#### FACULTY OF ENGINEERING & BUILT ENVIRONMENT

# 

Volume-2, 1<sup>st</sup> Issue, March, 2020

# *Ingenious-*NEWSLETTER

### 2019 RESEARCH SHOWCASE ACHIEVEMENT

#### **BEST RESEARCHER**







**BEST RESEARCH FACULTY** 

Ingenious-NEWSLETTER,
FOEBE, MAHSA University

### **BEST ADMIN STAFF**



Ms. Nabilah Binti Md Isa

#### **BEST LECTURER AWARD**



Ms. Nur Azliza



FIRST RUNNER UP

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#### MESSAGE FROM THE DEAN



We would like to start this year 2020 newsletter with many great achievements by staff and students. We have successfully completed the Engineering Accreditation for Electrical Electronics Engineering. Students won several national awards and excel in many competitions as published in the newsletter. The achievement is based on confidence in our staff members, striking towards the vision of education is truly alive and well within the faculty. Educational innovation is the product of people who dare to experiment. At the same time, we must harness the power of industry collaboration. Highlighting our educational support services shows that unity is also key to improving our quality and efficiency. We are taking valuable steps forward together by collaborating with industry partners wisely. Studying and working at our faculty with pleasure and satisfaction will be an important theme in the upcoming year. We would work together to nurture students with great efforts.

# Engineering, Science And Technology Exhibition (ESTE) 2020

On 23 January 2020, MAHSA University's Faculty of Engineering and Built Environment organized an Engineering, Science and Technology Exhibition (ESTE). This exhibition was open to all students of MAHSA University as well as other universities. The Engineering Science and Technology Exhibition is a platform that gives students an opportunity to experience, innovate, and come up with unique scientific ideas. Inaugurated over three years ago, the exhibition now receives over 300 entries from different universities. The exhibition is evaluated by expert judges from various universities in their related fields. The judging criteria is based on the innovative poster and creative prototype presentations by the students. The event was held at Spine Level 2, Empathy Block, MAHSA University, SPC.

The aim of this exhibition is to nourish students' research, design and innovation skills in multidisciplinary areas that are related to engineering, science and technology. Our mission is to support and encourage the students to share their knowledge, research work and experience during the exhibition, which will ultimately contribute to the development in engineering, science and technology.

A total of one hundred and twelve (112) participants from numerous fields competed in the competition. During the closing ceremony, the faculty was honored with the presence of Member of Parliament from Lembah Pantai, YB Tuan Ahmad Fahmi bin Mohamed Fadzil. He was very keen in motivating the students by sharing his experience in the engineering field among MAHSA's students. This exhibition is a mind-changing platform to develop research-based knowledge, stimulating the students' creative and innovative ideas, interpersonal and problem-solving skills, etc. The feedback from the Judging panels also boosted the students' minds.









#### **ESTIC - An Interview With Deputy Minister Of Works**

Engineering, Medicine, Science & Technology International Conference 2019 (ESTIC'19) was held on the 14<sup>th</sup> and 15<sup>th</sup> October 2019, at MAHSA University, Bandar Saujana Putra Campus. The aim of ESTIC'19 was to provide a platform for academician, researcher and postgraduates from Malaysia and all over the world to present their research results and development activities in Engineering, Science and Technology. This conference provides opportunities for the delegates to exchange new ideas and application experiences face to face, to establish networking and to find global partners for future collaboration.

The ESTIC conference committee receives wholehearted support from the Malaysian government and the committee had the opportunity to invite the Deputy Minister of Works, YB Tuan Haji Mohd Anuar Bin Mohd Tahir for the conference in which he gave the opening speech at the opening ceremony.

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Prior to the opening ceremony event, in September 2019, the conference chairman, Dr. Shin To Amiri, the conference co-chairman, alongside Dr. Lee Sim Yee, and Ir. Mohamad Ayob, the conference committee advisor, had the chance to visit the Deputy Minister of Works in his office. The conference committee and a team of news reporters conducted a friendly interview to receive the minister's comments and advice on this event.

During the interview, he was asked a few questions regarding the ESTIC conference series and the following are the minister's reply on these questions.

