UNIMAS
UNIVERSITI MALAYSIA SARAWAK
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ATRIA MEDICAL FMHS

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FACULTY PROFILE

Vision

A Global Leader in Medicine and Health Sciences Education.

Mission

To enhance the health and well-being of the global community through the pursuit of excellence in teaching, research, and strategic collaboration.

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FOREWORD

Prof. Dr. Asri bin Said
Dean

It is my pleasure to present the third issue of our Faculty's online magazine, themed **Zoonotic Diseases**—a topic of growing global significance. As human, animal, and environmental interactions become increasingly complex, zoonotic threats continue to shape public health, research priorities, and policy directions. This issue reminds us that addressing such challenges requires insight that crosses disciplinary boundaries.

In line with UNIMAS' mission to enhance community well-being through excellence in teaching, research, and strategic collaboration, this edition showcases the strength of partnership. I would like to express my sincere appreciation to our collaborators from the **Faculty of Resource Science and Technology (FRST), UNIMAS**, whose expertise in ecology and environmental sciences provides crucial understanding of wildlife reservoirs and transmission dynamics.

We also greatly value the contributions from the **Faculty of Veterinary Medicine, Universiti Putra Malaysia (UPM)**. Their leadership in animal health and surveillance reinforces the importance of the One Health approach, where human and veterinary sciences work hand in hand to prevent emerging infections.

In addition, the perspective shared by toxinologist from the **International Islamic University Malaysia (IIUM)** enriches this issue by exploring the promising therapeutic potential of snake venom compounds in combating zoonotic diseases, underscoring how metabolites from the venom can inspire innovative treatments and strengthen ecosystem health.

Together, these collaborations reflect our commitment as a **Community-Driven University** to producing knowledge that benefits both local and global communities. The articles in this issue demonstrate how multidisciplinary research can translate into meaningful impact, from understanding disease ecology to strengthening prevention and response strategies.

I extend my gratitude to the editorial team and all contributors for their dedication. I hope this issue inspires deeper inquiry, stronger collaboration, and continued innovation in tackling zoonotic diseases.

Amelia Mohamad
Chief Editor

Welcome to the third issue of ATRIA MEDICAL FMHS, where we explore into a topic that hits close to home – zoonotic diseases. From remote longhouses to bustling towns, Sarawak faces challenges in managing diseases that are transmitted between animals and humans. Our rich biodiversity, close human-animal interactions, and increasing deforestation have established environment conducive for the emergence and spread of zoonoses.

In recent years, diseases such as rabies, malaria and chikungunya have made headlines, reminding us of the delicate balance between nature and health. This issue brings together research, insights, and community perspectives to highlight the importance of surveillance, education, and collaboration in safeguarding public health. We hope it inspires interest, awareness, and action toward a healthier coexistence with our environment.

ENCROACHING ON NATURE:
How Habitat Loss is Driving a Zoonotic Surge in Malaysia

From the devastating Ebola outbreaks in Africa to the global impact of SARS, MERS, and most recently COVID-19, zoonotic diseases have repeatedly demonstrated how infections that jump from animals to humans can disrupt societies and economies worldwide. These zoonotic diseases remind us how closely connected human health is to the natural world. But what role does the loss of wildlife habitats play in this growing threat?

Dr. Awang Hazmi bin Awang Junaidi
Veterinarian
Faculty of Veterinary Medicine
Universiti Putra Malaysia

When forests and natural ecosystems are cleared for agriculture, urban development, or infrastructure, wildlife populations are displaced and forced into closer contact with humans and domestic animals. This increased proximity facilitates the transfer of pathogens such as viruses, bacteria, and parasites from wildlife reservoirs to people or livestock. Habitat loss also disrupts ecological balances by reducing natural predators, which allows populations of disease-carrying species like rodents and insects to grow unchecked. Combined with human activities like farming and recreation in disturbed areas, these environmental changes create ideal conditions for zoonotic pathogens to cross species barriers, leading to outbreaks and the spread of infectious diseases (White & Razgour, 2020).

Habitat loss forces wildlife closer to human settlements, raising the risk of conflict and zoonotic disease transmission. This macaque for example, now accustomed to daily human contact, still retains wild instincts and may bite or carry pathogens in its body and faeces.

In Malaysia, the consequences of habitat loss on zoonotic diseases are striking and alarming. The 1998 Nipah virus outbreak was directly linked to fruit bats displaced by deforestation and El Nino, infected pigs, which then transmitted the virus to humans, sparking a severe public health crisis (Chua et al. 2002). Leptospirosis, a bacterial disease, is also on the rise, spreading through water or soil contaminated by the urine of rodents thriving in disturbed habitats.

Meanwhile, rabies outbreaks in Sarawak could be indirectly linked to habitat loss and deforestation, which force feral dogs into closer contact with humans and domestic animals, increasing the risk of transmission (Toh et al. 2025). The reduction of natural predators disrupts the ecological balance, allowing populations of rabies carriers to grow, while human activities contribute to an increase in stray dogs, further spreading the virus.

Overall, habitat loss disrupts ecological balance and increases zoonotic disease risks. Protecting and restoring natural habitats is essential to reducing spillover events and safeguarding the health of humans, animals, and the environment.

ZOONOSES IN SARAWAK

Zoonotic diseases infections that move from animals to humans have shaped the course of global and Sarawakian health. More than 60% of global infectious diseases have zoonotic origins, including TB and HIV/AIDS, while around 75% of new infections emerge from animal sources. Sarawak faces unique risks because of its rich biodiversity, ongoing land development, and frequent contact between people, livestock, and wildlife. Forest clearance, farming, and urban expansion mean that rural and forest communities are especially exposed.

The impact of zoonoses here is significant. Rabies persists as a life-threatening problem due to repeated dog bites, while leptospirosis, often linked to contaminated water after floods, continues to cause outbreaks. Knowlesi malaria, carried naturally among macaques but now infecting humans, is a dangerous and increasing clinical problem in Sarawak. Major pandemics—SARS in 2003 and COVID-19 since 2019—are powerful reminders of how unpredictable zoonotic disease can upend societies. COVID-19 arrived in Sarawak in 2020, infecting hundreds of thousands, causing economic disruption, and illustrating just how quickly a novel animal virus can travel globally.

Prof. Datu Dr. Andrew Kiyu
Senior Principal Fellow
Faculty of Medicine and Health Sciences
UNIMAS

Other imported zoonoses, such as mPox (monkeypox), continue to pose new challenges. Recent cases in Malaysia, including isolated occurrences in Sarawak, show that travel and global connectivity make local introduction a real possibility, even if no persistent outbreaks have taken hold. Surveillance, isolation, and public hygiene remain Sarawak's main defences, supported by cross-border coordination and health screening for travellers.

To meet these threats, Sarawak's Infectious Disease Centre (SIDC) leads research, diagnostics, and preparedness efforts, working with authorities to monitor emerging risks and coordinate responses. Importantly, the SIDC's Biosafety Level 3 (BSL-3) laboratory provides advanced capability for detecting and diagnosing any emerging zoonoses, allowing the state to respond rapidly and accurately to new threats. International partnerships strengthen local capacity and ensure knowledge transfer in disease detection, control, and outbreak management. Zoonotic diseases are here to stay, and in Sarawak, their management depends on readiness, science, and strong community awareness.

GUARDIANS OR CARRIERS?

What Bats and Rodents Reveal About Emerging Diseases

Small mammals are recognised as reservoirs for zoonotic diseases, many of which can be transmitted to humans. Factors such as urbanisation, deforestation and climate change further intensify the spread of these diseases by altering habitats, influencing animal behaviour and expanding the geographical range of certain pathogens. Even relatively undisturbed forests can harbour novel or previously uncharacterised bacteria within their small mammal populations. Among these, bats and rodents are of interest due to their frequent associations with zoonotic pathogens.

Prof. Ts. Dr. Faisal Ali Bin Anwarali Khan
Zoologist
Faculty of Resource Science and Technology
UNIMAS

A fruit bat (*Cynopterus brachyotis*) roosts in the forest. One of many species playing a vital role in pollination and seed dispersal

A Long-tailed giant rat (*Leopoldamys sabanus*) released back into the forest after non-invasive sampling for microbiome research

Recent advancements in next-generation sequencing technologies have enabled scientists to study the microbiomes of wildlife directly from environmental or faecal samples. This approach allows rapid screening of bacteria, revealing microbial communities that were previously overlooked. Our work on bats in forested habitats of Sarawak reveals key bacterial groups such as *Lactococcus*, *Enterococcus*, *Ligilactobacillus*, *Klebsiella* and *Enterobacter*, highlighting their major role as bat gut microbiome.

Of particular concern is the detection of **ESKAPE** bacteria -

E (*Enterococcus faecium*)
S (*Staphylococcus aureus*)
K (*Klebsiella pneumoniae*)
A (*Acinetobacter baumannii*)
P (*Pseudomonas aeruginosa*)
E (*Enterobacter species*)

a group of known antibiotic-resistant pathogens capable of causing severe infections. These findings reveal bats as potential reservoirs of emerging diseases, underlining the importance of continuous surveillance to balance conservation priorities with public health resilience.

Similarly, studies on forest-dwelling rodents revealed the presence of bacteria capable of causing gastroenteritis, including well-known foodborne pathogens such as *Campylobacter, Salmonella* and *Shigella*. These bacteria are typically associated with human-modified environments rather than undisturbed forests, suggesting that even pristine habitats may harbour potential health risks.

