

CURRICULUM VITAE

Dr. Gitsada Panumonwatee (Asst.Prof.)

Department of Natural Resources and Environment
Faculty of Agriculture, Natural Resources and Environment, Naresuan University

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EDUCATION

Year	Degree	Institution
2021 (B.E. 2564)	Ph.D. in Natural Resources and Environment	Naresuan University
2015 (B.E. 2558)	B.S. in Natural Resources and Environment (First Class Honors, Gold Medal)	Naresuan University

WORK EXPERIENCE

Year	Position	Affiliation
2021 - 2024	Lecturer	Department of Natural Resources and Environment, Faculty of Agriculture, Natural Resources and Environment, Naresuan University
2023 - Present	Academic Manager for Environmental Chemistry	Institute for Development of Standards and Surveillance of Agricultural Residue Contamination, Naresuan University
2024 - Present	Assistant Professor	Department of Natural Resources and Environment, Faculty of Agriculture, Natural Resources and Environment, Naresuan University

CERTIFICATIONS

- Verification of Organizational Carbon Footprint (CFO) according to ISO14064 standard
- Organizational Carbon Footprint (CFO) assessment according to Thailand Greenhouse Gas Management Organization (TGO) standards
- Information Technology Passport Examination (IP) professional standard (Certificate no. THIP23S0157) by NSTDA and Information-technology promotion agency, Japan

AREAS OF EXPERTISE/INTEREST

- Carbon accounting and sequestration, Mitigation planning and spatial risk analysis
- Application of Internet of Things (IoT) technology, sensors, and microcontroller for natural resources, environment, energy, and agriculture
- Development of web-applications, Data-driven decision making systems, mobile applications, web-GIS, and spatial database management

- Application of Geographic Information System (GIS) and remote sensing for natural resources and environment information

RESEARCH PROJECTS / ACADEMIC SERVICES

2025 (B.E. 2568)

- Study of carbon sequestration in local administrative organization areas in Phichit Province that are members of the local resource base, Plant Genetic Conservation Project Under the Royal Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn (Co-researcher)
- Project for data collection and pollution reduction plan development for transportation in tourism travel to reduce air pollution emissions and climate change mitigation, Fiscal Year 2025

2023 (B.E. 2566)

- Capacity development project for provincial offices of natural resources and environment to develop climate change action plans at the provincial level in Phetchabun Province
- Capacity development project for provincial offices of natural resources and environment to develop climate change action plans at the provincial level in Phrae Province
- Capacity development project for provincial offices of natural resources and environment to develop climate change action plans at the provincial level in Sukhothai Province
- Study of carbon sequestration in local administrative organization areas in Phitsanulok Province that are members of the local resource base, Plant Genetic Conservation Project Under the Royal Initiative of Her Royal Highness Princess Maha Chakri Sirindhorn (Co-researcher)

2022 (B.E. 2565)

- Smart durian irrigation system following Agriculture 4.0 approach with Smart farming technology (Principal Investigator)
- Carbon sequestration assessment from restoring agricultural systems with the science of the King in degraded areas by corn cultivation, Nan province (Co-researcher)

2021 (B.E. 2564)

- Environmental impact data collection project in Mueang Kao Sub-district tourism sites, Sukhothai Province, Fiscal Year 2021, Sustainable Tourism Development Authority (Public Organization) (Research Assistant)
- Groundwater quality sampling and analysis contract from solid waste disposal sites in Phitsanulok Province, Fiscal Year 2019, ThaiMeeDee Company Limited (Research Assistant)

2020 (B.E. 2563)

- Groundwater quality sampling and analysis contract from solid waste disposal sites in Phitsanulok Province, Fiscal Year 2018, DD Rung Ruang Pattana Limited Partnership (Research Assistant)
- Development of web-application for increasing disabled person health quality using decentralized hospital as the disabled person health care center (Co-researcher)

TEACHING/ADVISORY/SPEAKER ROLES

- Speaker on Climate change impact, Thailand mitigation plan and Carbon credit, Phitsanulok Province
- Speaker on energy and resources management in office at Division of Buildings and Accommodation, Naresuan University

