



DEFENCE, SECURITY AND SUSTAINABILITY EXHIBITION 2024

**HUMAN-CENTERED DISCOVERY
AND INNOVATION**

DATE: 24 - 25 APRIL 2024

VENUE: DEWAN ZULFAQAR



KEMENTERIAN PENDIDIKAN TINGGI



UPNM
National Defence University of Malaysia
Kewajipan • Maruah • Integriti

Main Sponsors



CONTENTS

Foreword	2
Introduction	5
Main Committee	6
Committee	7
Programme	8
List of Exhibitors	9
Sponsors	16

FOREWORD

DEPUTY MINISTER OF HIGHER EDUCATION



In The Name of Allah, Most Gracious, Most Merciful.

Assalamualaikum Warahmatullahi Taala Wabarakatuh and Blessings.

All praise be to Allah, The Lord of both the worlds, and Salawat and Salam to Rasullullah the final messenger. Firstly, I would like to convey my heartiest congratulations to the Universiti Pertahanan Nasional Malaysia (UPNM) and specifically to Research and Innovation Department under the Deputy Vice Chancellor (Research and Innovation) Office, UPNM for being able to organize an event Defence, Security and Sustainability Exhibition 2024 (DSS 2024).

Innovation contributes to the development of our social and economic capital because it motivates people to seek out opportunities, boosts creativity, and instills confidence in their ability to generate new ideas that benefit society. The Ministry of Higher Education (MOHE) is dedicated to encouraging research and innovation in order to boost economic and global competitiveness. The Minister of Higher Education Malaysia has unveiled an ambitious vision for 2024, focusing on fundamental principles that will shape the success and efficacy of educational endeavors. Thus, research and innovation are important components of the roadmap to achieve these objectives.

DSS 2024, with the theme "Human-Centered Discovery and Innovation," creates a conducive environment to innovation that provides an excellent platform for researchers to present and showcase their research projects, as well as exchange ideas, information, and findings in a variety of fields, not just in defence and security. Furthermore, this event serves as a platform for strengthening industry-academic collaboration by encouraging internships, industry-sponsored projects, and joint research ventures.

Finally, I'd like to congratulate all students, participants, and committee members who helped make DSS 2024 a success. Hopefully, this event will propel research and innovation development to a higher level.

Thank you.

YB Datuk Ts. Mustapha Sakmud
Deputy Minister of Higher Education

FOREWORD

VICE CHANCELLOR



Assalamu'alaikum warahmatullahi wabarakatuh.

I am deeply grateful to Allah, the Most Gracious and Most Merciful, for granting us this invaluable opportunity to gather at this momentous event at the Defence, Security, and Sustainability Exhibition 2024 (DSS 2024), organized by Universiti Pertahanan Nasional Malaysia (UPNM).

Defence, Security, and Sustainability (DSS) is a biennial event organized by the Research and Innovation Department under the Deputy Vice Chancellor (Research and Innovation) Office, UPNM. It serves as a vital platform for researchers to present and showcase their works, particularly in the field of defence and security.

DSS 2024 marks the fifth edition of this esteemed event, bringing together academics, industrial practitioners, researchers, students, and administrators to exchange ideas, information, and findings. With the theme "Human-Centered Discovery and Innovation," this year's exhibition underscores the importance of placing human needs and aspirations at the forefront of our research and development endeavors.

I extend my heartfelt gratitude to all participants from various institutions, including universities, schools, government agencies, and the Malaysian Armed Forces, for their contributions to the success of this event. It is a privilege to witness the culmination of efforts from diverse sectors in advancing knowledge and innovation.

I would like to extend my congratulations to all students, participants, and committee members for their dedication and hard work in ensuring the success of DSS 2024. May this event inspire further research and innovation, guiding us toward a more advanced and sustainable future.

Thank you.

Lieutenant General Datuk Mardzuki bin Muhammad
Vice-Chancellor
Universiti Pertahanan Nasional Malaysia

FOREWORD

DEPUTY VICE CHANCELLOR (RESEARCH AND INNOVATION)



Assalamu'alaikum warahmatullahi wabarakatuh.

Alhamdulillah, praise be to Allah, the Most Merciful and the Most Gracious and Salutations upon Rasulullah S.A.W., the final messenger. It is by His grace that we gather here today for the Defence, Security, and Sustainability Exhibition 2024 (DSS2024). As the advisor, I am delighted to extend a warm welcome to all participants of this esteemed event and express my gratitude for its successful organization of the event.