Our research team at the Molecular Ecology Lab, Faculty of Resource Science and Technology, UNIMAS, preparing the Oxford Nanopore sequencing system for next-generation analysis of wildlife microbiomes

Given their capacity to cause gastrointestinal infections, habitat disturbances caused by increased human-wildlife interactions through ecotourism could increase the likelihood of pathogen spillover from wildlife to human populations.

Overall, these findings identify bats and rodents as key species of concern for potential disease emergence. Preventing spillover requires a comprehensive approach that links wildlife, environmental and public health surveillance. Continued use of next-generation sequencing can enhance early detection of emerging pathogens, supporting both biodiversity conservation and reducing transmission risks.

The passionate team behind the Southeast Asian Mammalian Systematics and Evolution Research Lab, working to uncover the diversity and evolution of Southeast Asia's mammals

Misnomers and Misconceptions of Zoonotic Diseases

For the non-scientist, the word *zoonosis* may conjure up an image of a beautiful oasis with zebras, deer, and elephants drinking at the waterhole — simply because zoonosis sounds like a mix of *zoo* and *oasis*! And that is just the start.

Prof. Dr. Helmy bin Hazmi
Public Health Medicine Specialist
Faculty of Medicine and Health Sciences
UNIMAS

In fact, there are many zoonotic misnomers. Swine flu, for example, did not originate solely from pigs. The 2009 pandemic strain was a reassortant virus combining swine, bird, and human influenza genes, officially known as influenza A(H1N1)pdm09. Even COVID-19 was once referred to as the "Wuhan coronavirus." Imagine the stigma if Wuhan remained forever tied to a pandemic rather than its cultural richness and scenic landscape.

Speaking of COVID-19, the outbreak has often been compared to the Spanish flu pandemic of 1918. Yet the influenza outbreak did not begin in Spain. Instead, because Spain was not subject to wartime censorship, its press was among the first to widely report the disease — leading to the unfortunate, misleading name.

There is another "mis" — the misconceptions surrounding zoonotic diseases. Dogs are often blamed for rabies, when cats, bats, and other mammals can also spread the virus. Leptospirosis, known locally as *penyakit kencing tikus* or literally "rat urine disease," blames rats alone, while cattle, pigs, and deer may also harbour the bacteria. Many people even picture a rat urinating on a can of drink, but the main risk is from contaminated water and soil. The Nipah virus outbreak in Malaysia was initially linked to pigs, but in truth, fruit bats are the natural reservoir, while pigs acted only as amplifying hosts.

**More recently,
Mpox made headlines.**

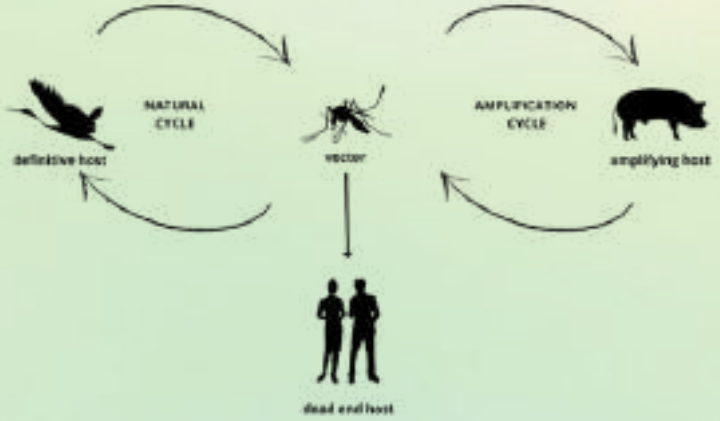
Its original name unfairly blamed monkeys, when in fact rodents are strongly suspected to be the natural reservoir. In the 2022–23 outbreak, humans themselves became the main driver of transmission through close contact, including sexual transmission.

Oversimplifications can be misleading. Diseases are often named after places, animals, or historical events simply to make them easier to remember. But such names can also cause stigma, fear, and misplaced control measures. Recognising misnomers and misconceptions helps us communicate more clearly without blaming the wrong animals, people, or places.

VECTOR OF ZOONOTIC DISEASES

Anopheles mosquitoes, locally known as *nyamuk tiruk*, are vectors of zoonotic malaria caused by blood protozoan species such as *Plasmodium knowlesi*. They acquire the parasite by feeding on infected macaques monkeys and transmit it to humans during subsequent bites. Their larvae breed in slow-moving water in forested areas, including puddles formed by animal footprints. Adults are most active from dawn to dusk.

Culex mosquitoes are key vectors of Japanese Encephalitis (JE) in Malaysia. They become infected by feeding on birds and pigs, with pigs acting as amplifying hosts. Infected mosquitoes can transmit the virus to humans, potentially causing severe illness or death. Culex larvae thrive in polluted water sources like septic tanks and clogged drains, while adults feed throughout the night. Preventive measures against mosquito bites include using mosquito nets, wearing protective clothing, applying insect repellent, and eliminating breeding sites through proper sanitation and drainage.



An example of zoonotic disease vector, Culex mosquito transmitting Japanese encephalitis virus form animals to human (Howard-Jones, A. R. et al., 2022)

Prof. Dr. Nor Aliza binti Abdul Rahim
Entomologist
Faculty of Medicine and Health Sciences
UNIMAS

Zoonotic diseases are infectious illnesses that can be transmitted from vertebrate animals to humans. Transmission may occur through direct contact, such as bites, or indirectly via arthropod vectors. Blood-feeding arthropods that feed on vertebrates and capable of transmitting pathogens (viruses, bacteria, protozoa) are known as vectors. These vectors play a critical role in the spread of zoonotic diseases, facilitating transmission from animals to humans. Examples of common vectors for zoonotic diseases include Anopheles and Culex mosquitoes and fleas.

Fleas, a zoonotic disease vector for plague. Photo by CDC on Unsplash

Fleas, particularly *Xenopsylla cheopis*, are vectors of plague caused by *Yersinia pestis*. They acquire the bacteria from rodents and transmit it to humans through bites, leading to symptoms such as fever, chills and swollen lymph nodes. Prevention involves controlling rodent populations and avoiding flea bites with repellents.

Anopheles mosquitoes, Culex mosquitoes and fleas are blood-feeding vectors that facilitate cross-species transmission of pathogens, contributing to the spread of zoonotic diseases.

Thai peninsular green pit viper at Fraser Hill, Pahang

Snake venom: A treasure chest of novel antimicrobial against zoonotic tropical diseases

Asst. Prof. Dr. Muhamad Rusdi Bin Ahmad Rusmili
Toxinologist
Kulliyyah of Pharmacy
International Islamic University Malaysia

Tropical diseases are unique diseases that are commonly infectious and zoonotic in nature, which have potential to be resistance towards conventional drugs. This causes reduction of efficacy and efficiency in the disease management, making the diseases harder to treat and eradicate. Therefore, there is a need to search new molecules for novel anti-infective agents and one of potential sources for these new molecules is snake venom.

Snake venom is a mixture of peptides and proteins produced in the venom gland of venomous snake. This mixture is a result of its selective evolution to ensure its survival. Various drugs, especially for cardiovascular diseases i.e. captopril, tirofiban, and eptifibatide, are designed based on molecular structure of snake toxins.

Handling banded krait (*Bungarus fasciatus*)

For now, there is no commercially available venom-inspired biomimetic molecules for zoonotic infection. However, there are several of the studies that reported anti-infective activities of snake venom against zoonotic infection.

Most of the reported studies attributed the anti-infective activities to cell membrane damaging capabilities of enzymatic toxins such as L-amino acid oxidase, metalloproteinase and phospholipase A2, and non-enzymatic toxins such as three finger toxins and venom cathelicidin. Unfortunately, some of these toxins are relatively toxic to the host and their proteinaceous nature limits their administration to parenteral administration.

Studying introduced Malayan pit viper (*Calloselasma rhodostoma*) in Ketapang, Kalimantan, Indonesia

Bagging red headed krait (*Bungarus flaviceps*) after milking

The use of computational method has provided glimpse some of the important primary amino acid structure that responsible for the activities, allowing potential biomimetic molecules to be synthesized and modified, whether as a whole molecule or fragments, based on the active structure for study.

Snake venom has been demonstrated to be an important potential source for anti-infective agents. However, there is a need to further identify and study the anti-infective mechanisms of toxins in detail. Multi-disciplinary works especially involving computational, biomimetic and deep learning methods are required to accelerate the discovery and application of these toxins for clinical use.

Milking king cobra venom for research

RABIES: DEADLY BUT PREVENTABLE

Assoc. Prof. Dr. Janet Hii Lin Yee
Consultant Paediatrician
Faculty of Medicine and Health Sciences
UNIMAS

Q. WHY IS RABIES SUCH A SERIOUS CONCERN IN MALAYSIA?

A: Rabies is one of the deadliest but neglected zoonosis, and survival is almost IMPOSSIBLE once symptoms develop. Sarawak has remained the main hotspot since 2015. Up to September 2025, four deaths have already been reported:

- A 13-year-old boy in Kuching, scratched by a stray cat.
- A 6-year-old girl in Bintulu, bitten by a stray dog.
- A 22-year-old woman in Kuching, scratched by stray cat.
- A 67-year-old woman in Kuching, bitten by unvaccinated freely roamed pet dog.

Q What is rabbies?

A:
A vaccine-preventable viral disease that attacks the brain and nerves of mammals, including dogs, cats, and humans.

Q How do people get rabies?

A:
Rabies spreads mainly through:

- Bites or scratches from infected animals
- Saliva entering wounds or mucous membranes (eyes, mouth, nose)

🐕 Dogs cause over 90% of human rabies cases worldwide.

Q Who is most at risk?

