UB NEWS LETTER

April - June 2021

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In A Pandemic Keep Working

The Covid-19 pandemic has not ended, even recently there has been a second wave, the condition has increased again. This condition also affects campus activities which determine more work from home (WFH), while lectures are also carried out online.

Universitas Brawijaya (UB) through the Faculty of Agricultural Technology (FTP) receives a community service grant be Australia Grant Scheme Round 1 2021 from the Australian Government which is managed by Australia Awards in Indonesia, an institution that aims to support positive contributions between Australia and Indonesia.

FTP Lecturer Hendrix Yulis Setyawan, STP, M.Si, PhD, said that UB received grant funds that will be used for community development in the area of the foothills of Mount Arjuno, East Java, with the title Sustainable Development of Forest-Based Community at Arjuno Mountain Malang.

Project Leader Hendrix said that this grant is used for sustainable forest management, in collaboration with the community around UB Forest, an educational forest located in Sumberwangi Hamlet, Karangploso, Malang Regency.

The ACTOR TEAM has again excelled in the international arena. This time, these six students of Electrical Engineering (TE) and Informatics Engineering UB managed to get a Gold Medal and Grandprize in the field of innovation in 1 Idea 1 World 1I1W–International Innovation, Design and Startup Competition.

This international competition was held by the Turkish Inventors Association (TUMMIAD) on 23-28 February 2021, and the winners were announced online on (7/3/2021).

"We think ACTOR can have a big impact on society, and this brings us to the best position in the field of innovation in this competition," said Dary Rafi Brafianto (TE'18) as Team Leader.

Diabetes Mellitus (DM) is a serious threat to human health because it can cause chronic complications. Macrovascular and microvascular complications will arise due to uncontrolled DM, one of which is in the foot of DM which is known as Diabetic Foot Syndrome (DFS). DFS can cause nerve disorders in the feet of DM, and affect the quality of life of people with DM.

Treatment for diabetic foott problems is still focused on wound healing. Some of these are wound care and treatment, infection management and vascularization management. While treatment efforts before the occurrence of wounds still use therapy to reduce symptoms with a pharmacological approach.

This became the background for Ns's dissertation. Heri Kristianto, S.Kep., M.Kep., Sp.Kep.MB entitled "Development of Neuromuscular Taping Algorithms for Clinical Improvement of Microcirculation Disorders in Diabetic Feet" and delivered during the open examination Tuesday (25/05/2021).

The Industrial Engineering Service Team (TI), Faculty of Engineering Universitas Brawijaya (FTUB), provided assistance in the form of a Plasma Ozone Sterilizer (POS) booth which functions to prevent the spread of Covid-19 to PT Karya Anak Bangsa partners, who are familiarly known as Gojek. "This is a form of implementation of the collaboration between FTUB and Gojek that has been established since March 5, 2020," said one team member, Suluh Elman Swara, S.T., M.T.

MyECO, one of the startups assisted by the UB's Entrepreneurial Innovation and Incubator Agency (BIIW-UB) has succeeded in obtaining a grant from the 2021 Indonesian Innovation Startup Program of the Ministry of Research and Technology/National Research and Innovation Agency (RISTEK-BRIN) of Rp. 275 million.

"In addition, the product was also named The Most Innovative at the National 1000 Startup Digital Movement event by the Ministry of Communication and Information," said MyECO CEO Maulana Derifato Achmad.

"This award was achieved because the product, named Smart EcoRoom, is an IoT-based automatic power-saving device solution with savings of up to 55 percent," he explained happily.

UB's leadership hopes that in the future this university can still do more potential that UB has to continue to do various works that can be utilized, not only for UB's academic community, but also for the wider community (*Humas*)

MyECO Achieves the Most Innovative at the National Movement of 1000 Digital Startups

MyECO, one of the startups fostered by Entrepreneurial Innovation and Incubator Agency Universitas Brawijaya (BIIW-UB) managed to get a grant from the 2021 Indonesian Startup Innovation Program of the Ministry of Research and Technology / National Research and Innovation Agency (RISTEK-BRIN) amounting to IDR 275 million. In addition, the product was also named as The Most Innovative at the National Movement of 1000 Digital Startups event by the Ministry of Communication and Informatics.

The CEO of MyECO, Maulana Derifato Achmad said, he and the team had successfully passed the selection stage starting in September 2020, from 8,780 startups throughout Indonesia, to being selected in the top 10 nationally, and finally declared as The Most Innovative National Movement of 1000 Digital Startups. This award was won because the product, named Smart EcoRoom, is a solution for automatic electricity saving devices based on IoT with savings up to 55 percent.