The Interview:

Q1: "How does the ministry encourage the study of engineering in Malaysia?" and the deputy minister replied:

A1: "Engineering is one of the most important parts of this ministry. We have thousands of engineers, architects and surveyors in my ministry. So, we always encourage and support all the development of the engineering, science and technology and we will always support all the new movements in Malaysia by the government or non-government, public or private sectors in this country. They can rely on our support and cooperation, and we will do our best to help everyone to achieve and progress towards the engineering, science and technology."

Q2: "What was your impression on the ESTIC conference series in 2018?"

A2: "Very impressive, not because you are the first private university in this country who had invited me to your university campus, but because I believe that this university play a very important role in encouraging the development, growth, and the achievements in science and technology and I hope that this very esteemed conference to be conducted without fail annually. This conference is a well-known international conference which gives a good name for Malaysia. "

Q3: "How do we create more awareness in science, technology and engineering?"

A3: "In this country, everyone has to play their role. Not only the government, but also the private sectors, especially non-government sectors should come forward and encourage the young generation and present their new ideas. We must show ourselves that we are able to lead this region, this continent, and the world by empowering ourselves with the knowledge of science and engineering technology, and I believe a lot of things can be done so soon."

Q4: "What would you like to say to those attending this conference?"

A4: "I welcome everyone in this conference, both local and international participants and I hope they make full use of this conference. We should share our knowledge and experience, as we are sharing the same world. Moreover, I hope this conference find its place internationally and attract more well-known international scientists and engineers to show up every year. I really believe you can do it."

With that, we hope this year brings in more international scientist and engineers to make ESTIC another round of success in this field of study.





### **Raising The MAHSA Flag At Unesco**







Ir. Prof. Leong Wai Yie, Dean of Engineering and Built Environment raised the MAHSA flag in the UNESCO meeting held in Paris UNESCO Headquarter on the 16<sup>th</sup> and 17<sup>th</sup> of December, organised by the NGO-UNESCO Liaison Committee in close cooperation with the UNESCO Secretariat, the 11<sup>th</sup> International Forum of NGOs in official partnership with UNESCO took place at UNESCO Headquarters in Paris, France, on 16 and 17 December 2019, on the theme "Challenging Inequalities", with a focus on areas such as youth, income, technology, gender and education.

Prof Leong was invited to represent the World Federation of Engineering Organisation to share on the policies, practices and challenges of equalities in the engineering community, discussing to a great extent the inequalities in policies, STEM education, career and leadership position in ASEAN and in the Asia Pacific countries. Initiatives to further promote equalities were highlighted from the viewpoint of the efforts of NGOs and governmental agencies.

The main objective of the Forum was to identify concrete examples of good practices and grass-root actions as well as ways to develop a set of recommendations to tackle inequalities, with focus on areas such as youth, income, technology, gender and education.

Prof. Leong is the Chairperson of The Institution of Engineering and Technology Malaysia (IET), Board of Director, International Networks of Women Engineers and Scientists (INWES), Executive Committee of the Institution of Engineers, Malaysia (IEM) and the WFEO Committees on Engineering for Innovative Technologies (CEIT) and Women in Engineering (WIE).

## Sungai Selangor Phase 2 Water Treatment Plant Technical Visit

On 25<sup>th</sup> October 2019, thirty-seven students from the Civil and Mechanical Engineering Department of MAHSA University's Faculty of Engineering and IT, accompanied by seven lecturers, visited the Sungai Selangor Phase 2 (SSP2) Water Treatment Plant. The visited the plant in an enthusiastic manner. This visit began with a briefing by Mr Jefri and Mr Nazri, executives from Air Selangor Management Company. The General Manager, Mr Nafiz, wholeheartedly welcomed us and shared information regarding this water treatment plant, SSP2 Water Treatment Plant, located in Bestari Jaya, Selangor. The SSP2 Water Treatment Plant is the largest open treatment plant in the world using the advanced technology ACTIFLO system.

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The students visited two parts of the process area. The first process is Actiflo, which consists of the coagulation, flocculation and sedimentation process. The tank is added with poly and microsand to accelerate flocculation and sedimentation process. This process has a target-settled water turbidity of below 5 NTU. The chemicals inserted into the tank are inter-lime dosing for PH control and pre-chlorine dosing for algae control. The students gained a lot of knowledge from seeing the process of the water flow.

