GIS IDEAS

GIS IDEAS 2024

DECEMBER
11 - 13TH, 2024

WWW.GIS-IDEAS.ORG/2024

SCHOOL OF ICT, UNIVERSITY OF PHAYAO (UP)

NARESUAN UNIVERSITY (NU)

OSAKA METROPOLITAN UNIVERSITY (OMU)

ASSOCIATION OF GEOINFORMATICS LABORATORIES FOR EARTHSCIENCES (AGILE)

GIS-IDEAS 2024

DECEMBER 11 to 13TH 2024

UNIVERSITY OF PHAYAO (UP)

CHIANG RAI, THAILAND

ORGANISED BY

SCHOOL OF ICT, UNIVERSITY OF PHAYAO (UP)

NARESUAN UNIVERSITY (NU)

OSAKA METROPOLITAN UNIVERSITY (OMU)

ASSOCIATION OF GEOINFORMATICS LABORATORIES FOR EARTHSCIENCES (AGILE)

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Welcome

It is with immense pleasure that we welcome you to the **GIS-IDEAS 2024** conference, to be held from December 11–13 in the vibrant city of Chiang Rai, Thailand. As we embark on this exciting event, we continue the proud tradition of fostering global collaboration and innovation in geoinformatics that began with the establishment of the Japan-Vietnam Geoinformatics Consortium (JVGC) in 2001.

This year's conference provides a unique platform to exchange ideas, share knowledge, and explore the latest advancements in spatial sciences, urban planning, and environmental sustainability. The beautiful and culturally rich Chiang Rai offers a fitting setting to discuss how geoinformatics can address some of the most pressing global challenges. With a program that includes inspiring keynote speeches, dynamic technical sessions, and hands-on workshops, **GIS-IDEAS 2024** promises to deliver insights and solutions that will resonate well beyond the event.

We extend our heartfelt thanks to all the contributors whose research enriches the proceedings of this conference. Our deepest appreciation also goes to the organizing committee, faculty, staff, and students who work tirelessly to ensure the event's success. A special acknowledgment is due to our sponsors and supporters, whose generous contributions enable us to create a collaborative and impactful platform for geoinformatics research and application.

Together, we hope to kindle innovative ideas, foster meaningful collaborations, and deepen the connections that unite the geoinformatics community worldwide. Your participation and support are integral to the success of GIS-IDEAS 2024, and we look forward to the insights, discoveries, and partnerships that this conference will inspire.

Welcome to Chiang Rai, and Welcome to GIS-IDEAS 2024!

Warm regards,

Phaisarn JEEFOO &
Venkatesh RAGHAVAN

Chairs
GIS-IDEAS 2024

GIS-IDEAS

GeoInformatics for Spatial - Infrastructure Development in Earth & Allied Sciences

The International Conference on GeoInformatics for Spatial-Infrastructure Development in Earth & Allied Sciences (GIS-IDEAS) provides a platform for sharing of knowledge and valuable experiences and help promote collaborations and scientific exchanges between not only between students, researchers and practitioners Japan, Vietnam and Thailand but also our other colleagues involved in developing and promoting GeoInformatics technologies. The conduct of GIS-IDEAS Conferences is based on the spirit of mutual cooperation and openness.

GIS-IDEAS is planned around a central theme which is decided in consultation with the host institution. Apart from Technical Sessions on GeoInformatics technologies and applications, Special sessions on different topics related to Geo-informatics are also held during the conference.

GIS-IDEAS is organized in collaboration with premier institutes located in Asia. GIS-IDEAS which was founded in 2002 to develop and promote Geoinformatics applications and foster cooperation in application of Information and Communication Technologies to problems and issues related to our natural and social environment. To achieve these aims, the conference aims to;

- support capacity building through organization of symposia, workshops and fieldwork.
- share information resources and know-how in Geoinformatics
- promote research collaborations and joint research in Geoinformatics
- promote exchange of information and academic publications
- develop a human resource network to support development and growth of Geoinformatics

Previous GIS-IDEAS Conferences were organized in collaboration with premier institutions like Can Tho University (VN), Danang University of Education (VN), Japan Geotechnical Consultant Association (JP), Japan Society of Geoinformatics (JP), Hanoi University of Mining and Geology (VN), Hanoi University of Natural Resources & Environment (VN), Ho Chi Minh City University of Technology (VN), Kyoto University (JP), Naresuan University Thailand, Osaka City University (JP), Osaka Metropolitan University (JP), Vietnam National University (VN) and others.

GIS-IDEAS 2024

The GeoInformatics for Spatial-Infrastructure Development in Earth & Allied Sciences - **GIS - IDEAS 2024** conference, to be held from **December 11–13** in Chiang Rai, Thailand, continues the legacy of fostering global collaboration in geoinformatics. Established in 2001 under the Japan-Vietnam Geoinformatics Consortium (JVGC), GIS-IDEAS has become a premier platform for researchers, educators, and practitioners to exchange knowledge, innovative ideas, and expertise in spatial sciences and geoinformatics.

This year the conference is hosted by **University of Phayao** in partnership with the Naresuan University, Phitsanulok, Thailand, the Osaka Metropolitan University, Osaka, Japan and the Association of Geoinformatics Laboratories for Earthsciences (AGILE), Japan. The conference promotes openness and cooperation, bridging professionals from Thailand, Vietnam, Japan, and beyond.

This year's event underscores its commitment to addressing pressing challenges in geospatial sciences, urban planning, and environmental sustainability. Chiang Rai, known for its cultural and natural heritage, offers a fitting backdrop for discussions on leveraging geoinformatics for sustainable development. The conference agenda includes keynote speeches, technical sessions, and workshops, emphasizing cutting-edge technologies like GIS, Remote Sensing, and 3D modelling.

