

**9th International Workshop on
Earthquake Preparation Process
~ Observation, Validation,
Modeling, Forecasting ~**

Program

IWEP9

May 27 – 28, 2025

Chiba University, Chiba, Japan

9th International Workshop on Earthquake Preparation Process ~ Observation, Validation, Modeling, Forecasting ~ (IWEPP9)

Sponsor:

- Chiba University, Japan



Co-sponsor:

- Center for Astronautical Physics and Engineering (CAPE), National Central University, Taiwan
- Center for Environmental Remote Sensing, Chiba University, Japan



Supported by:

- Chiba Convention Bureau and International Center (CCB-IC)
- Earthquake Prediction Society of Japan
- Electromagnetic Studies of Earthquakes and Volcanoes (EMSEV)
- National Central University, Taiwan
- Chapman University, US
- Peking University, China
- Southern University of Science and Technology, China



Organizing Committee:

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Dr. Katsumi Hattori (Chiba University, Japan)

Secretary

Dr. Peng Han (Southern University of Science and Technology, China)

Dr. Rui Song (Chiba University, Japan)

Program Committee:

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Dr. Qinghua Huang (Peking University, China)

Dr. Xuhui Shen (National Space Science Center, CAS, China)

Dr. Toshiyasu Nagao (Tokai University, Japan)

Date: May 27 – 28, 2025

Venue: Room 101 & 102, the 1st floor of University Library / Academic Link Center
Building I, Nishi-Chiba Campus, Chiba University, Chiba, Japan

Contacts: Dr. Katsumi Hattori (Chiba University, Japan)

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Attention :

- As a general rule, eating and drinking are prohibited at the venue and inside the venue building.
- However, drinks that can be put in a lid, such as plastic bottles or thermoses, are OK.
- Therefore, please note that there will not be a kettle (hot water) provided at the venue.
- Please eat foods at the school cafeteria or other facilities.

**Eating is prohibited.
Only plastic bottles with lids or
water bottles are allowed for drinks.**



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Program

May 27, 2025 Morning

*The building entrance opens at 8:35.

0835-0900 *Registration*

0900-0910 Opening: Dr. Katsumi Hattori

Chair: Dr. Rui Song

0910-0940 **Shih-Sian Yang** et al., Exploring the existence of pre-seismic atmospheric gravity wave activity before major shallow earthquakes in Japan and Taiwan: 2024-2025

0940-1010 **Yongxin Gao** et al., Simulation of the acoustic gravity waves generated by a seismic source in the solid earth. (*invited*)

1010-1030 **Zhiqiang Mao** et al., Geomagnetic disturbances of 2024 Hualien earthquake

1030-1050 **Donghua Zhang** et al., Study on Seismic Anomaly Extraction of Swarm Satellite Magnetic Field Data Based on Complex Non-negative Matrix Factorization

1050-1110 **Baiyi Yang** et al., Spatiotemporal evolution characteristics of outgoing longwave radiation (OLR) anomalies before the 2021 Ms7.4 Madoi earthquake

1110-1140 **Hong-Jia Chen**, Investigating the Correlation Between Geoelectric Signals and Seismic Activity: Cases from Hualien and Chiayi, Taiwan

1140-1240 **Lunch**

May 27, 2025 Afternoon

Chair: Dr. Peng Han

- 1240-1300 **Xinle Zhang** et al., Seismicity Analysis In Yunnan Region And Its Application
- 1300-1320 **Yiqun Zhang**, Incorporating Non-Seismic Precursors into Earthquake Probabilistic Forecasting Model
- 1320-1340 **Wenchao Li** et al., Incorporating Seismo-Magnetic Precursor Anomalies into ETAS Model for Earthquake Forecasting
- 1340-1440 Poster session 1

Chair: Dr. Peng Han

- 1440-1510 **Yuanyuan Zhou**, A Multi-Source Precipitation Fusion Model Based on Broad Learning System: A Case Study of Yunnan Province, China
- 1510-1540 **John B. Rundle**, Nowcasting Earthquakes with QuakeGPT, an AI-Enhanced Model: Methods, Information Content, First Results, Future Directions (*invited*)
- 1540-1550 *Break Time*

Chair: Dr. Katsumi Hattori

- 1550-1620 **Rui Wang** et al., Dual-Parameter Earthquake Forecasting in Yunnan: b-value and Background Seismicity Rate
- 1620-1650 Yoichi Noda, **Katsumi Hattori** et al., Development of GNSS-based pseudo-strainmeter; preliminary study for the 2016 Kumamoto earthquake (Mj7.3), Japan - temporal and spatial analysis in Kyushu -
- 1650-1720 **Josaphat Tetuko Sri Sumantyo**, Establishment of an Interdisciplinary Hub for AI Disaster Mitigation and Sustainability (*invited*)
- 1720-1740 Discussion: Dr. Katsumi Hattori *and Group photo*
- 1830-2030 *Welcome Party* (The Italian bar ROMERO at Nishi-Chiba Station)

May 28, 2025 Morning

*The building entrance opens at 8:35.