Then they were taken to the filtration process area, where about 24 sub-filter tanks have been installed and settled water filtration is done through the rapid gravity of the sand. The filtered water also undergoes a fluoridation and disinfection process. The students observed the water movement during the process.

The students eagerly watched the whole process and posed questions to the engineer in charge and the lecturers. They were also briefed regarding the location of the supply of water from the water treatment plant. The areas which benefit from this plant are the Klang Valley (Klang, Ampang, Sg. Buloh and Petaling Jaya), Kuala Lumpur and Kuala Selangor. The visit came to an end at 5:30 pm. The students were interested in the water treatment plant process and they gathered new experiences regarding the treatment of the raw water from the river. They were all impressed and gave positive feedback about the technical visit.









# A Fellow Mahsahan Wins Silver Medal At The International ACEIC

AL-SHABI HUSAM SULTAN MOHAMMED, MAHSA's Engineering & Built Environment Faculty student won the silver medal in the International ACEIC (The Era of Automation and Control) event organised by University Tenaga Nasional during 14-15 October, 2019.

International ACEIC is a competition participated by world-wide researchers, students and young professionals in product development which is in-line with the Industrial Revolution 4.0. Participants of the competition were encouraged to apply their knowledge to create functional prototypes which addressed the industrial demands based on developments in available technologies, which was not limited to Internet of Things, Deep Learning, Programming Skills, Robotics or Automation Design. This was a new concept and the International ACEiC presented a platform to share skills and knowledge in various technologies amongst the participants from all over the world.

AL-SHABI HUSAM SULTAN MOHAMMED developed the Smart Painter — a device that could do two different automated operations which were drawing and painting on walls. His poster presentation and product development was highly impressive and caught the attention of the judges, allowing him to gain second place in this prestigious competition.

IET International ACEiC 2019 is a competition participated by postgraduate and undergraduate students from international and local universities under the guidance of a

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lecturer/professor. This competition is designed as one of the efforts to minimise the gap between universities and industry-players focusing mainly in automation and control industry. IET was a co-sponsor of this event.











#### **IET Special Award Competition 18 February 2020**

MAHSA University's Faculty of Engineering and Built Environment (FEBE) successfully organized the IET Special Award competition for the Final Year Project on 18 February 2020 at our Bandar Saujana Putra Campus. This special is given by the Institute of Engineering and Ingenious-NEWSLETTER,

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Technology (IET), Malaysia. The aim of this competition is to nourish students in the areas of research, design and innovation skills in the control and automation technical network field. The IET motivates young minds by providing them with the opportunity to improve their ideas and performance, thus motivating them to put forth greater effort in competitive situations.

A total of nineteen students participated in this competition, but only three students were selected for the final round. In the final round, the three students gave their presentations most effectively. An effective presentation makes the best use of the relationship between the presenter and the audience. MAHSA's Faculty of Engineering and Built Environment students made great effort to inspire the panel, and gave excellent presentations. The participants were all highly motivated to receive the "Best Final Year Project Award".

Eventually, the winner of the award was announced to be Muhammad Safari Bin Mohd Shasuddin, with project title "Implementing of IOT on Automatic Fertigation and Water System", supervised by Dr. Lim Bee Huah. These projects were chosen based on the two categories of which is project design and project commercialization potential. The winner received a plaque and certificate from IET Malaysia.







# Mahsa Engineering Better Competition (Straw Tower Competition And Robotics Competition)

On 7<sup>th</sup> November 2019, MAHSA University's Faculty of Engineering and Information Technology (FEIT) organized the 'BETTER Competition'. The competition is open to all students in MAHSA University as well as other universities. The acronym BETTER stands

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for **B**uilding Engineering & **T**echnology Through Educational p**R**oject. The main mission of this competition is to support and encourage our students to share their knowledge, research work and experience in an exhibition which will ultimately contribute to development in engineering, science and technology. There are 2 main categories for this competition, the Straw Tower Competition and the Robotics Competition. The competitions were held at Spine Level 2, Empathy Block, MAHSA University SPC.

