

7th Taiwan-Philippines Earth Sciences International Conference

6-7 February 2023
Zenda Suites, Tainan, Taiwan

AGENDA



7th Taiwan-Philippines Earth Sciences International Conference

Date: February 6-7, 2023

Venue: Zenda Suites, Tainan, Taiwan

Time		February 6, 2023	
8:40-9:05 AM		Registration	
9:05-9:15 AM		TPESIC 2023 Opening	
9:15-9:45 AM		Keynote: "Typhoon Rapid Intensification with 200 PVU Convective Potential Vorticity Tower in Numerically Simulated Super-typhoon Haiyan (2013)" by Hung-Chi Kuo Introduction by Ben Jong-Dao Jou	
9:45-10:15 AM		Keynote: "From ophiolite emplacement to arc magmatism and intra-arc basin formation: A peek into the evolution of North Luzon" by Graciano Yumul Jr. Introduction by Decibel Faustino-Eslava	
10:15-10:30 AM		Coffee break	
		Meteorology session Moderators: Esperanza Cayan, Chung-Chieh Wang	Solid Earth session Moderators: Leo Armada, Ya-Ru Hsu
10:30-10:45 AM		CWB Extended-Range Tropical Cyclone Forecast System Hsiao-Chung Tsai (Tamkang Univ.)	The motion of the Philippine Fault and its tectonic significance Shu-Kun Hsu (NCU)
10:45-11 AM		Time-lagged Ensemble Quantitative Precipitation Forecasts for Three Landfalling Typhoons in the Philippines using the CReSS Model Chung-Chieh Wang (NTNU)	Geomorphology and Structure of the East Solsona Basin Fault (West Ilocos Fault System) in Northern Luzon, Philippines Noelynn Ramos (UP)
11:00-11:15 AM		WRF Model: High Resolution Rainfall Forecasting in the Complex Terrain of Benguet Province during STS Florita Jefferson Rapisura (UPLB)	Oblique blind thrust fault in northern Luzon illuminated by the 2022 Mw 7.0 Abra earthquake and implications for regional seismic hazards Chi-Hsien Tang (Academia S.)
11:15-11:30 AM		Providing Sub-Seasonal-to-Seasonal Multi-Model Grand Ensemble Tropical Cyclone Strike Probability Forecasts in the Philippines Marcelino Villafuerte II (PAGASA)	Hualien Ridge: a tectonical ridge transitioning from plate collision to subduction Lien-Kai Lin (NCU)
11:30-11:45 AM		The Philippine springtime (February-April) sub-seasonal rainfall extremes and extended-range forecast opportunity revealed in the S2S database Mong-Ming Lu (NTU)	Advances, challenges, and future directions for expanding the use of satellite radar interferometry for Philippine tectonics: case studies from Leyte and Mindanao, Philippines John Dale Dianala (UP)
11:45-12 NN		Group photo	
12-1:30 PM		Lunch	



國立成功大學
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NSTC 國家科學及技術委員會
National Science and Technology Council

