July 2025

Virtual Biochemistry Workshop – Clinical Case Investigations

Below the Belt – Laboratory Insights into Genital Microbiology

Haematology Workshop – Bloody Case Studies

BENCHPRESS

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

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Inside this Edition

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.

The submission deadline for next issue of Benchpress is 30 November 2025.

A Note From the Chair

It has been a fantastic first half of the year for the AIMS Vic Branch. We're proud to have delivered a wide range of virtual and in-person workshops across multiple scientific disciplines, including Biochemistry, Haematology, Transfusion, Coagulation, Flow Cytometry, Morphology, Microbiology and Quality. These events provided a platform for sharing insights, engaging in meaningful discussions and fostering professional connections within the laboratory science community.

A heartfelt thank you goes to our dedicated committee members and enthusiastic participants – your contributions and support are what make these events possible and impactful.

This year, we said farewell to Yuh Ping Chong who played a key role in organising our Biochemistry meetings and has been a valued member of the committee since 2021. We sincerely thank her for her commitment and wish her every success in future endeavours. At the same time, we are delighted to welcome Amrit Sharma to the committee. With a background as a multidiscipline medical scientist, Amrit brings a broad perspective and diverse expertise that will be a great asset to our team.

We also extend our warmest congratulations to our newest AIMS Fellows – well done to Sharon Reid and Kevin Jessen on achieving this significant milestone. Your dedication and excellence in the field of medical science are truly commendable.

Looking ahead, we are excited to keep the momentum going into the second half of the year. Stay tuned for more opportunities to learn, grow, and connect with colleagues from across the profession.

Tina Pham
Chair
AIMS VIC Branch

Haematology Discussion Group – February

By Nao Shimada Ramos (Student, Master of Laboratory Medicine, RMIT University)

Top – Clare Shugg | Bottom L to R – Dr Kai-Xing Goh, Clare Shugg, Sophie Goodchild, Clare Shugg

On 18 February, the first Haematology Discussion Group (HDG) of 2025 was held at the Royal Melbourne Hospital and online, sponsored by Roche. Attendees gathered over food and drinks before discussing four cases.

Dr. Kai-Xing Goh presented a case of a patient with melanomatosis leading to coagulation defects. One key takeaway was that the presence of melanin can interfere with creatinine measurement, potentially causing falsely elevated results.

Clare Shugg discussed a malaria screening case where different diagnostic tests produced conflicting results. The case highlighted the importance of considering patient travel and clinical history and ensuring careful interpretation of test results.

Sophie Goodchild explored acanthocytes, which are caused by the excess cholesterol in red cell membrane. She also shared an interesting case of acanthocytes observed in non-small cell lung cancer (NSCLC).S

Clare Shugg also presented a case of Clostridium perfringens bacteraemia, where the patient deteriorated within ten hours. The discussion covered the challenges of detecting haemolysis or lipaemia in automated analysers and how Stago STAR Max technology improves sample integrity assessment.

The event provided valuable insights into diagnostic complexities and the evolving role of laboratory technology in clinical practice.

Haematology Discussion Group – March

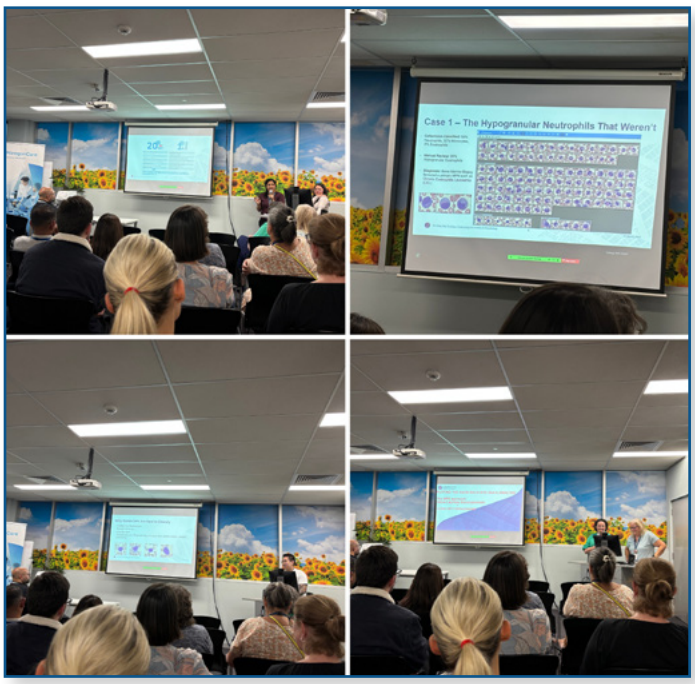
By Alejandra Retamoza Modoo (Student, Laboratory Medicine, RMIT University)

On Tuesday 18th March 2025, the AIMS Vic Branch held a Haematology Discussion Group (HDG) hybrid event at Melbourne Pathology, proudly supported by Paragon Care. The evening began with an introduction to the company and the integral roles it plays in supporting the healthcare sector. A highlight of the introduction was the showcase of the innovative Alifax TEST1 2.0 ESR analyser, capable of processing an impressive 195 samples per hour – setting a new benchmark in ESR testing technology

The scientific program opened with a presentation by Pamela Ying-Tong Tan, who addressed pre-analytical factors affecting coagulation assays. She detailed the challenges faced at each stage - from sample collection and transport to processing within the central laboratory - and shared opportunities for process improvement at Melbourne Pathology.

Next, Antoinette Dasig and Mary Torrijos provided a comprehensive overview of the Alifax TEST1 2.0 from a user perspective, based on their experience at Melbourne Pathology. They explored the different stages of red cell aggregation and the clinical value ESR testing offers in diagnosis. The advanced features of the analyser were highlighted, particularly its potential to enhance workflow and result in quality ESR testing.

The evening continued with Denise Lawrence and Rebecca Davidson, who presented “Putting the ‘Haem’ back into HbA1c: The Utility of Capillary Electrophoresis.” They discussed the challenges posed by the growing demand for HbA1c testing – especially issues around sample quality, turnaround times, and assay limitations. Comparing the Roche c513 and Sebia Capillary systems, they advocated for a dual-platform testing strategy and emphasised the importance of informed interpretative comments,



Top L – Antoinette Dasig & Mary Torrijos | Bottom L – Michael Nguyen
Bottom R – Rebecca Davidson & Denise Lawrence

especially when haemoglobin variants affect results.