A:
Children aged 5–14 years, as they often play with animals and may not report injuries.

Q What happens after infection?

A:
The virus moves from the wound to the brain. After 1–3 months of incubation, symptoms develop:

- Excitatory/Furious rabies (80%): agitation, hallucinations, hydrophobia (fear of water), aerophobia (fear of air).
- Paralytic/Dumb rabies (20%): gradual paralysis.
- Both types end up with coma and death eventually due to respiratory paralysis.

⚠️ **ONCE SYMPTOMS APPEAR, SURVIVAL IS ALMOST IMPOSSIBLE!**

Q How can rabies be prevented after a bite?

A:

1. Wash the wound thoroughly with soap and running water for at least 15 minutes to wash away the virus.
2. Post-Exposure Prophylaxis (PEP): Rabies vaccine (Days 0, 3, 7).
3. For severe bites, Rabies Immunoglobulin (RIG) must be injected into the wound.

Q Who should get vaccinated before exposure?

A:

High-risk groups — veterinarians, animal handlers, and laboratory workers — should receive Pre-Exposure Prophylaxis (PrEP).

⚠ **PrEP does not replace PEP. Anyone bitten still requires urgent treatment.**

Q How can communities stop rabies?

A:

Mass dog vaccination — the most effective long-term solution.
Public awareness — avoid stray animals, recognize rabies risk, and seek immediate care after bites.

FINDING THE KNOWN UNKNOWNS IN SARAWAK'S TROPICAL FORESTS

Assoc. Prof. Ts. Dr. Tan Cheng Siang (left)
Virologist
Faculty of Medicine and Health Sciences
UNIMAS

When the world first heard of COVID-19 in late 2019, it seemed as though the virus had appeared out of nowhere. Within months, the virus, officially called SARS-CoV-2, **spread across the globe and was declared a pandemic by March 2020. But did it really emerge only in 2019?**

The reality is more complex. SARS-CoV-2 belongs to a group of viruses called sarbecoviruses, which are part of the larger coronavirus family. This particular group has a troubling track record because members have repeatedly jumped from animals to humans. For instance, SARS (now called SARS-CoV-1) **emerged in China in 2002, infecting thousands before it disappeared. A decade later, in 2012, researchers investigating miners with severe pneumonia in Yunnan discovered a related virus called** RaTG13, which shares 96.1% of its genetic code with SARS-CoV-2.

Researchers are setting up a harp trap to trap insectivorous bats, which includes Rhinolophus bats. L-R Ellen McArthur, Vaenessa Noni, Dr. Sultana Parvin Habeebur Rahman

In 2020, another close relative, BANAL-52, was found in bats in Laos with 96.8% similarity to SARS-CoV-2. These discoveries show that pandemics do not begin overnight. They often come with warning signs, viruses quietly circulating in wildlife before spilling over into humans.

One group of animals in particular stands out: horseshoe bats (genus *Rhinolophus*). Their distinctive horseshoe-shaped nose gives them their name, but what makes them more important is that they are natural carriers of sarbecoviruses. These bats are widespread in Asia, including here in Sarawak, Malaysian Borneo, which is home to remarkable biodiversity.

Rhinolopus bat with its distinctive horse-shoe shaped nose-leaf. Rhinolophus bats are insectivorous and consume mainly insects, keeping the insects' population in check

Here in Sarawak, Malaysian Borneo, **our forests are proving to be just as significant. In the world-famous** Mulu National Park in northern Sarawak, researchers recently detected sarbecoviruses in local horseshoe bats. This discovery places Sarawak on the global map of coronavirus research, because it confirms that bats in our own backyard carry relatives of the same viral group that gave rise to both SARS and COVID-19. What makes this even more striking is that similar sarbecoviruses have also been detected in nearby Sabah, suggesting that northern Borneo as a whole is an important reservoir for these viruses.

Does this mean people in Sarawak should be worried? Not necessarily. Most of these viruses remain locked within their bat hosts and pose no direct threat to humans. However, the danger arises when human activities such as wildlife trade, live animal markets, or careless handling of bat droppings (guano) bring us into close contact with these animals. That is when the “known unknowns” of our forests can escalate into public health crises.

The Penan settlements across Sungai Mesilau Paku. Picture takes from one of the sampling trails at Mulu National Park

Cynopterus brachyotis, a frugivorous bat.
The white bones in the bat's wings are its fingers.
They do carry coronaviruses (Nobecovirus) but not the type that was has been shown to cause diseases in bats and other animals

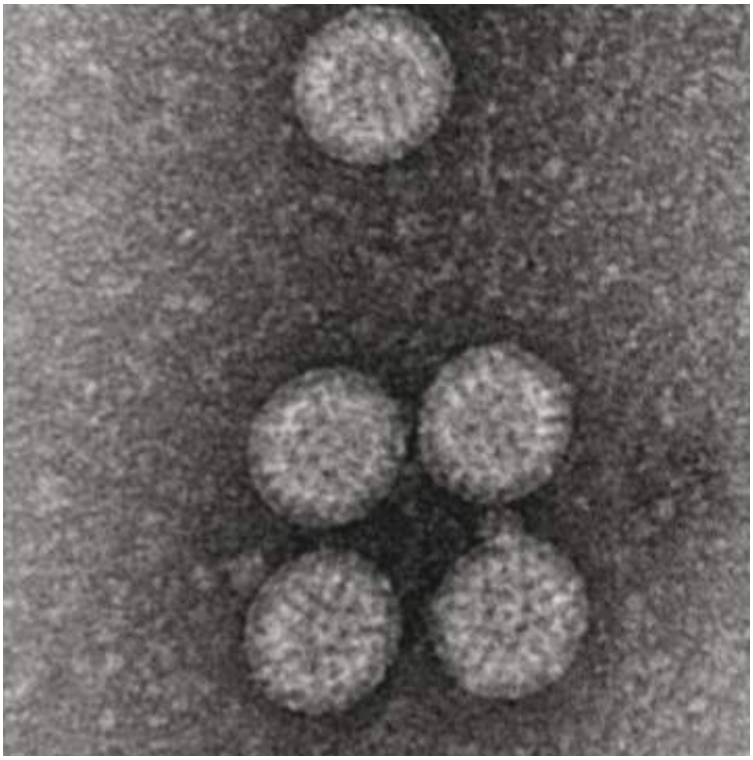
The lesson is clear: bats are not villains. They are vital for pollination, seed dispersal, and keeping insect populations in check. They should be respected for their ecological role, admired from a distance, and certainly not hunted or consumed as food. By understanding the hidden world of viruses in bats, especially in biodiversity-rich regions like Sarawak, we can stay better prepared for the next potential outbreak before it happens.

FROM HORSES TO HUMANS:

The Untold Story of Rotavirus in Sarawak

Assoc. Prof. Ts. Dr. Tan Cheng Siang
Virologist
Faculty of Medicine and Health Sciences
UNIMAS

The name "rotavirus" comes from the Latin word "rota", meaning "wheel." When scientists first viewed the virus under an electron microscope in the 1970s, its wheel-like shape inspired its name. Interestingly, in Malay, "roda" also sounds like "rota ."



Rotavirus seen under an Electron Microscope

Rotavirus is one of the leading causes of severe diarrhoea worldwide, particularly affecting young children and the elderly. Before vaccines were introduced, the virus caused millions of hospitalisations and hundreds of thousands of death each year. Since the mid-2000s, vaccines have saved countless lives by providing strong protection against the most common strains.

However, viruses constantly evolve, and sometimes they cross from animals into humans, a process known as zoonotic transmission.

A breakthrough discovery at UNIMAS

Researchers at the Faculty of Medicine and Health Sciences, UNIMAS recently made an important discovery while studying stool samples collected from children with diarrhoea in Sarawak between 2019 and 2021, before and during the COVID-19 pandemic.

At first, the virus they detected looked similar to the common human G3 rotavirus strain, which is already targeted by the widely used RotaTeq® vaccine. However, when the team performed genomic sequencing, they found something unexpected:

The virus was 91 percent genetically identical to a strain found in horses.

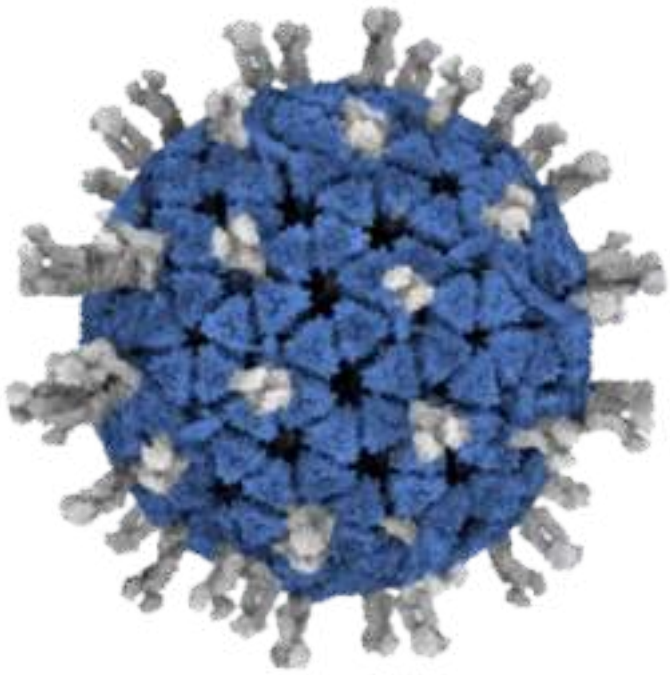
Scientists classified it as the Equine-like G3 Rotavirus (equine means horse in Latin). The first known human infections involving this strain were reported in Japan in 2013, although the exact time and place where the virus originally jumped from horses to humans remain unclear. Japan's advanced surveillance systems simply allowed the detection of this strain earlier than elsewhere.

