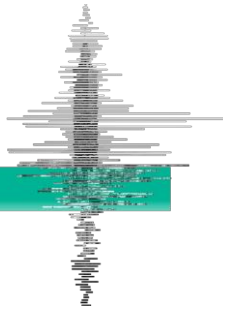
Program

Presentation Venue: Room 102
Poster & Exhibition Hall: Room 101CD

Day 1 (Monday, Aug. 15th, 2016)			
08:00~09:00	Registration		
09:00~09:30	Opening Ceremony (Presentation Venue)		
09:30~10:10	Presentation Session I (Chair: Kuo-Liang Wen)	Kojiro Irikura	**Methodology of simulating ground motions from crustal earthquake and mega-thrust subduction earthquakes: application to the 2016 Kumamoto earthquake (crustal) and the 2011 Tohoku earthquake (mega-thrust)**
10:10~10:40	Coffee Break (Poster Session)		
10:40~11:20	Presentation Session II (Chair: Hiroshi Kawase)	Pierre-Yves Bard	**Using ambient vibration measurements for risk assessment at an urban scale : from numerical proof of concept to a case study in Beirut (Lebanon)**
11:20~12:00		Jonathan Stewart	**Non-ergodic site response in seismic hazard analysis**
12:00~13:30	Lunch Break (Poster Session)		
13:30~13:50	Presentation Session III (Chair: Shin Aoi, Shiann-Jong Lee)	Tomotaka Iwata	**Long-period ground motion characteristics and simulations in the Osaka Basin during the 2011 great Tohoku earthquake**
13:50~14:10		Ruizhi Wen	**Directivity effect in the empirical Green's function method for ground-motion simulation**
14:10~14:30		Li Zhao	**Quantification of topography effect on seismic ground motion: a case study in northern Taiwan**
14:30~14:50		Takuto Maeda	**Two-dimensional wavefield reconstruction: tsunami data assimilation and seismic gradiometry**
14:50~15:40	Coffee Break (Poster Session)		
15:40~16:00	Presentation Session IV (Chair: On-Lei Annie Kwok, Saburoh Midorikawa)	Saburoh Midorikawa	**Site effects on strong motion records of the 2011 Tohoku, Japan earthquake**
16:00~16:20		Yadab Dhakal	**Analysis of S-wave H/V spectral ratios at the ocean bottom strong motion sites for soil nonlinearity**
16:20~16:40		Jin-Hung Hwang	**Soil liquefaction issues in Meinong earthquake**
16:40~18:00	Poster Session		
18:00~20:00	Reception (TICC 4F-VIP Room)		

Day 2 (Tuesday, Aug. 16th, 2016)			
09:00~09:40	Presentation Session V (Chair: Huey-Chu Huang)	Hiroshi Kawase	**Studies on the deep basin site effects based on the observed strong ground motions and microtremors**
09:40~10:00		Kuo-Liang Wen	**Construction of the shallow shear-wave velocity model in Taiwan**
10:00~11:00	Coffee Break (Poster Session)		
11:00~11:20	Presentation Session VI (Chair: Pierre-Yves Bard)	Shigeki Senna	**Modeling of the subsurface structure from the seismic bedrock to the ground surface for a broadband strong motion evaluation in the Kanto area, Japan**
11:20~12:00		Kazuyoshi Kudo	**Advantages of borehole array data for better understanding of strong ground motion in sedimentary basins**
12:00~13:30	Lunch Break (Poster Change) & ESG Joint Working Group Meeting		
13:30~14:10	Presentation Session VII (Chair: Ralph Archuleta)	Francisco Sánchez-Sesma	**Modeling and inversion of the microtremor H/V spectral ratio: physical basis behind the diffuse-field approach**
14:10~14:30		Donat Fäh	**Assessment of the complex seismic response of geological structures**
14:30~14:50		Huey-Chu Huang	**Estimation of shallow S-wave velocity structures using microtremor array measurements and their applications**
14:50~15:30	Coffee Break (Poster Session)		
15:30~15:50	Presentation Session VIII (Chair: Francisco Sánchez-Sesma)	Jamison Steidl	**Downhole Array Monitoring in the United States**
15:50~16:10		Nai-Chi Hsiao	**The CWB downhole seismic array and its application for earthquake observation in Taiwan**
16:10~16:30		Ralph Archuleta	**Scaling laws for strong ground motion parameters and their uncertainty for earthquakes with M3.3-7.7**
16:30~18:00	Poster Session		
18:00~20:00	Conference Banquet (TICC 4F-VIP Room)		

Day 3 (Wednesday, Aug. 17th, 2016)			
09:00~09:20	Presentation Session IX (Chair: Chiun-Lin Wu)	Kuo-Chun Chang	**Introduction of NCREE south laboratory**
09:20~10:00		Brian Chiou	**Hanging-wall and directivity effects on the near-fault ground motion**
10:00~11:00	Coffee Break (Poster Session)		
11:00~11:20	Presentation Session X (Chair: Bor-Shouh Huang)	Mayssa Dabaghi	**Simulation of near-fault ground motions for specified earthquake source and site characteristics**
11:20~11:40		Shin Aoi	**The 2016 Kumamoto earthquake sequence: strong motion and source processes**
11:40~12:00		Kuo-Fong Ma	**Killer pulses observed in 20160206 Meinong, M_L 6.6, Taiwan, earthquake**
12:00~13:30	Lunch Break (Poster Session)		
13:30~14:10	Presentation Session XI (Chair: Brian Chiou)	Chin-Hsiung Loh	**Selection of ground-motion prediction equations for probabilistic seismic hazard analysis: case study of Taiwan**
14:10~14:30		Marco Pagani	**Probabilistic seismic hazard analysis: issues and challenges from the GEM perspective**
14:30~15:20	Coffee Break (Poster Session)		
15:20~15:40	Presentation Session XII (Chair: Kuo-Fong Ma)	Hiroyuki Fujiwara	**Improved seismic hazard assessment for Japan after the 2011 Great East Japan earthquake**
15:40~16:00		Chin-Hsun Yeh	**Progress report on seismic loss estimations in Taiwan**
16:00~16:40	Beer Break (Poster & Exhibition Hall)		
16:40~17:00	Closing Ceremony (Poster & Exhibition Hall)		