GIS-IDEAS 2024 also celebrates its tradition of inclusivity by welcoming contributions from researchers at various career stages. Proceedings from past events have highlighted significant advancements in geoinformatics, and this year's deliberations are expected to yield impactful research outcomes and collaborations.

The organizers express gratitude to participating institutions and contributors who have consistently supported the conference. We hope GIS-IDEAS 2024 will inspire innovative ideas, foster enduring collaborations, and advance geospatial science's role in addressing global challenges.

The Secretariat

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Organizers

Osaka Metropolitan University

Partners

The Committees

Conference Founders

- Late Prof. Takashi FUJITA - Japan
- Dr. Nghiem Vu KHAI - Vietnam

General Chairs

- Phaisarn JEEFOO - Thailand
- Venkatesh RAGHAVAN - Japan

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- Krittika KANTAWONG
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- Pattana RACHAWONG - Thailand

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- Wipop PAENGWANGTHONG - Thailand
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- Bowonsak SRISUNGSITTISUNTI- Thailand
- Boonsiri SUKPROMSUN - Thailand
- Pham Thi Mai THY - Vietnam
- Go YONEZAWA - Japan

The Program at a glance

DECEMBER 10, 2024

14.00 - 17.00	Registration, Poster preparation
17.00 - 20.00	Committee meeting

DECEMBER 11, 2024

08.00 - 16:00	Registration
08.30 - 09.30	Scientific program (IEEE track)
09.30 - 10.15	Workshop 1 Session 1: Disaster Management System (GISTDA Thailand)
10.15 - 10.30	Coffee break
10.30 - 11.30	Workshop 1 Session 2 : Crop Monitoring System (GISTDA Thailand)
11.30 - 12.00	Opening Ceremony
12.00 - 13.00	Lunch
13:00 - 13.30	Keynote 1:Dr. Pakorn Petchprayoon
13.30 - 14.05	Keynote 2 :Dr. Susumu Nonogaki
14.05 - 14.15	Coffee break
14.15 - 15.40	Scientific program (IEEE track)
15.40 - 18.00	Scientific program (IEEE track)
18.00 - 21.00	Banquet

The Program at a glance

DECEMBER 12, 2024

0800 - 12.00	Registration
09.00 - 10.30	Scientific program (GIS-IDEAS track)
10.30 - 11.00	Coffee break
11.00 - 11.30	Keynote 3 : Dr. Tran Van Anh
11.30 - 12.00	Keynote 4 : Dr. Natraj Vaddadi
12.00 - 13.00	Lunch
13.00 - 13.30	Paper Presentation
13.30 - 14.30	Workshop 2 :Digital Image Processing using DroneBox (Mapedia Co., Ltd.)
13.30 - 14.30	Poster Presentation
14.30 - 14.40	Coffee break
14.00 - 16.00	Scientific program (GIS-IDEAS track)
16.00 - 16.30	Closing ceremony, best paper announcement and next host presentation

DECEMBER 13, 2024

08.00 - 17.00	One day trip around the Chiang Rai Province

The Program - IEEE Track

Paper ID	Title	Authors
S1: Health GIS & Geoinformatics, December 11, 8:30 – 9:30 Room 1: VISTA BALLROOM 1 (3rd floor)		
6506	Estimating Monthly PM2.5 Levels using Integrated Satellite and Meteorological Data: A Case Study of Suphan Buri Province, Thailand	Marut Phuphaniat, Phaisarn Jeefoo and Wipop Paengwangthong
2223	Application of HEC-RAS and Satellite Imagery in Flood Risk Estimation for Rural Area in Thailand	Nattaphon Rangsaritvorakarn and Niti Iamchuen
7115	Deep Residual Neural Networks with Self-Attention for Landslide Susceptibility Mapping in Uttaradit Province, Thailand	Kritchayan Intarat, Nithima Nuangjamnong, Jojinda Sae-Jung, Woraman Jangsawang, Patimakorn Yoomee and Teerapong Panboonyuen
4118	Identification of Spatial Patterns of Dengue Haemorrhagic Fever Using Spatial statistics	Thi-Quynh Nguyen, Thi-Hong Dao and Tien-Thanh Nguyen
S2: GIS for Spatial Analysis, December 11, 8:30 – 9:30 Room 2: VISTA BALLROOM 2 (3rd floor)		
134	Comparative Analysis of Evapotranspiration in Sugarcane Fields Using MODIS Satellite Data and Ground-Based Weather Stations	Boonyasith Khobkhun, Pornthep Rojanavasu, Chanika Sukawattanavijit, Chompunut Chayawat, Krittika Kantawong and Jirabhorn Chaiwongsai
1354	Geospatial Evaluation of Remote Working Hubs: A Graph Convolutional Network Model	Junke Xu, Alireza Dehghani and Yilin Li
1558	Enhancing Urban Heat Island Analysis through Indices -Based Prediction of Land Surface Temperature in Khon Kaen City, Thailand	Kritchayan Intarat, Saruda Chuenkamol, Nithima Nuangjamnong, Areewan Hussadin, Chayapol Promaoh and Tuvachit Chalamkate
1664	Development of Web Atlas Framework of Cat Tien National Park	Ngoc Truc Phuong Van
S3: Sustainable Environment and GIS, December 11, 8:30 – 9:45 Room 3: VISTA PRIVATE (2nd floor)		
420	Survey and Distribution Of Fireflies (Coleoptera: Lampyridae) In Kwan Phayao Area, Phayao Province, Thailand.	Panupong Chaiwongsaen, Sitthisak Pinmongkhonkul, Arthit Nuntakwang, Boonchuang Boonsuk, Manas Titayavan, Warin Boonriam and Sorasak Nak-Eiam
6313	Sex determination in leave of date palm (Phoenix doactylifera) on the juvenile vegetative phase between tissue culture and seeding by using LC- QTOF-MS technique	Pranorm Khrueawan, Siriwat Boonchaisri, Achara Kleawkla, Chattakan Jantaput, Nakarin Chaikaew, Winai Wiriyaalongkorn, Watcharin Jantawan and Ekawit Threenet
2380	Evaluating Models for Urban LULC Classification by Integrating Earth Engine and Python Ecosystem	Sitthisak Moukomla, Kridsakron Auynirundronkool, Phurith Meeprom and Supaporn Manajitprasert
9946	Oil Spill in the Southern Marine Regions of Vietnam: Models and Simulations	Minh-Thu Phan, Dinh Duan Ho and Van Chung Tran

