Liwei Liu, Ph.D.

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Dr. Liwei Liu is an assistant researcher and the curator of agricultural hall in National Science and Technology Museum, Taiwan. Dr. Liu received his Ph.D. degree from National Pingtung University of Science and Technology (NPUST) in 2021; the title of his dissertation is "Artificial Intelligence of Things (AIoT) Based Crop Growth Environment Monitoring System Development - A Demonstration of Development and Integration on Rice Growth Rate Modeling, Rice Blast Occurrence Forecasting, and Field Capacity Simulation". His expertise includes water resources management, hydrology, precision agriculture, remote sensing, and water-saving irrigation on rice. He was funded by Taiwan's government as a visiting scholar at Texas A&M University for smart rice production research. From 2018 to 2025, he has published 14 journal papers and 14 conference papers, and conducted 15 projects as PI or co-PI.

EDUCATION

Ph.D., Department of Civil Engineering, NPUST 09/2014 - 11/2021
M.S., Department of Civil Engineering, NPUST 09/2012 - 06/2014
B.S., Department of Civil Engineering, NPUST 09/2008 - 06/2012

MAJOR EXPERIENCES

Assistant Researcher and the Curator of Agricultural Hall

- Exhibition Division, National Science and Technology Museum 04/2025 ~

Assistant Professor Rank Research Fellow

- General Research and Service Center, NPUST 02/2022 - 03/2025

Project Manager

- Loreign Smart Agriculture Ltd. 04/2020 - 02/2022

Visiting Scholar

- Zachry Department of Civil and Environmental Engineering, Texas A&M University 09/2020 - 09/2021

Adjunct Lecturer

- General Research and Service Center, NPUST
  - Water-saving Irrigation on Rice (Credit: 2, in English) 08/2024 - 01/2025
  - Smart Rice Production (Credit: 2, in English) 08/2024 - 01/2025
  - Water-saving Irrigation on Rice (Credit: 2, in English) 08/2022 - 01/2023
  - Smart Rice Production (Credit: 2, in English) 08/2022 - 01/2023
- Department of Civil Engineering, NPUST
  - Introduction to Engineering Seismology (Credit: 2, in Mandarin) 02/2025 - 07/2025
  - Meteorology (Credit: 2, in Mandarin) 07/2024 - 01/2025
  - Introduction to Engineering Seismology (Credit: 2, in Mandarin) 02/2024 - 07/2024
  - Hydrology and Practice (Credit: 3, in Mandarin) 02/2022 - 07/2022
- Bachelor Program in Environmental Resources and Disaster Prevention, NPUST
  - Soil Mechanics (Credit: 3, in Mandarin) 08/2023 - 01/2024
  - River Engineering (Credit: 2, in Mandarin) 02/2023 - 06/2023
  - Hydrology (Credit: 2, in Mandarin) 08/2022 - 01/2023
  - Water Resources Management (Credit: 2, in Mandarin) 02/2018 - 08/2018
  - Statistics (Credit: 2, in Mandarin) 08/2017 - 02/2018
  - Water Resources Management (Credit: 2, in Mandarin) 02/2017 - 08/2017

Keynote Speaker

- Department of Wood Science and Design, NPUST
  - The History of Design (2 hours) 06/2025
- Department of Animal Science, NPUST
  - Low-Carbon Recycling Model for the Reuse of Pig Manure Wastewater (2 hours) 05/2024
- Bachelor of Program in Scientific Agriculture, NPUST
  - Sustainable Rice Production (2 hours) 03/2024
- Department of Animal Science
  - Low-Carbon Recycling Model for the Reuse of Pig Manure Wastewater (2 hours) 01/2024
- Department of Food Science, NPUST
  - Applying Data Analysis Technique in Fermentation (4 hours) 11/2023