Closing the session, Michael Nguyen presented “It’s OK Not to Know”, a reflective and insightful talk on uncertainty in morphology. He explored the difficulty of distinguishing between morphologically similar cells, such as reactive lymphocytes and blasts. Using examples from CellaVision, he discussed how misclassification can occur and encouraged scientists to feel confident in escalating ambiguous cases, rather than second-guessing uncertain findings.

The evening was a great success, filled with practical insights, innovation, and shared experiences - a true testament to the value of ongoing professional engagement.

Haematology Discussion Group – April

By Rob Dada (Senior Scientist, Austin Pathology, Haematology)

This April, it was Austin Pathology's turn to host the monthly AIMS Haematology Discussion Group (HDG) meeting. A hybrid meeting was set up which gave people who couldn't make it in person a chance to join in on Microsoft Teams from home, whilst also hosting visitors from other labs, giving us a chance to mingle and meet face-to-face with our colleagues from around the state.

There were three insightful and engaging presentations for the night, followed by a light-hearted quiz.

The first presentation by Cheng Leung & Rebecca Gazelle was an interesting case which served as a good reminder to always be vigilant and avoid having the 'blinkers' on. It was an incidental discovery of malarial parasites on a blood film of a patient who was being treated for various other complications.

Mufleha Ahmed followed up with a difficult case in which a patient looked to have a straight forward auto-antibody. But again, once a bit more attention was applied to the antibody panel, a potential pattern emerged, indicating their may be

Mufleha Ahmed

Cheng Leung

an underlying allo-antibody. Further testing was then performed, to confirm the underlying Anti-M antibody which turned out to be clinically significant.

Jayne Paynter then introduced us all to a Point of Care testing device, the PixCell HemoScreen FBE analyser. This analyser uses new technology and method of testing full blood counts we don't usually encounter. Attendees had the opportunity to view the instrument and its cartridges up close. It is compact, easy to use and gave a full differential of the white cells. Perfect for quick results in remote regional hospitals.

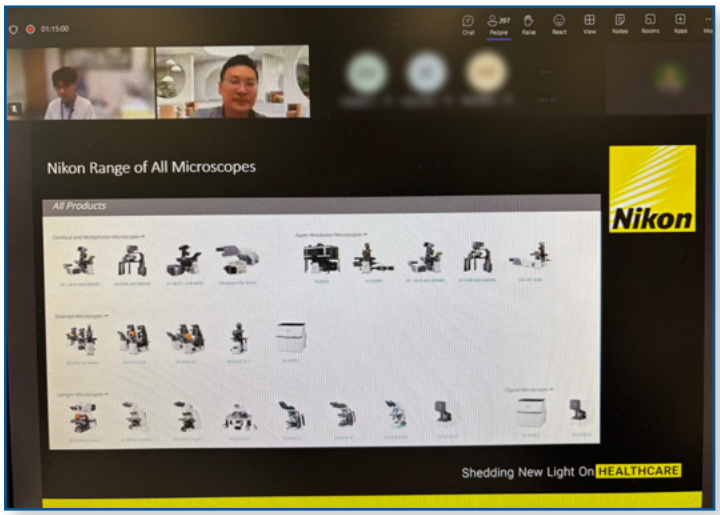
The night wrapped up with a fun and interactive quiz with questions including a mix of haematology, coagulation, blood transfusion and general health related trivia.

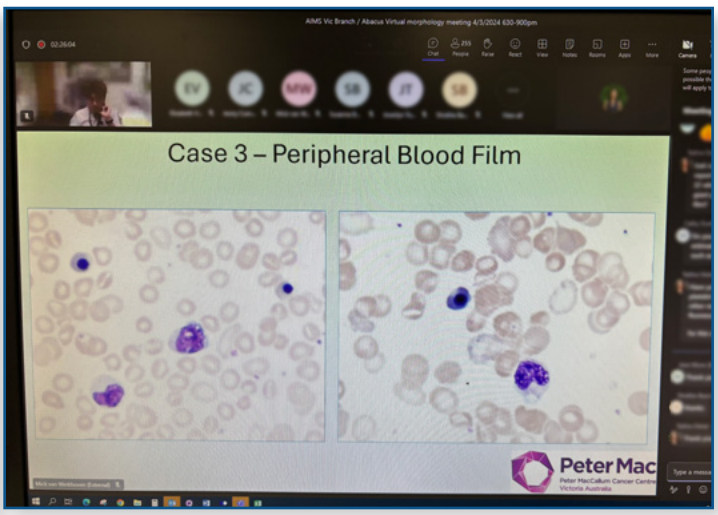
Special thanks to Roche and Nicole for generously providing refreshments and notebooks – they were a hit with attendees!

It was an enjoyable night and we look forward to hosting again next year, with some presentations already lined up.

Virtual Morphology Workshop

By Nao Shimada Ramos (Student, Master of Laboratory Medicine, RMIT University)





On 4 March, the AIMS Victorian Branch successfully hosted an engaging online Morphology Workshop proudly sponsored by Abacus dx, attracting more than 250 professionals and students. The virtual event featured six expert presenters who shared valuable insights into rare and interesting haematology cases, using Nikon ECLIPSE Ui Digital Microscope to project high-resolution images directly onto participants' screens.

Kelvin Chan opened the session by introducing the advanced features of Nikon's microscope. From one-click magnification and autofocus to barcode-linked patient data displayed on screen, the microscope proved to be a powerful tool for both diagnostics and education. Annotation tools enabled users to mark areas of interest, while the tracking function supported efficient and accurate cell counting. The ability to view two slides side-by-side – such as different stains or normal versus abnormal cells – further expanded the microscope's utility. These features enable morphologists and pathologists to work effectively from remote locations, supporting real-time collaboration and consultation.

