

MELAKA  
INTERNATIONAL  
INTELLECTUAL EXPOSITION

# MIIEX'24

12 JUNE '24

Dewan Taming Sari,  
Universiti Teknologi MARA Caw. Melaka,  
Kampus Alor Gajah, Melaka

*"Empowerment of Special  
Needs through Invention  
& Innovation"*

**EXTENDED  
ABSTRACT**

# MiiEX'2024

**MELAKA INTERNATIONAL INTELLECTUAL EXPOSITION 2024**

**“EMPOWERMENT OF SPECIAL NEEDS THROUGH INVENTION AND  
INNOVATION”**

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UiTM Cawangan Melaka

KM26 Jalan Lendu,

78000 Alor Gajah

Melaka Bandaraya Bersejarah

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**MELAKA INTERNATIONAL INTELLECTUAL EXPOSITION 2024**

**“EMPOWERMENT OF SPECIAL NEEDS THROUGH INVENTION AND  
INNOVATION”**

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## **FOREWORD BY THE RECTOR OF UiTM CAWANGAN MELAKA**



**Professor Ts. Dr. Mohd Rasdi bin Zaidi**

**Rector, Universiti Teknologi MARA (UiTM)**

**Cawangan Melaka**

Welcome to the Melaka International Intellectual Exposition 2024 (MIIEX '24). It is an honour for me, on behalf of UiTM Cawangan Melaka, to thank all of you for joining MIIEX '24. We are proud to inform you that this is the 13th consecutive year that UiTM Cawangan Melaka is organizing this exposition. Since 2009, UiTM Cawangan Melaka has successfully hosted this innovation exposition. Not only have we succeeded in organizing the exposition, but we have also successfully embarked on commercialized products.

2024 is a special year where MIIEX 2024 emphasizes the development of special needs. As we know, special needs indicate a limitation in a person's ability to engage in and benefit from various aspects, such as daily activities and education. Hence, with the theme "Empowering Special Needs Through Invention and Innovation," it is a platform for industries, professionals, academicians, students, and communities to share their innovative ideas and products to increase accessibility for those with special needs.

The successful implementation of MIIEX '24 is our joint success. This event was supported by the Melaka state government through YB Datuk Fairul Nizam bin Roslan, the EXCO of Science, Technology, Innovation, and Digital Communication. I also want to express my

gratitude to Universitas Negeri Padang, Indonesia, Universitas Muhammadiyah, Makassar, Indonesia, the International Association of Economic and Businesses (IAEB), Universiti Sains Islam Malaysia, Ibnu Umami Maktum Research Center (UMMI), USIM, and The Southeast Asia Minister of Education Organization Regional Centre for Special Educational Needs (SEAMEO SEN) as our co-collaborators for MIIEX 2024.

The collaboration from various parties in MIIEX '24 is a platform that will improve cooperation and interweaving among industries, professionals, academicians, students, and communities in shaping their potential in developing innovation products. This exposition also serves as a platform to cultivate and uphold the nation's innovation culture by presenting new ideas and research by young people, especially from academia and universities. Indirectly, MIIEX '24 will encourage all inventors towards empowering Science, Technology, Engineering, and Mathematics (STEM), especially in primary and secondary schools.

The new digital landscape also inspires more innovation and new ideas that contribute to various activities, such as business and industries. As a university that encourages "Research and Innovation," we aim to foster more innovative products that benefit scholars, industries, and communities, addressing issues to improve our present and future life.

This exposition would never happen without dedication, teamwork, and commitment. A round of applause should be given to the committee teams, who are the backbone of this exposition. Their hard work, effort, and time made this exposition possible.

Finally, I would like to conclude this brief remark by thanking all the participants and stakeholders for joining the exposition. We hope that this collaboration never ends here.

Thank you.

## **FOREWORD BY THE DEPUTY RECTOR (RESEARCH & INDUSTRIAL LINKAGES)**



**Associate Professor. Dr. Nur Hayati binti Abd Rahman**

**Deputy Rector (Research & Industrial Linkages), Universiti Teknologi MARA (UiTM) Cawangan Melaka**

With much passion and privilege, let me warmly welcome all of you to the Melaka International Innovation Exhibition (MIIEEX), UiTM Cawangan Melaka's flagship event. I firmly believe that events such as these demonstrate the gradual evolution of this platform in terms of its significance and its governing principles within the sphere of learning and the broader scholarly society.

The theme for this year, "Empowering Special Needs Through Invention and Innovation," strongly connects to our mission of using research and technology to make a positive impact on the world we live in. Besides enforcing the message of diversity, this theme also reaffirms our focus on creating products to improve the lives of people with disabilities (PWDs). Such innovations are vital as only through focused constructive changes can society become more sensitive to the needs of all members.

MIIEEX allows researchers, students, and industry professionals to come together, share their innovative research, and develop viable research partnerships. It has been great to see the enthusiasm of the participants and the efforts they put into their projects, which can offer various social and economic benefits. This is why one can state that MIIEEX is a great

opportunity for creating connections between the academic environment and industry, facilitating the implementation of innovative and promising projects.

