DEC 2025

When a "HB Drop" Tells a Bigger Story

AMS news from the hospitals - OCT review

Culture Shock in Amsterdam: A Microbiologist's Visit to Micropia

Haematology Morphology Workshop 2025

A Christmas tree image made from fluorophore-labelled stem cells used to monitor cartilage growth (University of Southampton – Catarina Moura).

BENCHPRESS

The official newsletter of The Australian Institute of Medical and Clinical Scientists (Victoria Branch)

A.C.N 010 985 403

Inside this Edition

3 Introducing New Committee Member

4 My Fellowship Journey in Clinical Chemistry

5 RMIT/AIMS Careers Night

6 Quality Discussion Group Webinar

7 When a "Hb Drop" Tells a Bigger Story

9 ASM News from the Hospitals - October Review

11 AACB - AIMS Joint Biochemistry Webinar

12 Pre-analytical in Pathology - Getting it right from the start

13 Parasitology and Tropical Medicine SIG Meeting

14 Culture Shock in Amsterdam: A Microbiologist's Visit to Micropia

16 AIMS Morphology Workshop 2025

18 2025 NICE Conference - Melbourne

20 Quiz Time: BenchPress

21 Your Victorian Branch Committee

22 Get APACE and CMLS certified!

Patricia Szczurek
Chair
AIMS VIC Branch

A Note From the Chair

It's been an exciting and rewarding second half of the year for the AIMS Victorian Branch, with our calendar filled with opportunities for learning, collaboration and connection.

We kicked off with the Multidisciplinary Workshop "Fascinating Facets: Exploring the Peripheries of Medical Science", bringing together professionals across multiple disciplines for a day of insightful presentations and lively discussion. This was followed by the Intermediate to Advanced Haematology Morphology Workshop, which once again proved to be an outstanding success thanks to the expertise and generosity of our demonstrators.

The Haematology Discussion Group (HDG) series continued to engage members throughout the year, with sessions covering complex cases, new approaches and emerging technologies and of course, we wrapped up with the ever-popular HDG Trivia Night, always a highlight on the AIMS Victorian calendar.

In November, we were also proud to celebrate International Pathology Day - a time to recognise the incredible work of laboratory staff, and to reflect on the essential role our profession plays in patient care. It was wonderful to see laboratories across Victoria marking the occasion with morning teas, quizzes and creative displays that showcased their pride in the profession.

This period also marked our Annual General Meeting, where we officially welcomed our new committee members and extended our sincere thanks to those stepping down. It was a bittersweet moment as we farewelled Tina Pham, who has served with dedication, creativity and professionalism as Chair for the past six years. On behalf of the committee and our members, I'd like to thank Tina for her exceptional leadership and continued support.

As the new Chair, I'm grateful to be part of such a passionate and motivated team. I look forward to continuing the Branch's tradition of delivering high-quality professional development, fostering collaboration across disciplines, and celebrating the achievements of our vibrant scientific community.

Introducing Your New Committee Member VIC Branch

Heng Yau Sua (Senior Scientist, Automation Haematology / Morphology, St. Vincent Hospital Melbourne)

My name is Heng. I am delighted to have recently joined the AIMS VIC Branch committee and am also contribute as a designer for AIMS VIC Branch BenchPress.

I am a Senior Medical Scientist in Haematology at St. Vincent Hospital Melbourne, overseeing the haematology department with a strong interest in Morphology training, Haematology automation, and scientific communication.

Outside of my professional role, I am also a professional photographer/photo editor, with a strong appreciation for visual storytelling and design. This creative background complements my role as a BenchPress designer, where I enjoy combining clear communication with engaging visual presentation. I am also actively involved in sport, particularly badminton, which I enjoy for the discipline, focus, and balance it brings outside the laboratory.

AIMS events and initiatives has always play an important role in supporting the medical science community by fostering professional development, knowledge sharing, and networking across disciplines. I am excited to be part of a team that delivers these opportunities and look forward to contributing to the ongoing growth and engagement of our medical scientist community.

Isaac Tian (Histopathology Technician, Melbourne Pathology; Practical Demonstrator, RMIT)

Hi, my name is Issac. I'm currently a demonstrator at RMIT and working on biochemistry research focused on antibiotics. I'm particularly interested in medical research and clinical health, especially research that can translate into real-world patient care. Outside of the lab, I enjoy playing tennis and I'm a big fan of board games that involve strategy and good company.

My Fellowship Journey In Clinical Chemistry

By Kevin Jessen

In 2021, I began my Fellowship journey in the Clinical Chemistry discipline. At the time, I was a newly appointed Grade 3 Scientist in the Biochemistry department at Goulburn Valley Health and was determined to prove to myself that I had the knowledge and ability to do the role justice. Balancing full-time work, on-the-job learning, and finding both the time and motivation to study on weekends and evenings was incredibly challenging — and I spent many hours in the library, often procrastinating!

However, persistence paid off. Completing my first exam in the Endocrinology module not only gave me a sense of achievement but also sparked a genuine passion for endocrinology and renewed my motivation to continue.

Soon after, I made the move to Melbourne to take up a position as Principal Scientist in Biochemistry at Eastern Health Pathology — an opportunity for which I remain incredibly grateful. Adjusting to a new role, relocating to a new city, and continuing my studies all at once was demanding, but ultimately rewarding.

Not every step was smooth. My next exam didn't go as well as I had hoped, and deep down I knew I could have put in more effort. I took some time away from study, regrouped, and came back with renewed focus. From that point on, I found my rhythm and continued progressing steadily through the program.

What appealed to me most about the Fellowship program was its modular structure — having clear milestones to work toward was both motivating and rewarding. Passing each exam provided a real sense of accomplishment and encouraged me to keep going. At times, the journey did feel a little lonely, as I was the only candidate enrolled in the Clinical Chemistry program. However, I was fortunate to work alongside some exceptional Chemical Pathologists at Eastern Health who generously shared their knowledge, offered guidance, and provided invaluable support whenever I had questions. I also found the resources provided by the AACB to be tremendously helpful throughout my studies.

A highlight of my Fellowship journey was completing and publishing a review article in Critical Reviews in Clinical Laboratory Sciences, exploring the role of the pathology laboratory in supporting transgender care (https://doi.org/10.1080/10408363.2025.2488839). This, along with successfully completing the viva exam, marked the culmination of my Fellowship journey.

I would like to express my sincere gratitude to Dr Ailie Connell and Dr Nilika Wijeratne, Chemical Pathologists at Eastern Health, whose guidance, support, and many insightful conversations made this achievement possible. I also wish to thank Joanne Wiid, Program Director, and Tania Marsden, Associate Program Director at Eastern Health Pathology, for their encouragement and unwavering support throughout this journey.