Clare Shugg presented a malaria case caused by Plasmodium vivax, clearly showing enlarged red cells and ring forms on screen. She explained that the enlargement is due to the parasite's preference for reticulocytes, which are naturally larger than mature red cells. Her practical tips on preparing thick and thin films – especially the importance of prompt slide preparation to prevent EDTA-induced changes – were particularly valuable.

Michelle Taylor shared a case of myeloblastic/myeloproliferative syndrome not otherwise specified (NOS), a rare disorder comprising less than 5% of all myeloid cases. Her presentation provided a clear comparison between the cytoplasmic features of myeloblasts and megakaryoblasts. For many students, observing the subtle differences in size, cytoplasmic colour, and edge characteristics between these cells and lymphocytes was both challenging and insightful.

Catherine Durkin discussed a case of metastatic melanoma in a patient who presented with hepatosplenomegaly and a markedly prolonged APTT. Melanin-laden monocytes and darkly pigmented plasma were observed, later confirmed through buffy coat staining. She also introduced blue-green crystals, which are found in critically ill patients with abnormal liver function and are associated with a poor prognosis. She emphasised the importance of careful blood film examination, even when the FBE parameters appear predictable.

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Boris Zhang presented three morphologically distinct cases of plasma cell leukaemia. He explained how excessive paraprotein production can lead to inclusions in neutrophils and demonstrated how malignant plasma cells may lack classic features. While some resembled blasts, flow cytometry confirmed plasma cell markers. These cases highlighted the critical role of morphologists in combining morphological analysis with patient history.

Heng Sua concluded the session with a case of CD25-positive hairy cell leukaemia. While the classic presentation involves pancytopenia, this case featured leucocytosis due to circulating – but non-functional – hairy cells, increasing susceptibility to infection. Heng also shared findings from a promising clinical trial involving vemurafenib, which showed a rapid and effective response in treating the condition.

The workshop featured informative and engaging presentations that offered valuable insights into a range of haematology cases. Presenters were able to remotely control the microscope, annotate slides in real time, and highlight important features such as the tails of blood films. The live image-sharing function allowed us to follow each case closely, demonstrating how digital tools can enhance teaching and collaboration in morphology.

Virtual Biochemistry Workshop – Clinical Case Investigations

By Yuh-Ping Chong (Biochemistry Lecturer, RMIT University) and Pramod Subedi (Lecturer, Department of Biochemistry and Chemistry, La Trobe University)

The first AIMS Victoria Branch Virtual Biochemistry Workshop was successfully held on 10 April 2025, themed around "Biochemistry Clinical Case Investigations." The workshop was hosted by Dr Yuh Ping Chong and co-hosted by Dr Pramod Subedi, and featured presentations from three speakers – two from Northern Pathology Victoria and one international guest from Hong Kong. Over 40 participants representing both local and international communities attended the online workshop. The event concluded with closing remarks from Tina Pham, Chair of the AIMS Victoria Branch, who reflected on the success of the workshop and provided insights into the professional benefits of becoming an AIMS member.

Presenter: Karthik Nediyedath (Scientist, Northern Pathology Victoria)

Presentation title: Kicking the B-ALL

Acute lymphoblastic leukaemia (ALL) in adults is associated with poorer survival outcomes compared to paediatric cases, largely due to a higher risk of relapse. This increased risk is partly attributed to the greater prevalence of unfavourable genetic mutations in adult patients, as well as the historically less intensive and suboptimal chemotherapeutic regimens used in adult treatment protocols. Retrospective studies involving adolescents and young adults (AYA) demonstrated improved survival outcomes in those treated with paediatric-based regimens, as opposed to conventional adult protocols. In his presentation, Karthik described the therapeutic benefits of applying paediatric regimens in real-patient settings. Pegasparagase is a syntethic form of aspariginase used in the treatment of leukaemia. It hydrolyses asparagine, an amino acid essential for cell growth and survival, thereby causing apoptosis by inhibiting protein synthesis. This anti-oncogenic drug is known to also produce a broad range of side effects, with the common being hepatotoxicity, pancreatitis, thrombosis and coagulopathies. Understanding the unique side effect profile induced by asparaginase is crucial to mitigating treatment-related mortality.

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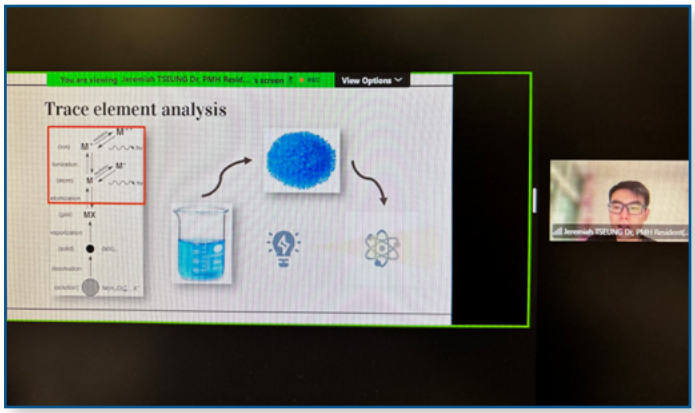
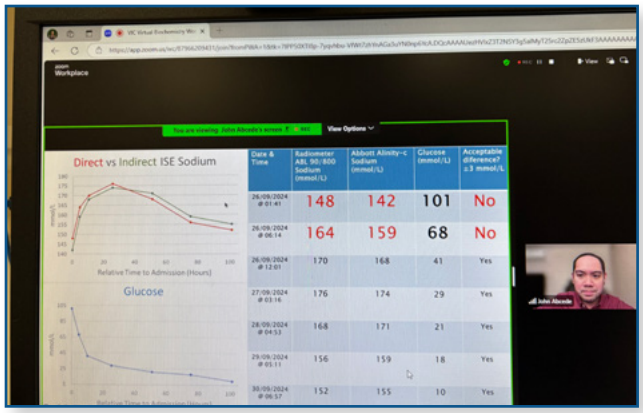


Presenter: Dr. Jeremiah Tseung (Resident, Department of Pathology, Princess Margaret Hospital, Hong Kong)

Presentation title: Heavy metal toxicology – from pre-analytical to analytical side