The Program - IEEE Track

Paper ID	Title	Authors
S4: GIS for Spatial Analysis, December 11, 14:15 – 15:45 Room 1: VISTA BALLROOM 1 (3rd floor)		
2115	A DSSAT Model Approach for Yield Optimization: A Case Study of Mae Na Rua, Phayao, Thailand	Pongsak Jindasee, Prattana Deeprasertkul, Krittika Kantawong, Sawarin Lerk-U-Suke, Napa Rachata and Jirabhorn Chaiwongsai
2599	Assessing the Performance of Machine Learning Models using Satellite Dataset for Classification of Various Crop Types	Montree Pinkaeo, Prattana Deeprasertkul, Phaisarn Jeefoo, Surachai Chantee, Pornthep Rojanavasu and Jirabhorn Chaiwongsai
5067	Satellite-based Nitrogen Uptake Evaluation in Rice Cultivation	Porutai Thianthai, Phaisarn Jeefoo, Nuntikorn Kitratporn, Sukij Skawsang, Panu Nuangjamnong and Sawarin Lerk-U-Suke
2608	Spatio-Temporal Analysis of Road Accidents on Highway 2 Between Nakhon Ratchasima Intersection and Joho Intersection	Athiwat Phinyoyang, Tinn Thirakultomorn, Wilawan Prasomsup, Kankaew Kanya, Bantita Jaemklang and Buachomphu Phaensanthia
3425	Research on developing an automated tool for evaluating spatial data quality according to the national geographic data standard technical model	Yen Phan Quo, Nga Nguyen Thi Thu and Hanh Tong Thi
5470	Accuracy Assessment of Orthophotograph from Unmanned Aerial Vehicle With Multi-Flight Plan	Tinn Thirakultomorn, Athiwat Phinyoyang, Wilawan Prasomsup, Sumitta Khosungnoen and Kodchakon Phunak
S5: GIS & RS, December 11, 14:15 – 15:45 Room 2: VISTA BALLROOM 2 (3rd floor)		
1148	Satellite subsidence and sea-level data assimilation for mean high-water line assessment in the Bangkok area	Sommart Niemnil
1366	Climate Modeling in the Gulf of Thailand to Predict Beach Loss Due to Sea Level Rise	Mesha Singharath, Thanakrizt Peebkhunthod and Phaisarn Jeefoo
2691	Geo-informatics-based Flood Extent Mapping and Analysis Using Sentinel-1 Data: A Case Study of Phayao Province	Pannatorn Woottipriyatorn, Niti Iamchuen, Nakarin Chaikaew, Thidapath Anucharn, Thitisorn Sriprom and Phongsakorn Hongpradit
6289	Development of a Time Series Visualization Application for PM2.5 Level Changes Using Google Earth Engine.	Natima Udon, Kampanart Piyathamrongchai and Sittichai Choosumrong
2898	Characteristics of Infrasound Wave Background Noise on the Coast of Jakarta, Indonesia	Mario Batubara, Musthofa Lathif, Ibnu Fathrio, Asep Sulaeman, Heru Subarkah, Yopie Kristiana and Poki Agung Budiantoro
3110	The Systematic Effectiveness Comparison of Spatiotemporal Carbon Dioxide Emission with Spatial Interpolation Methods: Case Study in Thailand	Suriyawate Boonthalarath, Nakarin Chaikaew and Phaisarn Jeefoo

The Program - IEEE Track

Paper ID	Title	Authors
S6: GIS for Spatial Analysis, December 11, 14:15 – 15:45 Room 3: VISTA PRIVATE (2nd floor)		
6317	Land Use Changes Prediction in the Phra Phimon Irrigation Scheme using Multi-temporal Landsat Imagery and CA-ANN Model	Kasidet Sirisakorn, Ketvara Sittichok and Chuphan Chompuchan
8706	Performance evaluation of Mini-UAV Photogrammetry for Rooftop Area Measurement	Theerasak Ooppakarn and Sawarin Lerk-U-Suke
8935	Optimizing Building Footprint Extraction from UAV Imagery using Pretrained Deep Learning Models: A Case Study in University of Phayao, Thailand	Kannika Maomool, Samniang Suttara and Sawarin Lerk-U-Suke
5907	Service area of Elderly care facility in the Perimeter Region of Thailand, using GIS	Kulapramote Prathumchai, Chitsanu Anurakjaturong, Nitis Boonanun, Kitthiya Pooriwitayawattana, Supattra Tookhokkruad, Sopita Ountuang and Wilawan Khrutsuwan
6240	Enhancing Thailand's Cultural Diplomacy: A GIS-Based Analysis of Global Sentiments Toward Thai Food and Tourism	Kednipa Prasongsri
8194	The Development of Satellite-based Active Fire Database and Hotspot Clustering to Enhance Forest Fire Management Practices in Thailand	Woranut Chansury, Nuntikron Kitratporn, Anusorn Rungsipanich, Teansiri Moolchan, Chatchaya Buaniam, Itthirit Pintong and Nattanon Chaisak
S7: A Critical Network Perspective (SDGs), December 11, 15:50 – 17:05 Room 1: VISTA BALLROOM 1 (3rd floor)		
2112	Utilizing Unmanned Aerial Vehicles to assess carbon sequestration in trees conducted in response to plant genetic conservation project under the Royal Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn at Chiang Rai Rajabhat University.	Krittawit Suk-Ueng, Sawarin Lerk-U-Suke, Pensri Malithong, Sutti Malithong and Pemmanee Senasutthiphan
4793	Characterization of Biochar Produced from Sawdust and Polypropylene Plastic Waste Composite via Slow Pyrolysis	Aitsara Chanthakhot, Poramed Aungthitipan, Pornmongkol Tansomros, Pattaranun Maskhunthod, Athicha Janthakot, Sukanya Hongthong, Torpong Kreethachat, Kowit Suwannahong, Surachai Wongcharee and Saksit Imman
9512	Evaluating the travel carbon footprint associated with using digital platforms for accessing social welfare services	Wanawan Pragot, Kornganok Thongta, Chaturawit Chanchai, Sukhuma Chitapornpan, Somanat Somprasert, Supreeda Homklin, Chaiwat Photong, Pimsiri Suwanpat and Chatthip Chaichakan
3602	Kinetics Evaluation of Total Solids Content Affects on Biohydrogen Production from Food Waste by Dark Fermentation	Sorrachat Intana, Sukhuma Chitapornpan, Somanat Somprasert and Satawat Tanarat
6544	Efficiency of Liquid Hot Water Pretreatment of Water Hyacinth on enztmatic hydrolysis	Saksit Imman, Nopparat Suriyachai and Torpong Kreetachat