Finally, I would like to express my sincere appreciation to all the members and supporters of the organizing committee, all the participants, sponsors, and everyone involved in preparing this event. I want to express my gratitude for your commitment and involvement, as the success of MIIEX and the development of an active culture of innovation in our university and beyond is partly owed to your support.

Thank you



## **FOREWORD BY THE PROJECT DIRECTOR**



**Dr Zulkefli bin Muhamad Hanapiyah**

**Senior Lecturer**

Assalamualaikum and Warmest Greetings,

It gives me a great pleasure, on behalf of the organizing committee, to welcome all participants and speakers to the Melaka International Intellectual Exposition 2024 (MIIEX '24) with the theme "Empowering Special Needs Through Invention and Innovation." We are honoured and pleased to welcome all participants to this biennial event.

MIIEX '24 is a platform that gathers experts from local and international industries, academia, scientists, researchers, and the community to contribute to the advancement of scientific and technological knowledge. This knowledge helps develop disruptive innovation products that improve daily activities for businesses and the community, especially those with special needs.

MIIEX '24 provides an atmosphere for inventors of all levels to gain new exposure and collaborate. Indirectly, this promotes a collaborative and innovative culture that focuses on cutting-edge technologies and new standards in technology and creativity.

MIIEX '24 is anticipated to serve as an arena for participants to acquire and disseminate revolutionary information on ideas and innovation. It is intended that the competition will expose the contestants' minds to the latest technologies and designs, aligning with the government's goal of encouraging innovation in Malaysia.

Finally, I want to compliment my fellow committee members on their amazing efforts, which were vital to the event's success. In addition, I want to thank our co-organizers, event sponsors, and participants. Optimistically, we hope that all new knowledge discovered, invented, or innovated will lead us toward future sustainability.

Thank you.

**FOREWORD BY MELAKA STATE EXCO OF SCIENCE, TECHNOLOGY,  
INNOVATION AND DIGITAL COMMUNICATIONS**



**YB Datuk Fairul Nizam bin Roslan**

**Melaka State Exco of Science, Technology, Innovation and Digital Communications**

Welcome to the Melaka International Intellectual Exposition 2024 (MIIEX '24). It is an honor for me, on behalf of UiTM Cawangan Melaka, to thank all of you for joining MIIEX '24. We are proud to inform you that this is the 13th consecutive year that UiTM Cawangan Melaka is organizing this exposition. Since 2009, UiTM Cawangan Melaka has successfully hosted this innovation exposition. Not only have we succeeded in organizing the exposition, but we have also successfully embarked on commercialized products.

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This exposition would never happen without dedication, teamwork, and commitment. A round of applause should be given to the committee teams, who are the backbone of this exposition. Their hard work, effort, and time made this exposition possible.

Finally, I would like to conclude this brief remark by thanking all the participants and stakeholders for joining the exposition. We hope that this collaboration never ends here.

Thank you.

## MIIEX'24 ORGANISING COMMITTEE

COMMITTEE	NAME
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	RIDZUAN ADLI BIN AZIDIN
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	PN AFZAN NOR BINTI TALIB
	PN NUR HIDAYAH ZAINI
	CIK FARIHA AIZA BINTI RAMLY
	PN NURUL AIN BINTI MUSTAKIM
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	PN ZATUL HIMMAH BINTI ABDUL KARIM
	CIK MUNA KAMEELAH BINTI SAUID
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	SITI RAMIZAH JAMA
	SITI NURSYAHIRA ZAINUDIN
	BUSHRA ABDUL HALIM
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	AFZAN SAHILLA BINTI MOHD AMIR HAMZAH
	MUHAMMAD FURQAN BIN AZHAR
	KHAIRUL AZHAR BIN LOCHMAN



## **ABOUT MIIEX'24**

MIIEX'24 is an innovation competition annually organised by UiTM Melaka with the intention to bring together ideas and inspiration that could fit in for commercialization needs.

This event creates a platform for researchers to establish networking, partnership and opportunities to collaborate with industries.

## **OBJECTIVES**

1. Encourage and instil passion towards inventing and innovating among UiTM Cawangan Melaka staff, students and academicians of local and international higher education institutions;
2. Highlight distinguished talents of skilful inventors and exhibit intellectual products, inventions and innovations among local and private tertiary institutions, government and private agencies, including international participants;
3. Become an effective Business Matching platform for participating research products, matching industries and partnering government agencies;
4. Recognise, inspire and promote invention and innovation products to be patented and commercialized;
5. Increase passion towards inventing and innovating through research and boost interests of government and non-government agencies to obtain consultancy services from a line up experts of higher education institutions and UiTM Cawangan Melaka.