- Extension Education, NPUST
  - ChatGPT Introduction and Application (4 hours) 06/2023
- Graduate Institute of Animal Vaccine Technology, NPUST
  - Using Machine Learning on Smart Agriculture (2 hours) 04/2023
- Department of Aquaculture, NPUST
  - Why Carbon Reduction and Sustainability Related to Aquaculture? (2 hours) 04/2023
- Department of Plant Industry, NPUST
  - IoT Technology Application in Agriculture (4 hours) 12/2022
  - IoT Technology Application in Agriculture (4 hours) 12/2021

Research Assistant and Teaching Assistant

- Department of Civil Engineering, NPUST 04/2012 - 04/2020

Field Assistant

- Yu-Lai Construction Co., Ltd. 08/2014 - 01/2017

PROJECT EXPERIENCES (PI or Co-PI)

Ministry of Science and Technology

- Development of Smart Cultivation Management on the System of Probiotics and Rice Intensification (SPRI) 2020 - 2021

National Science and Technology Council

- Development of Advanced Paddyfield Low-Carbon and Water-Saving Irrigation Monitoring-Control and Investigation Technologies 2024 - 2027

Ministry of Economic

- Design and Development of Low-clogging Rate Drip Irrigation Emitter for Smart Agriculture 2020 - 2021

Ministry of Education, Culture, Research, and Technology of Indonesia

- Indonesian International Vocational Student Mobility Awards Program 2024 - 2025
- Indonesian International Vocational Student Mobility Awards Program 2022 - 2023

NPUST

- Development of Methane Emission Investigation Device for Paddy Field 2022

Private Enterprises

- Development of Value-Added Products from Off-grade Passion Fruits 2024 - 2025
- Development of Paddyfield Irrigation Bathymetry Retrieval AI-models Based on Multispectral Images 2023
- A Study and Promote on Functional Agriculture Materials of Cheng Feng Group for Greenhouse Cultivation 2022 - 2023
- Multispectral Imagery Analysis on Shallow River 2022 - 2023

PROJECT EXPERIENCES (Research Assistant)

Ministry of Education

- Agriculture Field Environment Monitoring-control System Development 2018 - 2021

Ministry of Science and Technology

- Development of Smart Cultivation Management on the System of Probiotics and Rice Intensification (SPRI) 2020 - 2021
- Sediment Transport and Morphodynamics in a Gravel Bed Channel, Shi-Wen, Taiwan 2016 - 2017
- Investigation and Analysis on Flow Velocity, Suspended Sediment, and Bedload Variation Under Tropical Storm Conditions 2015 - 2016
- A Study on Flow, Suspended Sediment and Bed Variation Due to Tropical Storms 2013 - 2014

Pingtung County Government

- Great Chaozhou Artificial Groundwater Recharge Lake Hydrology Data Analysis (I - IV) 2014 - 2016
- Linbian River Hydraulic Data Observation and Gauge-Flow Discharge Rating Curve Establishing 2015 - 2016

Private Enterprises

- Citrus Depressa Orchard Intelligent Water Supply Management System Development 2018 - 2019
- Slurry Sample Rating of Mudan, Nanhwa, and Tsengwen Reservoir Mechanical Dredging Project 2017 - 2018
- Study on the Application of Fine Materials of Incinerator Bottom Slag in Pavements 2014 - 2015

EXPERTISE

Agriculture

- Agri-Aqua Food Education
- Precision Agriculture
- Field Environment Monitoring (Environment Sensing, Smart Agriculture System Development)
- Crop Modeling (DSSAT)
- Irrigation and Drainage

Hydrology

- High Flow Discharge Investigation (ADCP, Price AA, SVR)
- Hydrology Statistics and Analysis (River Flow Discharge, Groundwater Table)
- Water Resources Management
- Modeling (HEC-RAS, CCHE-2D)

Remote Sensing

- Image Analysis (Orthophoto Mosaic, DTM, DEM, Indices Calculation)

AI Application

- Machine Learning and Deep Learning (ANN, GEP)