Time	February 6, 2023	
	Meteorology session Moderators: Marcelino Villafuerte II, Mong-Ming Lu	Solid Earth session Moderators: Jillian Aira Gabo-Ratio, Yuan-Hsi Lee
1:30- 1:45 PM	<i>Cold Surge Impacts on the Structure, Energy Budget, and Turbulence of the South China Sea Boundary Layer</i> Chung-Hsiung Sui (NTU)	<i>Exhumation of high-pressure metamorphic rocks in the Yuli belt, eastern Taiwan</i> Chin-Ho Tsai (NDHU)
1:45- 2 PM	<i>Impacts of East Asian Atmospheric Circulation modes by Indian Ocean Dipole (IOD) and ENSO states in summer and autumn</i> Jui-Ling Kuo (CWB)	<i>Geochemistry of the Late Eocene Luzon Granitoid Complex, Philippines</i> Karl Jabagat (NCCU)
2:00- 2:15 PM	<i>Impact of Deforestation in the Maritime Continent on the Madden-Julian Oscillation</i> Chiung-wen June Chang (CCU)	<i>Mixing, fluid Infiltration, Leaching and Deformation (MILD) processes on the subducting slab-mantle wedge interface</i> Gabriel Theophilus Valera (UP)
2:15- 2:30 PM	<i>The application of WaveWatch III wave nests model and currents interaction on Taiwan area</i> Chi-Hao Chu (CWB)	<i>Thermal events in the Palawan Island: evidence for a pre-Mid-Miocene metamorphism and Mid-Late Miocene exhumation</i> Lucas Mesalles (NCCU)
2:30- 2:45 PM	<i>Asymmetric modulation of ENSO on TC activity affecting the Philippines</i> Tzu-Ling Lai (NKUST)	<i>Petrogenesis of Cretaceous alkaline igneous rocks in Southern Palawan</i> Betchaida Payot (UP)
2:45-3 PM	Coffee break	
	Meteorology session Moderators: Lorenzo Moron, Chin-Tzu Fong	A Short Course on Mineralogy, Petrology and Geochemistry Moderator: Hou-Chun Liu
3:00- 3:15 PM	<i>Products of Seasonal Forecast for Supporting Water resources</i> Ching-Teng Lee (CWB)	<i>From the Earth's mantle to surface</i> Huai-Jen Yang (NCKU)
3:15- 3:30 PM	<i>Propose an operational wind gust forecast system with numerical weather prediction model and in situ observation</i> Chin-Cheng Tsai (CWB)	<i>Using the concentrations and isotopic compositions of first-row transition metals to study marine biogeochemistry and pollution</i> Wen-Hsuan Liao (NCKU)
3:30- 3:45 PM	<i>New operational S2S forecast system in Central Weather Bureau in Taiwan</i> Pei-Hsuan Kuo (CWB)	<i>Deciphering weathering sources and sinks by isotope geochemistry</i> Hou-Chun Liu (NCKU)
3:45- 4 PM	<i>Geomorphic and soil physical characterization of landslides in mineralized terranes in northern Luzon, Philippines</i> Jenielyn Padrones (UPLB)	<i>Introduction of NCKU mineral physics Lab</i> Jennifer Kung (NCKU)
4-5 PM	Discussion and poster session	
6:30-8:30 PM	Dinner	

Time	February 7, 2023	
9-9:15 AM	Registration	
	Meteorology session Jefferson Rapisura, Chiung-wen June Chang	Solid Earth session John Dale Dianala, Po-Fei Chen
9:15-9:30 PM	Evaluation of Heavy Rainfall Data Generated By Typhoons in The Philippines with Near-Real-Time Satellite Rainfall Products Putu Aryastana (NCU)	Seismotectonics of Sulawesi, Indonesia Yopi Ruben Serhalawan (NCU)
9:30-9:45 PM	Monsoonal variation of Raindrop Size Distribution (DSD) in Metro Manila, Philippines Marco Polo Ibañez (PAGASA)	Significant Earth's response to the 2022 Tonga volcano eruption shock wave across Western Pacific from various instrument observations Bor-Shouh Huang (Academia S.)
9:45-10 PM	Analyzing tropical cyclone structure with a deep learning model utilizing satellite imagery Chun-Min Hsiao (CWB)	The Rupture Process of the 2022 Guanshan Earthquake and Chishang Earthquake in Longitudinal Valley, Eastern Taiwan from Joint Inversion of Seismological and Geodetic Data Wei-Yu Zhang (NCU)
10:00-10:15 PM	Impact of assimilating radar data on forecasting enhanced southwest monsoon rainfall over the Philippines Heinritz Miguel (PAGASA)	Application of the real-time seismic wavefield on the earthquake early warning system Da-Yi Chen (CWB)
10:15-10:30 PM	Development of Z-R relationship for Subic Radar Station using the traditional matching method Lorenzo Moron (PAGASA)	Introduction of the project of establishing the Earthquake and Tsunami Submarine Observation System between Taiwan and the Philippines Tzu-Wei Lin (CWB)
10:30-10:45 AM	Coffee break	
	Meteorology session Heinritz Miguel, Ben Jong-Dao Jou	Solid Earth session Betchaida Payot, Karl Jabagat
10:45-11 AM	Impact study of updating SST on tropical cyclone predictions in the western North Pacific Der-Song Chen (CWB)	Climate change and extirpation of Taiwanese population of <i>Scaphechinus mirabilis</i> A. Agassiz, 1864 during the Pleistocene-Holocene transition Jih-Pai Lin (NTU)
11:00-11:15 AM	Characteristics of Deep Convective Clouds, Precipitation, and Cloud Properties of Rapidly Intensifying Tropical Cyclones in the Western North Pacific Jason Punay (NCU)	New fossil species of the genus <i>Laganum</i> (Echinodermata: Echinoidea) from the Kueichulin Formation (late Miocene-Pliocene), northern Taiwan Chia-Hsin Hsu (NTU)
11:15-11:30 AM	Application of WRF FDDA to initialize typhoon structure in Typhoon WRF (TWRF) prediction by utilizing predicted typhoon wind field Hua Hsu (CWB)	Provenance and tectonic setting of the clastic turbidite sequences in southwestern Mountain Province: Clues from the geochemistry and geochronology of the Balili Formation Jillian Aira Gabo-Ratio (UP)