"This product is the only device that can control, manage and monitor electrical devices in real time," he said.

He further explained that these electrical devices can be switched off in three modes, namely hourly schedule mode, manual mode switch control via web, and automatic mode based on room conditions from sensors.

"This device can be accessed with a secure web panel from anywhere, anytime, and with any platform," he added.

This Vocational Student of Information Technology Study Program said that when started getting into the business world, myECO could be developed because of the guidance of BIIW-UB.

"BIIW is a good place to start developing a startup even though it only starts with an idea. Various entrepreneurial events to funding are well accompanied like your own family. Even meeting places and offices are also facilitated by BIIW, "he explained.

In the future, he hopes to find partners / investors to expand his business. "As well as the market and its products can penetrate mass production for the national market and even for international exports," he concluded. [**Irene/ Humas UB/ Trans. Iir**]

Lecturers of Industrial Engineering Prevents the Spread of COVID-19 with Plasma Ozone Sterilizer Booth

The Industrial Engineering Service Team (TI), Faculty of Engineering, Universitas Brawijaya (FTUB), provided assistance in the form of a Plasma Ozone Sterilizer (POS) Booth to partners of PT Karya Anak Bangsa, who is familiarly known as Gojek.

"This is a form of implementation of the collaboration between FTUB and Gojek which has been established since March 5, 2020," said one of the team member, Suluh Elman Swara, S.T., M.T.

Gojek as one of the companies that serves food / goods delivery and transportation services, is one of the tools to fulfill needs during the social distancing period in the pandemic.

Unfortunately, the increase in online shopping activities has also had a negative impact, especially for drivers / deliverers who are often outside, interacting with various groups in various places.

These drivers could potentially become transmitters if they were not provided with a shield. Seeing this phenomenon, he continued, the team intends to break the chain of distribution.

"We put the equipment at the Malang Gojek office. Therefore, it is hoped that at certain intervals the drivers can sterilize themselves and their devices, "explained Suluh.

The idea of making this POS booth, he continued, was the result of a team discussion with TI-UB business analyst, L. Tri Wijaya Nata Kusuma, ST, MT, Ph.D., and the expert on electronic phenomena, materials, simulations, and prototype design from Electrical Engineering UB, Eka Maulana, ST, MT, M.Eng.

In this activity, Suluh was also assisted by his colleague, Dr.Eng. Zefry Darmawan, S.T., M.T, Marudut Sirait, S.T., M.T, and. Ir. Raditya Ardianwiliandri, S.T., M.MT.

According to Suluh, this tool was the first form to be finished and used. From the results of discussions with the tool maker, Eka Maulana, this tool will be flexible and can be installed anywhere.

Plasma Ozone Sterilizer (POS) itself is a non-contact sterilizer with ozone generator and ultraviolet technology based on high voltage technology to kill bacteria, viruses, fungi, and other pathogens.

POS is placed in the booth as a place for objects to be sterilized. The air around the object will be flowed processed in POS to be ionized, then sterilized with ultra violet.

Sterile air containing ozone is then blown back into the chamber to sterilize the objects in it.

Eka Maulana said that POS can be made according to your needs. Can be shaped like an air conditioner, hand dryer, or chamber.

"Hopefully it can be made portable later, so it can be installed anywhere. After I put it in the car, as soon as I leave, I can move to the office or at home, "he concluded. **(mic / Humas UB/ Trans. lir)**

Receiving Service Grant, UB Targets the Community in Mount Arjuno Lowland

Universitas Brawijaya (UB) receives a community service grant. UB through the Faculty of Agricultural Technology (FTP) receives Australia Grant Scheme Round 1 2021 from the Australian Government which is managed by Australia Awards in Indonesia, an institution that aims to support positive contributions between Australia and Indonesia.

In this grant, FTP Lecturer Hendrix Yulis Setyawan, STP, M.Si, PhD, said that UB receives grant funds that will be used for community development at the lowland of Mount Arjuno, East Java, with the title Sustainable Development of Forest-based Community at Arjuno Mountain, Malang.

According to Hendrix as the project leader, this grant is used for sustainable forest management, in collaboration with the community around UB Forest, an educational forest located in Sumberwangi Village, Karangploso, Malang Regency.

"The people around UB Forest are mostly coffee cultivators and cattle breeders. These coffee farmers do not own land, their houses are on UB's land, electricity access and clean energy sources is very limited, so that it can be seen from the community's perspective, they really need help," said the lecturer of the Agricultural Industrial Technology Study Program.