QR code to AIMS Fellowship page

RMIT/AIMS Career Night

By Stellar Jun (Student, Master of Laboratory Medicine, RMIT University)

RMIT University held its 2025 Careers Night on 22 September, giving students an opportunity to meet professionals working in different areas of laboratory medicine. Speakers from haematology, biochemistry, microbiology, cytology and the diagnostics industry explained their areas of work and shared their experiences, helping students understand what to expect when entering each field.

Students also received practical advice on interview preparation, placement-related questions and workplace expectations. During the session, students were also introduced to the APACE program, learning how continuing professional development is recorded and recognised within the profession. This information was particularly helpful for those preparing for future careers in laboratory medicine. A networking session followed, allowing students to speak directly with professionals and ask questions related to their interests.

The 2025 Careers Night provided a valuable platform for students to explore opportunities within laboratory medicine and connect directly with professionals in the field.

Benjamin Howe, Heng Sua, John Abcede, Teresa Abajo, Kerryn Jones, Eddy Sharma

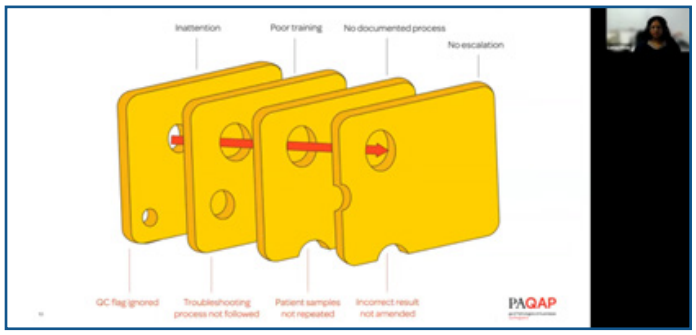
Quality Discussion Group Webinar

By Nao Shimada Ramos (Medical Laboratory Scientist – The Royal Children's Hospital)

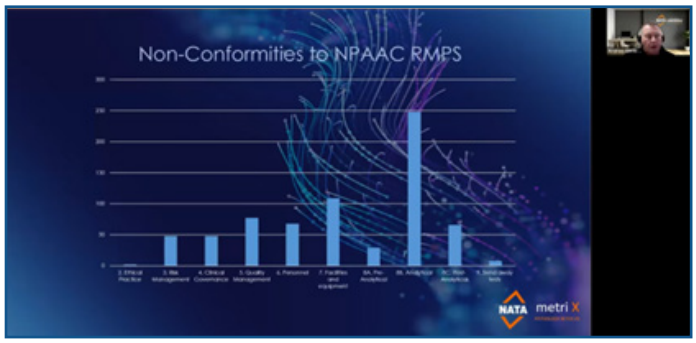
The AIMS Victorian Branch Quality Discussion Group delivered its first successful webinar on 2nd July, with over 80 attendees. The session highlighted the importance of quality in Australian laboratories, especially its impact on compliance, staff development, and ultimately, patient safety.

Cathy Carolan offered a comprehensive overview of the compliance requirements, beginning with the history of the legislation and the roles of NPAAC, NATA and TGA. Cathy highlighted how these bodies shape the lab accreditation requirements, and the talk was very informative for understanding accreditation standards, in-house IVDs, and NPAAC documentations.

Andrea Diprose explored the need of proper induction and continuous training in ensuring lab quality. Competency is more than just technical skills. It is also demonstrated by critical thinking, decision-making and communication, all of which are vital for consistent and high-quality performance.



Loriza Khan focused on the roles of EQA (external quality assurance) and IQC (internal quality assurance) in reducing lab errors. EQA, which is sometimes underestimated, can identify broader issues such as accuracy, measurement linearity, and harmonisation between platforms. The talk highlighted the risks that arise when different instruments and methods yield inconsistent results, potentially affecting patient diagnoses and treatments.



Andrew Griffin, the final speaker, discussed ISO 15189: 2022 "7. Process requirements," referring to validation, verification, and quality systems. The presentation addressed challenges such as high staff turnover, ownership changes, and imbalanced staffing levels between juniors and experienced personnel. Although some labs still overlook key requirements, about 85% of Australian labs showed very few issues, reflecting strong overall quality systems.

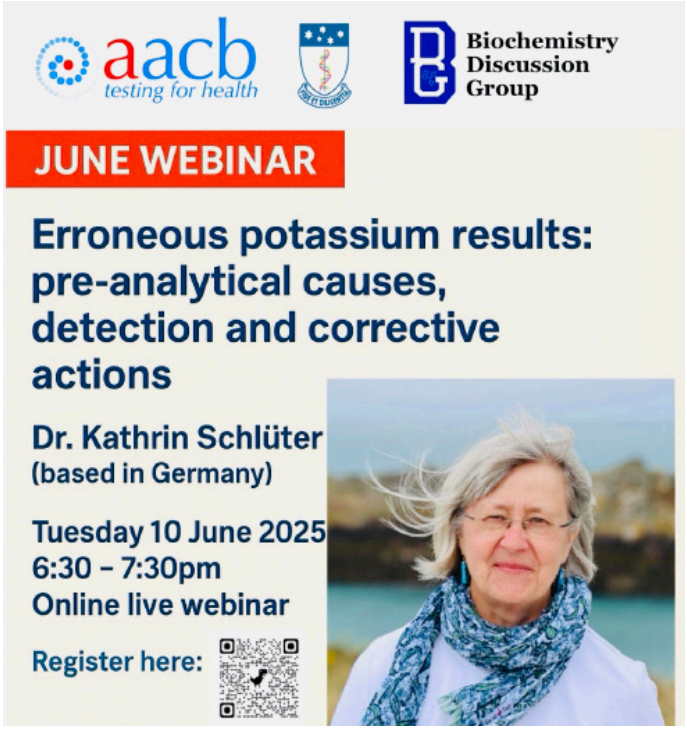
The panel emphasised that quality is everyone's responsibility. Beyond passing assessments, quality practices ensure safer services and better patient outcomes.

The speakers' insights offered both professionals and students a clearer understanding of why quality remains the core of lab medicine.

A recording is available to members on the AIMS Vic Branch webpage.

AACB-AIMS Joint Biochemistry Webinar

Dr Pramod Subedi, La Trobe University



On 10 June 2025, the Victorian branch of the Australasian Association for Clinical Biochemistry and Laboratory Medicine (AACB) and the Victorian branch of the Australian Institute of Medical and Clinical Scientists (AIMS) successfully hosted a joint biochemistry webinar titled: "Erroneous Potassium Results: Pre-analytical Causes, Detection and Corrective Actions." The organizing committee was honored to welcome Dr Kathrin Schlüter (Germany) as the keynote speaker. Dr Schlüter delivered an insightful and highly practical presentation, highlighting common causes of potassium-related errors and offering evidence-based solutions to improve sample integrity and analytical confidence.

Potassium testing remains a cornerstone of clinical diagnostics, yet it is particularly vulnerable to pre-analytical errors that may lead to misleading or clinically significant misinterpretations. The webinar explored key contributors to erroneous potassium results, strategies to identify inaccurate readings, and practical corrective actions to enhance laboratory reliability.