Why This Matters

Further epitope mapping, which studies the parts of the virus targeted by the immune system, showed that current vaccines may not provide full protection against this equine like strain. This means the children who were vaccinated may not be fully protected, since their immunity may not recognise this rotavirus of horse-origin.

This may explain why, even in countries with high vaccination coverage, many children are still being hospitalised with severe rotavirus infections.

Adding to the concern, the UNIMAS team also discovered a porcine-like G9 rotavirus (porcine means pig in Latin) infecting children in Sarawak. These findings show that viruses are crossing from animals into humans more frequently than previously thought, raising concerns about the risk of emerging infections.



Computer generated 3-D model of a Rotavirus

Looking Ahead

These discoveries highlight the urgent need for continuous surveillance and vaccines updates to provide better protection against newly emerging strains. Similar to flu vaccines that are revised regularly to match evolving strains, rotavirus vaccines may also need to be improved to provide better protection for the children worldwide.

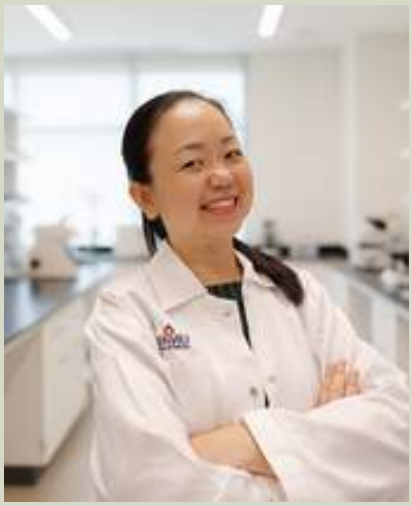
Systematic funding and support for research are critical to understanding the causes of infections in our communities. By strengthening surveillance today, we can stay one step ahead of future outbreaks and ensure vaccines remain effective in protecting those who need them most.

CHIKUNGUNYA :
The Neglected Mosquito-Borne Disease

Chikungunya is a viral disease spread by the bite of infected Aedes mosquitoes, the same ones that transmit dengue and Zika. Despite causing outbreaks in many tropical and subtropical countries, chikungunya is still considered a neglected tropical disease because it does not receive as much attention as other mosquito-borne illnesses.

The word “chikungunya” comes from an African language, meaning “to become contorted,” describing the bent posture of patients suffering from severe joint pain. Symptoms usually appear within a week after a mosquito bite. They include sudden high fever, intense joint pain, headache, muscle aches, tiredness, rash, and sometimes nausea. While most people recover, joint pain may last for weeks or even months, making daily activities difficult. The disease is rarely fatal but can be more serious for newborns, the elderly, and people with existing health problems.

Because chikungunya shares many symptoms with dengue and Zika, laboratory tests are needed to confirm the diagnosis. Available methods include virus isolation, molecular techniques such as quantitative reverse transcription-PCR (qRT-PCR), and serological tests like Enzyme-linkedImmunosorbent Assay (ELISA), Immunofluorescence Assay (IFA), and various rapid tests.



Dr. Anna Andrew
Virologist
Faculty of Medicine and Health Sciences
UNIMAS

My research focuses on improving the speed and accessibility of chikungunya diagnosis. Our team is developing an aptamer-based lateral flow assay, a simple and rapid test that can accurately detect the virus. This approach has the potential to provide a cost-effective tool for early diagnosis, especially in resource-limited settings where outbreaks often occur.

Prevention remains the best defence. Protecting yourself from mosquito bites and reducing breeding sites are key strategies. Practical steps include using insect repellent, wearing long sleeves and pants, sleeping under bed nets, and eliminating standing water around the home. Community efforts such as cleaning and spraying mosquito-prone areas are also vital.

Chikungunya may not always make the headlines, but it continues to affect millions worldwide and deserves greater attention. Awareness, prevention, and innovation in diagnosis are key to reducing its impact.

MELIOIDOSIS

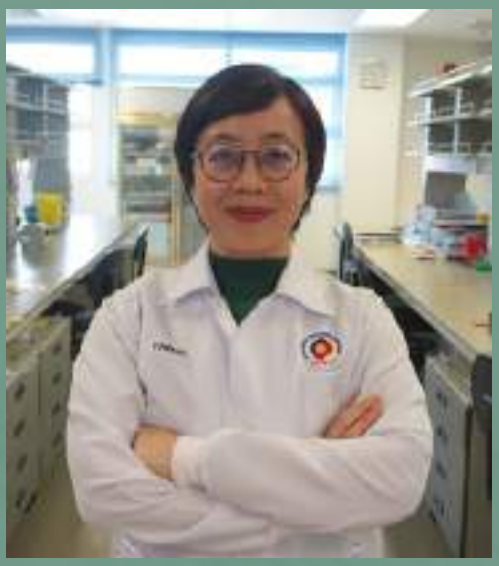
A Hidden Danger Beneath Our Feet

Melioidosis is a serious disease caused by a bacterium found in soil and water, called *Burkholderia pseudomallei*. It can infect both humans and animals. The illness was first recognized in Rangoon in 1912 as a condition that looked like glanders, a disease in horses and donkeys. A year later, an outbreak struck laboratory animals in Kuala Lumpur. By 1921, it was named "melioidosis" because of its similarity to donkey glanders.

More than 100 years on, melioidosis continues to claim lives in tropical and subtropical regions. If treatment is delayed, more than half of patients may die, especially in low-resource areas. In Malaysia, the disease is not officially listed as "notifiable" under the Prevention and Control of Infectious Diseases Act 1988, which likely contributes to underdiagnosis and underreporting.

This infection affects many species such as birds, primates, goats, crocodiles, and even dolphins. People usually become infected when the bacteria enter the body through cuts, by swallowing contaminated water, or by inhaling it. Farmers, construction workers, and outdoor recreational activities are common risk factors. Symptoms vary widely: from small skin sores to abscesses in organs, pneumonia, or life-threatening blood infections. Laboratory diagnosis still relies on bacterial growth lab culture and other tests, though faster methods are needed. So far, there are no reports of animal-to-human spread, but droppings of infected animals may be dangerous to people.

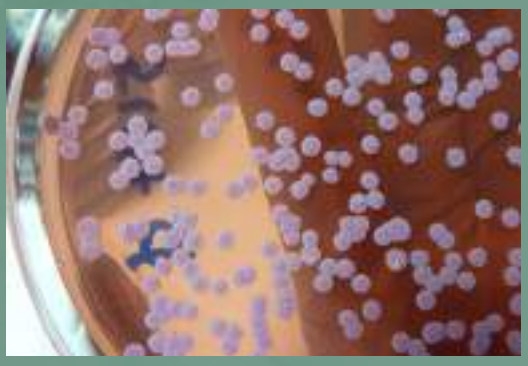
Subsistence farm - A common sight in Sarawak



Assoc. Prof. Dr. Yuwana Podin
Microbiologist
Institute of Health and Community Medicine
UNIMAS

The bacterium is extremely tough, able to survive salty water, detergents, and even in distilled water for 16 years. However, it is sensitive to ultraviolet rays. Treatment requires two stages: an initial intravenous phase, followed by oral antibiotics for up to 20 weeks. Completing the full course is crucial to prevent relapse.

Greater awareness among the public and health workers is vital. Recognizing melioidosis as a notifiable disease would also strengthen control and prevention efforts.



Burkholderia pseudomallei on Ashdown agar plate

Antibiotics susceptibility test for *Burkholderia pseudomallei*

TOXOPLASMOSIS:
A Hidden Risk We Can't Ignore

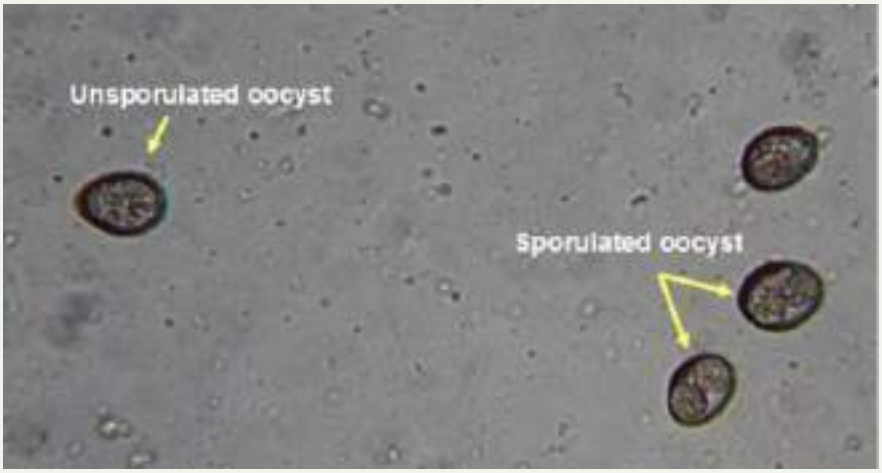
Dr. Khatijah binti Yaman
Medical Entomologist & Parasitologist
Faculty of Medicine and Health Sciences
UNIMAS

Imagine this: a young mother in Malaysia, excited about her first pregnancy, carefully preparing meals for her family. She doesn't realise that the undercooked meat she serves, or the soil she touches while gardening, could carry a silent threat — a tiny parasite called *Toxoplasma gondii*.