The Program - IEEE Track

Paper ID	Title	Authors
S8: A Critical Network Perspective (SDGs), December 11, 15:50 – 17:05 Room 2: VISTA BALLROOM 2 (3rd floor)		
2112	Enhancing Air Quality with an Innovative IoT-Integrated Hybrid Air Pollution Control System	Wattana Loungon, Torpong Kreetachat, Saksit Imman, Nopparat Suriyachai, Surachai Wongcharee, Preut Thanarat and Kowit Suwannahong
4793	Acid Precipitation of Lignin from Alkali Black Liquor: A Study on the Optimization of Lignin Recovery Using H2SO4 and HCl	Khatiya Weerasai, Saksit Imman, Torpong Kreetachat and Nopparat Suriyachai
9512	Perspective on mortality associated with particulate matter in upper northern Thailand over the 2014–2023 period	Patsanun Lawongyer, Sittichai Pimonsree and Patipat Vongruang
3602	Integrating Sentinel-2 Imagery and Machine Learning for Crop Damage Evaluation in Thai Agriculture	Viphada Boonlerd, Woranut Chansury, Panu Nueangjumnong, Pakorn Petchprayoon, Sansita Rattanasupa, Sirilux Noikeaing, Apantri Yutthapan and Pheeraphong Rattanaburi
6544	Visualizing Awareness and Behavior in Reducing Single-Use Plastic Among High School Students Using The Interactive ARCGIS Storymap.	Thi Viet Huong Do, Phuong Nghi Nguyen and Thi Thanh Ninh Nguyen
S9: IOT & WEB GIS, December 11, 15:50 – 17:20 Room 3: VISTA PRIVATE (2nd floor)		
9141	An Implementation of the NOAA Satellite Data Reception Ground Station for Weather and Climate Enthusiasts	Wichapol Utumporn, Suwabhat Somboonsub, Watchara Amasiri, Dahmmaet Bunnjaweht, Warinthorn Kiadtikornthaweeyot Evans and Pirapat Waritkraikul
3619	GIS-based Hybrid Machine Learning for Landslide Susceptibility Assessment in Thai Nguyen Province, Vietnam	Thuong Tran, Hoa Trieu and Nathaniel Bantayan
6990	Landslide Risk Mapping and development of landslide database and mobile app for Bhutan	Thongley Thongley and Younten Tshering
9425	Monitoring Land Use Changes and Comparing Watershed Quality Classes: A Case Study of Mueang Phetchabun District, Phetchabun Province	Kittikun Nupat, Nakarin Chaikaew, Niti Iamchuen, Phongsakorn Hongpradit, Thitisorn Sriprom and Thidapath Anucharn
6244	Development of IoT-Based Compact Mushroom Cultivation Monitoring System	Noor Ropidah Bujal, Shaizan Jusoh, Mokhtar Hashim, Syazana Md Dali, Nor Sukor Ali and Mohamed Noor Azman Bidin
2384	Development of An Interactive Web-Based Nature-Based Solutions Menu for Borongan City, Philippines.	Carlos Pascual and Porfirio Bajo

The Program - GIS IDEAS Track

GIS-IDEAS Track Oral Presentation				
12th December 2024				
Room 2 : VISTA BALLROOM 2 (3rd floor)				
Chairpersons: Xianfeng Song and Chaiwiwat Vansarochana				
Time FROM	**TIME To**	**ID**	**Proposal title**	**Author**
08:30	08:50	M8ECHP	Geospatial Data Integration in Smart Soil Erosion Modeling	Hoa Thi Tran
08:50	09:10	EEXCTD	Geological consideration for development in Banding Island, Malaysia using remote sensing and GIS	Mohammad Firuz Ramli , Zulkiflee Abd Latif and Nasyairi Mat Nasir
09:10	09:30	EZQ7PY	The systematic effectiveness comparison of spatiotemporal carbon dioxide emission with spatial interpolation methods: case study in Thailand	Suriyawate Boonthalarath
09:30	09:50	ZFW8MX	Enhanced Site Location Selection: A Hybrid Framework Integrating GIS, SWOT, MCDM, and Game Theory	Rahul, Bharath
09:50	10:10	JWQSZC	Evaluation of inundated areas after a tsunami disaster using satellite remote sensing data and GIS	Shouyi GAO
10:10	10:30	7SSRQJ	A Study on the Distribution of Village Names Derived from Vegetation in Northeastern Thailand, Cambodia, and Laos	Yoshikatsu Nagata