Laboratory investigations play a vital role in the modern diagnosis of heavy metal poisoning. Accurate measurement depends heavily on appropriate specimen selection, control of pre-analytical variables, and strict prevention of laboratory contamination—factors that are especially critical in the era of inductively coupled plasma mass spectrometry (ICP-MS). Drawing upon real-life cases from his laboratory in Hong Kong, Dr. Tseung described instances of metal poisoning involving arsenic, lead, barium and mercury. These cases are often linked to exposure through herbal medicines, health supplements, or cosmetic products. Additionally, pre-analytical errors due to sample contamination or interference in ICP-MS are common in heavy metal measurements. The presentation also highlighted common pitfalls in heavy metal testing and outlined strategies to minimise pre-analytical variability. For example, the presence of gadolinium (156Gd) in patients' samples can cause a significant positive bias in the measurement of selenium (78Se), as ICP-MS is unable to differentiate a double-charged ion with twice the mass. Recognising such false positives is crucial in clinical laboratory practice as misinterpretation may lead to unnecessary and potentially invasive interventions.



Presenter: John Abcede (Scientist, Northern Pathology Victoria)

Presentation title: Off the Charts: When Critical Results Mislead

A 60-year-old male, recently diagnosed with type 2 diabetes mellitus (T2DM), presented to the emergency department in hyperglycaemic hyperosmolar state (HHS). Based on a real-life scenario, John described a complex case of hyperglycaemic crisis, complicated by severely deranged metabolic parameters that led to inaccurate test results and misleading clinical interpretations. In HHS, dilutional hyponatremia occurs as elevated glucose levels create an osmotic gradient that draws water out of cells into the extracellular space. This influx of water dilutes the serum sodium concentration, resulting in a lower measured sodium level. Therefore, it is important to correct the sodium levels using the appropriate formula to avoid misinterpretation. The case highlighted practical strategies for overcoming assay limitations and ensuring the reliability of laboratory data in the context of severe metabolic emergencies. For example, direct ion selective electrode (ISE) may yield falsely high sodium readings in patients with extreme hyperglycaemia, as high glucose concentrations can affect the ionic activity of sodium. In such cases, alternative methods such as indirect ISE measurement may be considered.

News from the Hospitals 2025

By Patricia Szczurek (Quality Officer/Medical Scientist, Austin Health Pathology) and Mikayla Kingston (Medical Scientist, Northern Pathology Victoria)

The first Australian Society for Microbiology (ASM) News from the Hospitals event for 2025 was held on Wednesday the 14 May and proved to be a rip-roaring success, showcasing fascinating and educational case studies from hospitals across Melbourne. Continuing with the popular hybrid format, delegates had the option to attend in person at Monash for networking and dinner or join virtually from the comfort of their homes. This format once again broadened accessibility and helped make the event the most successful News from the Hospitals since pre-COVID days with nearly 120 attendees, including 25 enthusiastic RMIT students!

Aparna Mallidi from Eastern Health kicked off the evening with her presentation, "I Am Not a Contaminant." This fascinating case reminded us that there may be more than meets the eye when interpreting positive blood culture Gram stains. What initially appeared to be a presumptive contaminant (Gram-positive bacilli) was ultimately identified as Corynebacterium diphtheriae. The case served as a timely reminder of the importance of maintaining high vaccination rates, the need to refer isolates for toxin testing at MDU, and current antibiotic treatment options and infection trends related to this serious pathogen.

Gabriel Chen from Eastern Health presented a case involving a patient from Darwin who developed multiple abscesses after returning from a holiday in Bali. The causative organism, Burkholderia pseudomallei was isolated, prompting discussion on the limitations of standard MALDI-TOF MS databases and the need for extended libraries to identify this pathogen. The presentation also covered the risk factors, transmission, disease mechanisms, laboratory diagnosis, and infection control measures taken in the laboratory due to its very low infectious dose (1–11 organisms).

The next presentation was "Faith, Flight and Fever:

Lillian Haines (L) being awarded the prize from ASM committee member Sara Sujansky (R).

A Man's Medical Odyssey" by Roquaia Alidad from Monash Health. This case involved an elderly man visiting from Russia who presented with suspected bacterial meningitis. A lumbar puncture revealed numerous Gram-negative diplococci on Gram stain, although no organisms were cultured from this CSF. Subsequent blood cultures flagged positive, growing Neisseria meningitidis, which was confirmed by the MDU as serogroup A.

Lillian Haines from Monash Health presented "A Numbing Experience" about a 23-year-old woman who presented to her GP with a rash and skin changes, along with a 2-year history of reduced sensation between her right thumb and forefinger. A skin biopsy was negative for fungi (PAS stain) and acid-fast bacilli (ZN stain). A referral by the GP to the Infectious Diseases clinic at Monash and a second biopsy led to the diagnosis of Hansen's disease (Mycobacterium leprae) via PCR.

The final presentation of the evening was by Jay Chakrabarti titled "ABSCESS DENIED: The Red Menace in a Cavitating Case." The audience was shown Gram stains of an organism from a sputum culture that appeared to have a rod-to-coccus cycle, appearing as coccoid with longer and club shaped forms. The organism was t was weakly acid-fast by modified Ziehl-Neelsen stain. Jay then proceeded to tell us about the case this organism was isolated from – the patient was a 52-year-old farmer who was immunosuppressed with metastatic thyroid cancer and had a progressively worsening respiratory illness over one month. He had regular exposure to farm animals. Initially mistaken for oral flora, the sputum culture grew pure, mucoid, slightly pinkish colonies after 48-72 hours. The organism was identified as Rhodococcus equi.

Overall, the night was a great success, and everyone walked away with more knowledge than they came in with. The evening finished on a high note with Lillian Haines being awarded the early career prize.

A Day in the Life of an Andrologist

By Gulfam Ahmad (Head of Andrology Lab, The Royal Children's and Women's Pathology)

Gulfam (back, centre) and his team at Royal Children's and Women's Pathology Andrology laboratory.