SCHOLARSHIPS and REWARDS

Scholarships

- Outstanding Research Award (NPUST) 2022
- Graduate Students Study Abroad Program (Ministry of Science and Technology, Taiwan) 2020
- Huimin Scholarship (Huimin Industrial Co., Ltd.) 2013, 2016, 2017
- Chi-Hsin Agricultural Development Foundation (Agricultural Development Scholarship) 2013
- Sinotech Engineering Consultants, Inc. (Engineering Research Scholarship) 2008

Rewards

- Eco-sustainability Group, 1st Place 2024
  (2024 IMV Innovation Compitition)
- Best Thesis 2023
  (Taiwan Agricultural Information Technology Forum)
- 2022 Agricultural Big Data Application Competition, 2nd Place 2022
- Best Presentation Award, 1st Place 2022
  (2022 6th Sustainable Development & Green Technology International Symposium)
- Best Presentation Award in Smart Agriculture Group, 1st Place 2021
  (2021 University Network of Tropical Agriculture (UNTA) Workshop - Young Voice in SDGs)
- Best Paper Award in Sustainability and Ecological Engineering Group, 1st Place 2020
  (2020 Conference on Sustainable Development and Disaster Prevention in Civil Engineering)
- Best Paper Award in International Group, 1st Place;
  Best Paper Award in Disaster Prevention and Reconstruction Group, 3rd Place 2014
  (2014 International Conference on Sustainable Development and Disaster Prevention in Civil Engineering)

CERTIFICATIONS

- Disaster Prevention and Response Personnel Ministry of the Interior, Taiwan, 2023
- Academic Teaching Rank Accreditation Certificate Assistant Professor Minister of Education, Taiwan, 2022
- ISO 14067:2018 Quantification of the Carbon Footprint of Products SGS, 2022
- ISO 14064:2018 Carbon Footprint Internal Auditor SGS, 2022
- Irrigation Water Management of Commercial Landscapes Texas A&M University, 2021
- Advanced Irrigation CAD Texas A&M University, 2021
- DSSAT Crop Modeling University of Georgia, 2021
- Develop Azure Cognitive Services, Bot, and IoT solutions Microsoft, 2019
- Introduction to Python for Data Science Microsoft, 2019
- Develop Azure Cognitive Services, Bot, and IoT solutions Microsoft, 2019
- Firefighting Management Personnel NPUST, 2012
- AutoDesk Certified User Autodesk, 2007

OTHER EXPERIENCES

Editorial Board Member

- American Journal of Remote Sensing (AJRS) 02/2023 – 02/2025

Guest Editor

- Sustainability (SI: Smart Sensors and IoT Solutions for Sustainable Agriculture and Aquaculture Practices) 2024

Journal Paper Reviewer

- Journal of Applied Remote Sensing 2025
- Applied Science 2024
- Journal of Applied Remote Sensing 2024
- BMC Plant Biology 2023
- Journal of Applied Remote Sensing 2023
- Agronomy 2023
- GIScience & Remote Sensing 2023
- Computers and Electronics in Agriculture 2023
- Plant 2023
- NJAS: Impact in Agricultural and Life Sciences 2022
- Sustainability 2022
- Sensors 2022

Conference Paper Reviewer

- 2022 GeoAsia7 Conference & IGS First Young Engineers Conference (GeoAsia7) 11/2022
- 2020 18th Taiwan Geotechnical Engineering Conference 09/2020

Master's Degree Examination Committee Member

- Research on Paddy Rice Cultivation Techniques and Greenhouse Gas Emission (NPUST) 07/2022
- Application of Artificial Neural Network and Multi-Spectral Imagery to Establish Rice Lodging Model (NPUST) 07/2022

Exhibition

- 2023 Smart City Summit & Expo, Kaohsiung, Taiwan (Water-saving Irrigation, Agri-AIoT) 03/2023
- ASE Advanced Semiconductor Engineering Inc., Kaohsiung, Taiwan (Water-saving Irrigation) 10/2022
- Ma-Jia Township Aboriginal Harvest Festival, Pingtung, Taiwan (Water-saving Irrigation) 08/2022
- The Fun-Future Expo. of Technical Education and Career Exploratory, Kaohsiung, Taiwan (Water-saving Irrigation) 05/2022
- Pingtung Tropical Agriculture Expo., Pingtung, Taiwan (Smart Rice Production) 02/2022
- Taipei Computex, Taipei, Taiwan (Field Server) 05/2019
- The Fun-Future Expo. of Technical Education and Career Exploratory, Taipei, Taiwan (Field Server) 12/2018
- 2018 Interdisciplinary and Industry Integration - NPUST Business Day, Taipei, Taiwan (Field Server) 11/2018