The webinar was co-hosted by Dr Pramod Subedi, Biochemistry Convenor for AIMS (Victoria branch), alongside Dr Kay Weng Choy, Chair of the AACB Victoria Committee.

The session attracted strong engagement, with 82 participants joining from Australia, New Zealand, and other parts of the world.

The AACB and AIMS VIC branches extend their sincere thanks to all who participated and contributed to the success of this event.

When a "Hb Drop" Tells a Big

By Patricia Szczurek, Austin Health Pathology

An 81-year-old male presented to a regional hospital with a complex clinical picture, including:

- pneumonia (aspiration vs HAP -hospital acquired pneumonia, currently off O_2)
- acute kidney injury (improving)
- a drop in haemoglobin without overt bleeding or melaena
- thrombocytopenia
- refractory hypokalaemia of uncertain cause.

As this was a referred sample from a regional hospital, a more detailed history of the patient unfortunately could not be obtained.

As part of the workup, the medical team requested a routine faecal microscopy, culture and susceptibilities without any parasitology testing and provided the clinical note "Hb drop." During training on faecal wet preparations, a junior staff member observed motile larvae under the microscope - a moment of surprise that quickly turned into a significant diagnostic finding. The organism was identified as *Strongyloides stercoralis.*

Figure 1. Strongyloides larvae in faecal wet preparation

Microscopically, Strongyloides must be differentiated from hookworm rhabditiform larvae that can hatch from eggs if there is a delay in processing the sample. The short buccal cavity and prominent genital primordium of Strongyloides are key distinguishing features.

Strongyloides stercoralis has always fascinated me for its complexity and persistence. It's a rhabditid nematode with one of the most intricate life cycles in parasitology, alternating between free-living and parasitic forms and capable of maintaining infection through autoinfection.

In its free-living phase, larvae passed in stool can develop into adult males and females that reproduce in soil, continuing the cycle outside the host. Alternatively, they can transform directly into infective filariform (L3) larvae, which penetrate human skin to begin the parasitic cycle. Inside the body, these larvae ultimately reach the small intestine and mature into parthenogenetic females that live embedded in the mucosa and produce eggs without males. The resulting rhabditiform larvae can be excreted or, remarkably, can become infective within the same host and immediately reinvade.

Autoinfection occurs when larvae penetrate the intestinal mucosa or perianal skin and re-enter the circulation. They can travel via the lungs, be coughed up, swallowed, and return to the small intestine - silently increasing the worm burden with each cycle. In some patients, especially those receiving corticosteroids or who are otherwise immunosuppressed, this process can escalate into hyperinfection syndrome. In hyperinfection, larvae multiply uncontrollably and disseminate through tissues, leading to widespread organ involvement, secondary bacterial sepsis with polymicrobial enteric organisms, and a high mortality rate if not recognised promptly.

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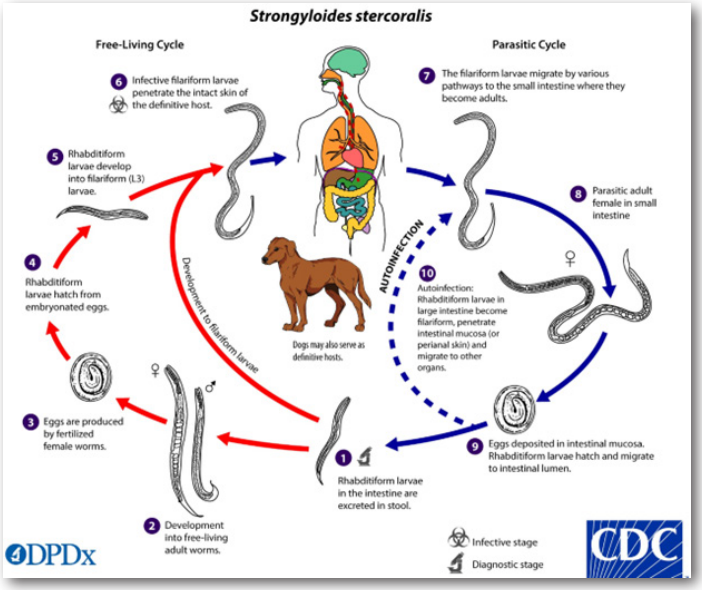

Figure 2. Life cycle of *Strongyloides stercoralis* [source: https://www.cdc.gov/dpdx/strongyloidiasis/index.html]

In the laboratory, detection can be challenging because larvae are often few and intermittently shed. The parasite is also fragile and does not survive long outside the host - refrigeration or delayed processing can kill the larvae, leading to false-negative Strongyloides culture results. For this reason, specimens should be examined promptly, and if culture is required, kept at room temperature to preserve viability.

The agar plate culture method remains one of the most sensitive techniques for detection. A small amount of fresh stool is placed on nutrient agar and incubated at room temperature. As viable larvae crawl across the surface, they drag enteric bacteria along their paths, leaving fine, winding “track marks” that provide a characteristic and satisfying visual confirmation.

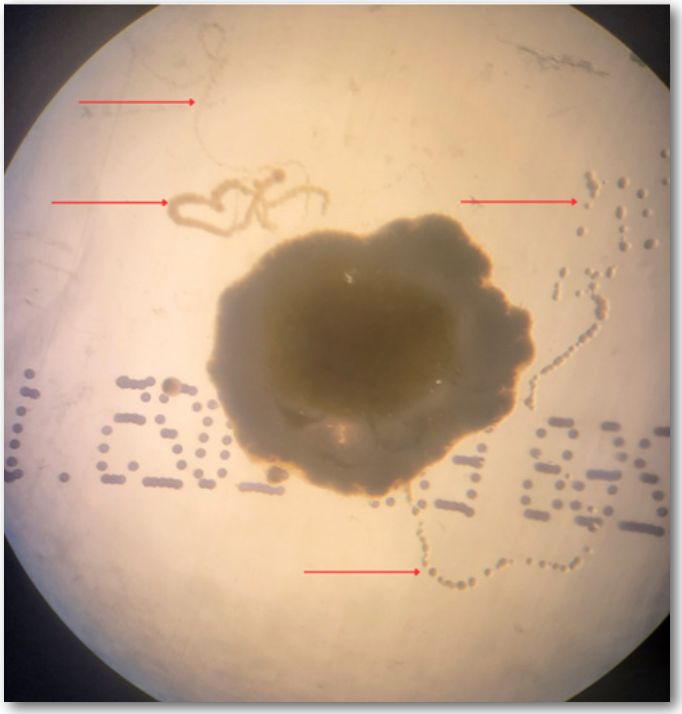

Figure 3. Culture plate technique. Arrows pointing to tracks formed by motile larvae.

For me, *Strongyloides stercoralis* stands out because it’s subtle, persistent, and endlessly intriguing. It provides a reminder of the importance of maintaining microscopy skills, carefully examining the entire wet preparation, staying alert to small details, and never underestimating the surprises that can appear under the microscope.