Andrology deals with the diagnosis of male infertility and screening of male partner prior to undergoing Assisted Reproductive Technology (ART) treatment. Semen cryopreservation is part of fertility preservation and preparation of sperm for ART treatment (IUI & IVF) is an integral component of an Andrology laboratory. Andrology Unit at the Royal Children's and Women's Pathology provides services to major hospitals of the Parkville Precinct i.e. Royal Melbourne, Royal Children, Royal Women's and Peter MacCallum Cancer Centre as well to statewide hospitals and patients referred by local GPs.

We start at 8:00 am and the first patient attends the unit at 8:30 am. The first half an hour is usually to open the lab, perform equipment quality control, check booking calendar and getting ready for the day. Andrologist attends to the patient at the reception to verify the referral and provides the correct paperwork for diagnostic procedures or fertility preservation. The andrologist consents the patient, explains the sample freezing procedure to the patient and/or guardian and answers their questions in a purpose-built private room. This typically takes around 20-30 minutes for fertility preservation patients.

The diagnostic work involves testing of >20 semen parameters as part of a routine semen analysis notably, semen volume, sperm concentration, motility, morphology and viability. The andrologist also performs specialised tests such as direct and indirect sperm antibodies, sperm DNA fragmentation, semen fructose testing and urine microscopy. Processing and freezing of testicular biopsies and samples collected posthumously is also part of their daily tasks. This requires well planned coordination with all stakeholders and exceptional due diligence in completing the correct paperwork and processing the specimen.

In the state of Victoria, samples are stored for 10 or 20 years and can be stored for longer period after a valid extension approval. Discarding of stored samples after reaching the maximum legally allowable storage limit is also part of Andrologist's role. Throughout the day andrologist also attends to calls for patient bookings, questions around fertility preservation, results sharing with treating doctors/ clinics and sample transfer for use in IVF cycles to external clinics.

The Unit is located near Lygon street which is a hub of culturally rich restaurants and cafes. Coffee and lunch breaks in a vibrant and culturally rich environment never leave you feeling bored. The University of Melbourne tram stop is just around the corner, so public commute is super easy.

Thinking of becoming an Andrologist?

Andrology unit offers student placement throughout the academic year. Students are trained in all aspects of diagnostic andrology and fertility preservation in a patient facing environment. Most andrology processes are manual which offer an exceptional learning opportunity for trainee scientists in developing hands on skills. This training pathway prepares the students for future careers in diagnostic pathology as well as clinical andrology and IVF laboratories.

The Andrology unit provides services to a diverse clientele i.e. prior to gonadotoxic treatment, gender affirming therapy, IVF, security personnel or patients banking sperm for other reasons. Every case is different and offers new learning opportunities. No two days at the Andrology unit are alike. You feel truly rewarded and satisfied by helping patients and when they share their success stories of becoming parents using our fertility preservation service.

A Visit to the Meguro Parasitological Museum

By Daniel Taylor (Medical Scientist, Alfred Hospital)

I recently visited the Meguro Parasitological Museum, the world's only museum dedicated entirely to parasites, tucked away in the quiet neighbourhood of Meguro in Tokyo city. The museum is small and consists of only two floors, but houses an impressive display of both human and animal parasitic specimens collected by Dr Satoru Kamegai beginning in 1953.I recently visited the Meguro Parasitological Museum, the world's only museum dedicated entirely to parasites, tucked away in the quiet neighbourhood of Meguro in Tokyo city. The museum is small and consists of only two floors, but houses an impressive display of both human and animal parasitic specimens collected by Dr Satoru Kamegai beginning in 1953.

The first floor showcases the diversity of parasites, with around 300 specimens on display, presenting a wide range of parasites of humans, fish and reptiles. The second floor is dedicated to zoonotic and human parasites, providing information on parasitic life cycles and symptoms of infection (all in Japanese; you'll need Google translate for this!), featuring familiar faces such as Ascaris lumbricoides, Toxocara spp., Strongyloides stercoralis, and Schistosoma japonicum, as well as blood films of Plasmodium and Leishmania spp. The first floor showcases the diversity of parasites, with around 300 specimens on display, presenting a wide range of parasites of humans, fish and reptiles. The second floor is dedicated to zoonotic and human parasites, providing information on parasitic life cycles and symptoms of infection (all in Japanese; you'll need Google translate for this!), featuring familiar faces such as Ascaris lumbricoides, Toxocara spp., Strongyloides stercoralis, and Schistosoma japonicum, as well as blood films of Plasmodium and Leishmania spp.

The centrepiece of the museum is an intact 8.8m tapeworm specimen (Dibothriocephalus nihonkaiensis) recovered from a patient three months after consuming raw salmon, complete with measuring tape for size reference. The centrepiece of the museum is an intact 8.8m tapeworm specimen (Dibothriocephalus nihonkaiensis) recovered from a patient three months after consuming raw salmon, complete with measuring tape for size reference.

The museum is a short walk from Meguro station on the Yamanote line, and a must visit for anyone with an interest in parasitology if you find yourself in Tokyo. I wouldn't recommend eating before you go.The museum is a short walk from Meguro station on the Yamanote line, and a must visit for anyone with an interest in parasitology if you find yourself in Tokyo. I wouldn't recommend eating before you go.

Haematology Workshop – Bloody Case Studies

By Issac Tian (Histopathology Technician, Melbourne Pathology

On 24 May, I attended the VIC AIMS haematology workshop held at Stago Headquarters. A lot of scientist and students from different laboratories and universities attended and delivered their speech. This event was organised by the AIMS Victoria Branch which provides the opportunity for us to explore the diverse discipline of haematology.

The day began with a warm welcome from AIMS VIC Branch Chair Tina Pham and committee member Gurbaksh Singh Kanda Jr, setting an enthusiastic tone for the sessions ahead.

The first speaker, Andrew Webb (Alfred Health), presented “Blood groups: Known unknowns,” highlighting the clinical importance of recognising serological discrepancies and maintaining vigilance in transfusion practices.

Kylie Baldwin (Peter MacCallum Cancer Centre) followed with “Through the gates: Gating strategies in pathology,” offering insights into flow cytometry gating and its crucial role in identifying haematological malignancies through accurate immunophenotyping.