- Speaker on pollution emissions from tourism transportation and development of air pollution reduction and climate change mitigation plans, Sukhothai Province
- Speaker at workshop on building knowledge for reducing greenhouse gas emissions from forestry sector and increasing green areas, Phitsanulok Province
- Speaker on capacity development for government agencies/citizens in Phitsanulok Province to reduce greenhouse gas emissions from solid waste, sewage, and waste material management sectors
- Advisor for fisheries office study project in Phitsanulok Province on high-value aquatic animal management using smart fisheries technology
- Committee member for city-level greenhouse gas emission assessment to address climate change in Phetchabun, Phrae, and Sukhothai provinces
- Speaker on application of Internet of Things technology for precision agriculture in schools at Khun Krai Phittayakhom School, Sukhothai Province
- Advisor for high school project "Application of IoT with open-source software Node-RED for automatic soilless plant cultivation system care" at Naresuan University Demonstration Secondary School
- Academic advisor for agriculture and smart cultivation systems, PODEE Farm Company Limited
- Smart home system advisor, Salareub Company Limited
- Instructor for short course on Internet of Things (IoT) application in freshwater economic fish production system management with SMART Farm technology at Phichit Community College and Phichit Technical College
- Speaker on website development with HTML/JavaScript/CSS at Uttaradit Land Development Office
- Special topic instructor for precision agriculture curriculum on Internet of Things (IoT) application in standards and SMART Farm development at Faculty of Agriculture, Naresuan University

PUBLICATIONS (Last 5 Years)

International Articles

- Panumonwatee, G.**, Premprasit, R., & Pampasit, S. (2025). A Comprehensive Analysis of Land Use Types and Plant Characteristics in Carbon Sequestration in Ngwangam. *Nature Environment and Pollution Technology*, 24(3). <https://doi.org/10.46488/>
- Panumonwatee, G.**, Choosumrong, S., Pampasit, S. et al. Machine learning technique for carbon sequestration estimation of mango orchards area using Sentinel-2 Data. *Carbon Res.* 4, 33 (2025). <https://doi.org/10.1007/s44246-025-00201-z>
- Panumonwatee, G.**, Premprasit, R., & Pampasit, S. (2025). Evaluating Impact of Agricultural Land Use on CO₂ Sequestration and Oxygen Release: A Case Study in Aranyik Subdistrict, Thailand. *British Journal of Multidisciplinary and Advanced Studies*, 6(1), 1-12. <https://doi.org/10.37745/bjmas.2022.04232>
- Panumonwatee, G.**, Premprasit R., & Pampasit, S. (2025). Assessing Carbon Sequestration and Biomass Distribution across Diverse Land Use Types in Ban Krang Subdistrict, Phitsanulok Province. *Journal of Environmental & Earth Sciences*, 7(1), 214-224. <https://doi.org/10.30564/jees.v7i1.7169>
- Choosumrong, S., Hataitara, R., **Panumonwatee, G.**, Venkatesh Raghavan, Chatchawin Nualsri, Thanwamas Phasinam & Khongdet Phasinam (2023). Development of IoT based smart monitor and control system using MQTT protocol and Node-RED for parabolic greenhouse solar drying. *Int. j. inf. tecnol.* <https://doi.org/10.1007/s41870-023-01237-3>
- Sittichai Choosumrong, Rhutairat Hataitara, Kawee Sujipuli, Monthana Weerawatanakorn, Amonlak Preechaharn, Duangporn Premjet, Srisangwan Laywisadkul, Venkatesh Raghavan, **Gitsada Panumonwatee** (2023). Bananas diseases and insect

infestations monitoring using multi-spectral camera RTK UAV images. *Spatial Information Research*.