ASM NEWS FROM THE HOSPITAL REVIEW

By Patricia Szczurek, Austin Health Pathology

News from the Hospitals – October Review

On Thursday 23 October, almost one hundred keen microbiology professionals gathered both in-person and online for the ASM "News from the Hospitals" meeting, hosted for the first time by Eastern Health Pathology. This hybrid model has proven extremely popular, providing an accessible way for scientists across Victoria to share interesting cases and learn from one another.

The evening was kindly sponsored by bioMérieux and began with lively networking over delicious food. Ali Shushtarian opened the session with a fascinating overview of bioMérieux's long history in global public health, and introduced some of their recent innovations including the BIOFIRE® SPOTFIRE®, VITEK® REVEAL™, and VITEK ® MS PRIME systems.

Case 1 -- "Collapsing Joint Expectations"

Presenter: Zahraa Dabboiuk, Eastern Health Pathology

Zahraa discussed two paediatric septic arthritis cases with uncommon pathogens.

The first involved a six-year-old presenting with persistent right-wrist swelling following an insect bite in Noosa. Microscopy showed numerous polymorphs but no visible organisms; after several days, orange raised colonies grew aerobically on chocolate and horse-blood agar. Gram and ZN stains revealed filamentous, partially acid-fast branching rods, later identified as Nocardia farcinica.

The second case featured a four-year-old girl with left-knee pain, fever and rigors. Culture yielded Salmonella Virchow, an unusual cause of septic arthritis in children. Zahraa concluded with a review of septic arthritis in general including the common causative organisms, differential diagnoses, and management principles for paediatric cases.

Case 2 – "What Happens in Egypt … Stays in the Chest"

Presenter: Sonia Matharu, Royal Melbourne Hospital

Sonia presented a 38-year-old male who developed swelling and discolouration near his right nipple six months after undergoing peri-areolar gynaecomastia surgery in Egypt. An aspirate collected by his GP flagged positive in MGIT (a liquid culture system used in microbiology to detect the growth of Mycobacteria); microscopy showed Gram-positive bacilli and acid-fast bacilli. Cultures on a Lowenstein-Jensen slope grew creamy-yellow colonies within three days, consistent with a rapidly growing non-tuberculous mycobacterium.

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Identification via MALDI-TOF MS (using the mycobacteria-specific library) confirmed Mycobacterium abscessus. The case served as a valuable reminder to consider -non tuberculous mycobacteria in infections following overseas cosmetic procedures, as Sonia reviewed acid fast bacilli culture techniques and diagnostic approaches.

Case 3 – "When the Platelets Drop and the Film Rolls"

Presenter: Mahendra Siwan, Royal Melbourne Hospital

Mahendra described a 45-year-old Indian male with fevers, rigors, night sweats, weight loss and progressive respiratory distress. The haematology team noted monocytes containing oval yeast-like inclusions, prompting urgent microbiology involvement. Bone-marrow specimens were then collected and culture eventually grew a mould after 17 days of incubation. The culture was identified by ITS sequencing at the mycology reference laboratory as Histoplasma capsulatum.

This dimorphic fungus exists as mould at temperature below 30°C and as yeast at body temperature. It is typically acquired through inhalation of spores in endemic regions. The patient likely contracted the infection during outdoor travel in South-East Asia. He required two weeks of IV liposomal amphotericin B and a 20-day hospital admission. Mahendra reminded the audience that Histoplasma is a Risk Group 3 pathogen, requiring strict laboratory precautions.

Case 4 – "Sounds Like Trouble"

Presenter: Jean Abacan, Monash Health

Jean presented an unusual case of a 13-year-old boy with a five-year history of foul-smelling bilateral ear discharge unresponsive to topical antibiotics. Ear swab Gram stain showed mixed flora as expected for that site, but culture yielded heavy growth of Vibrio cholerae, an unexpected finding in a chronic otorrhoea case. After targeted antibiotic therapy, the boy's discharge resolved completely within three months. The case highlighted the importance of keeping an open mind when investigating recurrent infections

Case 5 – "Back for a Surprise"

Presenter: Michael Wong, Monash Health

Michael's case involved an 18-year-old male who developed back pain following cliff-diving in Indonesia. Imaging revealed extensive paravertebral abscesses and a pathological T9 fracture. Although initial cultures showed no growth, ZN (Ziehl–Neelsen) staining detected acid-fast bacilli, and MGIT culture was positive for Mycobacterium tuberculosis.

Michael provided an excellent summary of M. tuberculosis (TB), its virulence factors, pathogenesis, and clinical manifestations. The diagnosis: Pott's disease (tuberculosis of the spine). He reminded attendees that TB remains a significant pathogen, with Monash Health diagnosing approximately 120 new TB cases annually, and noting that almost 10 percent of new TB patients in Australia are seen by the Monash ID team.

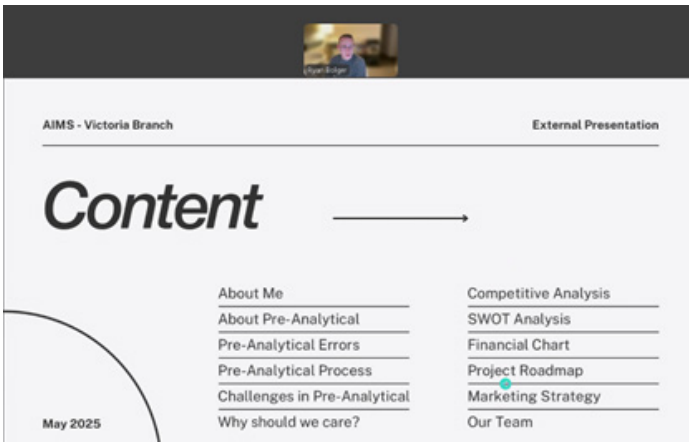
At the conclusion of the evening, Michael Wong was awarded the Early Career Scientist Prize, recognising his engaging presentation. This is a wonderful initiative offered by ASM, encouraging emerging scientists to step forward and share their work.

This ASM News from the Hospitals event was a resounding success, filled with valuable lessons, professional networking, and timely reminders of the diverse and fascinating challenges faced in clinical microbiology. We look forward to the next one!