The Program - GIS IDEAS Track

GIS-IDEAS Track Oral Presentation				
12th December 2024				
Room 2: VISTA BALLROOM 2 (3rd floor)				
Chairpersons: Tran Van Anh and Sittichai Choosumrong				
Time FROM	**TIME To**	**ID**	**Proposal title**	**Author**
08:30	08:50	M8ECHP	Establishment of Groundwater database in the coastal area of Soc Trang province by using QGIS	Nguyen Vo Chau Ngan
08:50	09:10	EEXCTD	Application of Ground Penetrating Radar and Machine learning algorithms for the automatic recognition of underground objects	Pham Minh Hai
09:10	09:30	EZQ7PY	Investigation of Machine Learning Models for Slope Failure Suceptibility Zonation in parts of Yen Bai Province, Vietnam	Tran Tung Lam Tatsuya Nemoto Venkatesh Raghavan Xuan Quang Truong
09:30	09:50	GMLHYC	Monitoring the changes in vegetation area in Bangkok metropolis through NDVI analysis from Sentinel-2 images	Pattamaporn Lerdlimchalalai
09:50	10:10	JWQSZC	Presenting the Flood Hazard Analysis In Wangtong District, Lower North Thailand Using Geo-Informatics Techniques With Open Source Software: HAZMAPPER	Kittituch Naksri | Chaiwiwat Vansarochana
10:10	10:30	7SSRQJ	Mapping Soil Pollution in Camau City, Vietnam	Ho Dinh Duan

The Program - GIS IDEAS Track

12 December 2024				
Room: 1 : VISTA BALLROOM 1 (3rd floor)				
Chairpersons: Chaiwiwat Vansarochana				
10:30	11:00	**COFFEE BREAK**		
11:00	11:30	**Keynote 3 : Dr.Tran Van Anh**		
11:30	12:00	**Keynote 4 : Prof. Dr.Natraj Vaddadi**		
12:00	13:00	**LUNCH BREAK**		
13:00	13:20	ZCEKW7	Assessing Land Use Function Variation in Urban Transition: A Case Study of Vung Tau City, Vietnam	Ho Dinh Duan
13:20	13:50		Enhancing Hydrological Modeling with Remote Sensing of Evapotranspiration and AI Techniques	Song Xianfeng
13:50	14:20	Closing ceremony, best paper announcement and next host presentation		
14:20		**COFFEE**		

Poster presentations

No.	Title	Speakers
1	Application of GIS to build a land database in a mountainous district of Son La province, Vietnam	Tran Hong Hanh
2	Applying geoinformatics technology for building webGIS to support drainage management in Ninh Kieu and cai rang districts of Can Tho city.	Nguyen Thanh Ngan
3	Climate change impacts agricultural production in the coastal area of Thi Nai lagoon, Binh Dinh province: an analysis of the livelihood vulnerability index	Vu Khac Hung
4	Estimate the amount of carbon emissions from deforestation and forest degradation over two decades in Kon Ha Nung plateau, Gia Lai province, Vietnam	Hieu Huu Viet Nguyen
5	Extracting travel distance and slope failure height using oriented bounding boxes	Tatsuya Nemoto
6	Identification of morphological features in slope failure areas due to heavy rainfall using change vector analysis and random forest classifier.	Mitsunori Ueda
7	Investigating land subsidence by processing multi-temporal sar time series on google Colab: Case study in Camau city, Mekong delta, Vietnam	Ha Trung Khien
8	Oil spill in the southern marine regions of Vietnam: models and simulations	Ho Dinh Duan
9	Predicting land-use change using GIS and machine learning - a case study in Tuyen Quang city, Vietnam	Bui Ngoc Tu
10	Relationship between compound extreme indices and atmospheric circulation patterns in Thailand	Teerachai Amnuaylojaroen
11	Visualizing awareness and behavior in reducing single-use plastic among high school students using the interactive arcGIS story maps	Do Thi Viet Huong

Keynote speakers

DR PAKORN PETCHPRAYOON

Dr. Pakorn Petchprayoon is the Director of the Geo-Informatics Product Innovation Office at the Geo-Informatics and Space Technology Development Agency (GISTDA). His research focuses on understanding the physical processes of energy exchange between the land and water surfaces and the atmosphere by integrating satellite data with direct field measurements. Dr. Petchprayoon has dedicated 23 years to GISTDA, contributing in various research and leadership roles. He has authored and co-authored several publications and was a lecturer on GEOG 4093 Remote Sensing of the Environment at the University of Colorado, Boulder, USA. Dr. Petchprayoon holds a B.S. from Burapha University, M.S. from Mahidol University, and M.A. and Ph.D. from the University of Colorado-Boulder, USA.

DR SUSUMU NONOGAKI

Dr. Susumu Nonogaki is a Geo-informaticist and Chief Senior Researcher at the Geological Survey of Japan, National Institute of Advanced Industrial Science and Technology (AIST). He earned his Ph.D. in Geosciences from Osaka City University in 2009 and specializes in 3D modeling and analysis of shallow subsurface geological structures in urban areas of Japan. His expertise encompasses GIS analysis, spatial interpolation, machine learning, geo-visualization, and web mapping. From 2005 to 2012, he lectured on GIS techniques for sustainable natural resource management and agricultural productivity in JICA training programs. Since 2010, he has been a member of the Scientific Committee for GIS-IDEAS. His work supports urban development and planning, contributing to safer, more sustainable cities through improved understanding of urban geological conditions.