Time			February 7, 2023		
11:30-11:45 AM	<i>On the Intensification of Super Typhoon Goni (2020) Part 2: Deep Convective Clouds, Precipitation, Cloud Microphysics, and Wind Structure</i> Henric Jandoc (Bicol U.)	<i>Major and trace elements geochemistry of clastic sequences from Ilocos Norte, Philippines: Implications for provenance, tectonic setting and paleoclimate conditions</i> John Esteban Cari (UP)			
11:45-1:15 PM	Lunch				
	Meteorology session Loucel Cui, Decibel Faustino-Eslava	Solid Earth session Jenielyn Padrones, Kuo-En Ching			
1:15-1:30 PM	<i>Citizen Science for Landslide Early Warning System: The Project LIGTAS Philippines Initiative</i> Loucel Cui (UPLB)	<i>A tale of two orogens-Taiwan and Mindoro</i> Yuan-Hsi Lee (NCU)			
1:30-1:45 PM	<i>Soil Characterization of Landslide Areas in Volcanic Regions of the Philippines</i> Bianca Pedrezuela (UPLB)	<i>Imaging Subsurface of the Northern Philippines Using Autocorrelation of Noise Data</i> Po-Fei Chen (NCU)			
1:45-2 PM	<i>Are we there yet? The case of deriving rainfall-landslide thresholds for shallow landslides in the mineralized and volcanic regions of the Philippines</i> Beth Zaida Ugat (UPLB)	<i>Along-strike subduction heterogeneity in the Manila Trench: Coupling and seismological implications</i> Leo Armada (UP)			
2:00-2:15 PM	<i>Non-analog future climates and the outlook for rainfall-induced landslides in the Philippines</i> Decibel Faustino-Eslava (UPLB)	<i>Gravity anomalies offshore western Luzon: Clues to ophiolite emplacement and persistent strike-slip tectonics in the South China Sea eastern margin</i> Carla Dimalanta (UP)			
2:15-2:30 PM	Coffee break				
	Meteorology session	Solid Earth session Gabriel Theophilus Valera, Lucas Mesalles			
2:30-2:45 PM	<i>Training on High-Level Quantitative Precipitation Estimation (QPE)</i> Ben Jong-Dao Jou (NTU), Wei-Yu Chang (NCU)	<i>Forearc morphological heterogeneity in the Manila Subduction Zone: A result of seamount subduction?</i> Karla Sayen (UP)			
2:45-3:00 PM		<i>Tectonic controls on the BSR distribution in the northern Manila Trench forearc</i> Elisha Jane Maglalang (UP)			
3:00-4:30 PM		Group and poster discussion			