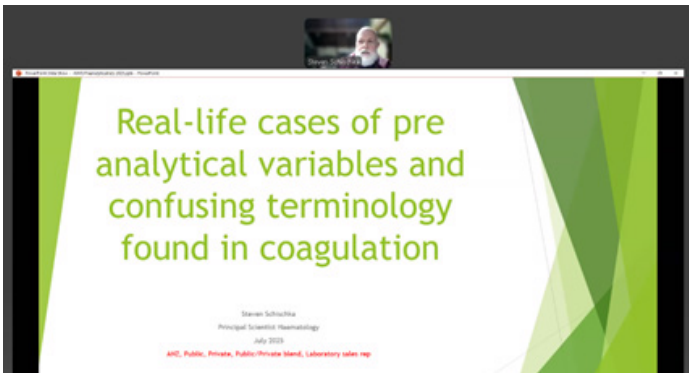
Pre-analytical in Pathology - Getting it right from the start

By Nao Shimada Ramos (Medical Laboratory Scientist, The Royal Children's Hospital)

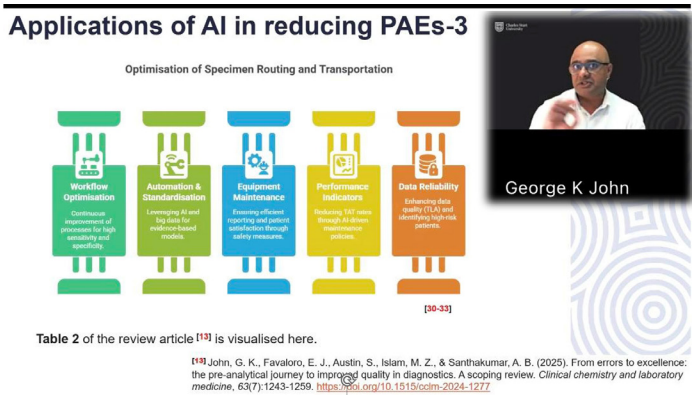
The AIMS Victorian Branch Pre-Analytical in Pathology Discussion Group held its first successful webinar on 31st July. This critical phase of pathology is often overlooked but is where most errors happen. The session drew over 100 attendees, from junior staff to experienced laboratory professionals.



Ryan Bolger opened with the fundamentals of pre-analytical errors, highlighting that over 95% involve haemolysis, clotting, or insufficient sample . Since 80% of clinical decisions rely on pathology results, reducing these mistakes is vital. He illustrated cases with practical causes and solutions.



Steven Schischka presented real-life cases, revealing that an average of 34 samples were collected incorrectly over two months, causing delays in time to result and re-collections. He noted how similar test names in coagulation can create confusion for clinicians.



George John discussed research trends, showing that studies on pre-analytical errors have increased tenfold in 50 years. He explained how AI and automation can assist with test selection, specimen transport, and quality evaluation, and that we need to be aware of their risks, such as system failures and privacy issues.

Janet Burgess closed with the unique challenges of paediatric blood collection, including small volumes, critical conditions, and parent presence. She shared a video demonstrating techniques during the heel-prick collections.

The webinar gave valuable insights to phlebotomists, laboratory staff, and clinical teams. The discussion group will make this an annual event, further strengthening awareness and strategies to "get it right from the start"!

Parasitology and Tropical Medicine SIG Meeting

11/09/2025

By Laura O'Donnell (Medical scientist, Alfred Health pathology)

On September 11, enthusiastic parasitologists gathered at the Doherty Institute, with Chandra's legendary curries drawing a lively crowd for a night of both learning and networking. The food did not disappoint, and neither did the presentations.

The first speaker, the ever-humorous Richard Bradbury, delivered "Guess Who's Hiding in India", exploring a case from a community-based hookworm survey. Unusual eggs were discovered in the faeces of two women from the same household in India. This led to an insightful discussion on Schistosomiasis. He emphasised the importance of recognising subtle morphological differences between Schistosoma species, which are crucial for an accurate diagnosis.

Dr. Miriam J. Alvarez from the University of Barcelona, presented a rare case involving a pregnant woman who travelled to Brazil. Three weeks after returning, she developed meningitis. Lab tests were negative for bacterial and viral infections, and she was treated with steroids for a suspected autoimmune disorder. Tragically, she passed away, and autopsy revealed worms in her brain. Miriam discussed species that cause neurological nematodiasis, highlighting key distinguishing features. The culprit was identified as the extremely rare Halicephalobus gingivalis, with all seven known cases being fatal. This talk highlighted the importance of screening for Strongyloides before administering corticosteroids, as they can trigger hyper-infection syndrome accelerating parasite proliferation.

Next, Dr. Matthew A.K. Martin presented an interesting case of a 62-year-old male from the USA with an extensive travel history, including Central and South America, as well as Maine. While hiking in the Northern Territory he fell ill and attended the ED. Investigations, including a mosquito-borne panel PCR and malaria ICT, were negative. However, the blood film revealed diagnostic tetrad formations within red blood cells, a hallmark of babesiosis. sed by Babesia species, endemic to Maine. PCR testing at VIDRL confirmed Babesia microti, a deer tick borne parasite endemic to Maine.

Dr. Alice Liu closed the session with a case of a melanoma patient on immunotherapy who developed diarrhea. Stool PCR detected Entamoeba histolytica, illustrating that immunosuppression can worsen amoebic colitis and increase the risk of fulminant disease and perforation.

Culture Shock in Amsterdam: A Microbiologist's Visit to Micropia

By Jay Chakrabarti - Alfred Health Pathology

It's not every day that a microbiologist gets to visit a museum entirely devoted to the unseen world we work with daily. While in Europe this August, I couldn't resist stopping by ARTIS–Micropia in Amsterdam — part of the ARTIS Royal Zoo complex and often described as "the world's only museum of microbes."

I'd heard about it many times from colleagues, and, being a self-confessed microbiology nerd, I was easily persuaded. After all, how could one pass up the chance to see bacteria treated with the same reverence usually reserved for dinosaurs and Impressionist art?

The experience begins in a lift, where a massive Demodex mite (the eyebrow-dwelling parasite we all know and love) looms overhead, projected across the ceiling as a calm voice explains that "germs are everywhere." A child in the elevator looked absolutely horrified — an excellent start.

Photobacterium sp. in broth close-up view.

Once inside, Micropia delivers a visually stunning blend of science, art, and imagination. My favourite section was a darkened alcove showcasing the bioluminescent bacteria (Photobacterium) that are responsible for the glow of the female anglerfish esca or 'lure' — their gentle teal shimmer felt almost ethereal. I was equally drawn to the wall of microbial cultures, each a burst of colour and texture; I suspect they'd used some chromogenic agar, though I couldn't quite tell.

A view from the window into Micropia's lab.

The on-site laboratory demonstration was… modest. One of the Micropia scientists invited an audience member to pipette a small volume of algae into fresh medium, after first projecting what the original culture looked like under the microscope. It was a neat way to visualise something living and dynamic, though not exactly pulse-raising for anyone who's ever triaged mixed anaerobes on a Friday afternoon. Still, it gave the public a tidy, odour-free glimpse of lab life — no faeces pots on the cusp of exploding, no equipment error alarms, and blessedly no Proteus.