The theme of DSS2024, "Human-Centered Discovery and Innovation," aligns with our mission to nurture a first-class mentality among our human capital in research and innovation. This occasion provides a platform for researchers, students, and industry players to exchange insights, experiences, and expertise across various research fields, fostering stronger relationships and promoting collaborative research efforts.

DSS2024 encompasses ten (10) key research fields, including Food Safety and Security, Energy and Water Security, Industrial Revolution 4.0/Cyber Security/Data Analytics/Artificial Intelligence, Climate Change, Environment and Sustainability, Humanitarian Assistance Disaster Relief, Medical and Healthcare, Education, Community Development and Social Science, National Security, Science, Technology, Engineering and Mathematics Education (STEM) and Frontier Technology, Defence Technology and Defence Infrastructure. These fields represent innovative pathways towards a sustainable future.

In conclusion, I hope that DSS2024 will serve as a catalyst for the generation of new ideas and solutions that contribute to a new landscape of better innovation tomorrow. I extend my heartfelt appreciation to the organizing committee for their dedication and outstanding efforts in bringing this event to fruition.

Thank you.

Prof. Ts. Dr. Azizi bin Miskon
Deputy Vice Chancellor (Research and Innovation)
Universiti Pertahanan Nasional Malaysia

INTRODUCTION

Defence, Security and Sustainability (DSS) exhibition is a biennial event organised by Research and Innovation Department under the Deputy Vice Chancellor (Research and Innovation) Office, UPM which provide a platform for researchers to present and showcase their research works especially, but not limited to, in the defence and security field.

DSS2024 is held for the fifth time to gather all academics, industrial practitioners, researchers, students and administrators to exchange ideas, information and findings. The theme of DSS 2024 is "Human Centered Discovery and Innovation". In addition, this event also provides a platform to strengthen the relationship in sharing of our research findings with the research community.

DSS2024 has listed 10 research fields for this exhibition, which are:

Food Safety and Security
Energy and Water Security
Industrial Revolution 4.0/Cyber Security/Data Analytic/Artificial Intelligent
Climate Change, Environment and Sustainability
Humanitarian Assistance Disaster Relief
Medical and Healthcare
Education, Community Development and Social Science
National Security
Science, Technology, Engineering and Mathematics Education (STEM)
Frontier Technology, Defence Technology and Defence Infrastructure

The following are the objectives of DSS 2024 exhibition:

- To provide an opportunity for academic staffs and students to showcase their research works.
- To give an exposure and inspire young researcher on research activities in generating new research idea.
- To expose researchers on the importance of protecting research patent and copyrights.
- To encourage knowledge sharing on research and innovation.
- To build a networking and potential collaboration on research and innovation.
- To provide a platform for researchers to compete in an international exhibition.

MAIN COMMITTEE

PATRON

Lt Gen Datuk Mardzuki bin Muhammad
Vice Chancellor

ADVISOR

Prof. Ts. Dr. Hj. Azizi bin Hj Miskon
Deputy Vice Chancellor (Research and Innovatin)

DIRECTOR

Col Prof. Dr. Khairol Amali bin Ahmad (Retired)

DEPUTY DIRECTOR I

Dato' Mohamad Akhtar bin Ahmad Zainudin

DEPUTY DIRECTOR II

Assoc. Prof. Ir Dr. Mohd Rosdzimin bin Abdul Rahman

SECRETARY I

Mrs. Hasmeda Erna binti Che Hamid

SECRETARY II

Mrs. Noor Diyana binti Aris

TREASURER I

Mr. Mohammad Hakim bin Ahmad Sidi

TREASURER II

Mrs. Izzati Hanum binti Abd Hamid

COMMITTEE

Exhibition

Mr. Mohd Hakimi bin Ahmad Zainudin
Mr. Muhammad Faizan bin A. Shukor
Mr. Ahmad Nabil Amin bin Mohd Lazim
Mr. Muhammad Safwan bin Jafaar

Registration

Mrs. Nurul Fatehah binti Roslan
Mrs. Siti Aminah binti Mohamad
Mrs. Dayang Islina binti Bachok
Mrs. Nur Izzati binti Abu Bakar
Mrs. Muharani binti Ramly

Protocol

Mrs. Santy Anak Langie
Mrs. Nor Azlin Safina binti Abdul Aziz
Mr. Mohd Zuraidi bin Mohd Zainol
Mr. Mohamad Hanapi bin Johari
Mrs. Herdahidayu binti Abu Hashim
Mrs. Nurzaitul binti Zolkiply