Detailed session summary

Meaning of presentation number

Each presentation number will constitute from following rules,

[Type]-[Day]-[Number]-[Session]

- [Type]: including K indicate keynote lecture, I indicate invited speaker, P indicate poster
- [Day]: including 1 means day 1 (Aug. 15), 2 means day 2 (Aug. 16), 3 means day 3 (Aug. 17) for oral,
  1 means first round and 2 means second round for poster.
- [Number]: indicate paper number for each session
- [Session]: including session you had choose for your submission

EX:

P101A means poster with paper number 1 in session A, with display time belonging to first round

I202C means paper number 2 in session C, with presentation time in Aug. 16.

Keynote

Paper NO.	First Name	Last Name	Paper Title
K101A	Kojiro	Irikura	METHODOLOGY OF SIMULATING GROUND MOTIONS FROM CRUSTAL EARTHQUAKE AND MEGA-THRUST SUBDUCTION EARTHQUAKES: APPLICATION TO THE 2016 KUMAMOTO EARTHQUAKE (CRUSTAL) AND THE 2011 TOHOKU EARTHQUAKE (MEGA-THRUST)
K102A	Pierre-Yves	Bard	USING AMBIENT VIBRATION MEASUREMENTS FOR RISK ASSESSMENT AT AN URBAN SCALE : FROM NUMERICAL PROOF OF CONCEPT TO A CASE STUDY IN BEIRUT (LEBANON)
K201B	Hiroshi	Kawase	STUDIES ON THE DEEP BASIN SITE EFFECTS BASED ON THE OBSERVED STRONG GROUND MOTIONS AND MICROTREMORS
K101C	Jonathan	Stewart	NON-ERGODIC SITE RESPONSE IN SEISMIC HAZARD ANALYSIS
K201D	Francisco	Sánchez-Sesma	MODELING AND INVERSION OF THE MICROTREMOR H/V SPECTRAL RATIO: PHYSICAL BASIS BEHIND THE DIFFUSE-FIELD APPROACH
K201E	Kazuyoshi	Kudo	ADVANTAGES OF BOREHOLE ARRAY DATA FOR BETTER UNDERSTANDING OF STRONG GROUND MOTION IN SEDIMENTARY BASINS
K301F	Brian	Chiou	HANGING-WALL AND DIRECTIVITY EFFECTS ON THE NEAR-FAULT GROUND MOTION
K301G	Chin-Hsiung	Loh	SELECTION OF GROUND-MOTION PREDICTION EQUATIONS FOR PROBABILISTIC SEISMIC HAZARD ANALYSIS: CASE STUDY OF TAIWAN

Invited

Paper NO.	First Name	Last Name	Paper Title
I101A	Tomotaka	Iwata	LONG-PERIOD GROUND MOTION CHARACTERISTICS AND SIMULATIONS IN THE OSAKA BASIN DURING THE 2011 GREAT TOHOKU EARTHQUAKE
I102A	Ruizhi	Wen	DIRECTIVITY EFFECT IN THE EMPIRICAL GREEN'S FUNCTION METHOD FOR GROUND-MOTION SIMULATION
I103A	Li	Zhao	QUANTIFICATION OF TOPOGRAPHY EFFECT ON SEISMIC GROUND MOTION: A CASE STUDY IN NORTHERN TAIWAN
I104A	Takuto	Maeda	TWO-DIMENSIONAL WAVEFIELD RECONSTRUCTION: TSUNAMI DATA ASSIMILATION AND SEISMIC GRADIOMETRY
I201B	Kuo-Liang	Wen	CONSTRUCTION OF THE SHALLOW SHEAR-WAVE VELOCITY MODEL IN TAIWAN
I202B	Shigeki	Senna	MODELING OF THE SUBSURFACE STRUCTURE FROM THE SEISMIC BEDROCK TO THE GROUND SURFACE FOR A BROADBAND STRONG MOTION EVALUATION IN THE KANTO AREA, JAPAN
I101C	Saburoh	Midorikawa	SITE EFFECTS ON STRONG MOTION RECORDS OF THE 2011 TOHOKU, JAPAN EARTHQUAKE
I102C	Yadab	Dhakal	ANALYSIS OF S-WAVE H/V SPECTRAL RATIOS AT THE OCEAN BOTTOM STRONG MOTION SITES FOR SOIL NONLINEARITY
I103C	Jin-Hung	Hwang	SOIL LIQUEFACTION ISSUES IN MEINONG EARTHQUAKE
I201D	Donat	Fäh	ASSESSMENT OF THE COMPLEX SEISMIC RESPONSE OF GEOLOGICAL STRUCTURES
I202D	Huey-Chu	Huang	ESTIMATION OF SHALLOW S-WAVE VELOCITY STRUCTURES USING MICROTREMOR ARRAY MEASUREMENTS AND THEIR APPLICATIONS
I201E	Jamison	Steidl	DOWNHOLE ARRAY MONITORING IN THE UNITED STATES
I202E	Nai-Chi	Hsiao	THE CWB DOWNHOLE SEISMIC ARRAY AND ITS APPLICATION FOR EARTHQUAKE OBSERVATION IN TAIWAN
I201F	Ralph	Archuleta	SCALING LAWS FOR STRONG GROUND MOTION PARAMETERS AND THEIR UNCERTAINTY FOR EARTHQUAKES WITH M3.3-7.7
I303F	Mayssa	Dabaghi	SIMULATION OF NEAR-FAULT GROUND MOTIONS FOR SPECIFIED EARTHQUAKE SOURCE AND SITE CHARACTERISTICS

