

Recent Advances in Earthquake, Tsunami, and Volcano Monitoring, Hazard Evaluation, and Disaster Management in Latin America

March 14–16, 2017 at Escuela Politecnica Nacional (EPN), Quito, Ecuador

Sponsored by Japan International Cooperation Agency (JICA) and Japan Science and Technology Agency (JST)

AGENDA

March 14-----

OPENING REMARKS

14:00-14:05 President of EPN

14:05-14:10 Director of the JICA office in Ecuador

SESSION 1: Overview of the SATREPS and JICA projects in Latin America

14:10-14:30 Resume of JICA Project “Enhancement of Earthquake and Tsunami Monitoring Capacity for Tsunami Early Warning” in Ecuador: *Alexandra Alvarado, Gabriela Ponce, Wilson Acero, Daniel Pacheco, Mario Ruiz*

14:30-14:50 Advances in Colombian SATREPS project: *Marta Calvache*

14:50-15:10 Mexico SATREPS project by *Victor M. Cruz-Atienza*

15:10-15:30 Summary report of Peru SATREPS project on Enhancement of Earthquake and Tsunami Disaster Mitigation Technology: *Fumio Yamazaki*

15:30-15:50 Outline of Chile SATREPS project on tsunami disaster mitigation: *Takashi Tomita, Rodrigo Cienfuegos*

15:50-16:10 Coffee break

SESSION2: Earthquake monitoring

16:10-16:30 Earthquake monitoring using regional broadband seismic networks: *Hiroyuki Kumagai*

16:30-16:50 How to prepare for a strong shaking? Earthquake early warning in Japan: *Masumi Yamada*

16:50-17:10 Earthquake monitoring using ocean-bottom observations: *Yoshihiro Ito*

17:10-17:30 Universality and diversity of slow earthquakes in world subduction zones: *Satoshi Ide*

17:30-17:50 Tsunami source estimate of the 1906 Ecuador-Colombia earthquake: *Masahito Yoshimoto, Hiroyuki Kumagai*

17:50-18:10 Focal mechanisms of the 2016 Pedernales, Ecuador, earthquake and aftershocks using

SWIFT: *Wilson Acero, Gabriela Ponce, Hiroyuki Kumagai, Daniel Pacheco*

18:10-18:30 Earthquake monitoring in Colombia, improvement by Colombia SATREPS Project: *Viviana Dionicio, H. Kumagai, Y. Maeda, M. Yoshimoto, M. Calvache, P. Pedraza, J. Bermúdez, R. Bolaños, C. Muñoz, L. Aguirre, N. Pérez, J. Velásquez, M. Nader, I. Molina, K. Vallejo, A. Gómez, J. Lizcano, R. Prada, E. Gil, M. Acosta, O. Higuera, O. Chamorro*

March 15-----

SESSION 3: GNSS observation and volcano monitoring

09:00-09:20 Recent examples of GNSS crustal deformation observations in Ecuador: *Patricia Mothes, Paul Jarrin, Jean-Mathieu Nocquet, Frederique Rolandone, Marco Yopez and Santiago Aguaiza*

09:20-09:40 Space Geodesy Infrastructure: a research tool for Geodynamics in Colombia: *Héctor Mora-Páez and GeoRED Team*

09:40-10:00 Interplate coupling and block motion model in Colombia, detected by GNSS observation network: *Takeo Ito*

10:00-10:20 GPS studies of crustal deformation in Mexico (Subduction earthquakes, Slow slip events and Seismic cycle) by *Vladimir Kostoglodov*

10:20-10:40 JICA-IGEPN cooperation in volcano monitoring: Surveillance and Research at active Tungurahua and Cotopaxi volcanoes, Ecuador: *Mario Ruiz, Hiroyuki Kumagai*

10:40-11:00 Volcano monitoring in Colombia: *Cristian López, Marta Calvache, Gloria Cortes, John Londoño, Lina García, Lina Castaño, Beatriz Galvis, Álvaro Acevedo, Milton Ordoñez, Oscar Sanabria, Zoraida Chacón, Claudia Durán, Julian Ceballos, Lilly Martínez, Ricardo Méndez, Adriana Agudelo, Cristian Santacoloma, Carlos Ospina, Jorge Alpala, Diana Quintero, Luisa Meza, Jaime Raigosa, Rosa Alpala, Darío Corchuelo, Julian Sánchez, Diego Gómez, , Oscar Cadena, Roberto Torres, Lourdes Narváez, Darío Arcos, Carlos Laverde, Patricia Ponce, Paola Narváez, Viviana Burbano, Adriana Ortega, Jhon Meneses, Edgar Muñoz*

11:00-11:20 Coffee break

SESSION 4: Strong-motion hazards

11:20-11:40 From earthquake hazard to risk: Findings from Portoviejo, Ecuador, after the 16th April 2016 earthquake: *H Yepes, JM Marrero, P Palacios, P Ramón*

11:40-12:00 Crustal activity and seismogenic sources in the Bogota region: *Patricia Pedraza, Nelson Pulido, Cristina Dimaté.*

12:00-12:20 Near-realtime strong motion hazard mapping: *Masashi Matsuoka*

- 12:20-12:40 Strong-motion simulation in Bogota: Estimation of earthquake scenarios and velocity model of Bogota basin: *Nelson Pulido*
- 12:40-13:00 Damage estimation in Colombia: *Luis E. Yamin, Juan Carlos Reyes, Raúl Rincón, Álvaro Hurtado, Andrea Riaño*