Publication

Mr. Noor Azman bin Dollah
Ms. Siti Norhadar Binti Taharuddin
Mr. Amir Muizzuddin Bin Mohamad Ali
Ms. Norazni binti Mat Nor
Mrs. Nuraisah binti Asari

Knowledge Sharing Programme

Dr. Noor Diyana binti Fazan Ahmad
Mr. Mohd Muhaimin bin Ridwan Wong
Mrs. Nurul Naqirah binti Shukor

Publicity & Media

Mrs. Sharin Haslin binti Shamsuddin
Mrs. Akmar Nurul Ffariha binti Azmi
Mr. Tengku Roslam bin Tengku Abdul Kadir
Mrs. Noor Hidayati binti Shahbani
Mr. Hairul bin Ismail
Mr. Shahrul Nizam bin Parnot
Mrs. Juriyah binti Md Din
Mrs. Fatin Sakinah binti Mohd Jahaya
Mrs. Selen Monica binti Mokhtar
Mrs. Zulhaslinda binti Hamzah
Mrs. Nur Fajrina binti Sallehudin
Mr. Muhamad bin Md. Isa

Logistics

Mr. Muhamad Ibrahim bin Mohamad Ghani
Lt Col Sharifuddin bin Shaharom (Retired)
Mr. Sharizal bin Mansor
Mej Mohammad Sani bin Desa (Retired)
Mr. Nurrul Taq`qua bin Mesekan
Mr. Noor Azminudin bin Abd Aziz
Mr. Mohd Firdaus bin Mohd Sharif

Evaluation Panel

Mrs. Nur Shazwani binti Abdul Latif
Mr. Mohd Nor Faiz bin Norrahim
Mrs. Nuramira binti Rusli
Mr. Roslan bin Husin

Award & Souvenir

Mr. Mohd Nor Hafizi bin Noordin
Mrs. Putri Nur Ain binti Abdul Samad
Mrs. Nur Jan`nah binti Mustafa
Mr. Muhammad Shafiq bin Abu Mansor
Mrs. Nurul Shareena binti Md Awi

Food & Refreshment

Mr. Muhammad Asri bin Junaidi
Mrs. Aqilah binti Md Pazil
Mrs. Nurul Hidayah binti Mohd Azmi
Mr. Muhammad Izzuddin bin Nasruddin
Mr. Ahmad Rabani bin Borhan
Mr. Mohd Faizal bin Musa
Mrs. Suzanah binti Sengoot

Technical & Multimedia

Mr. Muhammad Irsyad bin Sahaimi
Mr. Ahmad Faizal bin Sayuti
Mrs. Zafienas binti Che Ani
Mr. Iksan bin Tamrin
Mr. Shamsuri bin Ibrahim
Mr. Ahmad Wajdi bin Ab Patah

Sponsorship

Dr. Nurnadia binti Andenan
Mr. Shahrulnaim bin Mat Ramli
Mrs. Nur Azwani binti Muhamad Arif

Security

Ts. Wan Mohd Hanif bin Wan Ya`acob
Mr. Mohd Afiz bin Othman
Mr. Mohd Haniff bin Sofian
Mr. Mohd Izzatul Anwar bin Mat Isa
Mr. Musa bin Adenan
Mr. Hairul Azuan bin Abas
Mr. Abdul Wahab bin Harun
Mr. Harzeren bin Harun
Mr. Ismail bin Kadir
Mr. Fauzi bin bin Kassim
Mr. Muhamad Azizi bin Mansur
Mr. Mohd Syukri bin Alias

Mr. Amin Syafiq bin Ismail
Mr. Mohamad Fuad bin Abdullah Bada
Mr. Ismahafizi bin Ismail
Mr. Muhamad Farid bin Mazlan
Mr. Muhammad Danial Fitri bin Zahar
Mr. Kan Aan bin Hassan