Engineers apply science and mathematics concepts to solve problems that improve the built world, including the design of buildings, bridges and other structures. During the straw tower activity, the student teams acted as civil engineers to design and build model straw towers, taking into consideration the limited straw use, time and rules as they brainstormed, designed, built and improved their structures. The judging criterion was based on the usage of the straws, the maximum height of the straws and also the strongest straw tower that could bear maximum load.

Meanwhile, the robotics competition was an effort to promote research in robotics technology. The competition provided students with engineering design challenges, including the components of mechanics, computers, control software, and system integration. The students worked together to design and build robots that can either navigate twisting, obstacle-filled courses without any human guidance or control, etc. The robotics competition was a university/school-level controlled-based competition. The participants had to design the robot structures and programme them using microcontroller boards such as arduino, arduino uno, raspberry pi, etc. It required multithreaded applications, either with the use of sensors, image processing, robotic movements, and IoT application.

A total of one hundred and six (106) participants from various fields competed in the competition, including students from Mahsa International School Kuala Lumpur (MISKL). During the closing ceremony, Pandamaran State Assemblyman YB Tuan Tony Leong Tuck Chee was also present as he was very keen in promoting STEM education and the benefits competition among MAHSA students. The participation of the students in this exhibition helped to develop their research interests based on their capabilities in stimulating their creative and innovative ideas and their interpersonal and problems solving skills. The feedback from the panel's assessment helped to improve their weaknesses as well their level of creativity and psychomotor skills. Qudiyati was the winner of the competition, Akash Vijay Kumar the 1st runner up, and Neoh Chia Yee the second runner up. YB Leong Tuck Chee distributed the prizes to the winners.











#### **My Women In Engineering Congress**





Ir Prof Leong Wai Yie was invited by Women In Engineering (WIE) Affinity Group of IEEE Malaysia Section , to speak at the My WIE Congress at Universiti Tenaga Nasional (UNITEN), Bangi. She shared about the paths and challenges in engineering. Women engineers were encouraged to make lifelong friendships, acquire influential mentors, and make a difference for the benefit of humanity.

The theme for My WIE Congress was "How To Succeed in a Male-Dominated Industry: Stories From Real Women Who Have Done It". The invited speakers were Dr. Esther Loo (UEM Edgenta Berhad), Professor Ir Dr. Leong Wai Yie (IET Malaysia & MAHSA University's Dean of Engineering & Built Environment Faculty), Ir Fauziah Ali (Custodian Engineer, Advanced Process Control, PETRONAS GTS) and Prof. Dr. Zuhaina Zakaria (Director, Centre of Competency & Intellectual Excellence, Institute of Leadership & Development (ILD), Universiti Teknologi MARA).

More than 100 participants were women who are currently working in the field of science, engineering and technology, and undergraduate and postgraduate students, especially female students, who would be stepping into the working world soon.

This Congress has encouraged them to be more confident in participating in the STEM workforce after understanding the challenges and opportunities in the workplace, and was impactfully delivered by the speakers. The congress has enabled participants to be exposed to solutions to future challenges while working in a male-dominated field.

My WIE Congress was organized to inspire and motivate more women to stay and pursue their ambition in the STEM field.

#### **Industrial Visit To Maju Saintifik Sdn Bhd**

Industrial visits give greater clarity on important management and technical concepts, as students practically experience how these concepts are put into action. Industrial visits help students to gain hands-on experience of how industry operations are executed. Putting this into action, MAHSA University's Faculty of Engineering and Built Environment organized an industrial visit to Maju Saintifik Sdn Bhd on 12 March 2020. This visit involved the teaching staff and engineering students. Upon arrival at the company, MAHSA staff and students were greeted warmly by the Managing Director, Mr. Rahimi L Muhamud. and his staff members.

The purpose of this visit was to provide early industrial exposure as well as actual working conditions to undergraduate students of various engineering courses especially those involved in the materials and manufacturing process. The visit started with a briefing by the Managing Director. In his speech, Mr. Rahimi said that students need to better identify their prospective areas of work in the overall organizational function by visiting industries. He also pointed out that this will give them a better awareness of industry practices and regulations. Mr. Rahimi also said that he was happy that one of our engineering students was currently doing his internship in Maju Saintifik Sdn Bhd. Later, the company experts briefed us about various work processes, including advanced ceramics, powder metal pressing and injection moulding, etc.