Admissions Activities

- National Taitung Girls' Senior High School 12/2023
- National HengChun Vocational High School 05/2023
- National Taitung Girls' Senior High School 12/2022
- Indonesian International Student Online Admission (Indonesian International Student Mobility Awards) 06/2022
- National Nei-Pu Senior Agricultural and Industrial Vocational High School 04/2022
- 2019 Malaysia Agriculture Expo. and Education Propaganda, Batu Pahat, Malaysia (Field Server) 03/2019

Interpreter

- Workshop of th**e** USGS Index Velocity Method (USGS TM3-A23) Application by ADCP in Taiwan
  - Using Index Velocity with New Measurement Technology for Water Saving and Irrigation Controlling 05/2018
  - Using Index Velocity to Approve Flow Monitoring with Typically Canal Controlling Weirs and Flumes 05/2018

VOLUNTEER EXPERIENCE

World Vision, Math Teacher, Pingtung, Taiwan 08/2015 - 02/2016

- Teaching Math to Aborigine Children in Rural Area in Pingtung, Taiwan.

LANGUAGES

- Mandarin (Native), English (Median)

PUBLICATIONS

Journal Papers

1. **Liwei Liu**, Winton Cheng and Hsin-Wei Kuo. (2025, Jun.). A Narrative Review on Smart Sensors and IoT Solutions for Sustainable Agriculture and Aquaculture Practices. Sustainability. 2025; 17(12):5256. https://doi.org/10.3390/su17125256. **(SCI, 66/182, Q2: 36.0%, Environmental Studies, 2023IF=3.3).**
2. **Liwei Liu** and Xingmao Ma. (2024, Aug.). Prediction of Soil Field Capacity and Permanent Wilting Point Using Accessible Parameters by Machine Learning. *AgriEngineering*. 2024; 6(3):2592-2611. (**ESCI, 7/20, Q2: 32.5%, Agricultural engineering, 2023IF=3.0**).
3. Chih-Hung Lee, Min-Kung Hsu, Yu-Min Wang, Jan-Mou Leu, Chung-Ling Chen, **Liwei Liu***. (2024, Apr.). Evaluating gradient descent variations for artificial neural network bathymetry modeling and sensitivity analysis. *Journal of Applied Remote Sensing*, 18(2): 022204. (**SCI, 44/62, Q3: 70.2%, Remote sensing, 2023IF=1.4**). * **Correspondence**.
4. Min-Kung Hsu, **Liwei Liu**, Wen-Shin Lin, Yu-Min Wang, Chi-Chieh Hu. (2023, Dec.). Application of Artificial Intelligence in Permaculture: Development and Future Direction of Rice Blast Early Warning Mechanism. *Taiwan Journal of Biotechnology and Health Care*, 11: 2-8. (in Chinese).
5. **Liwei Liu***. (2023, Jul.). Drone-based Photogrammetry for Riverbed Characteristics Extraction and Flood Discharge Modeling in Taiwan's Mountainous Rivers. *Measurement*, 113386. (**SCI, 17/179, Q1: 9.2%, Engineering, Multidisciplinary, 2023IF=5.2**). * **Correspondence**.
6. Chih-Hung Lee, **Li-Wei Liu**, Wei-Chuan Hu, Yu-Min Wang, Jan-Mou Leu, Chung-Ling Chen. (2023, May). Using Unmanned Aerial Vehicle Based Orthophoto in Riverbed Particle Size Analysis. *Journal of International Cooperation*, 18(1):61-78.
7. Chih-Hung Lee, **Li-Wei Liu**, Yu-Min Wang, Jan-Mou Leu, Chung-Ling Chen. (2022, Jul.). Drone-based Bathymetry Modeling for Mountainous Shallow Rivers in Taiwan using Machine Learning. *Remote Sensing*, 14(14):3343, (**SCI, 34/253, Q1: 13.2%, Geosciences, Multidisciplinary, 2023IF=4.2**).