Stacy Hurst (Austin Health) delivered “Rare antibodies, big impact,” which focused on the detection and clinical implications of rare alloantibodies, particularly their impact on

Professor Emmanuel Favaloro

Gurbaksh Singh (AIMS) (L) & Alex Stephenson-Brown (Stago) (R) kicking off the event.

transfusion safety and laboratory workflows.

Professor Emmanuel Favaloro (NSW Health Pathology) gave two highly informative talks. “True (or false) positive lupus anticoagulants?” explored the diagnostic challenges of antiphospholipid antibody testing, while “2B or not 2B (a Shakespearean von Willebrand disease tragedy)?” addressed the complexity of von Willebrand disease subtyping and its diagnostic and therapeutic relevance.

Nao Ramos and James Stroud, RMIT Laboratory Medicine students, presented a compelling “Sibling case study: Osteopetrosis,” based on their placement at the Royal Children’s Hospital. Their case study illustrated the intersection of morphology, biochemistry, and molecular testing in diagnosing rare bone marrow disorders.

Heng Sua (St Vincent’s Hospital) shared “Red Alert – A beautifully strange morphology,” which offered a visually rich exploration of abnormal blood film findings, reinforcing the value of morphology in contemporary haematology.

Ibrahim El Deek (Monash Health) presented “Unpacking Complex Thalassaemia Cases,”

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James Stroud (L) and Nao Ramos (R)

Kylie Baldwin

providing an overview of diagnostic and management strategies for thalassaemia syndromes in diverse clinical settings.

Rebecca Gazelle (Austin Health) delivered "Laugh now, numb later: The deficiency you didn't see coming," a case study that emphasised the importance of identifying subtle haematological deficiencies and their clinical implications.

Julia Chang (Eastern Health) presented "Autoimmune haemolytic anaemia and hyperhaemolysis," addressing diagnostic and treatment challenges associated with immune-mediated red cell destruction.

The workshop concluded by Maureen Jacobsen (APACE/CMLS), who introduced the benefits of APACE/AIMS membership and highlighted educational resources available through the AIMS website.

Attending the Bloody Case Studies workshop was a highly rewarding experience. The diversity of cases presented the complexity of transfusion science and the essential role laboratory professionals play in diagnosis and patient care. The event also offered valuable networking opportunities and served as a platform for all scientists and students to share their thoughts and new findings. I would like to thank the AIMS VIC Branch committees and all speakers for organising and delivering such an informative and inspiring workshop.

Below the Belt – Laboratory Insights into Genital Microbiology

By Patricia Szczurek (Quality Officer/Medical Scientist, Austin Health Pathology)

On Saturday 28 June, the Australian Institute of Medical and Clinical Scientists (AIMS) hosted a one-day scientific workshop titled “Below the Belt – Laboratory Insights into Genital Microbiology” at the Peter MacCallum Cancer Centre.

The event, kindly sponsored by R-Biopharm, brought together laboratory professionals from across Victoria to explore the challenges and evolving landscape of genital microbiology.

Session 1: Foundations of the Genital Microbiome

Lisa Brenton (Deputy Principal Scientist, St Vincent’s Pathology) opened the program with a brilliant overview of the vaginal microbiome. She covered its formation and function, the interplay between oestrogen, glycogen and Lactobacilli, and the classification into five Community State Types (CSTs). Lisa also discussed how flora changes across the lifespan, and highlighted the importance of clinical context including age, pregnancy status and clinical notes when interpreting Gram stains.

Pei Vern Fong (Monash Health Pathology) followed with a thought-provoking talk on transgender healthcare and the challenges faced by microbiology laboratories. She highlighted the scarcity of literature and the lack of international and local guidelines, before presenting a literature review on the effect of hormone therapy on genital microbiota. Pei also shared Monash Health’s recent protocol update to better support transgender patients.

Lisa Brenton from St Vincent’s Hospital Melbourne

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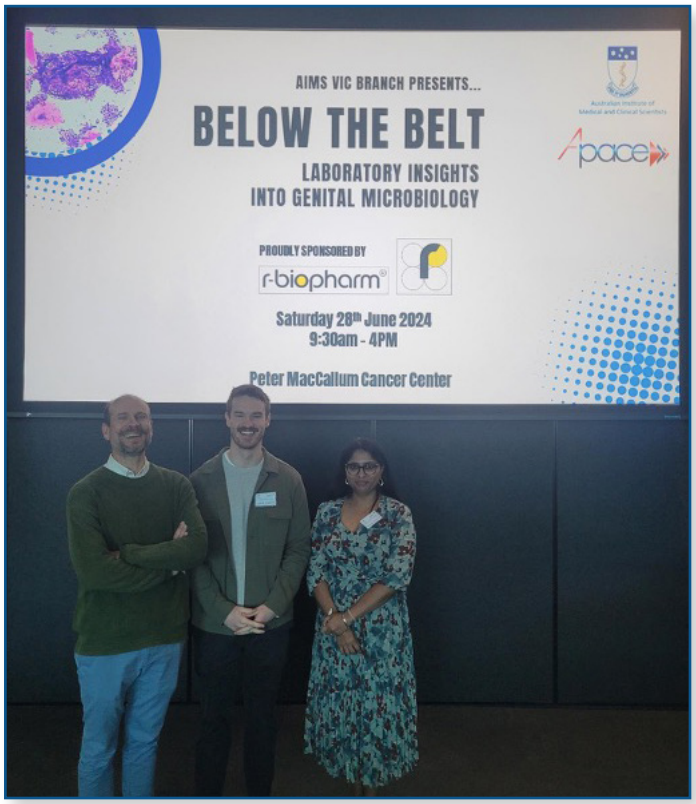


L-R: Dr. Marcel Leroi, Jarrod Chatfield, Rachana Viswanath

Vesna De Petra from Melbourne Sexual Health Centre

Session 2: From Swab to Sign-Out – Laboratory Approaches to Genital Specimens

This session was presented by an Austin Health Microbiology trio: Jarrod Chatfield, Rachana Viswanath, and Dr Marcel Leroi.