PROGRAMME EVENTS

DATE	TIME	ACTIVITY
23 th April 2024	2.00 PM – 6.00 PM	Registration and booth preparation
24 th April 2024	8.00 AM	Arrival of exhibitor
	9.00 AM – 5.00 PM	DSS 2024 exhibition
	9.00 AM – 3.00 PM	Evaluation session
	3.30 PM – 4.00 PM	Evaluation committee convenes
25 th April 2024	8.00 AM	Arrival of exhibitor
	9.00 AM – 5.00 PM	DSS 2024 exhibition
	10.00 AM – 11.00 AM	Knowledge Sharing Session <i>Maximising Research Impact : Pitching Tips and Social Media Strategies for Collaborative Innovation</i> - Assoc. Prof. Dr Soo Wincci (Lecturer, Universiti Multimedia Malaysia)
	DSS 2024 CLOSING CEREMONY	
	11.00 AM – 11.30 AM	Arrival of UPNM management/ invited guest
	11.30 AM – 11.35 AM	Arrival of VVIP Guest
	11.35 AM – 11.40 AM	Negaraku and Capai Gemilang
	11.40 AM – 11.45 AM	Recitation of Doa
	11.45 AM – 11.50 AM	Gimmick DSS 2024
	11.50 AM – 12.00 PM	Speech by the Vice Chancellor of UPNM
	12.00 PM – 12.15 PM	Opening speech by the Deputy Minister of Higher Education
12.15 PM – 1.00 PM	Awards Presentation	

LIST OF EXHIBITORS

CATEGORY A : FUNDAMENTAL RESEARCH

No.	Inventor	Title of Invention
1.	Masdini Harina Ab Manan	The Leadership Survival Toolkit for Women: Gender Equality and Inclusivity in Defense and Security
2.	Siti Maisarah binti Amdan	Development of Ergonomic Data Sheets (Eds) on the Approach of Participatory Ergonomic Intervention Program for Improving Construction Industry Work Environment on Musculoskeletal Health In Malaysia
3.	Dr. Ismayadi Ismail	Innovations in Electromagnetic Defense: Unveiling Advanced Microwave Absorption Technologies
4.	Dr. Siti Nurhafizah Saleeza binti Ramlee	Ergonomics Risk Assessment and Prevalence of Work-Related Musculoskeletal Disorder (WMSD) among Military Aircraft Maintenance Personnel
5.	Assoc. Prof. Dr. Siti Zulaikha binti Ngah Demon	Stable and Versatile Polymer Thin Film Coating as First Line of Defence Against Laser
6.	Dr. Noor Aisyah binti Ahmad Shah	Functionalized Cellulose as Antimicrobial Materials
7.	Adenen Shuhada binti Abdul Aziz	Risk Factor Identification in Helicopter Ditching on Water
8.	Assoc. Prof. Dr. Mohd Rizal Bin Mohd Isa	A Novel Network Optimization Framework Based on Software-Defined Networking (SDN) and Deep Learning (DL) Approach
9.	Dr. Ruzanna Mat Jusoh	Enhancing Congestion Management: A Topology-Based Approach to Strategic Traffic Sensor Placement
10.	Ahmad Shafiq bin Abdul Rahman	Assessing Energy and CO2 Emissions Efficiency in ASEAN Countries using A Modified Two-Stage Network Russell with Undesirable Output Model
11.	Assoc. Prof. Dr. Siti Nooraya binti Mohd Tawil	Co-Sputtered Al/n-ZnO-based DMS/p-Si Heterojunction Diode and Its Characterization
12.	Ts. Dr. Nik Noorul Shakira Mohamed Shakrin	Knowledge, Attitude, and Practices (KAP) of Universiti Pertahanan Nasional Malaysia (UPNM) Staff Regarding the Use of a Face Mask During the Coronavirus Disease 2019 (COVID-19) Pandemic
13.	Dr. Alinda binti Samsuri	Crafting Performance: Innovating Nitrocellulose Propellants from OPMF with Precision Nitrogen Control for Enhanced Muzzle Velocity
14.	Dr. Siti Hasnawati Jamal	The Enhancement Stability of Oil Palm Mesocarp Fiber (OPMF) Nitrocellulose
15.	Ts. Mohd Fazli bin Mohd Yusoff	Vibration Test Rig for Electromagnetic Damper
16.	Dr. Marami binti Mustapa	Unveiling the Chemopreventive Potential of Shogaols on Cervical Cancer Cell Lines
17.	Dr. Nur Aishah binti Che Roos	6-Gingerol and 6-Shogaol as Promising Chemopreventive Agents in Cervical Cancer: A Systematic Review
18.	Dr. Maria binti Abu Bakar	Enhancing Ductility of Sn-0.7Cu Lead-Free Solder Joints for High-Reliability Interconnections in Electronic Military Devices
19.	Assoc. Prof. Dr. Wan Norhasniah binti Wan Husin	Assessing Peers as a Predictor on Youth Political Behaviour in Enhancing Malaysian Political Stability
20.	Dr. Nor Laili-Azua Jamari	Removal of FTO: Adsorption Mechanism from Aqueous Environment

