

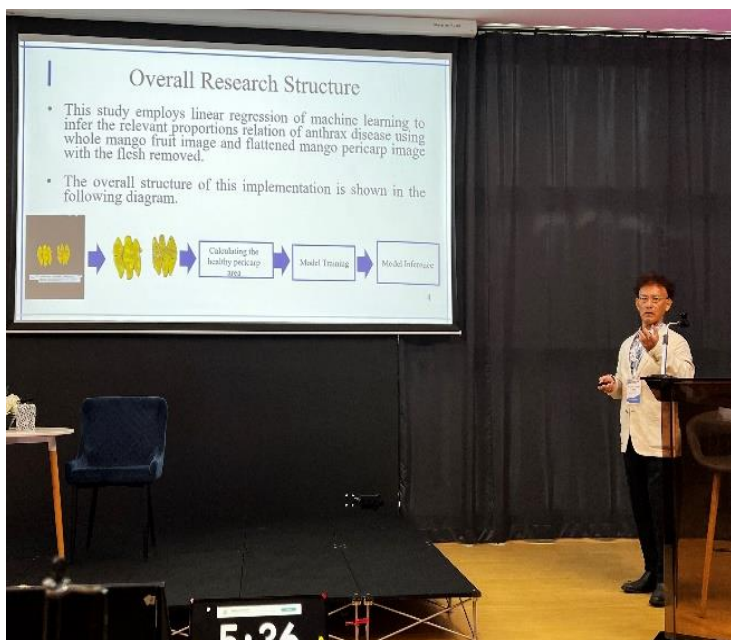
機械與能源工程學系施佑義助理教授帶領大二鄭傑勻同學參加 113 年 8 月 台泰日三校國際學術交流研討會

The assistant professors Yusi Shih and sophomore student Jie-Yun Zheng participated the academic exchange seminar among Taiwan, Thailand, and Japan in the end of August.

二年一次的三校學術交流研討會今年輪到主辦國泰國清邁大學舉辦。其中，幾大議程中的理工組議程，是設在校園區域內的泰北區的科學技術中心進行，嘉義大學共有 50 多位師生參加。機械系也派出施佑義助理教授與大二鄭傑勻同學參加。

The biennial academic exchange seminar among the three universities was held this year by the host country, Chiang Mai University (CMU), in Thailand. Among the major agendas, the agenda of science and engineering group is held at the Taipei District Science and Technology Park, STeP, located in the CMU campus area. There are more than 50 teachers and students participated this event in our university. The Department of Mechanical Engineering also assigned the assistant professors Yusi Shih and sophomore student Jie-Yun Zheng to participate.

首先由本校理工學院電機系徐超明院長發表的題目是「如何運用機器學習鑑定芒果外表出現斑點時如何選擇優劣」。徐院長運用了 3D 以及 2D 方式，讓芒果平面化以及機器學習模型進行判定，在場學者十分高度興趣，並詢問技術層面是否同樣可以運用在香蕉等水果等農產品？

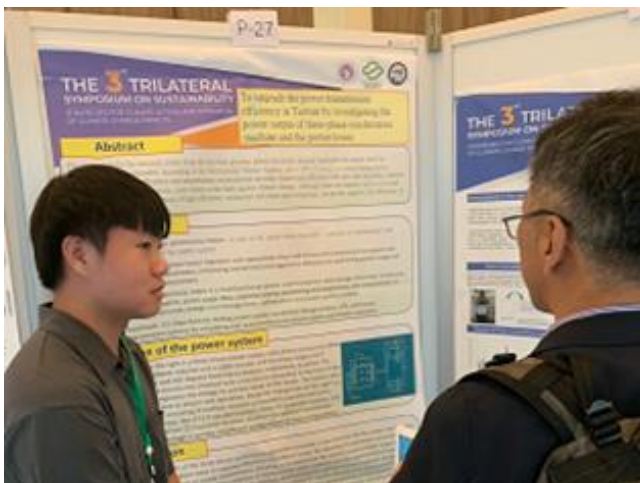


The first topic it was presented by professor Roy Hsu, the Dean of the Department of Electrical Engineering. He showed how to use machine learning to identify the quality of mangoes when black spots appear on mangoes surface. Dean Hsu used 3D and 2D methods to flatten mangoes by layers and used machine learning models for determination. The scholars there were highly interested in this approach and asked whether the technology could also be applied to other agricultural products such as bananas, apples or any kinds of fruits.

機械與能源工程學系施佑義助理教授發表的題目是「風能源數位分析及應用」，運用傅立葉轉換等分析模擬技術，解析出混亂風的訊號。施教授是風力能源專家，曾經服務於離岸風力發電公司。目前為本系新任教師，並在此次第一次在助理教授期間交流研究心得，透過此次交流或能開啟跨國學術單位合作，未來建立研究群。



The topic presented by assistant professor Yusi Shih was analysis and mathematics application to the wind speeds, by using analysis simulation techniques such as Fast Fourier Transform to reveal the chaotic wind signals. Professor Shih is a wind energy expert and was worked offshore wind power companies. He is currently a new teacher in the department. This is the first time he has exchanged research experiences while serving as an assistant professor. Through this event, it may be possible to start cooperation with the world and establish a research group cross countries in the future.



Jie-Yun Zheng, a sophomore student in the Department of Mechanical Engineering, has always been interested in power transmission efficiency. He contacted assistant professor Shih last semester, and wished to join work on related research. Assistant professor Shih and Zheng were then spent about four months discussing the power transmission model in Taiwan. After inspecting the energy system laboratory in the Department of Mechanical Engineering, they had a plan to use the three-phase motor in the laboratory as the generator, a self-made small

circuit board as the transformer, and the resistant load box as the load by applied Y-shaped



connection method to provide power when passing through the circuit board. This small-scale power system in simple laboratory interestingly demonstrated Taipower's research on large-scale power transmission. Zheng and several other sophomore students diligently worked together to assemble and operate the device in their out of class time, and made the results into presentations and posters, which were presented at the student session in the event. The committee recognized the contents of Zheng's presentation and poster and therefore, he was

awarded the Excellent Work. The committee encourage that Zheng would continue his research and make contributions to the fields of power transmission in the future.