This parasite causes toxoplasmosis, an infection that often goes unnoticed in healthy adults. Many people may never feel more than mild flu-like symptoms. But for pregnant women, the stakes are far higher. If the infection occurs during pregnancy, the parasite can cross to the unborn child, potentially leading to lifelong consequences such as blindness or neurological damage. Researchers have long highlighted this danger (Wong & Remington, 1994; Smith et al., 2020).

In Malaysia, the concern is real. Studies have revealed varying rates of infection across communities, and alarmingly, the highest seroprevalence among pregnant women in Southeast Asia was reported here — at 42.5% (Hamid et al., 2020). This means almost half of expectant mothers could unknowingly be carrying the infection.

So how does it spread? Cats, often beloved household companions, can shed the parasite in their faeces. Soil, untreated water, and undercooked meat are other common sources. In some Malaysian villages, close contact with cats and reliance on untreated river water increase the risk (Ngui et al., 2011).



Microscopic differentiation of Toxoplasma gondii oocysts in feline faeces: unsporulated oocyst (left) and sporulated oocysts (right), representing the environmentally resistant stage responsible for transmission of toxoplasmosis.

The good news is, preventing toxoplasmosis doesn't require drastic changes — just mindful habits. Cook all meat thoroughly, especially from wet markets where traces of T. gondii have been detected. Wash fruits and vegetables well, scrub your hands after gardening, and handle cat litter with care — ideally, not at all if you're pregnant. And always be cautious with untreated water. These small steps can protect not just individuals, but families and communities.

Toxoplasmosis may be silent, but with awareness, it doesn't have to be dangerous. By sharing knowledge and practicing prevention, Malaysians can help reduce its spread. Public health efforts, combined with community awareness, are key to ensuring safer pregnancies and healthier futures.

ZOONOTIC MALARIA

A Genomic Clue to a Complex Puzzle

Knowlesi Malaria, A Persistent Challenge

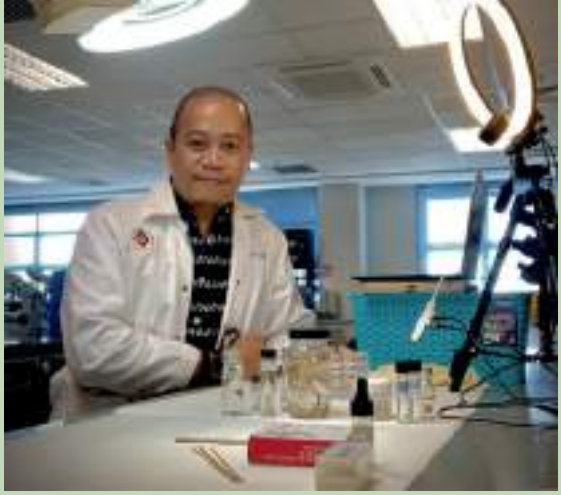
In Malaysia, malaria has taken an unexpected turn. The main cause of human cases is no longer *Plasmodium falciparum* or *Plasmodium vivax*, but *Plasmodium knowlesi*, a parasite that naturally infects wild macaques. Transmitted by forest mosquitoes, *P. knowlesi* represents a form of zoonotic malaria that poses unique challenges for control and elimination.

One of the key issues lies in diagnosis. Under the microscope, *P. knowlesi* resembles *P. falciparum* in its early blood stages and *P. malariae* in its mature forms, potentially leading to misidentification. Currently, molecular methods such as polymerase chain reaction (PCR) are the only reliable way to differentiate it from other species.

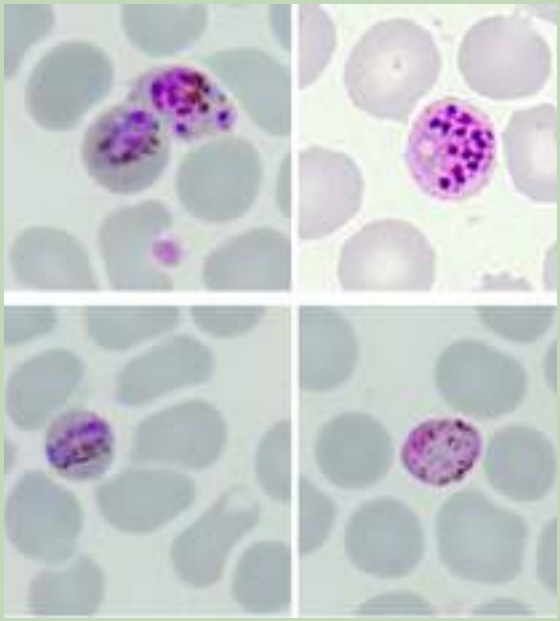
Genomics Reveals the Hidden Complexity

Genomic studies have uncovered at least three distinct *P. knowlesi* genotypes. Two are associated with different macaque host species, *Macaca fascicularis* and *Macaca nemestrina* in Malaysian Borneo, while a third is found exclusively in Peninsular Malaysia.

This genetic divergence suggests that *P. knowlesi* has evolved independently in different ecological settings, leading to parasite adaptation within specific macaque-host and geographic environments. These separate evolutionary paths reflect distinct zoonotic transmission cycles, shaped by the host species and habitat. In Malaysian Borneo, human exposure to either long-tailed or pig-tailed macaque habitats may influence which genotype is transmitted.



Assoc. Prof. Dr. Paul Cliff Simon Divis
Parasitologist
Faculty of Medicine and Health Sciences
UNIMAS



Different stages of *P. knowlesi* under the microscope

Wild macaque, natural host for *P. knowlesi*

Fast-Multiplying and Potentially Severe

P. knowlesi is particularly dangerous due to its rapid 24-hour blood cycle. This allows the parasite to multiply quickly and cause high parasitaemia. If treatment is delayed, the infection can progress rapidly and lead to severe complications, including kidney failure, respiratory distress, and multi-organ failure. In some cases, death.

Ecological Disruption and Vector Adaptation

Deforestation, agriculture, and infrastructure development are pushing humans, macaques, and mosquitoes into closer contact. Genetic studies reveal that several Anopheles mosquito species, especially those thriving along forest edges, are adapting to human-modified environments and are capable of transmitting *P. knowlesi*. These ecological changes are creating new hotspots of zoonotic malaria risk.

Protecting Yourself from Malaria: Malaria Chemoprophylaxis

Dr. Melissa binti Mohammad Hirman
Pharmacist
Faculty of Medicine and Health Sciences
UNIMAS

Planning a trip to Africa, Asia, and rural areas in Southeast Asia? There's one word you'll hear quite often: malaria. A potentially deadly disease caused by a parasite transmitted to humans through the bite of an infected female Anopheles mosquito.

Good news is it's preventable. Malaria chemoprophylaxis, describes the medications taken to prevent malaria infection. It is taken before, during and after your trip to kill the parasite at different stages of its life cycle in the body.

The right choice depends on your travel destination, health status and travel duration. There's no one-size-fits-all medication, so consult a doctor 2-3 weeks before your travel. Here are some common choices in Malaysia:

Atovaquone-proguanil (Malarone ®)
An effective drug for malaria prophylaxis in all malaria-endemic areas. Well-tolerated but not suitable for pregnant and breastfeeding mothers. It needs to be started 1-2 days before travel and continued 7 days after returning from your trip. Great for last minute trips.

Doxycycline
A cheap alternative that works for all malaria-endemic areas. However, it causes sun sensitivity and stomach upsets. Not for pregnant mothers and young children. It is taken 1-2 days before travel and continued 28 days after return.

Mefloquine
Mefloquine is taken weekly, making it ideal for long trips. Plan ahead as it needs to be taken at least 2 weeks before travel and continued 28 days after return. It is also not suitable for mefloquine-resistant areas (e.g., borders of Thailand, Myanmar, Cambodia). Avoid this drug if you have anxiety or depression, epilepsy or heart rhythm abnormalities.

No prophylaxis is 100% effective. If you develop fever during or after travel, seek medical care immediately.

Before heading off to malaria-endemic areas, consult your doctor and plan ahead. Prevention keeps your adventure safe and healthy.

Plants for Health and Healing:

Hope against zoonotic malaria

Dr. Angela Anak Siner
Biochemist
Faculty of Medicine and Health Sciences
UNIMAS

All living beings need to eat to live. When we think of food, chances are plants are also part of it. Other than for food, plants are also used as a source for good health and healing. Even animals know that plants are good for their well-being. Have you ever seen a cat eating grass and then vomiting it?

This use of plants is not new as per writings in the Ayurvedic and traditional Chinese medicine texts. Underground stems of ginger (*Zingiber officinale*) are not only used as a taste enhancer in many cuisines but it is also used as a herbal medicine for bloating and indigestion. Another high medicinal value plant is tumeric (*Curcuma longa*); among its many uses includes for digestive and respiratory disorders.

Some modern medicines were inspired from plants. White willow (*Salix alba*) tree bark, traditionally for pain and fever, contains salicylic acid and later used to make acetylsalicylic acid or Aspirin®. Artemisinin, one of the potent compounds against malaria, was isolated from the sweet wormwood (*Artemisia annua*) plant. Botanical products are also important in the animal healthcare industry.

Flower of black cumin (*Nigella sativa*) plant

Black cumin (*Nigella sativa*) seeds

Sam Jian Hung, PhD student at MRC, showing malaria parasites grown in a multi-well plate

Reduced effect of current drugs means that the search for new ones cannot stop. Observations that plants are nature's medicine toolbox led to it being a go-to source for new drugs. Our work on black cumin (*Nigella sativa*) seeds showed it had potential against the malaria parasite, *Plasmodium falciparum*; suggesting that it could be further studied for possible leads for new compounds against malaria. Having more drugs for malaria important since most malaria cases, especially in Malaysian Borneo, are due to malaria parasites of zoonotic origin. It would be great if the natural hosts of *Plasmodium knowlesi* (Old-World monkeys) could be treated as this would break the passing of zoonotic malaria infection to us, the accidental hosts.