Paper NO.	First Name	Last Name	Paper Title
I304F	Shin	Aoi	THE 2016 KUMAMOTO EARTHQUAKE SEQUENCE: STRONG MOTION AND SOURCE PROCESSES
I305F	Kuo-Fong	Ma	KILLER PULSES OBSERVED IN 20160206 MEINONG, ML 6.6, TAIWAN, EARTHQUAKE
I301G	Marco	Pagani	PROBABILISTIC SEISMIC HAZARD ANALYSIS: ISSUES AND CHALLENGES FROM THE GEM PERSPECTIVE
I302G	Hiroyuki	Fujiwara	IMPROVED SEISMIC HAZARD ASSESSMENT FOR JAPAN AFTER THE 2011 GREAT EAST JAPAN EARTHQUAKE
I303G	Chin-Hsun	Yeh	PROGRESS REPORT ON SEISMIC LOSS ESTIMATIONS IN TAIWAN

Poster

Paper NO.	First Name	Last Name	Paper Title
P101A	Tomotaka	Iwata	THREE-DIMENSIONAL GROUND MOTION SIMULATIONS OF REPEATED ARRIVALS AT AMAGASAKI STRONG MOTION STATION, NW OF THE OSAKA SEDIMENTARY BASIN, FORM LOCAL EVENTS
P102A	Strong	Wen	THE ESTIMATION OF STRONG MOTION FROM THE DESTRUCTIVE EARTHQUAKES IN SW TAIWAN
P103A	Yi-Wun	Liao	GROUND MOTION SIMULATION OF THE 1909 TAIPEI EARTHQUAKE
P104A	Toshimi	Satoh	BROADBAND SOURCE MODEL AND STRONG MOTIONS OF THE 1855 ANSEI-EDO EARTHQUAKE ESTIMATED BY THE EMPIRICAL GREEN'S FUNCTION METHOD
P105A	Elif	Oral	SPECTRAL ELEMENT MODELING OF SEISMIC WAVE PROPAGATION IN 1D-1C AND 1D-3C LINEAR AND NONLINEAR MEDIA INCLUDING PORE PRESSURE EFFECTS
P106A	Yosuke	Nagasaka	INTRODUCTION OF THE RUPTURE DIRECTIVITY EFFECT TO THE PSEUDO POINT-SOURCE MODEL
P107A	Celine	Gelis	NUMERICAL STUDY OF 1D/2DWAVE PROPAGATION IN THE MYGNODIAN BASIN, EUROSEISTEST, NORTHERN GREECE
P108A	Phyoe Swe	Aung	MICROTREMOR SURVEY IN SAGAING CITY, MYANMAR FOR SEISMIC MICROZONATION
P109A	Michihiro	Ohori	ESTIMATION OF EMPIRICAL GREEN'S TENSOR SPATIAL DERIVATIVE ELEMENTS: A PRELIMINARY STUDY USING STRONG MOTION RECORDS IN SOUTHERN FUKUI PREFECTURE, JAPAN
P110A	Atsushi	Nozu	SIMULATION OF STRONG GROUND MOTION IN THE KANTO PLAIN DURING THE 2011 TOHOKU, JAPAN, EARTHQUAKE (MW9.0) WITH THE PSEUDO POINT-SOURCE MODEL
P111A	Subeg	Bijukchhen	TRIAL CONSTRUCTION OF 1-D VELOCITY STRUCTURE OF KATHMANDU VALLEY USING THE 2015 GORKHA EARTHQUAKE RECORDS
P112A	Susumu	Ohno	LONG-PERIOD GROUND-MOTION CHARACTERISTICS IN SENDAI, JAPAN, INTERPRETED BY WAVE PROPAGATION ANALYSES OF 3-D SUBSURFACE STRUCTURES
P113A	Ying-Chi	Chen	STRONG GROUND MOTION SIMULATION AND SOURCE MODELING OF THE OCTOBER 31, 2013 RUISUI, TAIWAN EARTHQUAKE USING EMPIRICAL GREEN'S FUNCTION METHOD

Paper NO.	First Name	Last Name	Paper Title
P114A	Anatoly	Petukhin	HETEROGENEOUS RUPTURE VELOCITY MODEL EXTRACTED FROM SOURCE INVERSION RESULTS OF INLAND EARTHQUAKES
P115A	Takashi	Akazawa	STRONG GROUND MOTION SIMULATION BY STOCHASTIC GREEN'S FUNCTION METHOD INCORPORATED WITH EMPIRICAL SITE EFFECTS IN TIME DOMAIN
P116A	Ken	Miyakoshi	DEPTH DEPENDENCY OF STRESS PARAMETERS ON STRONG MOTION GENERATION AREAS FOR INLAND CRUSTAL EARTHQUAKES IN JAPAN
P117A	Hongjun	Si	PROPOSAL OF EVALUATION EQUATIONS FOR AMPLIFICATION FACTOR FOR 5% DAMPING RESPONSE SPECTRA INFERRED FROM THE VERTICAL ARRAY OBSERVATIONS
P118A	Diego	Mercerat	MODELING OF 1D WAVE PROPAGATION IN NONLINEAR SOILS USING THE ELASTO-PLASTIC IWAN MODEL BY FOUR NUMERICAL SCHEMES
P119A	Jyun-Yan	Huang	VARIOUS FAULT SLIP ASPERITY MODELS FOR THE ETF-BASED HIGH FREQUENCY STRONG MOTION SIMULATION OF THE SHANCHIAO FAULT, TAIWAN
P120A	Chiara	Varone	SITE-CITY INTERACTION IN A RECENT URBANIZED AREA: PRELIMINARY RESULTS FOR THE CASE STUDY OF ROME (ITALY)
P121A	Chiara	Varone	DISTRIBUTION OF EARTHQUAKE INDUCED STRAIN EFFECTS IN THE TIBER ALLUVIAL VALLEY DEPOSITS - ROME ITALY
P122A	Sohan	Lal	MODELING OF THE SOURCE OF THE 2015 NEPAL EARTHQUAKE USING MODIFIED SEMI-EMPIRICAL APPROACH
P123A	Ming-Che	Hsieh	LONG-PERIOD GROUND MOTION SIMULATION OF THE 1909 TAIPEI EARTHQUAKE SCENARIOS
P124A	Takashi	Hayakawa	A METHOD FOR IMPROVING 3-D VELOCITY STRUECTURE MODELS WITH SITE RESPONSES IN A PERIOD RANGE OF 2 TO 5 S
P125A	Yoshiya	Hata	EVALUATION OF 'SAF VALUE' AT RECLAIMED LAND IN RESIDENTIAL AREA BASED ON SEISMIC ARRAY OBSERVATION WITH VERY HIGH DENSE SPATIAL LOCATION
P126A	Hiroyuki	Goto	EFFECT OF SUBSURFACE IRREGULARITY ON GROUND MOTION COHERENCE
P127A	Svetlana	Stripajova	IDENTIFICATION OF KEY STRUCTURAL PARAMETERS RESPONSIBLE FOR SITE EFFECTS BASED ON EXTENSIVE NUMERICAL SIMULATIONS
P128A	Jozef	Kristek	AN OPTIMIZED FINITE-DIFFERENCE SCHEME FOR MODELING EARTHQUAKE GROUND MOTION IN LOCAL SURFACE SEDIMENTARY BASINS

