



UM  
STEM

# UM STEM ACTIVITIES

## STEM Through Traditional Game - Congkak

18 May 2023

Cardiff Metropolitan University

The concept of learning STEM through Game Based Learning (GBL) has been used by the delegates of Universiti Malaya in a collaborative PIE2 program with Cardiff School of Technologies, EUREKA Robotics Centre, Cardiff Metropolitan University on the 18th of May 2023. A total of 28 girls aged 10-12 years old from Cardiff have been involved in the program. The activity session was carried out at Cardiff Museum and led by Ir. Dr. Mas Sahidayana Mohktar, Director of UM STEM Centre together with Dr. Zati Hakim Azizul Hasan, UM Program Leader for the PIE Program, Prof. Dr. Siti Nursheena Mohd Zain, UM, Ms. Chia Jing Hui, UM and Dr. Devi Fitriana, Bina Nusantara University, Indonesia. A guidebook prepared by UM STEM Centre - "STEM Through Traditional Congkak Game" and plastic congkak with marbles were distributed to the groups of students.



Congkak is a traditional Malay game often played as an indoor activity or as a competition. Often, it uses hollow perforated wooden planks or holes on the ground and usually a 'buah' (game piece) using rubber seeds or marbles.



They were introduced to learning STEM through the traditional congkak game. At first, congkak may seem to be an unlikely tool to introduce Universiti Malaya STEM education. However, it is an interactive tool for honing mathematical skills such as addition and subtraction while strategizing the game to ensure the player wins by having more seeds in their 'rumah' (house).

Overall, just a game of congkak can emphasize many STEM attributes such as critical thinking and problem-solving skills which are essential in solving real world problems.



Ir. Dr. Mas Sahidayana Mohktar (Director of UM STEM Centre) and Miss Wan Syamimi Wan Kamarul Zaman (Project Officer at UM STEM Centre) join in an interview session with the host of Selamat Pagi Malaysia to talk on Introducing the concept of STEM and Traditional Game.



# LAWATAN SK RELAU, KEDAH

3 Januari 2023

Muzium Seni Asia Universiti Malaya



# LAWATAN SEK. REN. ISLAM DARUL EHSAN, SELANGOR

31 Januari 2023

Muzium Seni Asia Universiti Malaya





# Universiti Malaya Research Carnival

8 - 10 January 2023

Research Management and Innovation Complex, UM

The Universiti Malaya Research Carnival was held from 8 - 10 January 2023 at the Research & Innovation Management Complex, Universiti Malaya. UM STEM Centre has been involved as an exhibitor and conducts engaging activities with school students through STEM activities. The primary objective of this gallery was to showcase UM's research and innovation initiatives and results to a diverse audience, including researchers, industry professionals, the media, and the general public. Additionally, the event provided an excellent opportunity for researchers, industry experts, media professionals, and the public to meet, connect, and engage with each other on various topics related to research and innovation across all disciplines.





# PROGRAM PERTANDINGAN INOVASI SAINS, TEKNOLOGI DAN KEJURUTERAAN @ KL GATEWAY MALL

9 - 10 Februari 2023  
KL Gateway Mall, Kuala Lumpur





# Fun Session with Tadikum for Early Exposure to Digital STEM

15 February 2023

Research Management and Innovation Complex, UM  
Matroll Solutions in collaboration with UM STEM Centre and TADIKUM





# **EDUWEL**

## **MyTECH4Future**

20 - 24 February 2023

EduWel in collaboration with UM STEM Centre



## **EDUWEL COMPETITION @ SURABAYA**

4 - 7 April 2023

Surabaya, Indonesia

EduWel in collaboration with UM STEM Centre





# STEM Discovery 2023

13 – 17 March 2023

High Impact Research Building / Muzeum Seni Asia / Faculty of Science

STEM Discovery program comes ahead for yet another series!

The program has a clear and noble objective of introducing young children, between the ages of 5 and 15, to the fascinating world of Science, Technology, Engineering, and Mathematics (STEM) in an enjoyable and interactive way. It's great to learn that this initiative is expanding to other places, providing more opportunities for children to learn STEM through hands-on activities. Through these engaging modules, children can learn and explore the wonders of STEM while having fun and engaging in hands-on learning activities.