8. **Li-Wei Liu**, Chun-Tang Lu, Yu-Min Wang, Kung-Hui Lin, Xingmao Ma & Wen-Shin Lin. (2022, Jan). Rice *(Oryza sativa* L.) Growth Modeling Based on Growth Degree Day (GDD) and Artificial Intelligence Algorithms. *Agriculture*, 12(1), 59. (**SCI, 20/125, Q1: 15.6%, Agronomy, 2023IF=3.3**).
9. **Li-Wei Liu**, Xingmao Ma, Yu-Min Wang, Chun-Tang Lu, and Wen-Shin Lin (2021, Jul). Using artificial intelligence algorithms to predict rice (*Oryza sativa* L.) growth rate for precision agriculture, *Computers and Electronics in Agriculture*, 187, 10286. (**SCI, 2/89, Q1: 1.7%, Agriculture, Multidisciplinary, 2023IF=7.7**).
10. Xiaoxuan Wang[+], **Liwei Liu**[+], Weilan Zhang, Xingmao Ma (2021, May). Prediction of Plant Uptake and Translocation of Engineered Metallic Nanoparticles by Machine Learning. *Environmental Science & Technology*, 55 (11), pp. 7491-7500. (**SCI, 18/358, Q1: 4.9%, Environmental Science, 2023IF=10.8**). [+] **Joint first author**.
11. **Li-Wei Liu**, Sheng-Hsin Hsieh, Su-Ju Lin, Yu-Min Wang, and Wen-Shin Lin (2021, Apr). Rice Blast (*Magnaporthe oryzae*) Occurrence Prediction and the Key Factor Sensitivity Analysis by Machine Learning. *Agronomy*, 11 (4), p. 771 (**SCI, 20/125, Q1: 15.6%, Agronomy, 2023IF=3.3**).
12. **Li-Wei Liu**, Mohd Hasmadi Ismail, Yu-Min Wang, Wen-Shin Lin (2021, Mar). Internet of Things based Smart Irrigation Control System for Paddy Rice Field. *AGRIVITA J. Agri. Sci.*, 43 (2). (**Scopus, 211/406, Q3: 52.0%, Agronomy and Crop Science, CiteScore2023=2.2; ESCI, 94/125, Q4:74.8%, Agronomy, 2023IF=0.6**).
13. Sheng-Hsin Hsieh, **Li-Wei Liu**, Wen-Guey Chung and Yu-Min Wang (2019, Aug). Sensitivity Analysis on the Rising Relation between Short-Term Rainfall and Groundwater Table Adjacent to an Artificial Recharge Lake. *Water*, 11(8):1704. (**SCI, 40/127, Q2: 31.1%, Water Resources, 2023IF=3.0**).
14. **Li-Wei Liu** and Yu-Min Wang (2019, Jul). Modelling Reservoir Turbidity Using Landsat 8 Satellite Imagery by Gene Expression Programming. *Water*, 11(7):1479. (**SCI, 40/127, Q2: 31.1%, Water Resources, 2023IF=3.0**).

Conference Papers

1. **Liwei Liu**, Wen-Shin Lin, Cheng-Huei Yang, and Yu-Min Wang (2024, Nov.). Deploying AIoT based Water-saving and Low-carbon Rice Cultivation Technology-A Case Study in Taiwan. 14th International Conference of Asia-Pacific Federation for Information Technology in Agriculture, Tsukuba, Japan.
2. Kuo-Cheng Yu, Hsin-Wei Kuo, Min-Kung Hsu, **Liwei Liu*** (2024, Nov.). Low-Carbon Recycling Model for the Reuse of Pig Manure and Wastewater. 2024 Celebrating Centennial NPUST International Conference on Sustainability, Pingtung, Taiwan. * **Correspondence**.
3. **Liwei Liu***, Yu-Min Wang (2024, Nov.). Dynamic Simulation of Methane Emissions in Static Closed-Chambers for Rice Paddyfield. 2024 Celebrating Centennial NPUST International Conference on Sustainability, Pingtung, Taiwan. *

Correspondence.