Paper NO.	First Name	Last Name	Paper Title
P101B	Hao	Wu	AN ALTERNATIVE METHOD TO IDENTIFY UNDERGROUND VELOCITY STRUCTURES FROM MICROTREMOR H/V SPECTRAL RATIO
P102B	Chun-Te	Chen	SHALLOW S-WAVE VELOCITY STRUCTURE IN THE WESTERN PLAIN OF TAIWAN FROM MICROTREMOR ANALYSIS
P103B	Haruko	Sekiguchi	CONSTRUCTION OF A 3D VELOCITY STRUCTURE MODEL OF OSAKA SEDIMENTARY BASIN
P104B	Kimiyuki	Asano	SURFACE WAVE GROUP VELOCITY TOMOGRAPHY IN THE OSAKA SEDIMENTARY BASIN, JAPAN, USING AMBIENT NOISE CROSS-CORRELATION FUNCTIONS
P105B	Kazuhiro	Somei	ESTIMATION OF SITE AMPLIFICATION FACTORS FOR STRONG MOTION STATIONS IN THE HOKURIKU DISTRICT, JAPAN
P106B	Shinako	Noguchi	SITE CHARACTERISTICS FOR AS-NET, SEISMIC OBSERVATION NETWORK AROUND SHIMOKITA PENINSULA
P107B	Shun Chiang	Chang	THE HIGH FREQUENCY SPECTRAL DECAY OF SHEAR WAVES IN TAIWAN
P108B	Cheng-Feng	Wu	DETECTION OF FRACTURE ZONE USING MICROTREMOR ARRAY MEASUREMENT
P109B	Mingwey	Huang	THE DECAY EFFECT AT THE HIGH FREQUENCY OF THE NEAR SURFACE SEDIMENT IN THE TAIPEI BASIN
P110B	Yoshikazu	Shingaki	APPLICATION OF S-WAVE IMPEDANCE TO SITE AMPLIFICATION FACTORS
P111B	Kahori	Iiyama	SPATIAL DISTRIBUTION OF SEISMIC RESPONSE BY SHALLOW SEDIMENS IN FURUKAWA DISTRICT, MIYAGI, JAPAN
P112B	Che-Min	Lin	S-WAVE VELOCITY STRUCTURE OF THE ILAN BASIN USING THE MICROTREMOR H/V SPECTRAL RATIO MODELING
P113B	Po-Shen	Lin	THE EFFECT OF BASIN DEPTH PARAMETER Z1.0 TO GROUND MOTION PREDICTION EQUATION
P101C	Pierre-Yves	Bard	MODULATION OF WEAK MOTION SITE TRANSFER FUNCTIONS BY NON-LINEAR BEHAVIOR: A STATISTICAL COMPARISON OF 1D NUMERICAL SIMULATION WITH KIKNET DATA.
P102C	Aurore	Laurendeau	PREDICTION OF REFERENCE MOTIONS FROM CORRECTED KIK-NET RECORDS OF THE LOCAL SITE EFFECTS
P103C	Aurore	Laurendeau	PRELIMINARY OBSERVATIONS OF SITE EFFECTS DURING THE MW 7.8 PEDERNALES (ECUADOR) EARTHQUAKE OF APRIL 16TH 2016