**STEM  
DISCOVERY 2023**

LIMITED TO  
**30**  
PAX/DAY

13 MARCH - 17 MARCH | 9.00 A.M. - 4.30 P.M.

**SPECIAL STEM SLOT EVERYDAY:**

RM 50/PAX	MON (13.03)	RM 50/PAX	TUE (14.03)	RM 50/PAX	WED (15.03)
<b>MUSEUM DAY! (9 - 12 YEARS OLD)</b>	<b>ENGINEERING DAY! (7 - 12 YEARS OLD)</b>	<b>RUKUN NEGARA DAY! (7 - 12 YEARS OLD)</b>			
Flipped Museum: Membuat Seramik with Augmented Reality experience Muzeum Seni Asia, UM Muzeum Etnologi Dunia Malaysia, Jabatan Muzeum Malaysia	Virtual Reality World Dr Afiqah Hashim (Fac. of Engineering, UM) Let's Build a Paddle Boat! Ms. Syidah & Ms. Iwana (UM STEM Centre)	Learn Rukun Negara through STEM (Let's Go To Mummy's Lab) *5 Modules for a day *LGTM STEM Kit included *Belajar Rukun Negara Melalui STEM book is available (sold separately)			
📍 Muzeum Seni Asia, UM*	📍 High Impact Research, UM*	📍 High Impact Research, UM*			
<b>HEALTH &amp; ILMU FALAK DAY! (7 - 12 YEARS OLD)</b>	<b>SCIENCE DAY! (7 - 12 YEARS OLD)</b>				
Microorganism & Lung Health Dr. Kartini Abdul Jabbar (Fac. of Medicine, UM) Ilmu Falak dan STEM Dr. Mohammad Abdul Niri (Academy of Islamic Studies, UM)	Climate Change (i-clim, Dept. of Physics, UM) Microscopy Training Program Dr. Noorhidayah Mamot (Institute of Biological Sciences, UM)	Participants are advised to bring their own stationery. Participants may bring their activity book/ storybook to do/ read during the break. A certificate of attendance will be given to participants. Food and drinks are not included in the fee.			
📍 High Impact Research, UM*	📍 Fac. of Science, UM*				

\*Specific program location will be provided to parents/ guardian after registration

**PROMOTION:**

- REGISTER 5-FULL DAYS FOR RM280 ONLY (FOR 9 - 12 YEARS OLD)
- REGISTER 4-FULL DAYS FOR RM190 ONLY (FOR 7 - 8 YEARS OLD)

Register now! Scan the QR Code



**ORGANISER:**  **IN COLLABORATION WITH:**  **CONTACT US AT:** [stem@um.edu.my](mailto:stem@um.edu.my)  
03 - 7967 3490





# CAPACITY BUILDING WORKSHOP TO INTEGRATE STEM-RELATED SKILLS IN TVET & SKILLS TEACHING MATERIAL

2 - 3 May 2023

Centre for Instructor & Advanced Skill Training (CIAST), Shah Alam, Selangor  
UM-ILO-UK Partnership

A two-day workshop on capacity building was organized for TVET officers responsible for developing teaching materials, as well as for Curriculum Quality Assurance and Head of Departments within the central government. The main objective of this workshop was to share and promote the understanding of how Science, Technology, Engineering, and Mathematics (STEM) can be integrated into the existing TVET teaching materials. The workshop focused on the methods and strategies of integrating STEM skills into the Written Instruction Materials (WIM) and other reference materials. The participants were able to understand and identify the different STEM-related generic skills already present in the curriculum. It was a great opportunity for the participants to enhance their skills and knowledge in the field of STEM education.