Meteorology

Poster No.	Name	Poster Title
M1	Ben Jong-Dao Jou (NTU)	Radar Analysis of Landfalling Typhoons
M2	Erica Silk dela Paz (NTU)	Seasonal variability of carbon and nitrogen transfer efficiency between specific plankton size groups in a subtropical deep oligotrophic freshwater ecosystem
M3	Earl Jeffrey Dineros (Bicol U.)	On the Intensification of Super Typhoon Goni (2020) Part 1: Environmental Conditions
M4	Pin-Wen Song (NTNU)	An Evaluation Study of Cloud-Resolving Time-Lagged Ensemble Forecasts for Typhoon Megi (2022)
M5	Jian-Hung Liao (NTU)	Weather and Climate analysis of Tropical cyclone genesis clustering events in Western North Pacific Extended-Weather Analysis
M6	Yin-Min Cho (NTU)	Decadal-scale changes of the Asian summer monsoon and the South China Sea tropical cyclone activity in May from 1981 to 2020
M7	Pei-Fang Wu (NTU)	2020/21 East Asian Winter Monsoon Sub Seasonal Contrast and the Influence on the Temperature over Northern South China Sea Region
M8	Alvin Pura (PAGASA)	Raindrop Size Distribution (DSD) characteristics during the Southwest Monsoon period over Western Luzon, Philippines

Solid Earth

S1	Alfie Pelicano (PHIVOLCS)	The Philippine GNSS Network
S2	Meng-Xuan Li (NCKU)	Evaluation of Sulfuric Acid-mediated Weathering and CO ₂ Fluxes in Southwestern Taiwan
S3	Wen-Han Lo (NDHU)	Metamorphosed forearc relics preserved in the Taiwan orogen: new evidence from the Yuli belt
S4	Wen-Hsuan Liao (NCKU)	Distribution of dissolved Fe and Mn in the Atlantic-Arctic transition zone
S5	Siang-Wun Huang (NCKU)	Investigation on the phase transition correlations between pyrrhotite phases using the hydrothermal synthetic method
S6	Chun-Fu Liao (NCCU)	Exploring the spatiotemporal properties of the first higher-mode ambient noise Rayleigh wave in Taiwan
S7	Dominikus Dewangga (NDHU)	Deciphering the mysteries in serpentinites from the Yuli belt: origins and metamorphic conditions
S8	Li-Hsing Huang (NCKU)	Study on paleomagnetic properties of andesite rocks in Lanyu Island of Taiwan
S9	Chase J. Shyu (Academia S.)	Numerical modeling on the sedimentary basins with time-varying kinematic boundary condition

Solid Earth

Poster No.	Name	Poster Title
S10	Maria Regina Regalado (UPLB)	The use of communication for disaster preparedness and response in selected landslide prone areas in the Philippines
S11	Min-Yen Shih (NCKU)	Tracing sediments provenance in Puli Basin using Sr-Nd isotopic compositions
S12	Mariz Alcancia (UP)	Petrography, geochemistry, and geochronology of gabbros and associated rocks from Pangasinan–northern Zambales
S13	Kenneth Sangalang (UP)	Neogene basinal deposition of the Upper Miocene to Lower Pliocene Santa Cruz Formation in western Pangasinan: Insights from petrography, geochemistry, and geochronology
S14	Chia-Kai Liang (NCKU)	Experimental evaluation on arsenic release from goethite through interaction with solutions containing humic acid and compost extract
S15	Hong-Li Lu (NCKU)	Co-precipitated As/Fe ratio of synthesized and natural goethite: implications on goethite formation mechanisms
S16	Noelynna Ramos (UP)	Liquefaction along the Coastal Areas of Ilocos Sur Following the 27 July Northwestern Luzon Earthquake: Constraints from Ground-Penetrating Radar