Paper NO.	First Name	Last Name	Paper Title
P104C	Hori	Arika	NONLINEAR SITE AMPLIFICATION DERIVED FROM STRONG MOTION RECORDS INCLUDING RECORDS IN THE 2011 OFF THE PACIFIC COAST OF TOHOKU EARTHQUAKE
P105C	Yefei	Ren	NONLINEAR SITE RESPONSE IN 2008 WENCHUAN EARTHQUAKE IDENTIFIED IN BOTH FREQUENCY AND TIME DOMAINS
P106C	On Lei Annie	Kwok	EVALUATION OF SITE EFFECT AT SURFACE-DOWNHOLE GROUND MOTION STATIONS IN TAIWAN BY NONLINEAR GROUND RESPONSE ANALYSES
P107C	Rami	Ibrahim	SITE RESPONSE ANALYSES IN THE TOKYO METROPOLITAN AREA USING EQUIVALENT LINEAR APPROACH
P108C	Olga	Pavlenko	FEATURES OF SOIL BEHAVIOUR IN THE NEAR-FAULT ZONES DURING THE 2011 TOHOKU MEGATHRUST (MW=9.0) EARTHQUAKE
P201D	Shigeki	Senna	DEVELOPMENT OF CLOUD-TYPE MICROTREMOR OBSERVATION SYSTEM
P202D	Manuel	Hobiger	SITE CHARACTERIZATION IN THE FRAMEWORK OF THE RENEWAL OF THE SWISS STRONG MOTION NETWORK (SSMNET)
P203D	Vincent	Perron	BROADBAND SITE EFFECT ASSESSMENT: COMPARISON BETWEEN APPROACHES BASED ON EARTHQUAKES AND ON MICROTREMOR ON TWO SITES
P204D	Shinichi	Matsushima	DIRECTIONALLY DEPENDENT H/V SPECTRAL RATIOS OF MICROTREMORS AT ONAHAMA, FUKUSHIMA, JAPAN
P205D	Kosuke	Chimoto	MICROTREMOR ARRAY EXPLORATION AT DAMAGED SITES DURING THE 1912 MUREFTE EARTHQUAKE, TURKEY
P206D	Masayuki	Yoshimi	MICROTREMOR SURVEYS IN BEPPU BAY SEDIMENTARY BASIN, JAPAN, FOR BETTER ESTIMATION OF THE STRONG MOTION
P107D	Yasuyuki	Nabeshima	H/V SPECTRAL RATIO OF MICRO-TREMORS IN THE RESIDENTIAL LAND EMBANKMENTS DAMAGED BY THE 2011 TOHOKU EARTHQUAKE
P208D	Sadanori	Higashi	JOINT RESEARCH ON MODELING OF HETEROGENEOUS SUBSURFACE STRUCTURE FOR EVALUATING SPATIAL VARIATION OF GROUND MOTION CHARACTERISTICS
P209D	Kazuaki	Masaki	EVALUATION OF SHEAR WAVE VELOCITY IN BUILDINGS FOR SEISMIC CAPACITY ASSESSMENT USING MICROTREMOR MEASUREMENT
P210D	Kazuhiro	Seita	GEOPHYSICAL EXPLORATION OF SHALLOW S-WAVE VELOCITY STRUCTURE IN THE VICINITY OF TACHIKAWA-FAULT, JAPAN

Paper NO.	First Name	Last Name	Paper Title
P211D	Seiji	Tsuno	LOCAL SITE EFFECTS GENERATING STRONG GROUND MOTIONS FOR A PERIOD OF 2 TO 3 SECONDS IN THE KANTO REGION, DURING THE 2011 OFF THE PACIFIC COAST OF TOHOKU EARTHQUAKE
P212D	Kyosuke	Okamoto	APPLICATION OF MICROTREMOR EXPLORATIONS TO AN IRREGULAR GROUND-CASE STUDY IN THE MIDDLE COAST OF MIYAZAKI PREFECTURE
P213D	Xin	Wang	A METHOD OF DETECTING DEGRADATION PARTS OF BUILDINGS USING VERTICAL MEASUREMENT ARRAY: APPLICATION TO SUPER HIGH-RISE BUILDINGS
P214D	Hiroaki	Yamanaka	APPLICATION OF MICROTREMOR ARRAY EXPLORATION FOR SITE AMPLIFICATION IN JAPAN
P201E	Chi-Chin	Tsai	LEARNING FORM BLIND PREDICTION OF GROUND RESPONSE AT THE TURKEY FLAT
P202E	Yu Hua	Liou	ASSESSMENT EMPIRICAL SITE AMPLIFICATION IN TAIWAN BY RATIO METHODS WITH CWB NEXT GENERATION SEISMIC NETWORK
P203E	Damiano	Federico	IN SITU SHEAR MODULUS REDUCTION COMPUTATION USING SEISMIC INTERFEROMETRY BY DECONVOLUTION FROM BOREHOLE AND SURFACE DATA: THEORY AND EXAMPLES
P204E	Masatoshi	Fujioka	DEEP VERTICAL ARRAY OBSERVATION IN KASHIWAZAKI-KARIWA NUCLEAR POWER STATION
P206E	Hiroyuki	Miyakoshi	INFLUENCE OF SOURCE, PATH, AND SITE EFFECTS ON RELATIONSHIP BETWEEN P-WAVES AT SEISMIC BEDROCK AND S-WAVES ON THE GROUND SURFACE: EVALUATION FOR STATIONS OF KIK-NET IN AND AROUND THE KANTO BASIN
P201F	Rosemary	Fayjaloun	THE VARIABILITY OF THE DIRECTIVITY PULSE PERIODS RECORDED DURING AN EARTHQUAKE
P202F	Yating	Lee	SYNTHETIC GROUND-MOTION SIMULATION USING A SPATIAL STOCHASTIC MODEL WITH SLIP SELF-SIMILARITY
P203F	Kunikazu	Yoshida	SOURCE PROCESS OF THE 2016 KUMAMOTO EARTHQUAKE (MJ7.3) INFERRED FROM KINEMATIC INVERSION OF THE NEAR FAULT STRONG MOTION
P204F	Marco	Stupazzini	NEAR-FAULT EARTHQUAKE GROUND-MOTION SIMULATION IN THE ISTANBUL AREA
P205F	Chung-Jung	Lee	CENTRIFUGE MODELING ON SURFACE DEFORMATION PROFILES AND SUBSURFACE DISTORSION ZONE INDUCED BY REVERSE FAULTING IN COMPOSITE STRATA