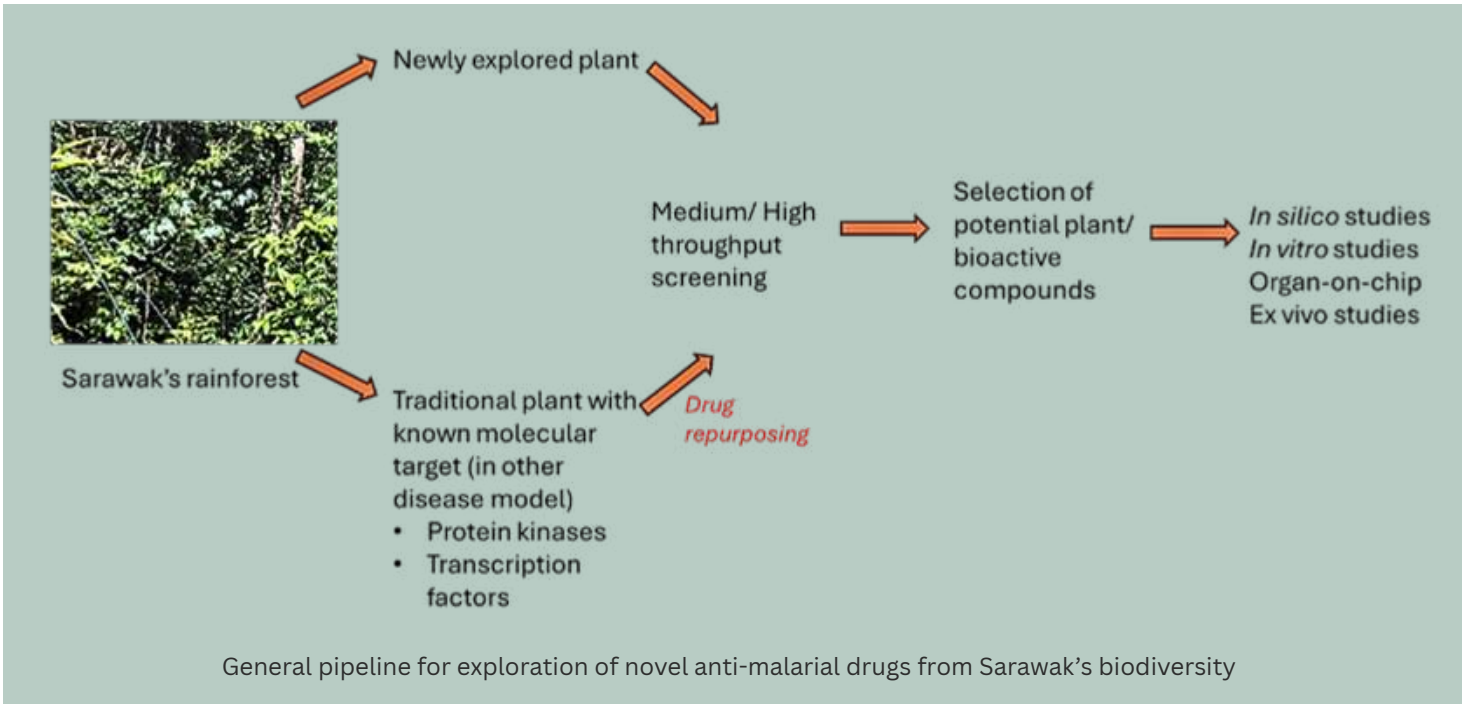
Beyond Artemisinin: Exploring Sarawak's Biodiversity For Novel Antimalarial Drug Discovery

Dr. Dayang Erna Zulaikha bt Awang Hamsin
Molecular Pharmacologist
Faculty of Medicine and Health Sciences
UNIMAS

Malaria remains one of the most pressing global health challenges. In 2023, the WHO estimated over 240 million malaria cases and approximately 600,000 deaths worldwide, with children in low-income, rural communities disproportionately affected (World Health Association, 2023). In Sarawak, zoonotic malaria remains endemic in several areas, particularly among rural and underserved populations. Despite tremendous progress over the past two decades, the emergence of drug resistance in certain *Plasmodium* species remains a pressing challenge.

Discovered in the 1970s from *Artemisia annua*, artemisinin became a breakthrough in natural product research and the cornerstone of modern malaria treatment (Su & Miller, 2015). To date, artemisinin-based combination therapies (ACTs) remain the recommended treatment for malaria (Ministry of Health Malaysia, 2014).

The discovery is not only lifesaving, but it opened new possibilities in plant-based drug discovery and demonstrated that traditional knowledge, when combined with science, can yield medicines that revolutionize the conventional therapies in combating complex zoonotic malaria.



General pipeline for exploration of novel anti-malarial drugs from Sarawak's biodiversity

If artemisinin was discovered based on the use recorded in Chinese pharmacopeia, can we, in Sarawak, use the same approach by looking into plants traditionally used by the locals to treat malaria and systematically screen potential plants for further scientific investigations? The cure could lie at our backyards, or it could lie hidden within our lush rainforest in Sarawak.

Sarawak, located on the island of Borneo, is one of the world's most biodiverse regions, harbouring an enormous variety of plants. Some are used in traditional medicine, yet mostly are still understudied, or intriguingly, yet to be identified. The biodiversity of these plants serves as a living molecular library for promising bioactive compounds that may becomw the next breakthrough medicine in the treatment of malaria.

Another strategy is to identify key molecular players in malaria pathogenesis, such as transcription factors and protein kinases, as potential therapeutic targets. Since many also drive other zoonotic diseases like leishmaniasis and toxoplasmosis (Rashidi et al., 2021) ,insights from these fields can guide malaria research. Natural products acting on these pathways may be repurposed, accelerating discovery through existing pharmacological knowledge.

Pet Parenthood 101

Did you know that "homeowner" contains the word "meow" (author unknown)? Once you've seen it, it isn't easy to un-see. Some people choose to have a pet, while others are "chosen" - ever heard of the "cat distribution system"?

Dr. Angela Siner
Biochemist
Faculty of Medicine and Health Sciences
UNIMAS

Regardless of how one joins this "club", there are a few things that are a must;

1. Neuter or Spay

Unless the pet is a fish or one that is highly unlikely to reproduce, neutering or spaying is a must. Benefits of neutering or spaying include a longer lifespan and a reduced risk of cancer. The pet parent and the pet will also have a better quality of life, as it keeps the number of pets manageable financially as well as in terms of physical space. Pet overpopulation, due to failure to neuter or spay the pet, is often thought to be associated with an increase in the stray population. This, in turn, contributes to the increase in wild or feral population. Both stray and feral populations can end up as a public health concern.

2. Vaccination

Pet parents should vaccinate their pets because unvaccinated pets pose a health risk to the pet themselves, to other animals as well as to humans. This is due to the higher risk of diseases such as parvo, distemper and rabies.

3. Play time

"They are a chapter in your book, but you are the whole book to them" (author unknown). Do you believe that pets can get bored if they do not get an outlet for their unspent energy? Yes, they do. When this happens, they might turn destructive to your furniture, other pets and/or you. So, do try to play with your pet daily.

At the end of the day, responsible pet ownership is about you doing right by your pet. Happy Pet-parenting!

Is there a better way forward for Man's Best Friend?

We have heard, time and again, about rabies in Sarawak since 2017. We have also heard calls for responsible pet ownership - vaccination, keeping pets within compounds and, more recently, licensing and microchipping. But this does not address one population group: homeless dogs and cats – whether strays or abandoned pets.

Dr. Amanda Albert
Psychiatrist
Faculty of Medicine and Health Sciences
UNIMAS

Currently, the main strategy employed locally is elimination of animals from the streets by the councils. Contrary to popular belief, these captured animals are not rehomed or placed in shelters – they are mostly culled regardless of health or vaccination status. However, according to the World Health Organisation (WHO), culling is ineffective for eliminating rabies or reducing stray populations. Moreover, a white paper launched at the Federation of Asian Veterinary Associations Congress in Kuching in 2023 reinforces further that culling is counterproductive, as it can reduce herd immunity by eliminating animals that are already vaccinated.

Mass vaccination and neutering of animal populations is the better way forward, as recommended by expert organisations such as the WHO, Mission Rabies and Global Alliance for Rabies Control. They tell us of ground-breaking success stories in Bhutan, India, China, Africa and Bangladesh, among others. There, animal and human rabies has either been completely eliminated or significantly reduced.

Locally, IAPWA Penang has had similar success. In fact, mass vaccination is considered so important that countries such as Thailand and India have even implemented giving oral rabies vaccine bait for free-roaming strays, with promising effect.

Human health and animal health go hand-in-hand. Mahatma Gandhi once said, "The greatness of a nation and its moral progress can be judged by how it treats its animals", but we have indiscriminately culled our homeless dogs and cats since 2017.

> ***"There is a better way forward for Man's Best Friend. Will we take it?"***

A community dog in Kuching that has been neutered, vaccinated and eartagged

Community's Indispensable Role in Rabies Management in Sarawak - A Shared Responsibility

Prof. Dr. Rasitasam@Razitasham Safii
Public Health Specialist
Kulliyyah of Medicine
IIUM

Sarawak is an important hotspot for rabies in Malaysia, with a high fatality rate of 91.6% and cases are now spread across the entire state.