Jarrod Chatfield delivered "Clinical Clues and Culture Plates: A Laboratory Perspective", sharing insights into the media used for genital cultures and the diagnostic approach to specimen setup.

Rachana Viswanath presented "The Syndromic Shift – A New Perspective Towards Reporting", exploring the role of clinical context and syndrome-based reporting in improving diagnostic relevance.

Dr Marcel Leroi concluded the trio with "Now Here is the Sauce... Post-Analytical Considerations", discussing the importance of pathology stewardship and interpretive judgement in the post-analytical phase.

Together, the presentations offered a complete view of Austin's approach to genital microbiology, from specimen setup to result reporting, reflecting the department's extensive experience.

To close the session, Patricia Szczurek (Austin Health Microbiology) and Teresa Abajo (Alfred Pathology Service) presented "Below the Lens", an session showcasing Gram stain image challenges. The talk included examples of normal flora, BV morphotypes, infectious agents such as Candida, the parasite Trichomonas and gonococci, as well as rare findings like pubic lice.

Session 3: Sexually Transmitted Infections – Diagnostic and Clinical Perspectives

Vesna De Petra (Melbourne Sexual Health Centre) outlined the unique diagnostics performed at MSHC, including microscopy pitfalls, dark ground microscopy for spirochaetes, and non-routine cultures. She also reviewed the NAATs offered and shared stunning images from real cases.

Dr. Lenka Vodstrcil (Monash University & Melbourne Sexual Health Centre) delivered an engaging talk on bacterial vaginosis (BV), highlighting the pathogenesis of recurrence and the surprising fact that there have been no improvements in BV cure for decades. She discussed growing evidence supporting the sexual transmission of BV, and presented her team's research demonstrating that treating male partners with a combination of oral and topical antibiotics significantly reduced recurrence in women.

Continues on next page...

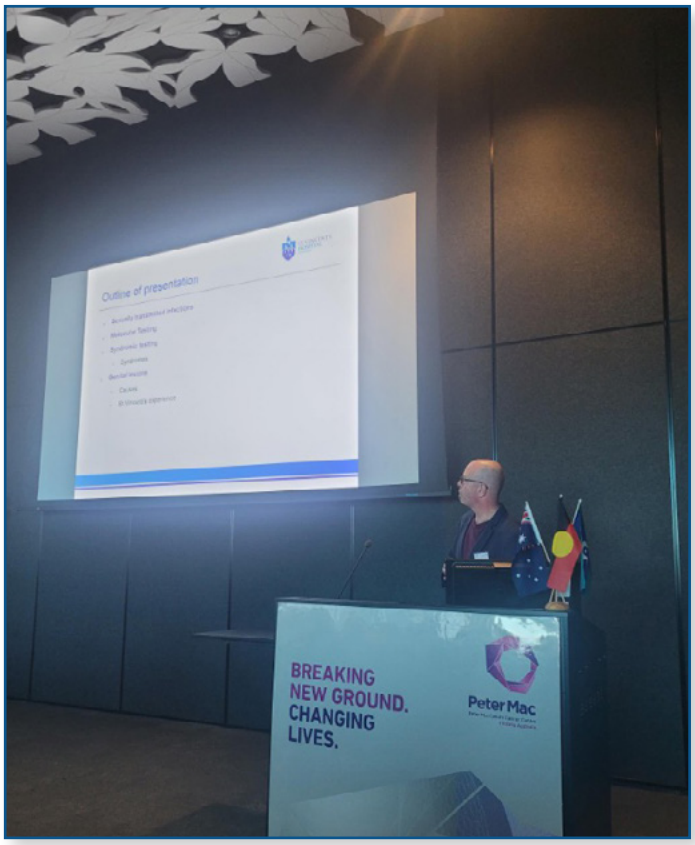
...continued from previous page.

Session 4: Molecular Testing to Male Microbiota

Dr Darren Jardine (St Vincent's Pathology) presented on the molecular diagnosis of genital infections and ended with a focus on genital lesions. He shared St Vincent's experience using various assays and gave a breakdown of tests requested. Darren also gave a special mention to his favourite STI - syphilis.

Dr Melanie Bissessor (Melbourne Sexual Health Centre) closed the programme with a clinical lens on male genital infections, presenting an engaging case study involving a patient who attended a sex party. Her talk covered infectious causes of urethritis and proctitis, appropriate investigations, the role of Mycoplasma genitalium in proctitis as well as resistance-guided therapy and mutations, key treatment considerations for Neisseria gonorrhoeae, and Mpox including current vaccination recommendations.

The AIMS Victorian Branch thanks all speakers, attendees, volunteers, and sponsor R-Biopharm for making the event a success. The workshop reflected the depth, diversity, and evolving practices in genital microbiology - an area as fascinating as it is complex.



Dr. Darren Jardine from St Vincent's Hospital Melbourne

AIMS Vic Branch Secretary and Clinical Scientist Teresa Abajo

Victorian Faces of the *Fellowship*

Sharon Reid
Senior Scientist
Victoria Heart Hospital

Last year I completed the AIMS Fellowship in Haematology, receiving my award at the AIMS NSM in Adelaide. I first considered the Fellowship in 2020 after leaving my full-time position in pathology at Box Hill Hospital to join Monash in a part time role at Dandenong Hospital. I was lucky to meet the Senior Scientist in Haematology, who had recently achieved her Fellowship. She was very encouraging and became my mentor being very generous in sharing her knowledge and resources. I sat my first exam in Routine Haematology at the Austin Hospital in a meeting room with strict covid conditions, sitting 1.5 metres apart, with mandatory masks and surrounded by hand sanitiser. It was during one of our many lockdowns and I remember being so excited to be able to drive more than 5km from my home. At this first exam, I met some wonderful people that I then crossed paths with over the next 4 years while I completed my study.