Chair: Dr. Yongxin Gao

- 0900-0920 **Haruki Ariizumi** et al., Monitoring groundwater flows with using 3D self-potential tomography
- 0920-0940 **Chinatsu Sasanuma** et al., Statistical significance and Molchan's Error Diagram analyses for long-term Ionosonde data from 1958-2024 at Kokubunji, Japan
- 0940-1000 **Ting Li** et al., Ionospheric disturbances observed over China after 2022 January 15 Tonga volcano eruption
- 1000-1030 **Rui Song** et al., The three-dimensional ionospheric electron density disturbances following the 2011 M9.0 Tohoku-Oki earthquake in Japan
- 1030-1100 **Tiger Jann-Yenq Liu** et al., Lessons learned from ionospheric precursors of the 21 September 1999 M7.7 Chi-Chi Earthquake (*invited*)
- 1100-1130 **Kosuke Heki** et al., Ionospheric changes immediately before the 2025/3/28 Myanmar Eq. (*invited*)
- 1130-1210 **Lunch**
- 1210-1310 Poster session 2

May 28, 2025 Afternoon

Chair: Dr. Toshiyasu Nagao

- 1310-1340 **Kuniyuki Motojima**, Equivalent sunset time delay on MF radio waves propagation prior to earthquakes
- 1340-1400 **Nagisa Sone** et al., Fright Model and Mission Concept of the W6U PRELUDE CubeSat for Seismic Ionospheric Disturbance Observation
- 1400-1420 **Ryoma Miura** et al., Design and Development Status of the Instrument Unit of PRELUDE for Observing Pre-Earthquake Ionospheric Disturbances
- 1420-1440 **Qiang Zu** et al., Multi-rotor unmanned aerial vehicle aeromagnetic survey system
- 1440-1510 **Yuji Enomoto**, Towards the Forecast and Prevention of Earthquake-Induced Methane Geohazards: A Survey of the Large-Scale Fire in Wajima City following the 2024 Noto Peninsula Earthquake (*invited*) [*online*]
- 1510-1540 **Daya Shanker** et al., Identifying Earthquake Precursors in the Western Nepal Himalayas Using Fractal Methods
- 1540-1550 *Break Time*

Chair: Dr. Tiger Jann-Yenq Liu

- 1550-1620 **Victor A. Novikov**, Seismicity response to strong variations in the geomagnetic field as a manifestation of electromagnetic triggering of earthquakes (*invited*) [*online*]
- 1620-1650 **Denis Zinkin** et al., Do solar flares and sudden storm commencements trigger earthquakes? [*online*]
- 1650-1720 **Dimitar Ouzounov** et al., The influence of geospace weather on earthquake processes: Case study for the M7.7 Myanmar earthquake on March 28, 2025. [*online*]
- 1720-1740 Discussion: Dr. Tiger Jann-Yenq Liu
- 1740 Closing: Dr. Katsumi Hattori