Afterwards, the group proceeded to various work stations for some demonstrations. The company officials demonstrated the casting process, the Computer Numerical Control (CNC) machine, the Cold Isostatic Pressing (CIP) process, and the hand-press machine. Our students were also given the chance to try some of the working processes. To sum up, the visit was successfully organized, and MAHSA's Faculty of Engineering and Built Environment extends their gratitude to Maju Saintifik Sdn Bhd.



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#### Solar car competition-2020

Faculty of Engineering and Built Environment, MAHSA University successfully conducted Solar competition at Amphitheater in Main building, MAHSA University, BSP campus today(6-3-2020). There are 7 teams of 30 students from different universities participated in the competition. The solar car competition chairman Dr.Sivakumar appraised all the participants and awarded cash prizes to the winners. Faculty of Engineering and Built Environment congratulates the winners!!!





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# How to Advance your career in Quantity Surveying by Associate Professor. Dr.Ir. Zakaria Bin Mohd Yusof

A Professional Talk on How to Advance your career in Quantity Surveying by Associate Professor. Dr.Ir. Zakaria Bin Mohd Yusof. This talk was arranged by Dr.Iman Farshchi on 5th March 2020 10.00 am to 11.00 am at Auditorium, Level 9, Empathy building, Faculty of Engineering and Built Environment, MAHSA University, Bandar Saujana Putra.

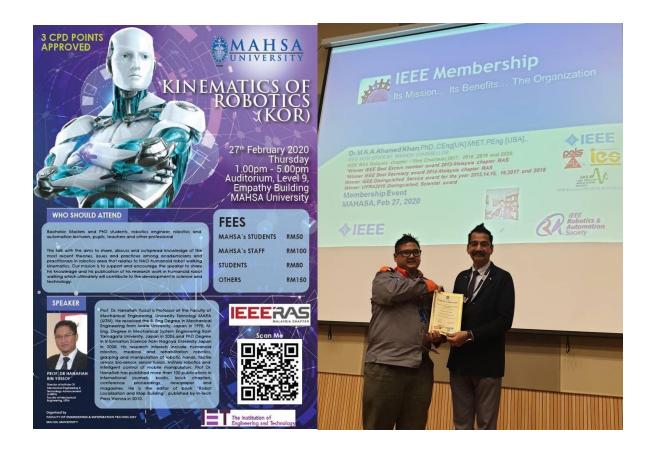




#### **Kinematics of Robotics**

Prof. Dr.Hanafiah Yussof is Professor of Faculty of Engineering, University of Mechanical Engineering(UTM). He delivered a talk on Kinematics of Robotics on 27<sup>th</sup> February, 2020 at Level-9 Empathy Building Auditorium, MAHSA University. Faculty of Engineering and Built Environment Lecturer Muhammad Razmi Bin Razali arranged the Professional Talk for the Engineering students to sharpen their mind in the latest development in the Robotics.





#### **Spaghetti Tower Competition**

Faculty of Engineering and Built Environment, MAHSA University organized the Spaghetti Tower Competition On 14th of March, 2020 at Spine Level-2, Empathy Building, Bandar Saujana Putra campus. Education plays a major role in promoting the transversal skills of collaboration, creativity and in building a more sensitive general public able to appreciate the virtues of engineering design. Therefore, an important effort should be put on the development of educational experiences that enhance collaboration, creativity, and an appreciation for what is a sound structural design. Within this context, a Spaghetti competition was carried out at MAHSA UNIVERSITY by Faculty of Engineering and Built Environment during the OPEN DAY on 14th of March 2020 to develop the skills. The experience involved students of several courses participated and created wonderful models of Towers with the help of spaghetti sticks. The experience was presented as a challenge where the goal was to build the tallest tower with the highest possible efficiency in short, an optimized model. It also shows how the experience was successful in terms of both, the skills

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developed by the students and the fostering of a passion for engineering. This is an event organised by MAHSA IET OC student secretary Othman Abdullah and his team. IET OC in charge Kasipandian Kasirajan and Engineering club President Ms. Syazana made the arrangements. Faculty Dean Prof.Ir.Dr.Leong Wai Yie appreciate the staff and students for their contribution and involvement.