4. **Liwei Liu**, Yu-Min Wang (2024, Nov.). A Climate-Smart Solution for Low-Carbon and Water-saving Rice Cultivation. 2024 Celebrating Centennial NPUST International Conference on Sustainability, Pingtung, Taiwan.
5. **Liwei Liu**, Yi-Shin Chian, Yu-Min Wang (2024, Nov.). Environmental-friendly Rice Cultivation Practices for Conserving Ecosystem Services. 2024 Celebrating Centennial NPUST International Conference on Sustainability, Pingtung, Taiwan.
6. Chih-Hung Lee, **Li-Wei Liu**, Yu-Min Wang, Jan-Mou Leu, Chung-Ling Chen (2023, Mar.). Modeling Shallow Bathymetry by Machine Learning Algorithms and Drone-based Multi-spectral Imagery. 2023 International Conference on Remote Sensing and Geographic Information, Prague, Czech Republic.
7. **Li-Wei Liu**, Yu-Min Wang, Wen-Shin Lin (2022, Nov.). It's time to prevent! Using AI for rice blast prediction. 2022 Smart Agriculture Annual Result Announcement and Seminar of Kaohsiung City. Kaohsiung City, Taiwan.
8. Chih-Wei Chang, **Li-Wei Liu***, Yu-Min Wang* (2022, Jul.). A Study on Mitigating Emitter Clogging from the Suspended Solid in Drip Pipe. 2022 Conference on Sustainable Development and Disaster Prevention in Civil Engineering, Chia-Yi, Taiwan. * **Correspondence**.
9. Chin-Chuan Chen, **Li-Wei Liu***, Yu-Min Wang (2022, Jun.). Applying Accumulative Temperature Method on Agronomic Cheratics Analysis on Coloured-Film Greenhouse Tomato (*solanum lycopersicum* var. *cerasiformein*) Production – Using Purple Numen, Jade Girl, and Golden Sweet Cultivars as Demonstrations. 2022 6th Sustainable Development & Green Technology International Symposium, Chia-Yi, Taiwan. * **Correspondence**.
10. **Li-Wei Liu**, Wen-Shin Lin, Yu-Min Wang (2021, Nov.). Using machine learning techniques in smart agriculture. 2021 University Network of Tropical Agriculture (UNTA) Workshop - Young Voice in SDGs, Pingtung, Taiwan.
11. **Li-Wei Liu**, Mohd Hasmadi Ismail, Yu-Min Wang, Wen-Shin Lin (2020, Nov). Internet of Things based Smart Irrigation Control System for Paddy Rice Field. The 1st International Sustainable Development Conference (ISDC 2020), Pingtung, Taiwan.
12. Chih-Wei Chang, Chih-Hung Lee, **Li-Wei Liu***, Yu-Min Wang (2020, May). A study for sludge monitoring in the conveying pipe of dredging system, 2020 Conference on Sustainable Development and Disaster Prevention in Civil Engineering, Kaohsiung, Taiwan. * **Correspondence**.
13. Jung-Yu Chien, Chih-Hung Lee, Tzu-Hsuan Wen, **Li-Wei Liu***, Yu-Min Wang (2020, May). Adopting UAS Photo on Manning Roughness Analysis in Taiwan Mountain River, 2020 Conference on Sustainable Development and Disaster Prevention in Civil Engineering, Kaohsiung, Taiwan. * **Correspondence**.
14. **Li-Wei Liu**, Yu-Min Wang, 2018, A Study of Reservoir Surface Water Turbidity Model Development Using Landsat 8 Satellite Imagery, Academic Exchange Workshop Between NPUST and Polytechnic University, Hong Kong, China.