Besides empowering coffee farmers, the group consisting of Hendrix Yulis Setyawan, STP,, M.Si, PhD, Prof. Dr. Ir. Imam Santoso, MP, Sri Suhartini, STP, M.Env.Mgt, PhD and Nimas Mayang Sabrina Sunyoto, STP, M.Sc, MP, PhD, will also create an Energy Independent Village based on agriculture and livestock with a sustainable system.

"In the beginning, the target was to promote sustainable farming models. The concept is we help the community around UB Forest to manage their surrounding environment in a sustainable manner," he said.

Assistance after the program will be carried out by the Faculty of Agricultural Technology (FTP).

The Dean, Prof. Imam Santoso said that FTP also contributed to funding as a third party for international service programs such as AGS, since the activities carried out are very closely related to FTP's scientific background and as a form of FTP's tri-dharma.

Besides having coffee potential, this area is also used for cattle raising by the residents.

The sustainable model offered is by maximizing community cattle farming to meet energy needs and reduce wasted waste.

"The plan is that biogas installations will be built at the farming location, the results of it can be used by residents as a source of energy for cooking," said Imam.

Meanwhile, the remaining fermented fertilizer from the biogas unit can be used for coffee plantations.

The use of this fertilizer will benefit UB Forest since the fertilizer used is organic, and it can reduce the excessive use of chemical fertilizers that can potentially damage the planting land in several areas. The price of organic coffee produced can also increase so that it benefits both parties, both farmers as cultivators and UB Forest as land owner.

Cattle farms in this area will also benefit since they get additional income and also the availability of forage in UB Forest that can be utilized. The surrounding community is also helped by the availability of clean energy that can be used for cooking, so that land productivity will benefit all parties. **(VQ/Humas UB/ Trans. Iir)**

UB Lecturer Research the Neuromuscular Taping Method for Diabetic Feet

Ns. Heri Kristianto, S.Kep., M.Kep., Sp.Kep.MB

Diabetes mellitus (DM) becomes a serious threat to human health since it can cause chronic complications. Macrovascular and microvascular complications will arise due to uncontrolled DM, one of them is in the DM foot which known as Diabetic Foot Syndrome (DFS). DFS can cause nerve disorders in the DM foot, and affects the quality of life of people with DM.

Treatment for diabetic foot problems has been focused on wound healing. Some of these are wound treatment and care, infection management and vascular management. Meanwhile, the treatment before the injury is still using therapy to reduce symptoms with a pharmacological approach.

This became the background for the dissertationof Ns. Heri Kristianto, S.Kep., M.Kep., Sp.Kep.MB entitled "Development of Neuromuscular Taping Algorithms for Clinical Improvement of Microcirculation Disorders in Diabetic Feet". The Open Dissertation Examination was held online, Tuesday (25/05/2021).

In his research, the lecturer of Medical Surgical Nursing at the Department of Nursing, Faculty of Medicine, Universitas Brawijaya who is currently pursuing his doctorate at the University of Indonesia, has developed and studied the management of improving peripheral circulation in diabetic feet as an effort to prevent diabetic foot ulcers as a sign of further complications.

According to Heri, the Neuromuscular Taping (NMT) method can be an option for supporting interventions from existing therapies, since it does not affect the activity of clients with plaster attached. Therefore, NMT has the opportunity to be developed and applied as a support in the management of diabetic foot by providing patient support to stay active.

NMT is a method of placing a plaster on the skin of the foot using a special plaster that has been modified in shape, length and width of the tape according to clinical indications.

"In clinical trials that have been conducted using the Fan form and I as a basis for improving microcirculation in diabetic foot neuropathy. The results obtained provide benefits in improving foot skin moisture, capillary structure and neuropathic pain response, "explained Heri.

Promovendus hopes that the results of this study can support the development of nonpharmacological pain management in the field of nursing, particularly in the care of diabetic feet.

"Hopefully this research can provide new hope in the management of diabetic foot apart from a pharmacological approach," he said.

Through this dissertation, Heri was declared to have graduated as the 105th Doctor of Nursing from the Faculty of Nursing (FIK) UI with a GPA of 3.94 and cum laude, which was taken within 2 years and 9 months.