# STEM Appreciation (GIX1004): STEM Mentor-Mentee Programme

5 May – 4 June 2023

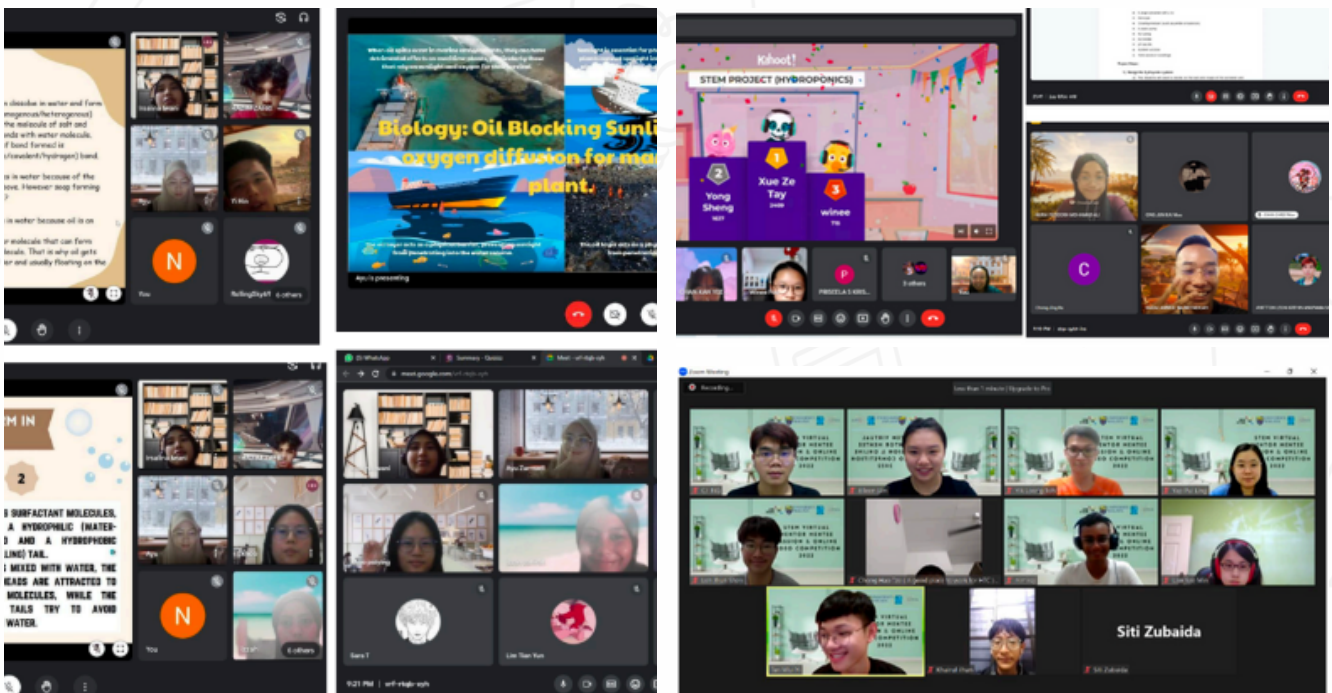
Centre For Internship Training & Academic Enrichment (CITra)  
Universiti Malaya, (UM)



# STEM Appreciation (GIX1004): Online Video Competition Semester 2, 2022/2023

18 June 2023

Centre For Internship Training & Academic Enrichment (CITra)  
Universiti Malaya, (UM)





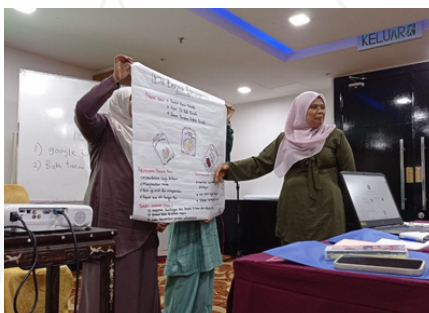
# MyREF Program Pemerkasaan Ekonomi Luar Bandar (PEKB)

## PEKB Melaka

11 June 2023

Sentral Riverview Hotel, Melaka

PEKB (Program Pemerkasaan Ekonomi Luar Bandar) is an initiative program by the Ministry of Housing and Local Government, which is organized by the Malaysian Research and Education Foundation (MyREF). The main objective of this program is to help the participants improve their business by developing strategic plans. UM STEM Centre has been entrusted with the responsibility of training the participants in the areas of research and financial management.





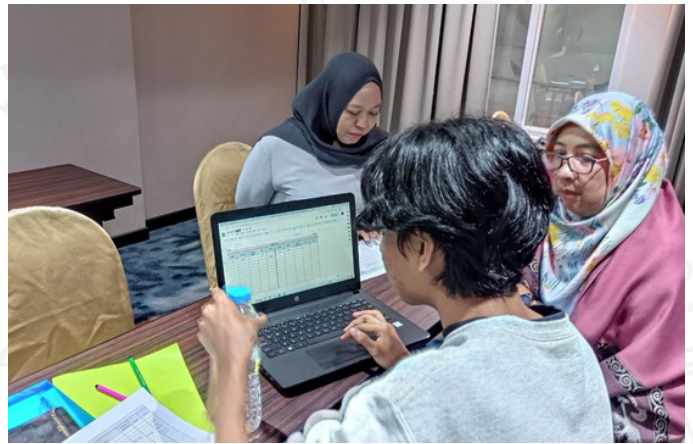
# MyREF Program Pemerkasaan Ekonomi Luar Bandar (PEKB)

## PEKB Kajang, Selangor

25 June 2023

RHR Hotel, Kajang

PEKB (Program Pemerkasaan Ekonomi Luar Bandar) is an initiative program by the Ministry of Housing and Local Government, which is organized by the Malaysian Research and Education Foundation (MyREF). The main objective of this program is to help the participants improve their business by developing strategic plans. UM STEM Centre has been entrusted with the responsibility of training the participants in the areas of research and financial management.