13:00-14:30 Lunch

SESSION 5: Tsunami

- 14:30-14:40 Overview: *Shunichi Koshimura*
- 14:40-14:55 Progress of tsunami disaster management in Ecuador: *Carlos Perugachi, Patricia Arreaga*
- 14:55-15:10 Recent advances in assessment and forecast of tsunami in Colombia: *Ronald Sánchez, Leonardo Marriaga, Milton Puentes, Anlly Guerrero, Erick Mas, Bruno Adriano, Luisa Urra, Shunichi Koshimura*
- 15:10-15:20 Spatial distribution of the physical vulnerability of buildings due to tsunamis in San Andrés de Tumaco, Pacific coast of Colombia: *Sergio Andrés Medina González, Juan Manuel Lizarazo, Carlos Eduardo Rodríguez, Luis Enrique Gil, Herbert Giraldo, Carlos Cubillos, Martin Estrada, Emilio Tinoco.*
- 15:20-15:35 Tsunami disaster management in Peru: *Miguel Estrada*
- 15:35-15:55 Discussion

SESSION 6: Poster session

15:55-18:00 Posters listed below

March 16-----

SESSION 7: Disaster information and education

- 08:30-08:50 Participation and activities of SGR with the communities by the JICA Project “Enhancement of Earthquake and Tsunami Monitoring Capacity for Tsunami Early Warning” in Ecuador: *Alan Mite, SGR*
- 08:50-09:10 Dissemination of information and contribution of SATREPS Project to the National Plan for Disaster Risk Management 2015-2025 in Colombia: *Edwin Pinto Ladino, Nathalia Contreras*
- 09:10-09:30 Recent experiences in cultural promotion and education for disaster risk reduction in Mexico: *Tomás Sánchez*
- 09:30-09:50 Development of Educational Seismic Monitoring Network for Buildings - REMOED and Initiative of Education Program at CISMID in Peru: *Carlos Zavala, Miguel Estrada, Miguel Diaz, Francisco Rios*

09:50-10:10 Lessons for tsunami risk mitigation from recent events occurred in Chile: research findings for alerting and evacuation from interdisciplinary perspectives: *Patricio Catalán, Rodrigo Cienfuegos*

10:10-10:30 Tsunami evacuation drill at school of Zihuatanejo, Mexico: Resolving "double bind" situation: *Genta Nakano*

10:30-10:50 Coffee break

SESSION8: Discussion

10:50-12:30 Future collaborations among Latin American countries

EXCURSION

12:30-18:00 Cotopaxi Volcano

POSTERS-----

Focal Mechanisms of Colombian earthquakes using SWIFT system: *Juan Carlos Bermúdez, H. Kumagai, P. Pedraza, V. Dionicio*

Seismic-acoustic energy partitioning during a paroxysmal eruptive phase of Tungurahua volcano, Ecuador: *Pablo Palacios, Mikel Diez, J. Michael Kendall, Heidy M. Mader*

Cotopaxi volcano monitoring: *Patricia Mothes, Pedro Espin, Mario Ruiz, Cristina Ramos*

Unrest of Nevado del Ruiz Volcano 2010-2017: *John Makario Londoño, Lina Marcela Castaño, Beatriz Galvis, Lina Constanza García, Zoraida Chacón, Cristian López, Milton Ordoñez*

Galeras volcano monitoring: *Roberto Torres, Patricia Ponce, Carlos Laverde, Jhon Meneses, Cristian López*

Puracé volcano monitoring: *Cristian Santacoloma, Andrés Narváez, Diana Quintero, Oscar Manzo*

Bi-national volcanic monitoring program example volcano Chile and Cerro Negro: *Alexandra Alvarado, Benjamin Bernard, Gabriela Ponce, SGC*

Spatial distribution of the physical vulnerability of buildings due to tsunamis in San Andrés de Tumaco, Pacific coast of Colombia: *Sergio Andrés Medina González, Ph.D Juan Manuel*

Lizarazo, Ph.D Carlos Eduardo Rodríguez, M.Sc Luis Enrique Gil, M.Sc Herbert Giraldo, M.Sc Carlos Cubillos, M.Sc Martin Estrada & Ing. Emilio Tinoco.

A Preliminary geological and velocity model of Bogotá region: *Juan Carlos Reyes, Luis E. Yamin, Andrea Riaño, Julián S. Montejo, José L. Bustamante*

Accelerometer Network of Bogotá. Evolution and Expectations: *Mario Helberto Leal Noriega.*

Chiles and Cerro Negro monitoring and risk maps: *Alexandra Alvarado, Benjamin Bernard, Gabriela Ponce, SGC*

Elaboration of a velocity model of the Bogota basin: *Helber García, S. Senna, N. Pulido, G. Redondo, L. Castillo, M. Tovar, E. Mazo, J. Fandiño, L. Quiñones, J. Luengas, J. Bustamante, J. Montejo, F. Obando B, L. Tinjacá, I. Bautista, M. Leal*

Estimation of ground shaking distribution based on empirical models and Vs30 map in Bogota, Colombia: *Hiroyuki Miura, Masashi Matsuoka, Jaime Eraso*

Advance in the study on geology of active faults near Bogota: *Patricia Pedraza, Miryam López, Luis Miguel Aguirre, Eliana Torres, Adrián Oviedo, Alejandra Amaya, Carlos Alfonso, Olga Patricia Bohórquez, Hans Diederix*

Methodology for process optimization in the bulletin publishing system: *Sergio Suárez, Israel Ronquillo, Marcelo Candell, Carlos Perugachi, Willington Rentería, Jorge Nath, Patricia Arreaga*