Paper NO.	First Name	Last Name	Paper Title
P206F	Michiko	Shigefuji	CHARACTERISTICS OF LONG-PERIOD GROUND MOTION IN THE KATHMANDU VALLEY FROM THE LARGE AFTERSHOCKS OF THE 2015 GORKHA NEPAL EARTHQUAKE
P207F	Nobuo	Takai	FEATURES OF GROUND ACCELERATIONS IN THE KATHMANDU VALLEY DURING THE 2015 GORKHA NEPAL EARTHQUAKE
P208F	Chun-Hsiang	Kuo	STRONG MOTIONS AND SITE EFFECTS IN THE NEAR-SOURCE REGION OF THE MEINONG, TAIWAN EARTHQUAKE
P201G	Cheng-Tao	Yang	IMPACT OF MEINONG EARTHQUAKE ON NATIONAL HIGHWAY TRAFFIC
P202G	Kahori	Iiyama	DAMAGE ANALYSIS OF WOODEN HOUSES SUBJECTED TO 2011 TOHOKU EARTHQUAKE IN FURUKAWA DISTRICT, MIYAGI, JAPAN
P203G	Kun-Sung	Liu	SEISMIC HAZARDS AND ASSESSMENTS OF HUMAN FATALITY IN CHIANAN AREA, TAIWAN
P204G	Phuong	Nguyen Hong	URBAN SEISMIC RISK ASSESSMENT AND LOSS ESTIMATION IN VIETNAM
P205G	Vladimir	Sokolov	PROBABILISTIC SEISMIC HAZARD ANALYSIS BASED ON DISTRIBUTION OF EARTHQUAKES WITH MAXIMUM EXPECTED MAGNITUDES.
P206G	Vladimir	Sokolov	ON THE USE OF MULTIPLE-SITE PROBABILISTIC SEISMIC HAZARD ASSESSMENT
P207G	Seung Han	Lee	INVESTIGATION OF POSSIBILITIES TO REDUCE UNCERTAINTIES OF SEISMIC RISK EVALUATION FOR NANKAI TROUGH EARTHQUAKES
P208G	Ming-Kai	Hsu	USING PROBABILISTIC SEISMIC HAZARD ANALYSIS IN ASSESSING SEISMIC RISK FOR TAIPEI CITY AND NEW TAIPEI CITY
P209G	Chung-Han	Chan	SEISMIC HAZARD ASSESSMENT FOR MYANMAR: EARTHQUAKE MODEL DATABASE, GROUND-MOTION SCENARIOS, AND PROBABILISTIC ASSESSMENTS
P210G	Le Minh	Nguyen	THE 2014's UPDATED VERSION OF VIETNAM SEISMIC HAZARD MAP
P201H	Tomiichi	Uetake	LONG-PERIOD GROUND MOTION IN TOKYO BAY AREA DURING THE M7 CLASS EVENTS THAT OCCURRED IN THE NORTH OF NAGANO PREFECTURE, JAPAN
P202H	Yoshihiro	Sawada	INVESTIGATION ABOUT DIRECTIONAL DEPENDENCE OF EARTHQUAKE AMPLIFYING CHARACTERISTIC BASED ON HIGH-DENSITY SEISMIC OBSERVATION
P203H	Shunichi	Kataoka	ESTIMATING SITE FACTORS AT STRONG GROUND MOTION OBSERVATION STATIONS IN HACHINOHE CITY

Paper NO.	First Name	Last Name	Paper Title
P204H	Ulrike	Kleinbrod	ON THE SEISMIC RESPONSE OF INSTABLE ROCK SLOPES BASED ON AMBIENT VIBRATION RECORDINGS
P205H	Yu-Wen	Chang	IDENTIFICATION OF BASIN TOPOGRAPHY CHARACTERISTIC USING MULTIVARIATE SINGULAR SPECTRUM ANALYSIS: CASE STUDY OF THE TAIPEI BASIN
P206H	Masumi	Yamada	EVALUATION OF EFFECTIVE INPUT MOTIONS TO STRUCTURES USING SEISMOGRAMS RECORDED AT STRUCTURE FOUNDATIONS AND FREE FIELD
P207H	Anna	Kaiser	QUANTIFICATION AND MODELLING OF LOCAL SITE AMPLIFICATION IN CHRISTCHURCH DURING THE 2010 – 2011 CANTERBURY EARTHQUAKE SEQUENCE BASED ON FOURIER SPECTRA MODELS
P208H	Yi-Zen	Chang	THE MONITORING OF SHALLOWER CRUSTAL ACTIVITIES IN YUN-CHIA-NAN AREA, TAIWAN
P209H	Masahiro	Sawairi	A STUDY ON THE LOCAL AMPLIFICATION MECHANISMS AT HAMAOKA NUCLEAR POWER STATION IN 2009 SURUGA BAY EARTHQUAKE
P210H	Vincent	Perron	ANALYSIS OF ROTATION SENSOR DATA FROM THE SINAPS@ KEFALONIA POST-SEISMIC EXPERIMENT
P211H	Shu-Hsien	Chao	DEVELOPMENT OF HORIZONTAL TAIWAN GROUND MOTION MODEL FOR SHALLOW CRUST AND SUBDUCTION EARTHQUAKE
P212H	Chiao Chu	Hsu	DEVELOPMENT OF HORIZONTAL SPECTRAL ACCELERATIONS RELATIONSHIP BETWEEN ROTD50 AND ROTD100 FOR TAIWAN EARTHQUAKE
P213H	Hiroe	Miyake	STRONG MOTION OBSERVATION DURING AND AFTER THE 2014 NORTHEN NAGANO EARTHQUAKE
P214H	Hiroe	Miyake	SEISMIC INTENSITY MEASUREMENT BY IT KYOSHIN SEISMOMETER AND STRONG MOTION ACCELEROMETER AT CAMPUS BUILDINGS

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Special Issue

"*Effect of Surface Geology on Seismic Motion: Challenges of Applying Ground Motion Simulation to Seismology and Earthquake Engineering*"

Deadline for submissions: 31 December 2016

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Sadanori Higashi, Central Research Institute of Electric Power Industry, Japan
Tomotaka Iwata, Disaster Prevention Research Institute, Kyoto University, Japan
Takuto Maeda, Earthquake Research Institute, University of Tokyo, Japan

In the past few decades, the study on site effects of seismic ground motions induced by surface geology and subsurface structures (Effects of Surface Geology on seismic motion, ESG) is progressing for understanding strong ground motion characteristics during disastrous earthquakes and for predicting strong ground motions for future events, with increasing numbers of strong motion data and computer powers. There are still huge earthquake disasters occurring all over the world and the researches for quantification of ESG should be emphasized for earthquake disaster mitigations because of their significant influence on strong motions.