PROF. SONG XIANFENG

Prof. Song Xianfeng is a distinguished expert in Geographic Information Sciences (GIS) and Remote Sensing Hydrology, focusing on geospatial data mining using vehicle GNSS trajectories, cellular network signalling, and DVR data. He holds an MS in Remote Sensing Geology (1995) from China University of Mining & Technology, along with a PhD in GIS from the Chinese Academy of Sciences (1998). He is presently serving as a Professor at the University of Chinese Academy of Sciences since 2011, following roles as Associate Professor and Assistant Professor there and at Kyoto University. His industry experience includes managing IT for the Chinese Investment Corporation for Sciences and Technology.

Keynote speakers

DR TRAN VAN ANH

Dr. Tran Van Anh is a lecturer at Hanoi University of Mining and Geology (HUMG). She obtained her Master's degree in Surveying and Mapping Engineering from HUMG, Vietnam, in 2001 and her PhD degree in GeoInformatics from Osaka City University (Japan) in 2007. Her field of study is remote sensing and GIS. She has working interests in Radar Interferometry (InSAR) for land deformation detections and optical images for air pollution (PM10) determination. Besides that, she also works on geospatial data research and builds predicting models. She has had more than 50 works published in prestigious domestic and international journals.

DR NATRAJ VADDADI

Dr. Natraj Vaddadi, an Executive Member of the Governing Council at the Centre for Education & Research in Geosciences, is a geologist specializing in Urban Groundwater Recharge through Rainwater Harvesting. He holds a Master's degree in Geology from the University of Pune and a Ph.D. in Natural Resources and Environment from Naresuan University, Thailand. With over three decades of teaching experience, he serves as a Visiting Professor in Petroleum Technology at Nowrosjee Wadia College and teaches postgraduate courses in Drilling Engineering and Production Operations at the University of Pune.

Dr. Vaddadi has conducted numerous workshops on Open-Source GIS in India, Thailand, and Vietnam and is the author of the internationally acclaimed book *An Introduction to Oil Well Drilling*. As a founding member of the Centre for Education & Research in Geosciences, he advocates for geoscience education, promoting its integration into environmental conservation and sustainability initiatives.