Recent cases involving individuals bitten or scratched by their pets and stray animals, who failed to seek treatment, highlight the ongoing risk and high-risk behaviours within the community. Despite continuous efforts by stakeholders, animal bite cases and fatalities remain a significant public health burden.

The state faces unique challenges in rabies management. Beyond the risk of cross-border transmission from endemic regions like West Kalimantan, managing local transmissions is difficult due to Sarawak's vast area and challenging terrain. Furthermore, a critical "knowledge-practice gap" exists, where many people understand prevention but fail to act on it. This gap necessitates a stronger focus on community engagement.

Success in rabies elimination hinges on active community participation. The community is a vital partner in prevention and control, not just a recipient of services. This involves a targeted approach using risk stratification, where mass vaccination and neutering programs are implemented as a package to achieve herd immunity. By vaccinating at least 70% of the animal population and controlling their numbers through neutering, we can break the transmission chain. Every vaccinated pet contributes to this collective shield, and community leaders must promote this as a shared responsibility for long-term control and welfare.

An empowered community directly translates to fewer human rabies cases and a healthier Sarawak. This requires continued collaboration, education, and proactive steps from every community member.

Core team members (From Left - Right) : Dr. Angela, Dr. Ayu, AP. Dr. Rekaya, AP. Dr. Jacey, **AP. Dr. Paul Cliff (author),** Mr. Haslan

Fighting Zoonotic Malaria with Games - A Community Story from Kapit, Sarawak

Assoc. Prof. Dr. Paul Cliff Simon Divis
Parasitologist
Faculty of Medicine and Health Sciences
UNIMAS

Bringing Malaria Awareness to the Heart of Kapit

In the forest-fringe longhouses of Kapit Division, zoonotic malaria remains a serious public health concern. These remote communities live in close proximity to wildlife and mosquitoes, placing them at higher risk of zoonotic malaria. Since 2022, a dedicated team from the Malaria Research Centre and UNIMAS Gamification Centre has been actively engaging these communities through an innovative, game-based outreach initiative.

Rapid bed net game

Tarian ranyai and malaria quiz for adults

A Collaboration Rooted in Community

This initiative, which began as a pilot project, has grown into an ongoing partnership, combining public health science with gamification techniques to make malaria education accessible, fun, and memorable. With continued visits to multiple longhouses across Kapit, the team ensures that no age group is left behind.

Children enjoying the Malaria Floor Mat Game

Learning Through Play

Central to the programme is the "Malaria Floor Mat Game", designed to educate participants on malaria risk factors, clinical symptoms, and prevention. Children and adults take turns moving across the mat, learning as they play. Other games include simple drawing challenges, rapid bed-nets, and face-painting with role-play, where residents act as mosquitoes, monkeys, and humans to visualise how the disease spreads.

A Model That Connects and Inspires

This programme has seen full engagement from longhouse communities in Kapit, proof that serious messages can be delivered through joyful means. The community awareness programme continues today, with one goal: to empower communities with knowledge on zoonotic malaria and protect them through play.

Kumang kebun, emphasizing protection against mosquito bites

From '*Kumang Kebun*' to Conversation Circles

A local favourite is the *"Kumang Kebun"* competition, a playful twist on a beauty pageant where participants model the best protective clothing for farm work. It blends culture and health education with humour and creativity. Meanwhile, small heart-to-heart discussion circles offer a safe space for residents to share their thoughts, ask questions, and correct misconceptions.

(This initiative was supported by UNIMAS Sustainability Centre and Ministry of Finance – Program Pendayaan Komuniti@UniMADANI)

MALARIA IN THE LONGHOUSE:

Turning Everyday Heroines into Health Champions

Dr. Ayu Akida binti Abdul Rashid
Public Health Medicine Practioner
Faculty of Medicine and Health Sciences
UNIMAS

Kapit is a lovely gem where its population fosters a strong sense of community. Many years of research in Kapit by the team from the UNIMAS Malaria Research Centre has shown that longhouse women take the lead in communal life. They thrive at keeping things running well, whether it's cultural or religious celebrations, child supervision, or even saving the neighbour's laundry and pepper berries from a rainstorm. We asked ourselves: who could be more inspiring in championing malaria awareness and prevention than the remarkable women of Kapit's longhouses?

One of the programme activities with the women folks of the longhouse

A participant inspecting the contents of the kit

A carefully developed programme was introduced to train the women of Kapit longhouses about malaria, a disease well-known in Kapit. This initiative encompasses a range of activities, including identifying individuals who may be at risk of exposure, recognising the key indicators of illness, implementing prevention strategies suited to specific risks, and understanding the appropriate moments to act. The module developed for this initiative was created with a level of simplicity that enables participants to address the key malaria-related issues within their community easily.

Kit Tindakan Awam Malaria©

This notable empowerment of women has transformed them into attentive protectors of their longhouse community, resolute in their efforts to safeguard it from the threat of disease. Ultimately, each individual has experienced their own significant interactions with the effects of malaria, which renders their mission particularly meaningful. Equipped with a carefully curated kit, the *Kit Tindakan Awam Malaria©*, they possessed a variety of resources intended to aid them in their commendable mission. This kit organises all necessary tools and stimulates relearning of key programme messages.

Months after launching our initial cohorts of women in this programme, we are pleased to learn that the kit is still being actively used. Our participants are diligently fulfilling their community responsibilities. Although we're far from eliminating malaria, this project is a significant step forward. We sincerely hope that this programme will reach more communities in the future.

(This initiative was supported by UNIMAS Sustainability Centre and Ministry of Finance – Program Pendayaan Komuniti@UniMADANI)

Hands-on activity on monitoring vital signs

Wagler's pit viper (*Tropidolaemus wagleri*) in IIUM Campus, Kuantan. One of vipers species with neurotoxin. The synthetic version of the neurotoxin is used as a cosmetic agent

Research Highlight

Award & Recognition

Fresh Faces

RESEARCH *HIGHLIGHT*

Dr. Muhammad Wahizul Haswan B Abdul Aziz

Prof. Dr. Asri Bin Said

Assoc. Prof. Ts. Dr. Tan Cheng Siang
(Principal Investigator)

Dr. Siti Zaleha Binti Raduan

Dr. Surisa Phornvillay FSTS

GERAN LUAR (NATIONAL) UNIVERSITI MALAYA

RM 326,920.00

Research on the development of recombinant Vaccine Candidates for Zoonotic Rotaviruses in a Plant Model

Assoc. Prof. Dr. Romano Ngui

RM152,300

Assoc. Prof. Dr. Sam Froze Anak Jiee

RM84,595

Assoc. Prof. Dr. Zunika Binti Amit

RM148,800

Dr. Majed Ahmed Kacem Al-Mansoub

RM149,800

SKIM GERAN PENYELIDIKAN KEMENTERIAN PENDIDIKAN TINGGI (KPT) 2025
SKIM GERAN PENYELIDIKAN FUNDAMENTAL (FRGS)

Mdm. Tay Siow Phing

Dr. Melissa Lim Siaw Han
(Principal Investigator)

Prof. Dr. Dayangku Norlida Binti Awang Ojep

GERAN LUAR (NATIONAL) UNIVERSITI MALAYA

RM 326,920.00

Repurposing the Anti-Malarial Artesunate to Enhance Chemotherapeutic Response in Cervical Cancer Cell Lines

July 2025

August 2025

AWARD & RECOGNITION

September-December 2025

Congratulations!

Prof. Dr. Balbir Singh A/L Mohan Singh
Emeritus Professor Award
in conjunction with UNIMAS 29th Convocation
on 3-6 November 2025

Prof. Dr. Mohammad Zulkarnaen Bin Ahmad Narihan

Pegawai Bintang Sarawak (P.B.S)
from His Excellency the Governor of Sarawak
Tun Pehin Sri Dr. Haji Wan Junaidi bin Tuanku Jaafar
in conjunction with the 79th Birthday of the Governor
of Sarawak on 11 October 2025

Reappointment as Member of The University
Board of Directors (Senate Representative)
effective from 17 November 2025

Assoc. Prof. Dr. Aini Fahriza binti Ibrahim
Pegawai Bintang Kenyalang (P.B.K)
from
His Excellency the Governor of Sarawak
Tun Pehin Sri Dr. Haji Wan Junaidi bin Tuanku Jaafar
in conjunction with the 79th Birthday of the
Governor of Sarawak on 11 October 2025

Mdm. Emelia Binti Tambi
Pingat Perkhidmatan Bakti (P.P.B)
from
His Excellency the Governor of Sarawak
Tun Pehin Sri Dr. Haji Wan Junaidi bin Tuanku Jaafar
in conjunction with the 79th Birthday of the
Governor of Sarawak on 11 October 2025

Kapt. Bersekutu (PA) Dr. Siti Zaleha binti Raduan
Anugerah Pingat Perkhidmatan Pertahanan Awam (P.P.P)
Anugerah Reben Perkhidmatan Dekat Platinum
Anugerah Pegawai Bersekutu
Aktif Wanita Tahun 2024 in conjunction with the 73rd
Malaysia Civil Defence Force Anniversary Celebration

AWARD & RECOGNITION

Congratulations!