No.	Inventor	Title of Invention
21.	Assoc. Prof. Ts. Dr. Nor Azlian binti Abdul Manaf	Graded Bandgap Device Architecture to Enhance Efficiency of Solar Cells
22.	Dr. Mazlinda binti Ibrahim	Algorithm for Joint Image Segmentation and Registration using Generalized Mean and Normalized Gradient Field for 2D Multi-modal Images
23.	Dr. Intan Juliana binti Shamsudin	Newly Synthesized Glycolic Anhydride Kappa-carrageenan as Gel Polymer Electrolyte
24.	Dr. Nurul Hazwani binti Aminuddin Rosli	Synergistic Effect of Sulfur-Doped Reduced Graphene Oxide Created via Microwave-Assisted Synthesis for Supercapacitor Applications
25.	Assoc. Prof. Dr. Ummul Fahri binti Abdul Rauf	Evaluation of Extreme Rainfall Occurrences Using Standard Precipitation Index (SPI)
26.	Assoc. Prof. Ts. Dr. Norli Abdullah	Sustainable Nanofluids: rGO in Waste Cooking Oil-Based
27.	Afifah Quraishah Abdul Nasir	ELA: Learning English and Beyond
28.	Asniah binti Alias	Model of Face Management Strategies for Handling Press Conference During Emergency, Crisis and Disaster
29.	Dr. Mohd Nurazzi bin Norizan	Synergistic Advancements in Nanofluid Technology: Exploring the Integration of Metal Oxide Nanoparticles-Enhanced Performance in Anionic Nanocellulose
30.	Dr. Yuhanim Hani binti Yahaya	Migraine Diagnosis System Using Fuzzy Logic Algorithm
31.	Dr. Khairul Anwar bin Zarkasi	Prevalence and Correlated Factors of Noise-induced Hearing Loss Among Marine Technicians of the Royal Malaysian Navy at Lumut Naval Base, Perak
32.	Mohamad Arsad bin Nazal	The Overview of the Requirement for Defence Technology Advancement of a Country
33.	Mazlan bin Abdullah	Enhancing National Security Through the Use of Artificial Intelligence Solutions in Threat Detection and Mitigation
34.	Syarifah Qistina Huda binti Syed Ahyattudin	Cyber Security Awareness in Malaysia: A Case Study
35.	Assoc. Prof. Dr. Nadirul Hasraf Mat Nayan	Framework for Sustainable Community Chicken Farming by Rural Community @ Pt Sulong : Securing Locality Food Sovereignty
36.	Ts. Dr. Nordila Ahmad	Effect of Scour and Seismicity on the Bridge's Response
37.	Assoc. Prof. Ts. Gs. Dr. Muhamad Azani Yahya	Bendable Concrete Using Optical Fiber
38.	Dr. Muhamad Faiz Md Din	Performance Nano Fluid of Palm Oil (PO) under Magnetic Field Applied and Different Concentration (Graphene) in Transformer Application
39.	Dr. Redwan bin Yasin	MALIK: A New Module on Islamic Faith Education for Children of Muslim Converts in Malaysia
40.	Wan Farizatul Shima binti Wan Ahmad Fakuradzi	Enhancing Flood Preparedness in Malaysian Communities Through Innovative E-book Training Programs
41.	Dr. Norherdawati Kasim	ClearSip – Drinking Water Purity with CSNF Water Filtration System
42.	Dr. Redwan bin Yasin	Model Bimbingan Transformasi Mualaf kepada Mukalaf
43.	Dr. Siti Hajar binti Adam	KacipNano: Utilizing Kacip Fatimah Extract for Eco-Friendly Synthesis of Selenium Nanoparticles
44.	Ts. Izati Nabila binti Marzuki	Learning Based Activity of Surah Lukman Curriculum Using Augmented Reality Technology in Delivering Da'wah