The Venue

Grand Vista Hotel Chiangrai

185 MOO 25 T. ROBWIANG A. MUANG,

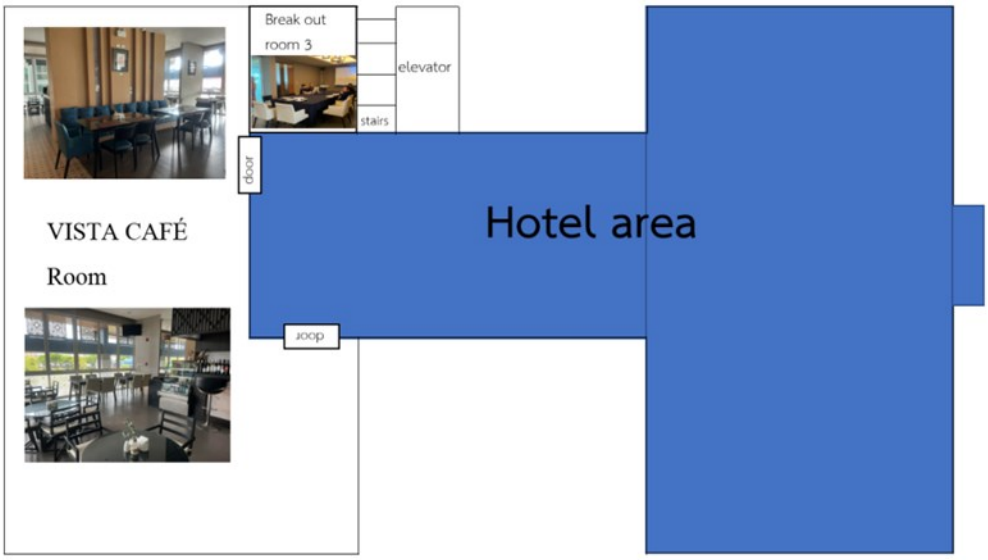
Chiang Rai, Thailand,

+66 62 875 2671

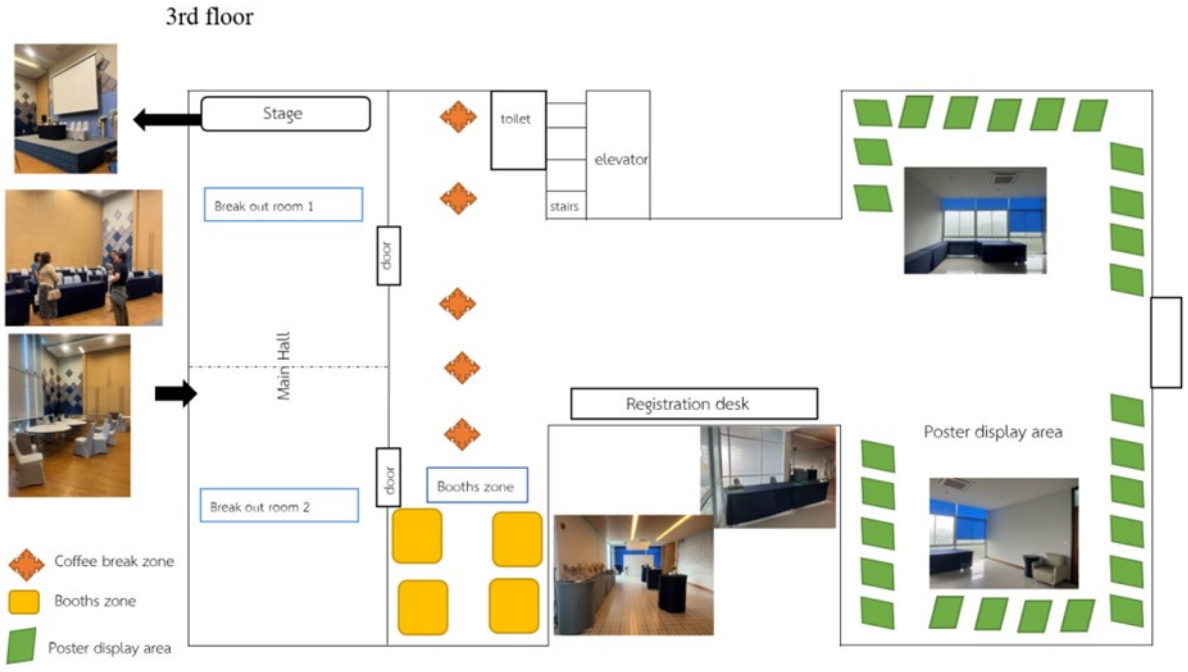
info@grandvistachiangrai.com

The conference layout

2nd floor



3rd floor



Visit Chiang Rai

Chiang Rai is the northernmost major city in Thailand, with a population of about 200,000 people. It is located in Mueang Chiang Rai District, Chiang Rai Province. Chiang Rai was established as a capital city in the reign of King Mangrai, in 1262 CE.

It has the atmosphere of a complex mountain range and valuable Lanna Culture. The province offers many interesting cultural attractions such as Wat Rong Khun, designed and built by Ajarn Chalermchai Kositpipat, stands out with exquisite white architecture, as well as Mingmuang Temple which is the oldest temple in Chiang Rai; Wat Rong Suea Ten Huay Pla Kang Temple and Baan Dam museum, which is a place for collecting art works by Ajarn Thawan Thanchanee.

For those who like nature, you can go up to see the sunrise over the Mekong and the sea of mist in the morning at Doi Pha Tang. Feel the cold and see the 360 degree sea view mist at Phu Chi Dao. See winter Flowers at Mae Fah Luang Gardens around Doi Tung Palace. Tracing the "13 Wild Boar Caves" EVENT at Tham Luang-Khun Nam Nang Non Forest Park. In addition, because Chiang Rai is a province that is at the junction between Thailand, Myanmar and Laos, tourists can view both sides of the Mekong at Golden triangle And visit Mae Sai market - Tha Khi Lek Along the Thai-Burma border as well.

AGILE

The **Association of GeoInformatics Laboratories for Earthsciences (AGILE)** is a professional organization focused on advancing education, research, and international collaboration in geoinformatics, particularly within the field of Earth sciences. Headquartered in Osaka City, AGILE fosters the development and dissemination of geoinformatics knowledge and technology through a variety of targeted activities.

Objectives

AGILE seeks to:

1. Provide advanced professional education and promote the dissemination of geoinformatics technologies.
2. Enhance global and mutual collaboration among researchers in Earth sciences through the presentation and discussion of scientific research.
3. Promote the development and adoption of open-source software, open data, and related technologies.
4. Support the international growth of geoinformatics through partnerships with academic and professional institutions worldwide.

Key Activities

To achieve its mission, AGILE engages in the following core activities:

1. **Academic Events**: Organizing and supporting conferences, research meetings, and symposiums to facilitate the exchange of ideas and research findings.
2. **Publications**: Producing academic journals and other materials to disseminate cutting-edge knowledge.
3. **Workshops**: Conducting hands-on workshops to promote skill development in geoinformatics.
4. **International Collaboration**: Building bridges with academic societies and institutions globally to foster innovation and shared learning.
5. **Auxiliary Activities**: Undertaking additional initiatives aligned with its primary goals, ensuring continuous progress in the field.

AGILE stands as a dynamic platform for advancing geoinformatics in Earth sciences, prioritizing open knowledge, international collaboration, and professional growth.

THE GIS-IDEAS JOURNAL

The GeoInformatics for Spatial-Infrastructure Development in Earth & Allied Sciences (GIS-IDEAS) Journal, hereafter referred to as "The GIS-IDEAS Journal," traces its origins to the biennial international conference organized under the aegis of the Japan-Vietnam Geoinformatics Consortium (JVGC) since 2002.

In response to growing interest and continued patronage, we have undertaken the initiative to launch the Open Access GIS-IDEAS Journal under the tutelage of the Association of GeoInformatics Laboratories for Earthsciences (AGILE), the new name adopted by JVGC as of August 1, 2024.

The GIS-IDEAS Journal aims to promote academic exchanges through the publication of high-quality, peer-reviewed research articles and review papers in the field of Geoinformatics. It will be managed by an International Editorial Board comprising scholars who have been closely involved in organizing the GIS-IDEAS Conference Series.

The inaugural issue (Vol. 1, No. 1) is scheduled for release in the first quarter of 2025, with subsequent issues to be published quarterly. Further details about the journal will be announced during the GIS-IDEAS 2024 event.

The GIS-IDEAS Journal (TGIJ) will be a peer reviewed journal published by the Association of GeoInformatics Laboratories for Earthsciences (AGILE) . TGIJ is issued 4 times a year in electronic form, publishes Original Research Articles and Review Papers in all aspects of result research in the field of GeoInformatics. We encourage all interested contributors to submit their work for consideration.

Focus and Scope

Journal of GIS Ideas is dedicated to publishing high-quality research papers and reviews on terrestrial and marine topics, including geomatics, geophysics, geography, geology, geographic information systems, remote sensing, cartography, oceanography, hydrography, and marine science and technology.

The GIS-IDEAS Journal (TGIJ) focuses on theoretical, empirical, and applied research in geoinformatics and geosciences.

We look forward to your continued support in establishing the GIS-IDEAS Journal as a respected publication within the Geoinformatics community.