Posters

- P1: **Hongyan Chen** et al., Seismo-geomagnetic precursor signal recognition based on a novel high-precision interstation transfer function method
- P2: **Shu Kaneko** et al., A development of signal discrimination method using Multi-channel Singular Spectrum Analysis (MSSA) for ULF band electromagnetic data, in Boso, Japan (3)
- P3: **Yuichiro Ota** et al., Development of VLF/LF interferometer using capacitive circular flat-plane antenna and signal discrimination / identification by machine learning: Preliminary Result
- P4: **Kento Enomoto** et al., Statistical Analysis of GIM-TEC Anomalies Associated with large earthquakes ($M > 7$) during 2000-2024
- P5: **Kiyotaka Ninagawa** et al., Continuous radon measurement in atmosphere in Japan
- P6: **Shiori Fukunaga** et al., The Fluctuations of the Soil Radon Fluxes at Two Different Depths at Asahi Station, Japan
- P7: **Katsumi Hattori** et al., Formation of interdisciplinary hub for AI disaster mitigation and sustainability studies
- P8: **Chie Yoshino** et al., Multi-sensor monitoring network for earthquake precursor study near subduction zone at Chiba University, Japan
- P9: **Yoichi Noda** et al., Development of GNSS-based pseudo-strainmeter; preliminary study for the 2016 Kumamoto earthquake ($M_j 7.3$), Japan - temporal and spatial analysis in Kyushu -
- P10: **Haruki Ariizumi** et al., Monitoring groundwater flows with using 3D self-potential tomography
- P11: **Chinatsu Sasanuma** et al., Statistical significance and Molchan's Error Diagram analyses for long-term Ionosonde data from 1958-2024 at Kokubunji, Japan
- P12: **Wenchao Li** et al., Incorporating Seismo-Magnetic Precursor Anomalies into ETAS Model for Earthquake Forecasting

- P13: **Shuangshuang Li** et al., Development and testing of long-term high stability solid non-polarized electrode
- P14: **Shuangshuang Li** et al., Lithological controls on infiltration and failure characteristics of rainfall-induced landslide: experimental study of slopes in northern Guangdong, China
- P15: **Xiaocan Liu** et al., North-South asymmetry of Sq variations at geomagnetically conjugate area
- P16: **Kuan-Yu Lee** et al., Responses of Seismo-ionospheric Precursors in the Total Electron Content to Earthquake Magnitude and Depth in Taiwan and Japan during 1999–2024

Presentation information:

Oral presentation: 30 or 20 minutes including 5 minutes question-and-answer time.

Poster presentation: Poster board size: 90(W) x 180(H) cm

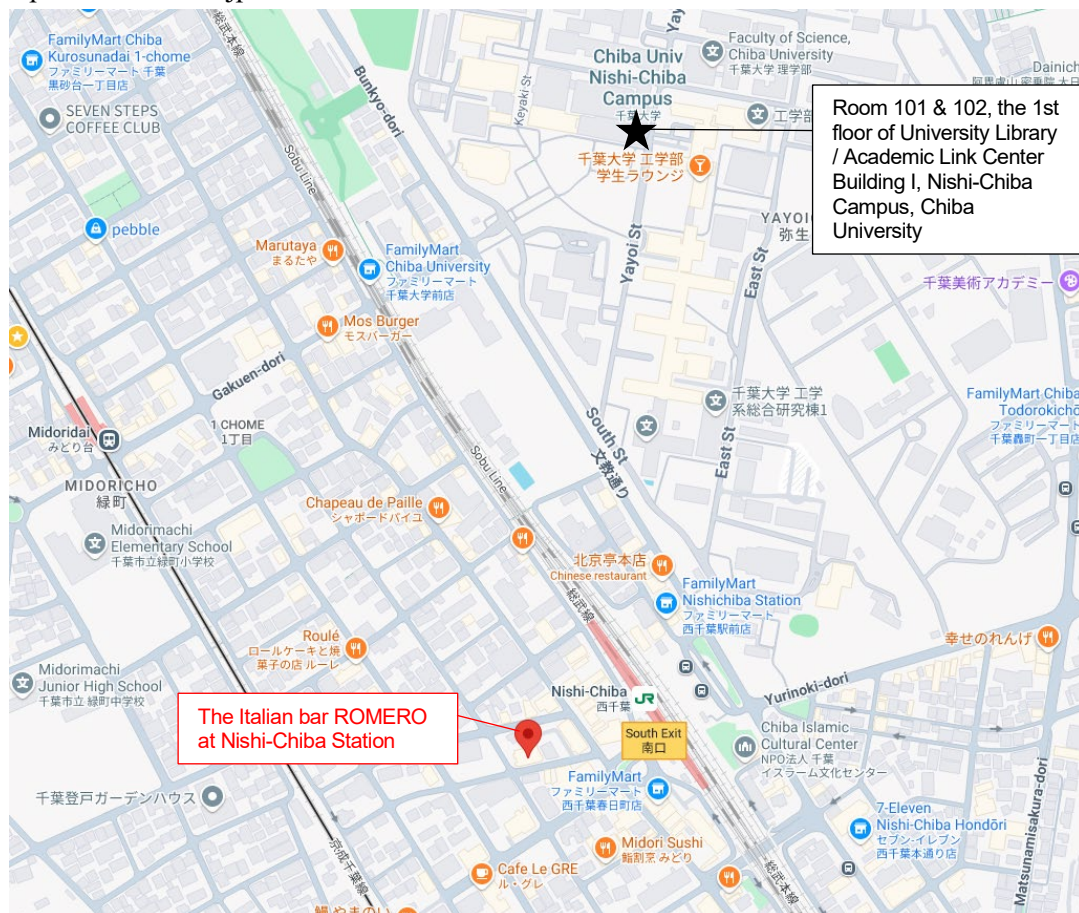
All the posters will be shown in the conference room during May 27 and 28.