CATEGORY B : APPLIED RESEARCH

No.	Inventor	Title of Invention
1.	Dr. Nor Azliana Akmal binti Jamaludin	Value Creation Application in Big Data of Oil and Gas Upstream Project Planning Decision Making
2.	Fatima Yusran	Micro-bending Assessment using POF for Pressure Sensing for Industrial and Infrastructure Safety Enhancement
3.	Nur Masyitah Muhmin	Soil Displacement Initial Investigation using POF-based Sensor for Geotechnical Monitoring
4.	Prof. Dr. Nanthini Sridewi A/P Appan	PPG Surface-Modified 2-D Ti3C2 MXene Based Photothermal Cancer Therapy
5.	Prof. Dr. Nanthini Sridewi A/P Appan	XT-Ultra Nano Engine Oil (MoS2-Hbn Based Nanolubricant for Diesel-based Engines)
6.	Dr. Shazreen Shahrudin	Ascertaining the Importance of Rapid, Colorimetric Sensors in Detection of Hypoxia Tolerance at High Altitude
7.	Assoc. Prof. Dr. Noor Azilah Mohd Kasim	ECOSORB: Malathion Absorption Material
8.	Dr. Noor Fadzilah binti Mohamed Sharif	Charge Transport and Electron Recombination Suppression in Dye-Sensitized Solar Cells Using Graphene Quantum Dots (GQDs)
9.	Dr. Maizatullifah Miskan	Asthma Information, Assessment for Well-Being and Symptomatology (AIRWAYS)
10.	Ts. Dr. Fazilatulaili Ali	Multivariate Probit Model: Bayesian Inference Approach for Categorical Data
11.	Assoc. Prof. Ts. Dr. Norshahriah Abdul Wahab	Learning Pathology Through Hands on Lab Experience Using Augmented Reality (AR)
12.	Assoc. Prof. Ts Dr. Noor Afiza Mat Razali	Smart Farming Solutions for Sustainable Food Security
13.	Dr. Sharifah Aishah binti Syed Ali	Nurse Rostering Problems: A Case Study at Hospital Angkatan Tentera Lumut
14.	Assoc. Prof. ChM. Dr. Siti Aminah Mohd Noor	Development of Sodium-Ion Batteries From NVP Cathode and Biomass-Derived Hard Carbon Anode
15.	Datin Dr. Hasliza binti Abu Hassan	Study Protocol on Primary Health Care Physician Preparedness on Disaster Management: A Malaysian Perspective
16.	Ahmad Loqman bin Ahmad Mazuki	Low Power Energy Harvesting for Low Power Devices
17.	Dr. Asma Assa'edah binti Mahmud	Illuminating the Forgotten Faces: Unmet Healthcare and Psychological Needs in a Concrete Jungle
18.	Dr. Rosnadia binti Suain Bon	Youth Empowerment: A Self-Help Module for Psychological Wellbeing
19.	Assoc. Prof. Dr. Aniza binti Ibrahim	A Sustainable Approach to Improve the Hydraulic Properties of Subgrade Using Marble Dust and Coconut Shell
20.	Dr. Nur Adnin Ahmad Zaidi	Beyond the Waves: Unveiling the Job Stress among Navy Personnel in East Coast, Peninsular Malaysia
21.	Suhaila Ismail	Simulasi Penyiasatan Jenayah (SiPenjenayah)
22.	Suhaila Ismail	Administrative Voting Security System using Advance Encryption Standard (AES) Algorithm

No.	Inventor	Title of Invention
23.	Dr. Norazrina Mat Jali	Electron Beam Irradiated PVC Cable for Insulation Application
24.	Ts. Dr. Lau Sei Ping	FloodWatch: A network of Hyperlocal, Street-Level Flood Mapping and Monitoring
25.	Assoc. Prof. Ts. Dr. Ng Choy Peng	Landslide Susceptibility and Elements at Risk in Kuala Lumpur
26.	Azwan Abidin	What's Left?
27.	Eswaran A/L Madiahlagan	CouAZO- Sustainable Metal Free Super Capacitor for Liquid Crystal Display and Optical Storage Device
28.	Dr. Siti Nadirah Ab Rahim	Method Verification Study of Plasma Glucose Assay: The Evaluation of Clinical Fitness for Purpose
29.	Dr. Fatimah Zahra binti Mohamad Rom	Exploring the AI Odyssey: A Pilot Study with Medical Graduates Through the Lens of 'Digital Healers.' Assessing Preparedness and Experiences in AI during Undergraduate Studies and Working Life
30.	Dr. Nur Aisyah Abdul Fataf	Secure Chaos-Based Audio Transceiver
31.	Lt Kdr Dr. Mazura binti Md Saman RMN (R)	CoMIHL : Empowering Humanity Through Knowledge of Law
32.	Dr. Noor Syazwana binti Abd Aziz	Smoothing Kinematics Data Using Functional Data Analysis Approach
33.	Dr. Ummu Salamah binti Faisal	Continuous Education and Coaching to Perfect the Technique and Improve Blood Culture Volume in a Military Hospital
34.	Datin Dr. Hasliza Abu Hassan	Ethical Challenges in Artificial Intelligence Integration in Medical Education and Its Recommendations Within the Bioethical Framework
35.	Dr. Zubaidah Hasain	Prediction of Future Diabetes Risk Among Post Gestational Diabetes Mellitus Women Using Machine Learning Algorithm
36.	Dr. Nurulhuda A. Manaf	e-choreography : SBVR2Alloy
37.	Lt Col (R) Ir. Ts. Dr. Vikneswaran A/L Munikanan	Thermal Resistant Composite Brick
38.	Dr. Nor Azliana Akmal binti Jamaludin	Predictive Project Completion Date: Adopting Schedule Quality Index and Real Time Advance Analytics (ASQIRTA)
39.	Mardziah binti Shamsudin	INCLUSIVE-SDER INDEX: A Teaching and Language Learning Pedagogical Preparedness for Visually & Hearing-Impaired (Sensory Disabilities) Learners
40.	Mej Nur Fahimah binti Mohd Nassir	Insider Threats: Exploring Human, Technical and Organisational Factors through Content Analysis
41.	Dr. Nadiawati binti Dato' Abdul Razak	The Potential Use of Ear Biometrics in Disaster Victim Identification
42.	Nur Sakinah binti Idris	MHD Flow and Heat Transfer Analysis of Hybrid Nanofluid Due to Thermal Radiation, Joule heating and Thermal Slip Impacts
43.	Dr. PM Ridzuan	Sabun Mandian RAED