<https://doi.org/10.1007/s41324-022-00504-y>

Panumonwatee, G., Paluang, S., Chantana, J., Sriyakun, D., Lapbenjakul, S. & Choosumrong, S. (2022). Web-Based Database and Spatial Database Management System: Application of Disabled Person in Phetchabon Province. *The International Conference on Geoinformatics for Spatial-Infrastructure Development in Earth & Allied Sciences (GIS-IDEAS)*, September 2-4 2021, Thailand p. 325-332

Thanacharoenchanaphas, K., Masthawe, F., & **Panumonwatee, G.** (2022). Application of Geographic Information System with Field Experiment to Assess Suitable Zonation Mapping for Rice Cultivators Under Projected Global Warming in Lower Northern Thailand. *The International Conference on Geoinformatics for Spatial-Infrastructure Development in Earth & Allied Sciences (GIS-IDEAS)*, September 2-4 2021, Thailand p. 357-363

National Articles and Conference Proceedings

Nuengrithai Thianthong, Sittichai Choosumrong, Pornsawat Klomkling, **Gitsada Panumonwatee** (2024). Development of soil nutrient measurement device using sensor technology and Internet of Things. *Proceedings of the 8th National Conference on Soil and Fertilizer*. July 11-12, 2024, Naresuan University, Phitsanulok

Thitaree Rakngarn, **Gitsada Panumonwatee**, Sittichai Choosumrong (2024). Development of passenger tracking and monitoring system on Naresuan University transportation using Raspberry Pi and OpenCV. *Proceedings of the 8th National Conference on Natural Resources, Geographic Information, and Environment*. March 28-29, 2024, Naresuan University, Phitsanulok

Kawin Heebthong, Sawarin Ruksook, **Gitsada Panumonwatee**, Sittichai Choosumrong (2024). Development of field survey data collection application and real-time web mapping using Google Sheets and App Script. *Proceedings of the 8th National Conference on Natural Resources, Geographic Information, and Environment*. March 28-29, 2024, Naresuan University, Phitsanulok

Arunya Chandaeng, **Gitsada Panumonwatee**, Sittichai Choosumrong (2024). Development of passenger transportation tracking system within Naresuan University using pgRouting on Android application. *Proceedings of the 8th National Conference on Natural Resources, Geographic Information, and Environment*. March 28-29, 2024, Naresuan University, Phitsanulok

Nattaporn Thonglo, **Gitsada Panumonwatee**, Sittichai Choosumrong (2024). Development of real-time air quality measurement system and atmospheric environmental monitoring system using Geo-IoT and LoRa Gateway. *Proceedings of the 8th National Conference on Natural Resources, Geographic Information, and Environment*. March 28-29, 2024, Naresuan University, Phitsanulok

Gitsada Panumonwatee, Sawian Premprasit (2023). Carbon sequestration value in degraded areas from corn cultivation through restoration with 3-species tree planting system for 4 benefits, Nan Province. *Journal of Applied Research on Science and Technology*, 22(1)

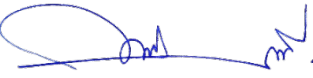
Chamjuree Deepinta, **Gitsada Panumonwatee**, Kanita Thanacharoenchnaphat (2022). Assessment of traffic influence in Phitsanulok urban area on noise pollution and annoyance levels. *Proceedings of the 18th Naresuan Research and Innovation National Conference*. July 25-26, 2022, Naresuan University, Phitsanulok

Gitsada Panumonwatee, Nikon Preecha, Sittichai Choosumrong (2022). Temperature and humidity monitoring system for local chicken egg incubation in electric incubators using Internet of Things technology. *Journal of Applied Research on Science and Technology*, 21(2), 79-88

Gitsada Panumonwatee, Sawian Premprasit (2022). Carbon sequestration in coffee plantation areas restored from degraded corn cultivation areas using the King's agricultural science system in Nan Province. *Journal of Science and Technology, Nakhon Sawan Rajabhat University*, 15(21)

Gitsada Panumonwatee, Suwichak Suvityaporn, Patipat Khamnimnoual, Nuengrithai Thianthong (2022). Application of Internet of Things technology with MQTT to develop an automatic hydroponic vegetable growing system prototype. *Journal of Science and Technology, Nakhon Sawan Rajabhat University*, 15(21)

I hereby certify that all the above information is true and accurate.

Signature: 

Gitsada Panumonwatee (Ph.D.)

Assistant Professor