Welcome Party:

Welcome party will be held from 18:30 on May 27, 2025 at " The Italian bar ROMERO at Nishi-Chiba Station ", near JR Nishi-Chiba station (5 minutes by walk). The price will be 8,000 JPY per person (3,000 JPY for a student).

" The Italian bar ROMERO at Nishi-Chiba Station "

<https://romero.owst.jp/en/>

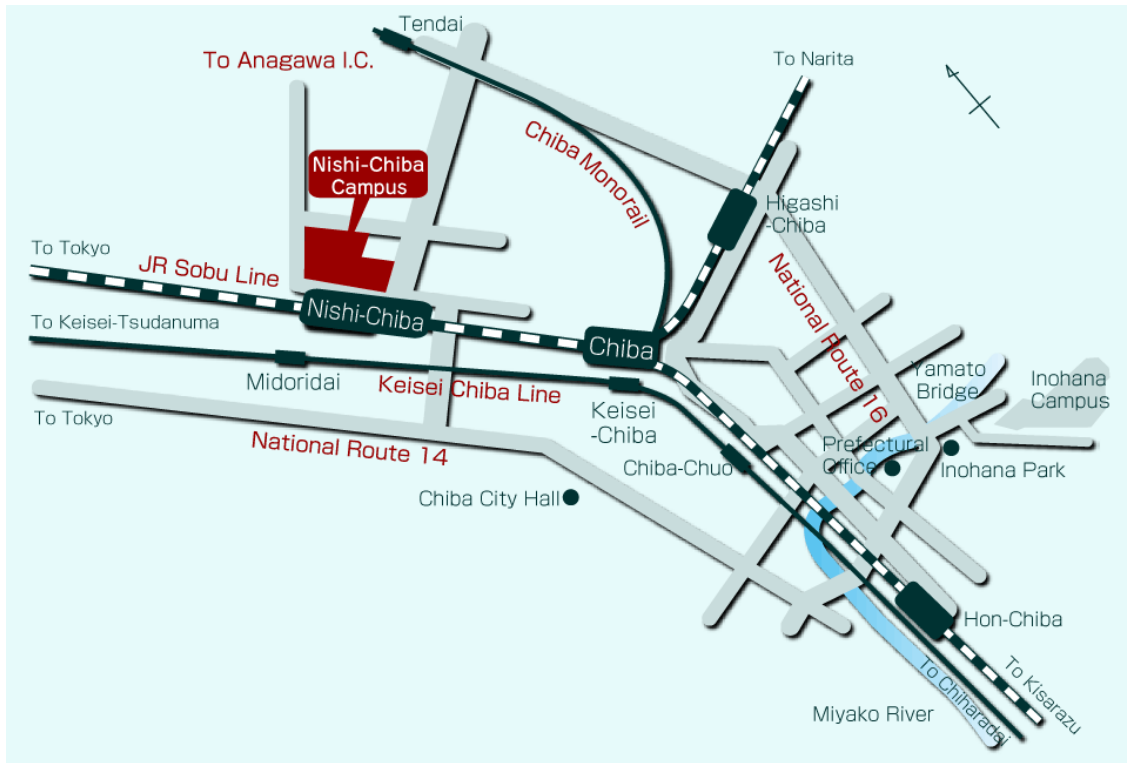


Access to Nishi-Chiba Campus, Chiba University:

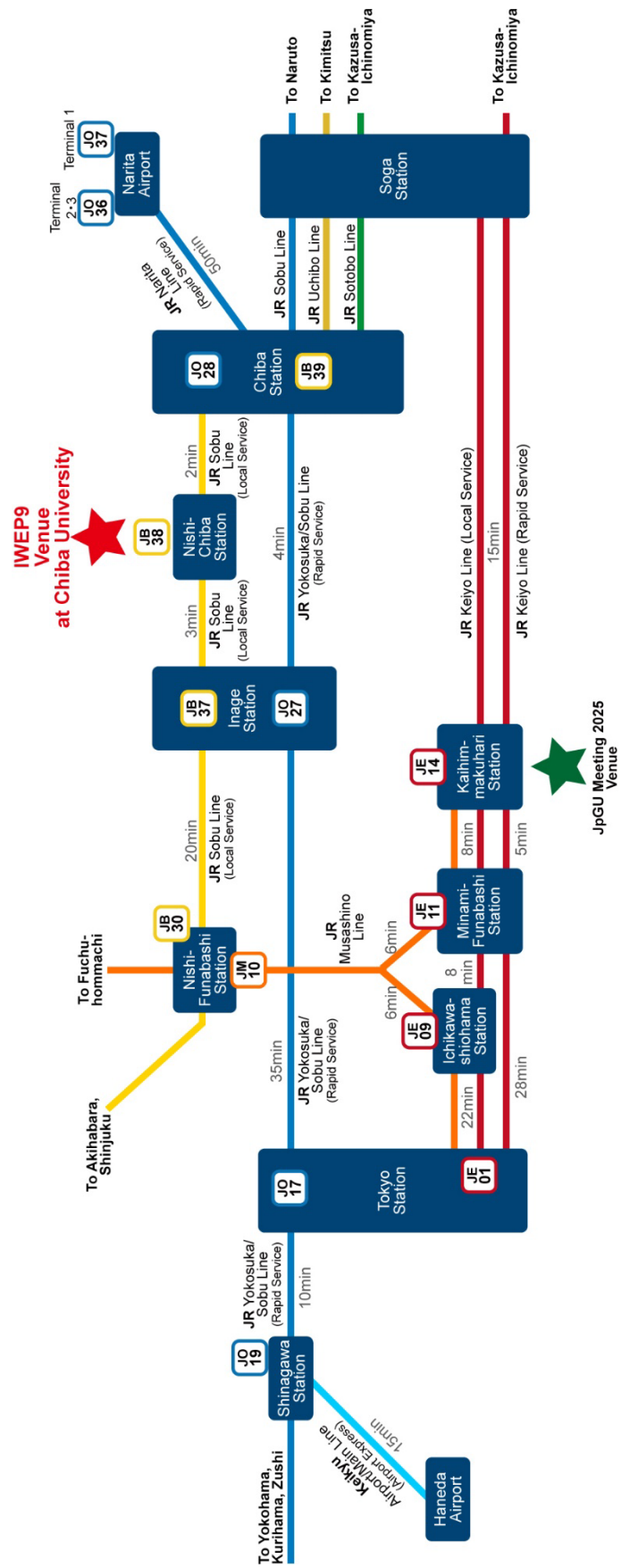
2-min walk from JR Nishi-Chiba Station to the South Gate of Nishi-Chiba Campus

7-min walk from Keisei Midoridai Station to the Center Gate of Nishi-Chiba Campus

10-min walk from Chiba Monorail Tendai Station to the North Gate



JR Tokyo	35min		JR Inage	3min	JR Nishi-Chiba			
	8 Stations			1 Station				
	JR Sobu Line (Rapid Service)			Sobu Line (Local Service)				
Keisei Ueno	35min		Keisei Tsudanuma	11 min	Keisei Midoridai			
	6 Stations			5 Stations				
	Keisei Line, Limited Express			Keisei Chiba Line				
Haneda Airport	16 min	JR Shinagawa	45 min	JR Inage	3 min	JR Nishi-Chiba		
	1 Station		10 Stations		1 Station			
	Keihin Kyuko Line Airport Rapid Limited Express		JR Sobu Line (Rapid Service)		Sobu Line (Local Service)			
Haneda Airport	17 min	JR Hamamatsucho	6 min	JR Tokyo	35 min	JR Inage	3 min	JR Nishi-Chiba
	1 Station		3 Stations		8 Stations		1 Station	
	Tokyo Monorail Haneda Express		JR Yamanote Line		JR Sobu Line (Rapid)		Sobu Line (Local Service)	
Narita Airport	42 min					JR Chiba	3 min	JR Nishi-Chiba
	8 Stations						1 Station	
	JR Sobu Line (Rapid Service)				Sobu Line (Local Service)			



Nishi-Chiba Campus

About 380,958m²



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