Zenchiren 60th Anniversary 2023

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NGiC National Geo - Information Center

UTILISING JAPAN'S OPEN GEO-INFORMATION DATA TO PROTECT THE LAND FROM DISASTERS

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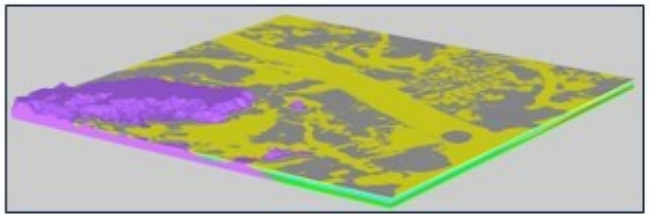
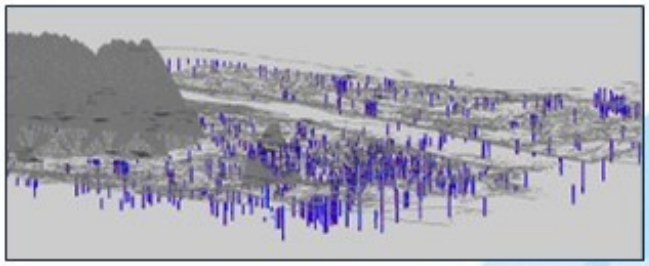
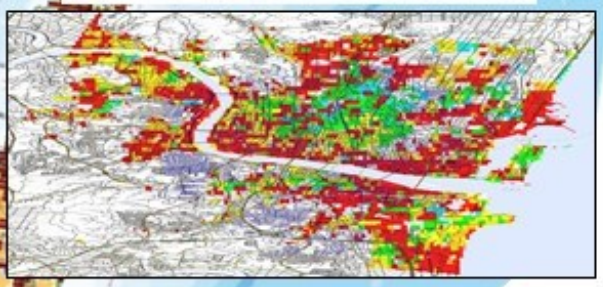


OPEN GEO-TECHNICAL DATABASE By NGIC

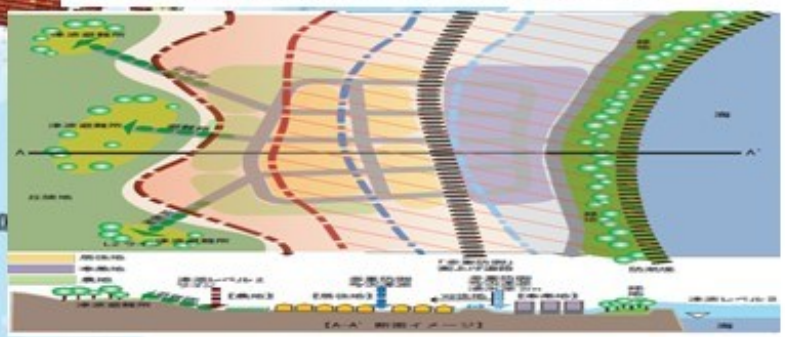
UTILISATION OF GEO-TECHNICAL DATA



EXTRACTION OF HAZARDS



RECONSTRUCTION TOWN PLANNING



Japan Geotechnical Consultants Association (ZENCHIREN)
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FLAGSHIP PRODUCTS

ZOO-Project

ZOO-Project is a WPS (Web Processing Service) implementation written in C, Python and JavaScript. It is an open source platform which implements the WPS 1.0.0 and WPS 2.0.0 standards edited by the Open Geospatial Consortium (OGC).

Download ··· **Install** ··· **Execute** →

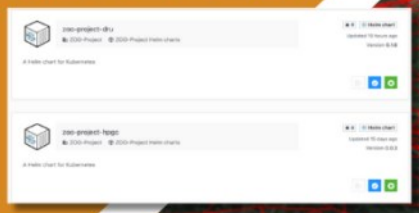
- **WPS** Standards (1.0.0 and 2.0.0)
- **OGC API** - Processes - Part 1: Core Standard
- **OGC API** - Processes - Part 2: Deploy, Replace, Undeploy draft specification
- **OGC API** - Processes - Part 3: Workflow draft specification (cc: remote-processes)

WPS Server
ZOO-Kernel is a powerful server-side C Kernel able to manage and chain WPS services

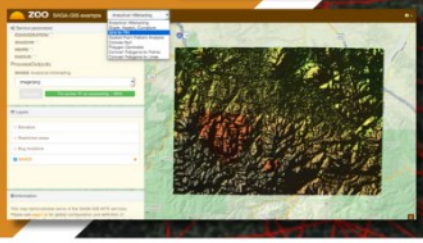
WPS Services
ZOO-Services is a collection of ready to use WPS services based on open source libraries.

WPS API
ZOO-API is a server side Javascript API for creating and chaining WPS Services.

WPS Client
ZOO-Client is a JavaScript library for interacting with WPS Services from web applications.



> **ZOO-Project provides a developer-friendly framework for creating and chaining services (processes). Its main goal is to provide generic and standard-compliant methods for using existing open source librairies.**



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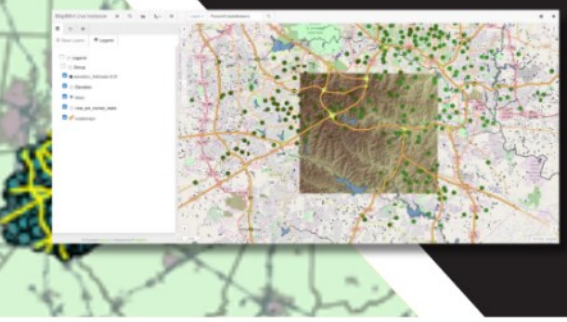

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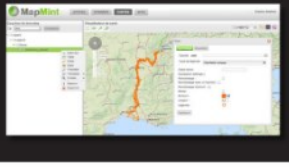
- Advanced layer manager, editor and styler
- Create base layers form your data



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