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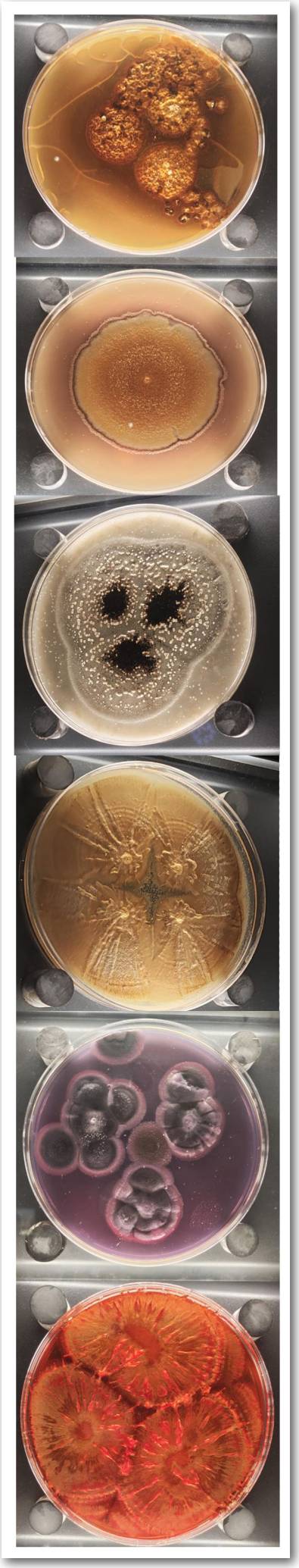
I visited with a friend from outside the field, who surprised me by developing a quiet appreciation for the microbial world — proof that Micropia succeeds in sparking curiosity even among the uninitiated. The museum's design is playful and interactive, filled with quirky installations that bridge the gap between science and storytelling.

Overall, Micropia is an excellent stop for anyone with even a passing interest in life's smallest forms. It's perhaps best suited to children and non-scientists, but even for those of us in the field, it's worth seeing how microbiology is translated for the public eye. As scientists, it's easy to forget that what feels familiar to us can be wonderfully alien — or mildly horrifying — to everyone else. A few hours well spent, a few gigabytes of photos later, and I left feeling oddly proud of our tiny colleagues. Culture shock, indeed.

Submit Your Interest Article Ideas to

secretary.aims.vic@gmail.com



From top-to-bottom:

Penicillium alexiae, Talaromyces macrosporus. Aspergillus costaricaensis, Penicillium polonicum. Aspergillus restrictus, Penicillium isariiforme.

AIMS Morphology Workshop 2025

By Teresa Abajo (Senior Scientist Microbiology, Alfred Health)

The final educational event on the AIMS Vic Branch calendar for 2025 was the Haematology Morphology workshop held in the training room at Melbourne Pathology. Feedback received after last year's event told us that participants wanted an intermediate/advanced level with more challenging cases. What was delivered by the expert demonstrators was a highly interactive and intellectually stimulating two-day program.

The faculty for the workshop comprised:

- Boris Zhang
- Cathy Cockshott
- Cathy Durkin
- Gabrielle Roche
- Gurbaksh Kanda
- Heng Yau Sua
- Jacqui Dennis
- Jane Moon
- Jessica Boyd
- Rebecca Gazelle

Image 1: Some of the weekend's demonstrator

(L to R: Heng Sua, Jacqui Dennis, Boris Zhang, Cathy Cockshott, Cathy Durkin, Jess Boyd)

Their commitment extended far beyond the weekend itself, involving months of planning, case sourcing, slide preparation, labelling, development of participant worksheets, demonstrator guides and detailed PowerPoint presentations. Their efforts ensured that every case delivered maximum educational impact.

Each participant was issued their own microscope and set of slides that contained blood smears from a variety of case studies covering red cell and platelet disorders, white cell and malignant haematological conditions, neonatal and paediatric pathology, infectious diseases, therapy-related and rare presentations designed to test even the most experienced morphologists. Also covered were the effects of improper sample handling and the importance of clinical notes.

The slides or samples were made available for the workshop thanks to the generosity of the Austin Hospital, Dorevitch Pathology, Gribbles Pathology, Peter MacCallum Cancer Centre, Royal Children's Hospital, Royal Melbourne Hospital and St Vincent's Hospital.

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Image 2 – Class participants had many opportunities to ask questions

Over 20 case studies were examined each day, with participants given several minutes to review the slide before features of the smears were discussed and the final diagnosis revealed. There was time for questions, and discussion around differential diagnoses. This created a dynamic learning environment that fostered critical thinking, debate and shared problem-solving.

Participant engagement was high throughout the entire weekend, with lively discussion, thoughtful questions and strong interaction between demonstrators and attendees. An end-of-day quiz added an additional layer of engagement and friendly competition, reinforcing learning in a fun and memorable way.

Image 3 – Class participants scrutinise the blood smears

Image 4 – End of day quiz winners are grinners.

The AIMS Victorian Branch also gratefully acknowledges the ongoing support of Abacus dx, who generously supported the workshop and provided the opportunity for participants to explore the Nikon Eclipse Ui digital microscope, which was no doubt added to many wishlists!

We look forward to continuing to build on this success in future years.

Image 5 – Jomar from Abacus dx demonstrates the impressive Eclipse Ui microscope.

2025 NICE Conference - Melbourne

By Hayley Martine (Medical Scientist, Haematology and Blood Bank, Royal Children's Hospital Melbourne)

In August, I had the privilege of attending the 2025 National Immunohaematology Continuing Education (NICE) conference held in Melbourne at Hyatt Place in Essendon Fields. This conference takes place from Friday to Sunday with presentations spanning across all three days allowing for a huge range of topics with plenty of time for discussion. NICE is an informal conference attended by immunohaematology scientists and stakeholders from all over Australia and sometimes internationally. All attendees are required to present a short 5-minute presentation either individually or as a pair (10 minutes), making it a great opportunity for first time speakers to ease into public speaking and give it a go! It is an encouraging and supportive environment as everyone presents whether you're a graduate scientist or an experienced scientist - everyone has something to learn!

Some of the presentation topics this year included interesting antibody cases, MTP's, monoclonal antibody therapy, common interview questions for blood bank roles, HDFN, ABO incompatible transplants, intraosseous blood grouping, code brown responses, possibility of using AI podcasts, batch products, protocols and procedures between laboratories in line with guidelines, as well as differences overseas in countries including Africa, Taiwan and New Zealand, blood wastage, NIPT and NIPA testing and CAR-T cell therapy. This year saw the introduction of the 'NICE Knowledge Nucleus' made up of a panel of highly experienced industry leaders whom answered questions from attendees and provided constructive reviews on a wide range of blood banking topics; such as a National Antibody Register, routine group checks and irradiation guidelines to name a few.