#### **Students Achievements outside MAHSA**

Congrats Team MAHSA Faculty of Engineering and Built Environment for winning "Special award: Best TOWER CRANE" in UTAR structural Earthquake STABILITY 6.0 competition. There are total 31 groups participated. This is an international level competition. Ms. Syazana guided the MAHSA Engineering winning team.







# **EAC Continuing Accreditation Visit For BEEE Programme**

Faculty of Engineering and Built Environment has received a continuing accreditation visit for Bachelor of Electrical and Electronic Engineering with Honours programme on 17th March 2020. The EAC panel was Ir Dr Norazhar Bin Abu Bakar from Universiti Teknikal Malaysia Melaka (UTeM). The visit has been conducted at Registrar's Office, Unity Building, MAHSA University.

As a record, the programme has been accorded a 3-year accreditation for 2018, 2019 and 2020 graduates during the 20th – 21st November 2017 visit. The accreditation will end on 31st Dec 2020. Thus, this re-accreditation visit is important to continue the accreditation period. The visit took place to evaluate actions taken by the programme in 'closing the loop' with regard to the Four (4) concerns raised by the 2017 EAC panel. This continuing accreditation visit is conducted using EAC Manual 2017 guidelines.

The visit was started with evaluation panel meeting where the panel had review the report provided by IHL. The visit was attended by MAHSA Vice Chancellor, Prof. Dato' Dr. Ishak Bin Abdul Razak, Deputy Vice-Chancellor (Academic Affairs & Corporate Services) Ms. Stella Lau Kah Wai, Registrar Madam Rakieh Binti Bakar, Dean Faculty of Engineering and Built Environment Ir. Prof. Dr. Leong Wai Yie, Deputy Dean Dr Iman Farshchi, Faculty Manager Ms

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Nurazliza Ahmad, Programme Coordinator Dr. Nurul 'Ain Amirrudin, and Assistant Registrar Nabilah Md Isa.

The opening remarks was presented by MAHSA VC to brief MAHSA University, the programme offered, facilities and achievement. After that, the main agenda took place where the Programme Coordinator presented the response and actions taken to close the loop raised by the 2017 EAC panel. All evidences such as reports, minute of meeting, and teaching files have been presented to support the actions. Moreover, one of Industry Advisory Panel, Ir Hj Kamaruzzaman Bin Kasimin has attended the visit to give feedback on the programme related to industry point of view during interview session with the panel. Also, two alumni Sheih Muhammad Buhari B Mohd Haja Burhanudin and Mohamed Harris Bin Abdul Ghani have attended the visit to give feedback on the programme. Before end the visit, the panel was taken to visit the faculty, laboratory, and around MAHSA University to see the equipment in the laboratory, the facility such as library and sport complex. Finally, the panel has briefed conclusions on the accreditation visit during the exit meeting at 1.30 pm. The panel was given one month to complete the continuing accreditation report.

Latest update on the continuing accreditation visit, the Faculty has received a continuing accreditation report from EAC on 28th April 2020, mentioned that all concerns have been addressed and closed. Therefore, the maximum period that can be considered for the extension of the accreditation period is 2+1 years for graduates of 2021, 2022 and 2023.



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### Faculty Get together at Le meridien

MAHSA Faculty of Engineering and Built Environment Dean Prof.Leong Wai Yie and Deputy Dean Dr. Iman Farshchi arranged a Faculty get together at 5-star Hotel Le meridien, Putra Jaya for encouraging the staff members for their committed work.









### Champions of Pongal making competition 2020

Faculty of Engineering and Built Environment, MAHSA University is the champions of pongal making competition 2020 in the Pongal celebrations organized by Indian Cultural society (ICS), MAHSA university, Malaysia. With all the staff support and cooperation Engineering Faculty got championship second time. Last year 2019 also Faculty of Engineering and IT was the champion of Pongal Making. Faculty appreciate the organizers for their dedicated organization every year.



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