Prof. Dr. Asri bin Said
Awarded the Prestigious title of Fellow of the European Society of Cardiology (FESC)
Elected in 2025

Deputy Chairperson of the Council of Deans of Public University Medical Faculties by the Department of Higher Education, Ministry of Higher Education (MoHE) on 18 November 2025

Prof. Dr. Chew Keng Sheng
Anugerah Buku Negara 2025 (Education & Academic Category) – Best Medical Book published by UNIMAS Publisher titled "Applying The Art of War in The Battle of Patient Safety"

Assoc. Prof. Dr. Aini Fahriza binti Ibrahim
14th President of Asian Society of Stoma Rehabilitation (ASSR)
By Asia Pacific Federation of Coloproctology (APFCP) & Asian Society of Stoma Rehabilitation (ASSR)
For year 2025-2027

Assoc. Prof. Dr. Romano Ngui
Appointment as a new member of the 2025 Young Scientist Academy of Sciences Malaysia (YSN-ASM) by Academy of Sciences Malaysia

Dr. Tan Sang Nee
nomited and accepted as an Associate Member of Sigma Xi, The Scientific Research Honor Society at Cornell University, United States

Dr. Abigail Rembui anak Jerip
Recipient of the AFFIN INVIKTA TOP50 WOMEN OF EXCELLENCE AWARDS 2025
Awarded by TOP50 Media Synergy Sdn Bhd
on 26th November 2025

Student AWARD

Rohit A/L Baskaran
2nd place in the Student Rapid Oral Presentation
with the abstract titled Copro-Molecular Identification of Miscrisporidia in Rural Communities of Kapit Division, Sarawak at the 4th Asia Pacific Rickettsial Conference 2025 (APRC4) held in conjunction with the 61st Annual Scientific Conference of the Malaysian Society of Parasitology & Tropical Medicine (MSPTM) at PARKROYAL Penang, Malaysia.
29 Sept – 1 October 2025

Student AWARD

Congratulations

Rohit A/L Baskaran

- Anugerah Mahasiswa Terbaik Fakulti (FPSK)
- Anugerah Kecemerlangan Akademik & Intelektual (Kategori Kepimpinan Pengucapan Awam)

at the Majlis Apresiasi Gemilang Mahasiswa UNIMAS 2025 (MEGAH) on 14th December 2025

Congratulations

UNIMED
Anugerah Kecemerlangan Akademik & Intelektual (Kategori Kepimpinan STEM)

at the Majlis Apresiasi Gemilang Mahasiswa UNIMAS 2025 (MEGAH) on 14th December 2025

Congratulations!

Promotion

Prof. Dr. Nor Aliza binti Abdul Rahim
University Lecturer
Special Grade C (Professor)

Assoc. Prof. Dr. Rafidah binti Elias
Medical Lecturer
Associate Professor, DU15

Dr. Norashikin binti Samsudin
Medical Lecturer, DU14

Mdm. Sharifah Zuraida Bt Wan Mahli
Nurse, U6

Mdm. Rozita Bt Hj Rambli
Administrative Assistant, N3

Fresh Faces

Mdm. Saloma Pawi
Fellow F51K
Department of Nursing
13th May 2025

Dr. Lim Jia Yi
Medical Lecturer
Department of Family Medicine
30th June 2025

Dr. Wong Yi Li
Medical Lecturer, DU13P
Department of Radiology
14 July 2025

Dr. Nur'ain Shahirah binti Iskhak
Medical Lecturer, DU13P
Department of Paediatric
31th July 2025

Dr. Davidson anak Intan
Medical Lecturer, DU13P
Department of Opthalmology
1st September 2025

Dr. Mohammed Rasheedan bin Ellin
University Lecturer, DS13
Department of Nursing
2nd September 2025

Dr. Sharoen Lim Yu Ming
Medical Lecturer,DU13
Department of Basic Medical Sciences
2nd September 2025

Dr. Neilson Richard Seling
Medical Lecturer, DU15
Department of Commnity Medicine and Public Health
9th September 2025

Assoc. Prof. Dr. Ronald Tan Boon Hoe
Medical Lecturer, DU15
Department of Surgery
17th September 2025

Assoc. Prof. Dr. Siow Rhun Ping
Medical Lecturer, DU15
Department of Pathology
1st October 2025

2025 EVENT HIGHLIGHTS

June

12

Workshop on Instrument Development and Validation (Speaker: Professor Dr Md Mizanur Rahman)

15 H.O.R.N.B.I.L.L SURGICAL WORKSHOP 2025 (UNIMED, AMSA UNIMAS and InciSioN Malaysia)

21 GP Symposium 2025 - Navigating Cardiovascular Challenges: From Cholesterol to Heart Valve Disease (Hilton, Kota Kinabalu)

22 - 23 Ikatan Mahasiswa Kedokteran Universitas Tanjungpura (IMK UNTAN) visited UNIMAS Medical Society (UNIMED)

Program Doktor Muda Dalam Komuniti UNIMAS 23

23 - 25

DrPH Cohort 13 of Universiti Malaysia Sarawak (UNIMAS) took the initiative to visit our neighbour-Thailand.

25 PROGRAM PROMOSI & KESEDARAN KESIHATAN (MDU1133) Introduction to Community Based Health Promotion dan MDU1163 Basic Health Toxicology in Personal Care)

FMHS Gawai Celebration — *Ooohhaa! Begawai Kitai, Begulai Sejalai!* 26

July

8 Donation Distribution Session at the Psychosocial Rehabilitation (PSR) Unit of the Sarawak General Hospital

10 Blood Donation Drive (Student atrium, FMHS)

12 Collaboration between UNIMAS and China Medical University Hospital (CMUH) Taiwan and a Joint Symposium "Advances in Medical Technology and Patient Care" Organized by Faculty of Medicine and Health Sciences, UNIMAS and China Medical University Hospital, Taiwan, at The Ranyai Ballroom of The Waterfront Hotel Kuching.

16 Transforming Malaria Diagnosis Through Automated Detection and Digital Microscopy Seminar (MRC).

18 UNIMED Empowers Students with Clothes Donation Drive at Residential Colleges.

18 From Campus to Community: UNIMED Supports Mental Health Through Clothing Donations

25 From Campus to Career (UNIMED)

24-31 PROGRAM SARINGAN HPV PERCUMA UNTUK WANITA UNIMAS

August

1 A Glimpse into PETRONAS's Vision on Health – Occupational Health Beyond the Lecture Hall (Cohort 13 DrPH UNIMAS)

2 FMHS Bringing Health to the Highlands of the Penan and Orang Ulu Community in Lusong Laku, Belaga

4 *"Sayang Dirik, Sikboh Ambik Risiko"* (Love Yourself, Don't Take Risks) (DrPH UNIMAS. SMK Asajaya)

6 Doctor of Public Health (DrPH) students from Universiti Malaysia Sarawak (UNIMAS) brought health and life skills into focus at Sekolah Tunas Bakti Kuching, a rehabilitation school for boys, through a one-day programme under the Applied Family Health course.

21 Structuring Thesis for Success (Prof Dr Philip Baker)

25 White Coat Ceremony 2025

September

6 STEM Inspiration Day at SMK Sarikei Baru (team from the FMHS UNIMAS joined STEM Inspiration Day at SMK Sarikei Baru, organised by the Persatuan Mahasiswa Sarawak Universiti Malaya (PMSUM) under *"Nyambung Blaja"*: Education Outreach 2025" programme, to spark students' interest in science and health.

26 Understanding Neurodevelopment: Bridging Human Studies and Research Models

17-19 A Beginner's Guide to Geographical Information System (GIS) for Disease Mapping

18 White Coat Ceremony (Supplementary) 2025

19 Orchid Ceremony 2025

October

3-4

"Excellence in Laboratory Practice: From Benchwork to Breakthroughs" at Kem Putra Sentosa

11 FMHS Smash Masters Badminton Competition 2025

18 UNIMAS PINKTOBER DANCE FITNESS 2025

19

Program "Bicara Jiwa, Semera Lestari" sempena Projek Kampung Angkat Madani 2025

12-22 Edu-Tourism Programme – Zoonotic Tropical Disease: Malaria (Malaria Research Centre, FMHS)

25 Program Kepimpinan dan Jalinan Ukhuwah bertempat di Borneo Keranji Farm, Bau.

28

MLT Training Workshop 2025: Dose-Response Practical – Theory & Standardized Calculation

22-23 SIDC-UNIMAS Data Carpentry for Genomics Workshop

31

FMHS Robing Ceremony: Honoring Academic Excellence with Warmth and Pride

November

13 Committee members of the UNIMAS 4th International Nursing Students' Conference (INSC) 2026 paid a courtesy visit to the Deputy Vice Chancellor (Research and Innovation), Prof. Ir. Dr. Siti Noor Linda Taib, to present an update on the preparations for the upcoming event.

7 Bidding for the 16th Asia Pacific Conference on Human Genetics (APCHG 2027), The Alana Hotel, Yogyakarta, Indonesia

21 Faculty of Medicine and Health Sciences, UNIMAS welcomed KL Wellness City

23 **PROGRAM CITRA AKADEMIK UNTUK KOMUNITI DAN ALAM (CAKNA) 2025**

24-26 Lawatan ke Universiti Malaysia Sarawak (UNIMAS) untuk pembangunan dan penubuhan Program Sarjana Perubatan Psikiatri dan Sarjana Patologi di Universiti Malaysia Sabah (UMS).

25 Dr. Mohammed Rasheedan from the Department of Nursing delivered a talk on sexual and reproductive health as well as anti-bullying to the students of Sekolah Kebangsaan Serpan, Asajaya.

December

1-9 FROM WARDROBE TO WARMTH

1 The University of Queensland Delegation Visit to IHCM and FMHS, UNIMAS

UNIMAS Strong Heart Red Run 2025 (PGMed) **6**

17 International Pathology Day 2025

19 FMHS Christmas Hi-Tea 2025

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