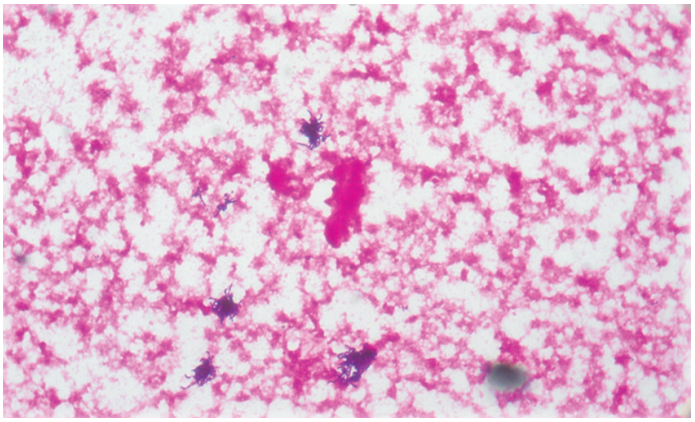
The weekend involves plenty of time for meeting new people including a themed dinner held on Saturday night. The theme this year was 'Pyjama Party' where delegates got to cosy up into their favourite pyjamas, some showing their creative side. The previous themes I have attended were 'A tale of two cities' and 'Anything and everything red' for the 40th anniversary. These dinners are a lot of fun with music, food and some friendly competition.

Quiz Time: BenchPress

Blood culture Gram stain quiz -

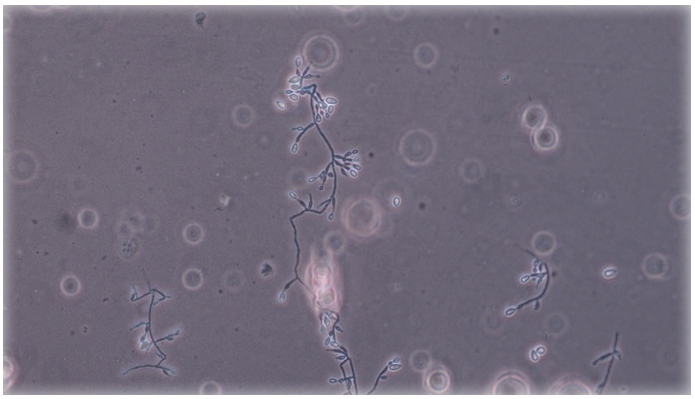
1) This is a Gram stain (x100 oil immersion) from an anaerobic bottle which flagged positive after 4 days incubation.

What would you report? What organism do you think grew?



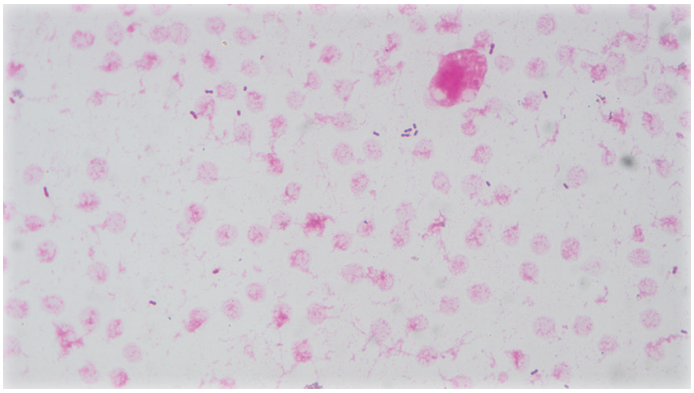
2) This is a wet preparation (x40 phase) from an aerobic bottle which flagged positive at 2 days incubation.

What would you report? What organism do you think grew?



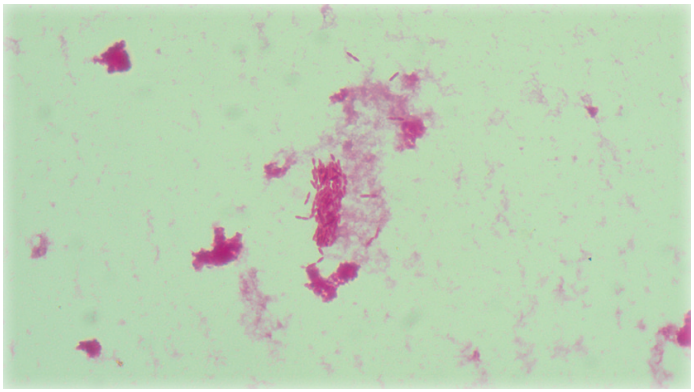
3. This is a Gram stain (x100 oil immersion) from an aerobic bottle which flagged positive after 18 hours incubation.

The Gram-positive bacteria seen resemble which organism?



4. This is a Gram stain (x100 oil immersion) from an anaerobic bottle which flagged positive after 21 hours incubation. The aerobic bottle was No Growth after 5 days incubation.

What could this organism be?



Thank you to Austin Pathology (Microbiology Department) for providing the images.

Mycology Quiz

1. Globally, the percentage of people who will develop a dermatophyte infection in their lifetime is

a) 5%

b) 25%

c) 75%

d) 99%

Image from https://www.xpedite-dx.com/applications/dermatophytosis/

2. Which fungal infection can be diagnosed using an India ink stain on cerebrospinal fluid?

a) Histoplasmosis

b) Cryptococcosis

c) Blastomycosis

d) Aspergillosis

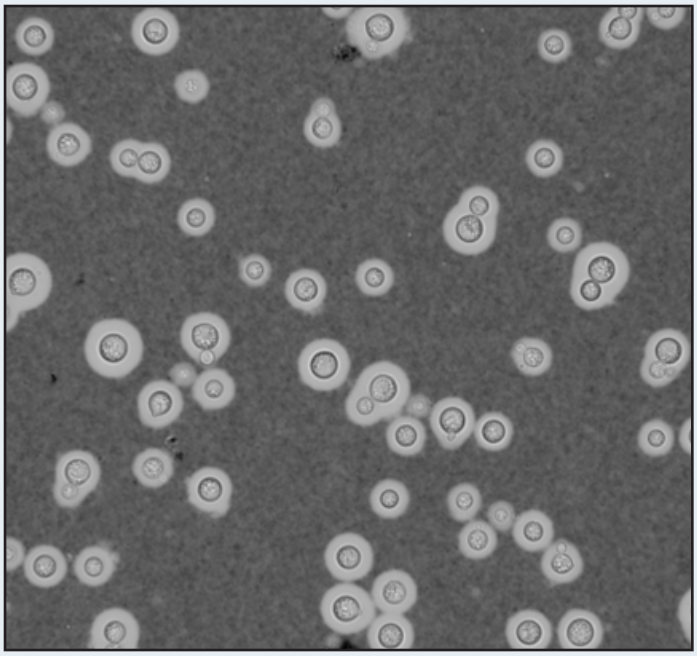


Image from https://doeringlab.com/research-item/ink-stain-wt-04/

3. What feature distinguishes moulds from yeasts?

a) Presence of capsules

b) Filamentous hyphae vs. single budding cells

c) Ability to grow at 37°C

d) Requirement for lipid supplementation

4. Which of these stains can be used to visualise fungal elements in tissue sections?

a) Gram stain

b) Ziehl-Neelsen stain

c) Periodic acid–Schiff (PAS) or Gomori methenamine silver (GMS)

d) Wright-Giemsa stain

Image from Sharma, Sonam & Capoor, Malini & Singh, Mukul & Kiran, Deepti & Mandal, Ashish. (2016). Subcutaneous Phaeohyphomycosis Caused by Pyrenochaeta romeroi in a Rheumatoid Arthritis Patient: A Case Report with Review of the Literature. Mycopathologia. 181. 735. 10.1007/s11046-016-0022-7.

