# My Exchange Experience at Maejo University

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Prepared by: Exchange Students from Taiwan

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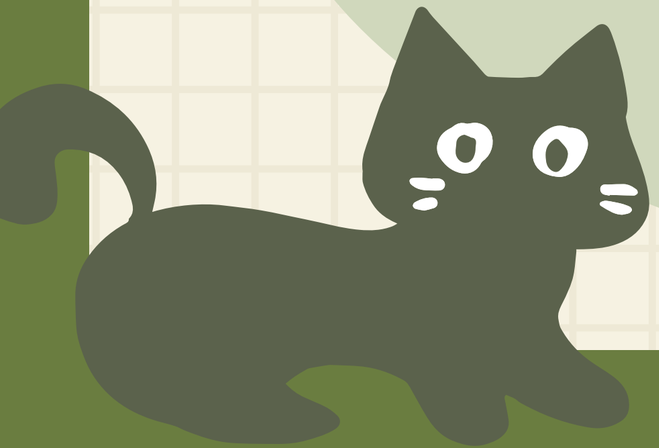

# INTRODUCTION

I'm a student from NPUST, Taiwan. From July 5th, I joined a 36-day exchange program at Maejo University, Chiang Mai. The program includes professional training and cultural experiences.

# Learning Experience Share

## 1 3D printing technology

Design and operate 3D printing equipment-FDM

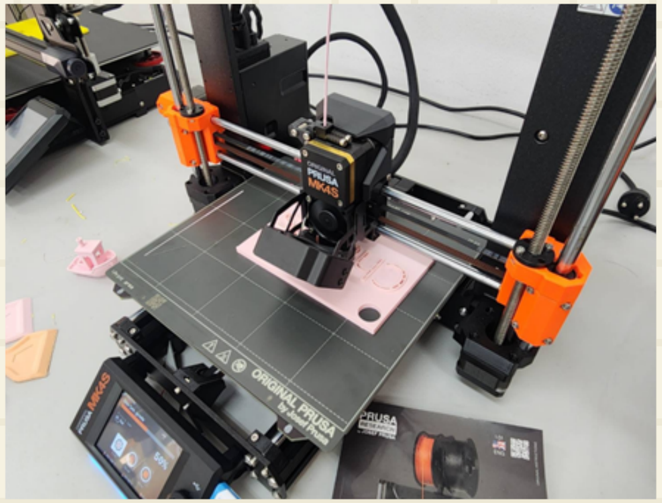


Figure 1. 3D Printing Equipment-FDM

Figure 2. Design patterns for 3D printing

# Learning Experience Share

## 2 Farm Robots

This course explores the use of farm robots for tasks like seeding and watering, focusing on both DH parameters in robotics and their operational modes.

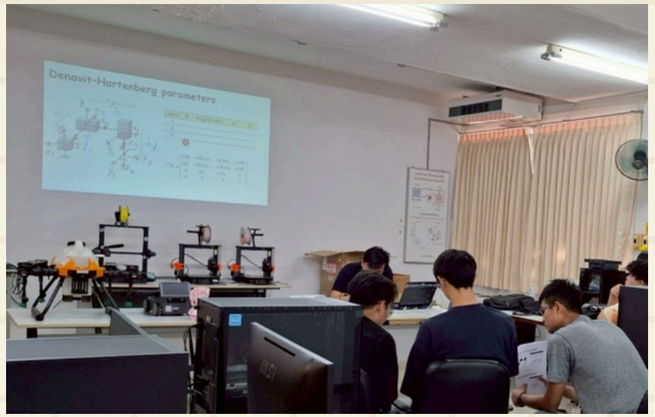


Figure 3. DH Convention Overview

Figure 4. Learning Farm Robots

# Learning Experience Share

## 3 AMR project

Learned to operate and navigate Autonomous Mobile Robots (AMRs), focusing on route planning, obstacle avoidance, and task execution.
Learned to control a quadruped robot(robot dog) with emphasis on mobility and navigation.

Figure 13. Control AMR robot

Figure 14. Control robot dog

# Learning Experience Share

## 4 Smart Farming with Drones

The drone follows a preset flight path to capture and upload images, then automatically generates a topographic map through terrain measurement and image processing.

Figure 5. Learning drone functions

Figure 6. Flight Path Planning

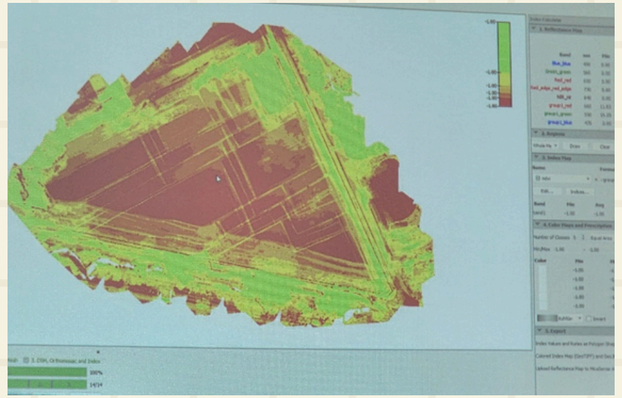

Figure 7. Topographic Map Generation

# Learning Experience Share

## 4 Smart Farming with Drones

Conducted tests to evaluate fertilization accuracy and flight performance under real farm conditions.

Figure 8. Drone watering measurement

Figure 9.  Drones watering fertilizers

# Learning Experience Share

## 5 Biochar project

Using rice straw as raw material, we produced biochar through pyrolysis and analyzed its properties. This process showed how biochar supports soil health and sustainability by recycling agricultural waste.

Figure 10. Biochar-Rice straw

Figure 11. Burning for 3 hrs

Figure 12. Biochar Identification Process

# Learning Experience Share

## 5 Biochar project

Using the IKA calorimeter, we accurately measured the energy content of biochar samples.

The XRF analyzer quickly identified their mineral composition, offering key data for evaluating soil improvement.

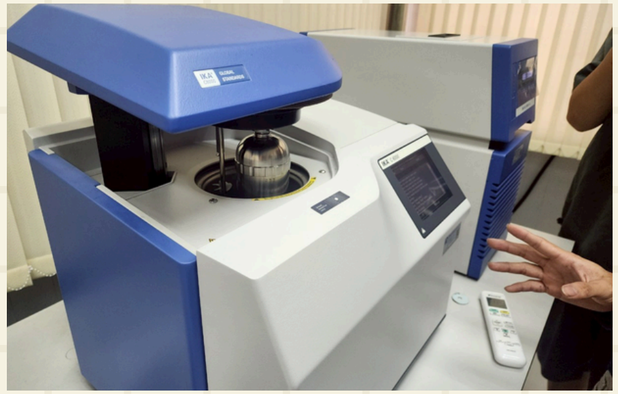

Figure 13.  IKA calorimeter

Figure 14. XRF analyzer

# Learning Experience Share

6

Smart Aquaculture with IoT

7

Maejo Micro Organisms

8

Fertilizer Blending Technology

# Learning Experience Share

9

Ozone agricultural applications

10

Transplanting Tissue Culture Seedlings

11

Collaborative Robots

# Life Beyond Class in Thailand

# Life Beyond Class in Thailand

# Life Beyond Class in Thailand

# Challenges

Food Culture

Language

Transportation

In-Depth Courses

Homework Submission Pressure

# CONCLUSION

The 36-day program at Maejo University provided hands-on experience and cultural exchange. Projects like AMR, Biochar, and Farm Bot enhanced our skills and understanding of smart agriculture.

“Special thanks to NPUST, Taiwan and MJU, Thailand”

# THANK YOU

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