## **THEME**

**'EMPOWERMENT OF SPECIAL NEEDS THROUGH INVENTION AND INNOVATION'**

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<b>SALACHOLESTA (OBAT HERBAL KOLESTROL DARI KULIT SALAK) SEBAGAI UPAYA MENINGKATKAN KESEHATAN DAN PEREKONOMIAN DI KOTA PADANGSIDIMPUAN</b>	<b>1429</b>

## **Multifunctional Cleaning Stick**

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### **Abstract**

The multifunctional cleaning stick revolutionizes cleaning by combining brush, wiper, sponge, and water spray functions in one device. It is in order to address challenges like the need for multiple tools and user fatigue. From there, with objectives to streamline the process, enhance efficiency, and improve user experience, this innovative tool offers versatile and ergonomic design, making it essential for households and commercial services. The multifunctional cleaning stick designed to simplify and enhance household cleaning processes. A significant impact lies in simplifying cleaning, reducing time and effort, adapting to various surfaces, and catering to a wide consumer base seeking efficient solutions. Additionally, its cost-effectiveness is underscored by the long-term savings achieved through reduced reliance on disposable cleaning products and energy-efficient operation. Furthermore, user-friendly features such as lightweight construction, ergonomic design, and adjustable settings enhance convenience and comfort during use, ensuring effortless navigation and optimal cleaning results. Through the right efforts, the Multifunctional Cleaning Stick aims to become a must-have item for homes, providing a practical solution to everyday cleaning routines.

**Keywords: Cleaning tool, Multifunctional, Innovation, Efficiency**

## **1. INTRODUCTION**

Cleaning sticks is an essential task in maintaining a clean and hygienic environment, but it can be time-consuming and challenging, especially when dealing with various surface types and tight spaces. Traditional cleaning tools may not always be efficient or versatile enough to tackle different surfaces effectively. To address this issue, we aim to develop a Multifunctional

Cleaning Stick that combines the features of a brush, wiper, sponge, and water spray in one convenient tool. By incorporating interchangeable components, this innovative cleaning stick will offer a comprehensive solution for sweeping, mopping, drying, and spot cleaning different surfaces with ease. This versatile tool is designed to streamline the cleaning process, saving time and effort while ensuring thorough cleanliness in any space.

## **2. OBJECTIVE**

Our aim is to assist people clean their homes by developing and promoting the Multifunctional Cleaning Stick to them. This stick will make it easier by combining versatility, efficiency, and convenience into a single product. Therefore, we aim to simplify the cleaning process for individuals and families. This innovative cleaning stick will enable users to tackle various floor surfaces with ease, promoting cleanliness and hygiene in indoor environments. Not to mention it also can help to simplify the cleaning process, at the same time reducing time and effort in doing house chores. The Multifunctional Cleaning Stick can adapt to various surfaces. Furthermore, through strategic marketing and packaging efforts, we intend to establish the Multifunctional Cleaning Stick as a must-have item for homes, offering a practical and accessible solution to everyday cleaning challenges.

## **3. NOVELTY & INVENTIVENESS**

The Multifunctional Cleaning Stick brings novelty by combining several cleaning functions into one tool, making household cleaning more efficient and convenient. Its versatility allows users to tackle various surfaces and messes with ease, reducing the need for multiple cleaning tools.

The inventiveness of the Multifunctional Cleaning Stick lies in its innovative design and engineering. By integrating different cleaning functions, such as sweeping, absorbing and wiping into a single device, it simplifies the cleaning process and enhances user convenience. Additionally, features like interchangeable attachments and adjustable settings further enhance its versatility and effectiveness, showcasing the ingenuity behind its creation.

#### **4. PRACTICALITY & USEFULNESS**

How to use the Multifunctional Cleaning Stick is different for each part. The part of the brush placed below is used to sweep the floor. This is because the fine part of the brush is suitable for sweeping dirt on the floor. Then, the wiper on the side is used to draw water. The sponge absorbs excess water available on particular surfaces. Moreover, it is suitable for use on the window side with a soft and safer surface. A water spray is placed on the metal to fill the water in sufficient quantity. The use of this Multifunctional Cleaning Stick can be used consecutively and makes cleaning easier.

#### **5. CONCLUSION**

In conclusion, the Multifunctional Cleaning Stick offers a multitude of benefits that make it an indispensable tool for modern households. From its efficiency and versatility to its cost-effectiveness, and at the same time can improve user experience. This innovative device exemplifies the intersection of convenience and practicality. Embracing such advancements not only enhances the cleanliness of living spaces but also promotes a more sustainable and efficient way of life.

In terms of cost-effectiveness, investing in a Multifunctional Cleaning Stick proves to be a wise decision in the long run. While the initial purchase may require some financial commitment, the durability and versatility of the device translate to significant savings over time. By eliminating the need for separate cleaning tools and reducing the consumption of disposable products, users can effectively lower their maintenance expenses while still achieving superior cleaning performance.

In essence, the Multifunctional Cleaning Stick represents a convergence of efficiency, and convenience, making it an indispensable asset for households seeking to streamline their cleaning routines while minimizing their environmental footprint. Embracing this innovative tool not only ensures pristine floors but also signifies a commitment to a more efficient, and user-friendly approach to household maintenance.

#### **REFERENCES**

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