CATEGORY C : INNOVATIVE RESEARCH

No.	Inventor	Title of Invention
1.	Dr. Siti Azilah Atan	Smart Landing Board - Chwiso
2.	Dr. Siti Azilah Atan	Youth Football Simulation Running Protocol
3.	Hafiz Maulana Hudha	Eco-Friendly Bricks With Waste Paper
4.	Dr. Noor Hamzani Farizan	AquaHoop Buddies: The Benefits of Aquatic Strategies and Techniques for Children with Autism
5.	Ilman Ziqri bin Mohamad Asmidzam & Qisyah Khayla binti Mohamad Asmidzam	My STEM Innovation
6.	Nur Aisyah Aqilah binti Mohd Fauzi	Utilizing a Crisis-Ready Technology Survey to Assess Preparedness for Technology in Times of Crisis
7.	Fareisyah Zulaikha binti Mohd Sani	Faulty Propeller Prediction System for Quadrotor UAV based on Informative Acoustical Features
8.	Assoc. Prof. Ts. Dr. Suzaimah Ramli	Driver Distraction Apps
9.	Syed Nasir Alsagoff bin Syed Zakaria	MSYNC : Multi Sync Emergency Support System
10.	Syed Nasir Alsagoff bin Syed Zakaria	Sistem Pemantauan Kegunaan Lebar Jalur (Bandwidth) Secara Berpusat di Makmal Komputer
11.	Syed Nasir Alsagoff bin Syed Zakaria	Sistem Penguncian Operasi Windows Secara Berpusat
12.	Syed Nasir Alsagoff bin Syed Zakaria	Document Self Destruct System Using DOD 5220.22-M
13.	Syed Nasir Alsagoff bin Syed Zakaria	Sistem Pencarian Gambar Yang Mencurigai
14.	Assoc. Prof. Ts Dr. Norshahriah Abdul Wahab	Exploration of Abdominal Cavity Anatomy in Mixed Reality Environment
15.	Ts. Dr. Muhammad Fairuz bin Abd Rauf	Sistem Penjejakan Pegawai Kadet
16.	Ts. Dr. Syarifah Bahiyah Rahayu	Multimodal Approach for Student Attendance Monitoring in a Hybrid Learning
17.	Ts. Dr. Roshamida binti Abd Jamil	Energy Ship for Far Offshore Wind Energy Exploitation
18.	Ts. Dr. Noor Hafizah Amer	Handheld Human Detector Device for Search and Rescue (SAR) Application
19.	Assoc. Prof. Ts. Dr. Ng Choy Peng	Vehicle Alert Radar System (VARs)
20.	Dr. Jahwarhar Izuan bin Abdul Rashid	PseudoSense 2.0: A Smartphone-Integrated Biosensor for Rapid Detection of Pseudomonas Aeruginosa Infections
21.	Assoc. Prof. Dr. Mohd Taufik bin Jusoh @ Tajudin	Wearable Antenna for Military Attire