5. Which of these fungi is regarded as an emerging threat and is associated with healthcare settings and multi-drug resistance?

a) *Candida albicans*

b) *Trichophyton rubrum*

c) *Aspergillus fumigatus complex*

d) *Candidozyma auris*

6. Which of these dermatophytes is a newly described species that is urease negative and is associated with resistance to first line treatments?

a) *Epidermophyton floccosum*

b) *Trichophyton indotineae*

c) *Trichosporon asahii*

d) *Trichophyton mentagrophytes*

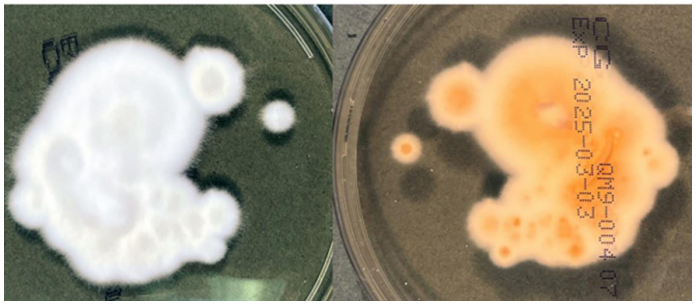


Image from https://www.adelaide.edu.au/mycology

7. Processing steps, such as grinding or homogenization of tissue samples, can damage the delicate fungal cells and reduce the chances of growth of which of these species in particular?

a) *Mucor circinelloides*

b) *Candida dubliniensis*

c) *Lomentospora prolificans*

d) *Aspergillus fumigatus*

Image from https://www.adelaide.edu.au/mycology

8. Sporothrix schenckii infection is typically acquired through:

a) Inhalation of spores from soil

b) Direct inoculation through skin trauma (eg rose thorns)

c) Sexual contact

d) Contaminated water exposure

9. Which of these has been associated with sexual transmission?

a) *Trichophyton verrucosum*

b) *Microsporum canis*

c) *Trichophyton mentagrophytes genotype VII*

d) *Trichophyton mentagrophytes genotype IV*

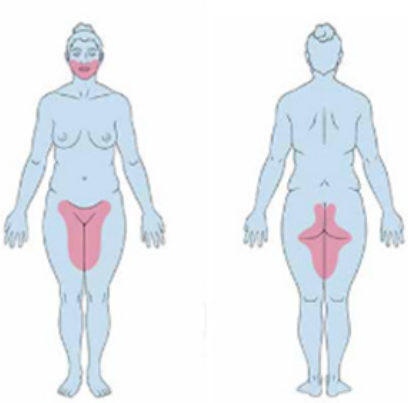


Image from https://my.clevelandclinic.org/health/diseases/sexually-transmitted-fungal-infection

9. Which of these has been associated with sexual transmission?

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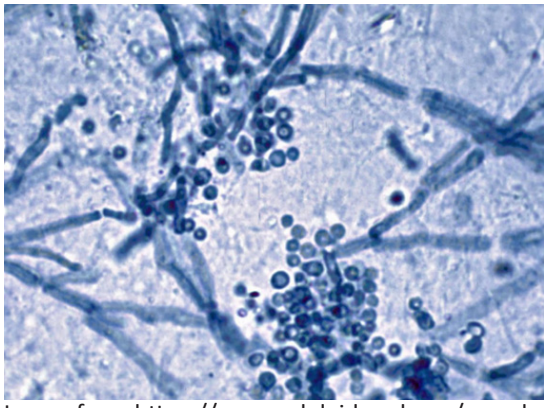

Image from https://www.adelaide.edu.au/mycology

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The Australian Council for Certification of the Medical Laboratory Scientific Workforce (CMLS) is a newly created not-for-profit company established to administer the voluntary certification scheme for clinical scientists, medical scientists and technical officers.

WHY BECOME CERTIFIED?

Your status as a certified medical laboratory professional is a public guarantee that you are qualified, competent and continuing your professional development.

- Recognition of scientific qualifications.
- Certification aligned with competency development and assessment processes.
- Acknowledgement of participation in continuing educational activities.
- Increased professional credibility and prestige in the industry.
- Support of industry standards.
- Demonstrated commitment to superior professionalism.
- Potential advantage in the recruitment process.

New applications for certification and renewals are processed by the professional bodies providing CPD. Please contact your relevant association for details.

If you encounter any problems or have any questions, please email: office@cmls.org.au.

Australasian Professional Acknowledgement Continuing Education (APACE) is a voluntary programme that recognises professional activities which contribute to professional growth.

WHY BECOME CERTIFIED?

- Participation in CPD activities demonstrates a commitment to ongoing continuing education and professional development.
- APACE provides formal recognition of activities that may have been pursued on personal basis without recognition – records for a professional development portfolio.
- An APACE Certificate enhances professional profile and is a bonus on a resume.
- Recognition of participation in activities provides encouragement to maintain, improve and extend knowledge and skills for scientific and professional duties.
- CPD is about extending your knowledge and keeping up with, or ahead of, current developments and practices.
- CPD participation ensures a competent workforce and enhanced quality of service for increased confidence of service users.

The programme is open to members of AIMS, AACB, ASM, THANZ, ANZSBT and FSA. APACE participants can lodge applications and activities using the online diary www.apace.org.au.

"As an overseas-trained laboratory professional with a few years of working experience in an Australian laboratory, I felt the need to uplift my professional standing within the industry. Getting certified is one way for me to achieve this and gain more professional credibility. Working in the clinical laboratory means that the majority of the clinical decisions are based upon the results that I as a Medical Scientist produce. With that, I believe it is a personal obligation for me to assure the public that I am capable in my field of work and this certification is a proof my competence. Being part of this also means I am obliged to participate in CPD activities which is important in our field to stay knowledgeable and keep up to date with the latest developments."

John Abcede, CMLS, MAIMS
Medical Scientist
Northern Health

Quiz Answers

Quiz Time: BenchPress page 17

Answers:

1) Gram positive bacilli – *Cutibacterium acnes*

2) *Filamentous fungus – Lomentospora prolificans*

3) *Streptococcus pneumoniae*

4) *Enterocloster* (Clostridium) *clostridioforme* – This Gram positive organism is known to stain as Gram negative.

Mycology Quiz page 18 - 19

Answers:1 b. 2 b. 3 b. 4 c. 5 d. 6 b. 7 a. 8 b. 9 c. 10 a.

Got News to Share?

We would be delighted to share the good things you are doing in the scientific world.

Contact us at secretary.aims.vic@gmail.com or via Facebook (@AIMSVictorianBranch) to let us know.

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Published by:
AIMS (Victorian Branch)