In this coming summer, the 5th International Conference on Effects of Surface Geology on Seismic Motions (ESG5) will be held in Taipei, Taiwan and there are about 140 papers from over 20 countries to be presented. On this occasion, we would like to propose to publish a special issue or issues for recent progress of study on ESG in EPS journal to share the present status on this study area. We are expecting that many of the authors who contribute to ESG5 will submit their papers to this EPS special issue but we would not exclude any authors who do not participate in ESG5 but write relevant papers. We believe that this special issue will attract abroad spectrum of readers and contribute to stimulate discussion on new paradigms of future ESG studies and seismology in general.

Potential topics include but are not limited to:

- ✓ Applied seismology
- ✓ Earthquake engineering
- ✓ Engineering seismology

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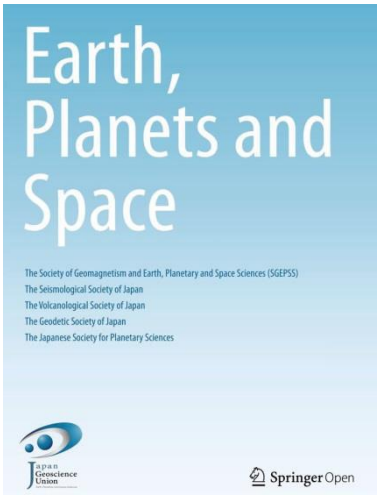

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Author index

Last Name	First Name	Paper NO.
Maeda	Takuto	I104A
Masaki	Kazuaki	P209D
Matsushima	Shinichi	P204D
Mercerat	Diego	P118A
Midorikawa	Saburoh	I101C
Miyake	Hiroe	P213H、P214H
Miyakoshi	Ken	P116A
Miyakoshi	Hiroyuki	P206E
Nabeshima	Yasuyuki	P107D
Nagasaka	Yosuke	P106A
Nguyen	Le Minh	P210G
Nguyen Hong	Phuong	P204G
Noguchi	Shinako	P106B
Nozu	Atsushi	P110A
Ohno	Susumu	P112A
Ohori	Michihiro	P109A
Okamoto	Kyosuke	P212D
Oral	Elif	P105A
Pagani	Marco	I301G
Pavlenko	Olga	P108C
Perron	Vincent	P203D、P210H
Petukhin	Anatoly	P114A
Ren	Yefei	P105C
Sánchez-Sesma	Francisco	K201D
Satoh	Toshimi	P104A
Sawada	Yoshihiro	P202H
Sawairi	Masahiro	P209H
Seita	Kazuhiro	P210D
Sekiguchi	Haruko	P103B

Last Name	First Name	Paper NO.
Senna	Shigeki	I202B、P201D
Shigefuji	Michiko	P206F
Shingaki	Yoshikazu	P110B
Si	Hongjun	P117A
Sokolov	Vladimir	P205G、P206G
Somei	Kazuhiro	P105B
Steidl	Jamison	I201E
Stewart	Jonathan	K101C
Stripajova	Svetlana	P127A
Stupazzini	Marco	P204F
Takai	Nobuo	P207F
Tsai	Chi-Chin	P201E
Tsuno	Seiji	P211D
Uetake	Tomiichi	P201H
Varone	Chiara	P120A、P121A
Wang	Xin	P213D
Wen	Ruizhi	I102A
Wen	Kuo-Liang	I201B
Wen	Strong	P102A
Wu	Hao	P101B
Wu	Cheng-Feng	P108B
Yamada	Masumi	P206H
Yamanaka	Hiroaki	P214D
Yang	Cheng-Tao	P201G
Yeh	Chin-Hsun	I303G
Yoshida	Kunikazu	P203F
Yoshimi	Masayuki	P206D
Zhao	Li	I103A

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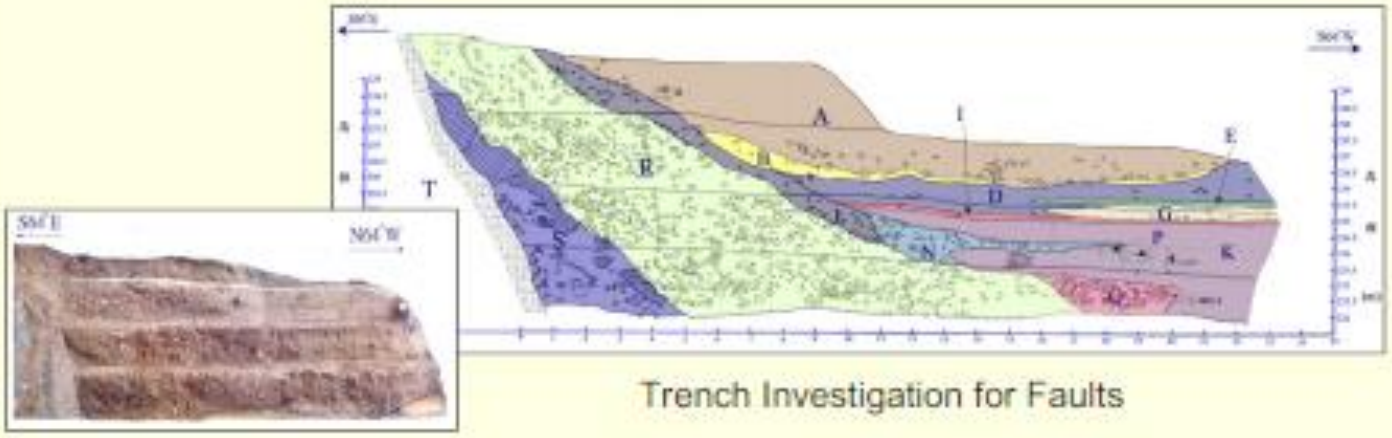
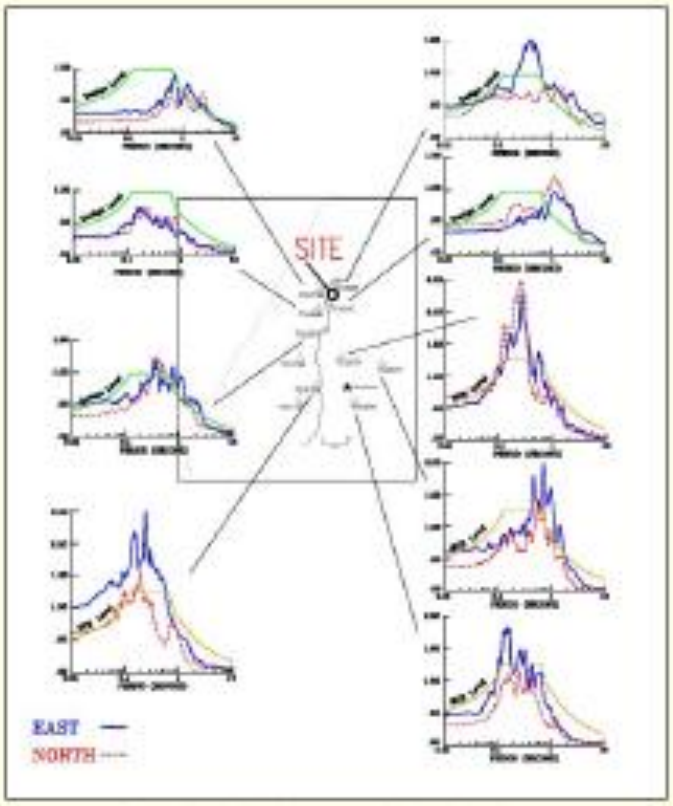