# MY STEM AMBASSADOR - MICRON PROGRAM

## INTEGRATED DESIGN PROJECT (IDP) 2023

21 June 2023

Faculty of Engineering, Universiti Malaya



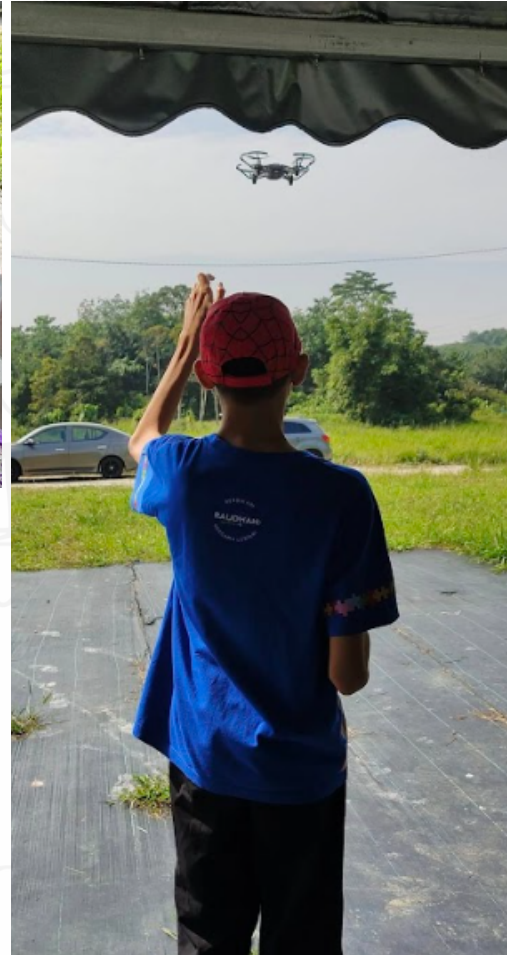


# MY STEM AMBASSADOR - MICRON PROGRAM

## Program Rukun Negara dan Drone 2023

24 Jun 2023

Raudhah Autism, Sepang





# STEM FOR SUSTAINABILITY: HONEYWELL - UM FINAL DESIGN COMPETITION

26 June 2023

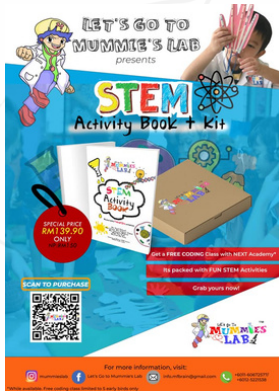
Research Management and Innovation Complex, UM  
Honeywell International in collaboration with UM STEM Centre

Honeywell collaborates with UM STEM Centre to encourage innovative and creative ideas from Malaysian students and address real-world challenges in sustainability by using Science, Technology, Engineering, and Mathematics (STEM) to compete in the Honeywell STEM For Sustainability Project Competition. The project involved second and third-year engineering students from research universities (RU) and Malaysian Technical Universities (MTUN). The initiative aims to promote STEM fields and raise awareness about STEM careers among students and parents.

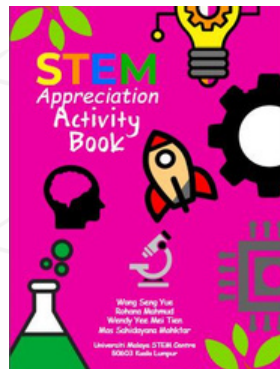




# Publications



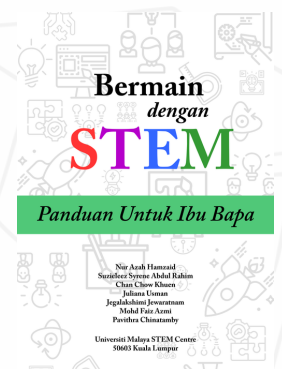
STEM ACTIVITY BOOK & Kit



STEM APPRECIATION ACTIVITY BOOK



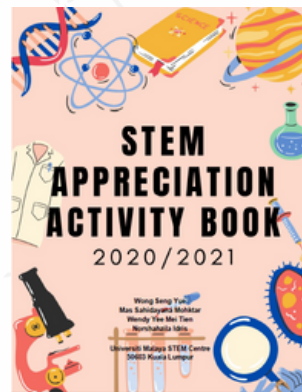
BEST PRACTICES IN STEM MENTOR MENTEE



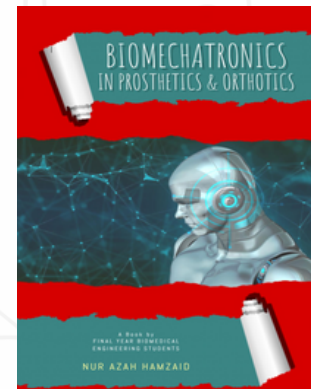
BERMAIN DENGAN STEM



Belajar Rukun Negara melalui STEM



STEM APPRECIATION ACTIVITY BOOK 2020/2021



Biomechatronics in prosthetics & Orthotics

## Office

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### MICROSOFT- UM STEM Learning Space



### In affiliation:



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UM STEM Centre



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UM STEM Centre