No.	Inventor	Title of Invention
22.	Lt Kdr Dr. Norzaima binti Nordin TLDM (B)	A Parametric Study of Small-Scale Offshore Vertical Axis Wind Turbines: Unlocking Potential in Low Wind Profile Regions
23	Ts Dr Faridah Hanim binti khairuddin	Interlocking Paver Block with Silica Fume for Sustainable Road
24.	Dr. Shahrulfadly bin Rustam	Fitness Application for Measuring the Level of Lower Body Strength
25.	Assoc. Prof. Ts. Dr. Norshahriah Abdul Wahab	Mangrove Vegetation Analysis Using Clustered Multispectral Landsat Images
26.	Ts. Dr. Nur Diyana Kamarudin	EmotiCare: An Emotional Intelligence App Towards a New-Gen Digital Counselling Experience
27.	Nor Ika Shahirah binti Ramli	Improving the Efficiency and Accuracy of Digital Forensics Investigations with Multi-Criteria Decision Making: A Focus on File Carving Tool Selection
28.	Dr. Amnah Saayah binti Ismail	Model High-Five KEPWA
29.	Assoc. Prof. Dr. Ummul Fahri binti Abdul Rauf	Smart Distribution System of Student's Lecture Group for Pusat Asasi Pertahanan UPNM
30.	Dr. Sarah Iziani Ramli	The Elevate Program: Mental Health and Well-Being Empowerment for Women in Need
31.	Assoc. Prof. Mohd Hazali bin Mohamed Halip	MyTraining Siber: A Virtual Learning Platform for Cyber Security Education
32.	Ts. Dr. Syarifah Bahiyah Rahayu	Harmony Cipher
33.	Ts. Dr. Syarifah Bahiyah Rahayu	Noble Cryptography Quest : The Prince's Rescue
34.	Fatin Amirah binti Ahmad Shukri	ThMJ
35.	Lt Kdr Ts. Dr. TLDM (Bersara) Mohd Azzeri bin Md Naiem	The Innovation of Digital Parallel Ruler (DPR) for Map Plotting
36.	Vlasaerra Madin, Max Goh, Edlewise Lovender Lawrine	Beeswrapper Alternative for a Greener Solution
37.	Sathyaaruban A/L Devaraj	Smart Parent Visiting System (SPVS)
38.	Muhammad Irfan bin Mohd Raffi	Leveraging NFC Technology for Student In and Out from Campus.
39.	Dr. Nur Aisyah Abdul Fataf	MCLCK Game (Malaysia: Crypto Language Culture Kit Game)
40.	Mohd Moesli bin Muhammad	Non-Destructive Testing of Rockets Using Digital Radiography Methods
41.	Ja'afar Bin Adnan	PowerPulse: Smart Electrical Distribution Board
42.	Baizura Bohari	Small-scale Hybrid Wind-Solar Renewable Energy Systems
43.	Ir. Suriyadi Sojipto	Douse Fire 2.0

No.	Inventor	Title of Invention
44.	Dr. Anis Shahida Mokhtar	Implementation of Real Time Smart Home Automation and Monitoring Using IOT Based Sensing And FPGA
45.	Dr. Elya binti Mohd Nor	Industrial Vibration Alert System User Manual
46.	Dr. Nor Izzah binti Mokhtar	Shear Performance of Yellow Meranti Solid Timber Beam Strengthened Using Fibre Reinforced Polymer
47.	Dr. Wan Su Emi Yusnita binti Wan Yusof	Unveiling Tacit Knowledge and Cultural Insights: Empowering Malaysian Military Observers' Situational Awareness
48.	Dr. Norzaura binti Abd Rahman	e-Happiness : Sistem Pengukuran Indeks Kegembiraan Staf UPNM
49.	Dr. Mohd Nazrin bin Mohd Daud	Improvement in Strength Properties of Subgrade Soil using Bamboo Fiber
50.	Assoc. Prof. Dr. Syahaneim binti Marzukhi	MUNSHI (Multi-Lingual High Integers) Mobile App Generator and Translator
51.	Assoc. Prof. Dr. Syahaneim binti Marzukhi	IOT Based Flood Monitoring and Notification System
52.	Dr. Zubaidah Aimi binti Abdul Hamid	Perceptions and Acceptance of JeliXBee Gummies Made from Stingless Bee Honey: Implications for Healthy Snack Innovation
53.	Ts. Dr. Zatil Izzah binti Ahmad Tarmizi	Production of Citrus Hystrix Dishwashing Soap with Plant Extract from Waste Cooking Oil for Sustainable Future

SPONSORS