Dr. Heri Kristianto was born in Madiun, November 26, 1982. The husband of Ratih Damayanti, M.SE and father of Fedora Abigail Alexandrina studied undergraduate and nurse education at FK-UB, as well as Masters and Specialist in Medical Surgical Nursing at the University of Indonesia. During his doctoral study in Nursing at the University of Indonesia since 2018, he has produced seven articles as the main author published in reputable international journals. In addition to serving as a lecturer in the Department of Nursing, Faculty of Medicine, Universitas Brawijaya since 2006 until now, he is also an independent practitioner of medical surgical nursing in the area of foot care, wounds, and diabetes educator. [Irene/ Humas UB/ Trans. Iir]

Accelerating Accident Handling, Engineering Student Wins Turkey International Competition

ACTOR Team has made another achievement at the international level. This time, six students of Electrical Engineering (TE) and Informatics Engineering UB managed to get a Gold Medal and Grand Prize in the Innovation category at 1 Idea 1 World 1|1W – International Innovation, Design, and Startup Competition.

This international competition is being held by the Turkish Inventors Association (TUMMIAD) on 23-28 February 2021, and the winners are announced online on 7 March 2021.

This team won the award with their work, ACTOR (ACcident DetecTOR). This work can speed up the handling time of traffic accident victims.

"We think ACTOR can bring a big impact on society, and this has brought us to the best position in the field of innovation in this competition," said Dary Rafi Brafianto (TE'18) as Team Leader.

Led by Dary, the team consists of Ajeng Kusuma Dewi (TE'19), Anak Agung Sagung Gede Paramitha Wardhana (TE'19), Alfathan Dandy Pradana (TE'18), Vira Zafarin (TE'18), and Ersya Nadia Candra (Engineering Informatics '18) and supervised by Eka Maulana, ST, MT, M.Eng.

Previously, the ACTOR Team also won a Gold Medal and Favorite Champion on the last Indonesia Inventors Day 2020.

ACTOR itself consists of hardware in the form of a CCTV camera integrated with Artificial Intelligence and the Internet of Things to detect traffic accidents and then send them to the application in real-time.

ACTOR allows the nearest hospital and police to receive accident location information and direct it to the location with the fastest and closest route.

Thus, police and medical personnel can deal with traffic accidents more quickly. (mic)

"Only the Indonesian children can be relied on to develop Indonesia. Don't make hope to the other nations. "- B.J Habibie

Doctoral Service Helps Community to Improve Economy in the Midst of Pandemic

The impact of COVID-19 outbreak that has emerged since 2020 has affected the rate of the world economy. Likewise, the Indonesian community, from micro entrepreneurs to large companies, are affected.

Facing the global crisis, business actors can still survive by utilizing technological advances, which are social media and online shop applications as alternative stalls by minimizing crowds. As well as developing product innovations that are unique and needed to support immunity.

Unfortunately, not all micro entrepreneurs are able to innovate. For example, the community group of Sumberduren, Kecopokan, Senggreng Village, Sumber Pucung District, Malang Regency which has extraordinary potential in the fields of animal husbandry, fisheries, and agriculture.

The location of Kecopokan Hamlet near the Sutami Dam which is used for irrigating rice fields, raising freshwater fish by the surrounding community, and fishing tours.

Observing the potential, the Doctoral Service team of Universitas Brawijaya (DS UB team) explores the potential of the area by creating alternative businesses based on technological innovation for processing freshwater fish.

The team consisting of Prof.Dr.Ir. Trinil Susilawati, M.S., IPU., ASEAN Eng (Fapet), Dr. Nanang Febrianto, S.Pt., MP (Fapet), Dr. Dedes Amertaningtyas, S.Pt., MP (Fapet), Hefti Salis Yufidasari, S.Pi, MP (FPIK), and Sri Sulasmiyati, S.Sos, M.A.P (FIA), conducted coaching, mentoring and training on the postharvest handling of freshwater fish , especially tilapia fish to the community members of the Sumber Duren group, Malang Regency, Wednesday (23/06/2021).

The activity agenda carried out includes socializing the handling of processed tilapia products and packaging techniques so that they have a longer shelf life, and meet licensing requirements from the health department.

Providing knowledge about sanitation hygiene, food safety, packaging and expiration testing. As well as exploring the potential of villages to improve the economy during the COVID-19 Pandemic.

According to Trinil, the purpose of this community service activity is to provide an alternative post-harvest handling of freshwater fish for groups that are acceptable to consumers. Since it has a comparative advantage to similar products, which is high in calcium, ready for consumption and has a long shelf life, as well as opening up opportunities for the development of agribusiness-based home industries as an effort to revive economic of post-COVID-19 conditions.

"It is hoped that through this community service activity, group members can provide alternative processed food made from local raw materials as well as become a new source of livelihood for the surrounding community and create a model of coaching and training in post-harvest handling of fish in a group business that is profitable and contributes significantly in improving the community's welfare, especially in Malang Regency," said Trinil (dta/Humas UB/ Trans. Iir)