15. Fang-Lin Liao, **Li-Wei Liu**, Wen-Guey Chung, and Yu-Min Wang (2017, Mar). Using ANN for Modeling the Unconfined Groundwater Variation Induced by Artificial Recharge Lake in Dry Season. The 2017 4th International Conference on Coastal and Ocean Engineering (ICCOE 2017), Osaka, Japan. MOST 105- 2221-E-020-009.
16. **Li-Wei Liu**, Sheng-Hsin Hsieh, Wen-Guey Chung and Yu-Min Wang (2017, Mar). Sensitivity Analysis on the Rising Relation of Short-term Rainfall and Unconfined Aquifer Groundwater Table. The 2017 4th International Conference on Coastal and Ocean Engineering (ICCOE 2017), Osaka, Japan. MOST 105- 2221-E-020-009.
17. Yu-Min Wang, **Li-Wei Liu**, Wei-Chuan Hu (2016, Oct). A Feasibility Study on UAV Aerial-Photo Analysis for Riverbed Material and Manning Roughness Coefficient Determination. 2016 5th International Conference on Material Science and Engineering Technology (ICMSET 2016), Tokyo, Japan. MOST 105-2221-E-020-009.
18. Samkele Tfwala, Wei-Chuan Hu, Tzu-Hsuan Wen, **Li-Wei Liu**, Wen-Guey Chung (2016, May). The Use of Unmanned Aerial Vehicles in Evaluating Changes in Fluvial Morphology. 2016 APEC Typhoon Symposium, Taipei, Taiwan.
19. **Li-Wei Liu**, Jin-Bing Lin, Yu-Min Wang, 2014, The Effects on Stage-Flow Rating Curve and Riverbed Variation - A Case of Shi-Wen Bridge Cross Section, 2014 International Conference on Sustainable Development and Disaster Prevention in Civil Engineering, Pingtung, Taiwan.
20. Samkele S. Tfwala, Yu-Min Wang and **Li-Wei Liu**, Prediction of Sediment Discharge by Sediment Rating Curve and Fully Recurrent Neural Network in Shiwen River, Taiwan, 2014 International Conference on Sustainable Development and Disaster Prevention in Civil Engineering, Pingtung, Taiwan.
21. **Li-Wei Liu**, Wei-Jyun Chen, Jin-Bing Lin, 2013, An Investigation on Sideslope Stabilization in TengJhih Forest Road at 2k Section, 2013 Conference on Sustainable Development and Disaster Prevention in Civil Engineering, Kaohsiung, Taiwan.
22. Wei-Jyun Chen, **Li-Wei Liu**, Jin-Bing Lin, 2013, Tengjhih Forest Road Earth Anchor Damage and Slope Failure Exploration of the Relationships, 2013 Conference on Sustainable Development and Disaster Prevention in Civil Engineering, Kaohsiung, Taiwan.

Books and Chapters

1. Li-Wei Liu (2021, Nov.). Artificial Intelligence of Things (AIoT) Based Crop Growth Environment Monitoring System Development - A Demonstration of Development and Integration on Rice Growth Rate. Ph.D. Degree Dissertation. Department of Civil Engineering, National Pingtung University of Science and Technology.
2. Sheng-Hsin Hsieh, Li-Wei Liu, Wen-Guey Chung and Yu-Min Wang (2020, Jul.). Sensitivity Analysis on the Rising Relation between Short-Term Rainfall and Groundwater Table Adjacent to an Artificial Recharge Lake. In R. Morbidelli, C. Saltalippi and A. Flammini (Ed.). Rainfall Infiltration Modeling (pp.123-136), Basel, Switzerland: MDPI Publisher. ISBN 978-3-03936-022-2.
3. Li-Wei Liu (2012, June). The Effects on Stage-Flow Rating Curve and Riverbed Variation - A Case of Shi-Wen Bridge Cross Section, Thesis of Master's Degree, Department of Civil Engineering, National Pingtung University of Science and Technology.