Trench Investigation for Faults

Geological Investigation for Strong-motion Seismograph Stations of Taiwan



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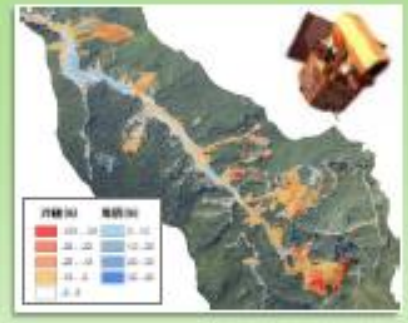
1 Introduction

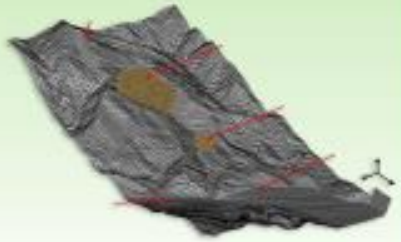
Located on the Pacific Ring of Fire Taiwan is frequented by earthquakes. In addition, global warming and climate change have increased the frequency and intensity of the natural disasters. Such extreme conditions have made earthquake resistant engineering, flood control design, and disaster management projects incredibly challenging. In view of this, Sinotech Engineering Consultants, Inc. established the Disaster Prevention Technology Research Center (DPTRC) on January 1st, 2012, develop the various of natural disaster prediction model and scenario technology. The DPTRC hopes to provide all-dimensional and wide-ranging service for national land conservation and disaster prevention planning to encourage the sustainable development of public works and hazard mitigation.

2 Research and Development

Environmental Resources Monitoring Research Group

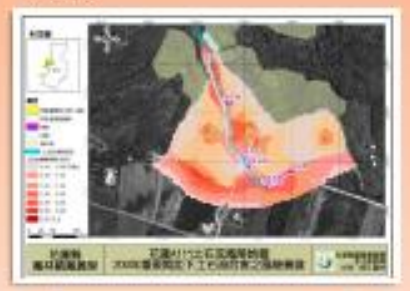
- ✓ Watershed Sediment Yield Monitoring and Estimation
- ✓ Remote Sensing Image Analysis and Interpretation
- ✓ Unconventional Near-Range Photogrammetry Technique
- ✓ Underground Geology Structure Modeling
- ✓ Remote Sensing and 3D Spatial Data Warehouse Establishment

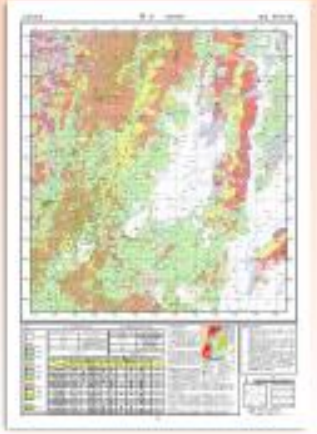




Multi-Hazard Risk Assessment Research Group

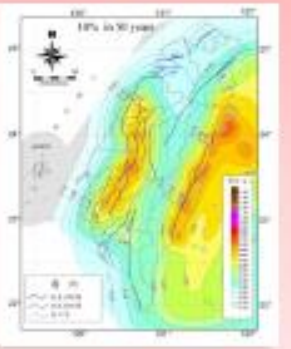
- ✓ Landslide Hazard Investigation for Disaster Evacuation Planning
- ✓ Geological Susceptible Area Identification by Remote Sensing
- ✓ Landslide Susceptibility Assessment
- ✓ Debris Flow Risk Assessment
- ✓ Deep-Seated Landslide Investigation and Numerical Simulation
- ✓ Prediction of Mountain Road Closure and Villages Isolation Due to Natural Hazard

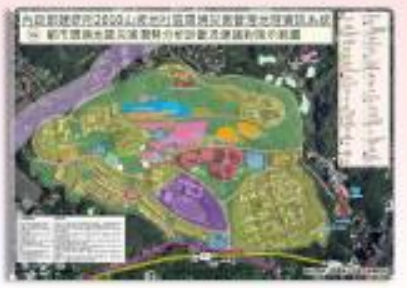




Urban Disaster Scenario Research Group

- ✓ Seismic Hazard Analysis for Nuclear Power Generation Facilities
- ✓ Seismic Wave Form Simulation and Ground Motion Prediction
- ✓ Seismic Hazard Estimation for Active Faults and Seismogenic Sources
- ✓ Urban Environmental Geology Investigation and Disaster Prevention Planning
- ✓ Geo-hazard risk Assessment for Hillside Communities





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