I was very lucky after passing my first module to meet 2 other staff at Monash who were about to commence their Fellowship, they became my study pals, and we spent many hours on Zoom, Teams or Webex, discussing the detailed curriculum of the next module in Routine Haemostasis. Studying in a group was so helpful as we all encouraged and supported each other through the highs and lows of the Fellowship (and covid). It was not easy but after completing our next exam in the city we were ready to take on the Transfusion module – Patient Based Transfusion Science. We had valuable study time with some very knowledgeable mentors for our blood banking module. I realised how supportive the medical science community is and felt so grateful for those who helped us along the way, sharing their time, wisdom and experience with us. The last module for me was Advanced Haemostasis, which I found the most challenging as it was not an area that I had much experience in. Again, our Monash colleagues stepped up to help us learn the intricacies of special coagulation allowing us to spend time in the special coag lab and helping with all of our questions. I sat this final exam at RMIT, and it was a huge relief to successfully complete all 4 exams by the end of 2022.

In 2023 Monash opened the Victorian Heart Hospital and I left Dandenong Hospital for a new role at VHH where I am currently employed as a Senior Scientist. During this year I sat my Viva Voce exam online and began working on my Dissertation. I commenced a study using the data from our first year of opening at VHH. This was a comparison of laboratory coagulation tests and Thromboelastography and their influence on transfusion algorithms in cardiac surgery. By June 2024 I had submitted my first draft of the dissertation and was later thrilled to find out that my article was to be published in the AJMS and by August I had successfully completed all requirements of the Fellowship. This was fantastic timing as I was able to attend the 2024 AIMS NSM and felt very honoured to receive my award at the conference.

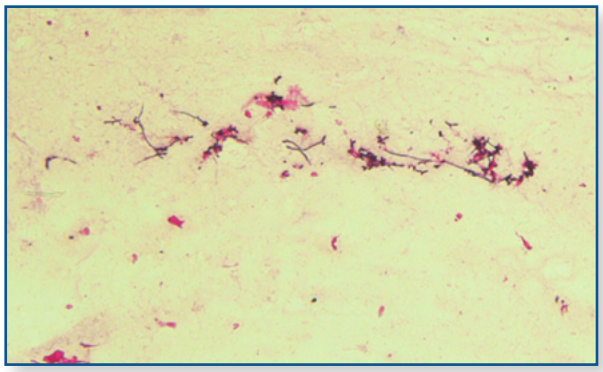
The Fellowship was a huge undertaking, sometimes very stressful but also extremely rewarding. I felt very supported and encouraged by Monash Pathology and so grateful for the connections I have made from the experience. Having the qualification has been beneficial in advancing my career and has given me more confidence in my knowledge of haematology and using these skills to train and give advice to other staff. I would highly recommend the Fellowship to others and cannot express how much of a huge impact it has had on my growth as a scientist. I must also acknowledge my super supportive family who were there every step of the way, reassuring me and reminding me never to give up (even though at times I thought about it). I am very proud that I made it through and am so happy to have made some lifelong friends along the way.

[Answers on page 21]

Microbiology Quiz

Hyphae or pseudohyphae? Identify the fungal structure.

1.



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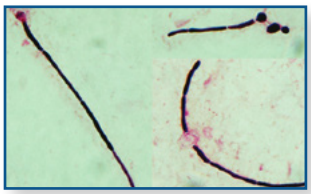

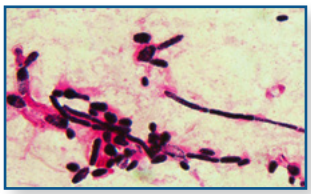

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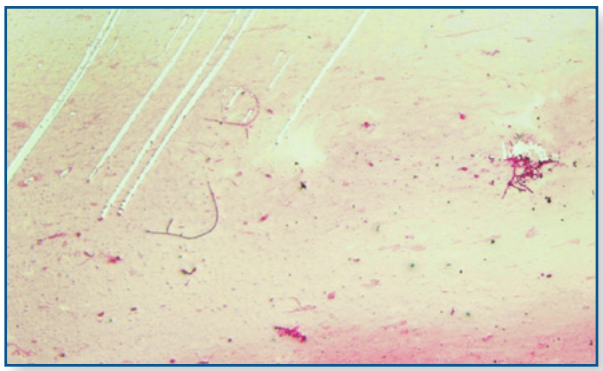

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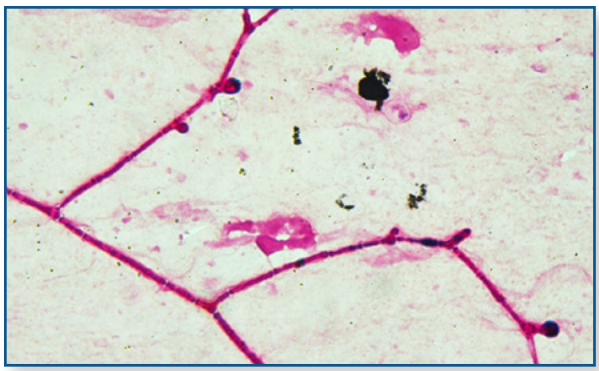

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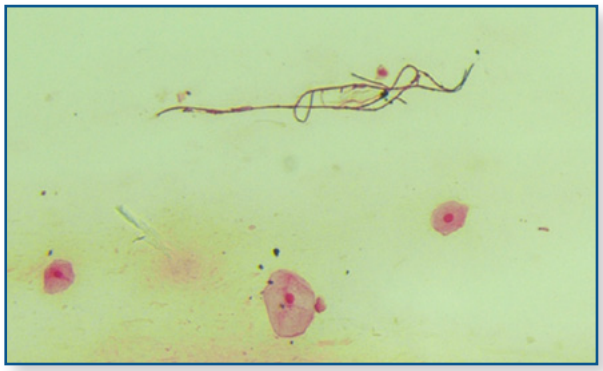

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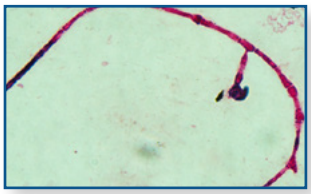

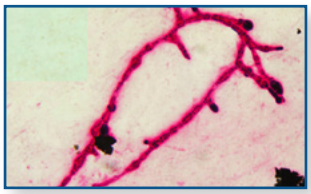

x100 oil immersion

All images by Austin Pathology (Microbiology Department)

GET YOURSELF CERTIFIED!

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.
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- Increased professional credibility and prestige in the industry.
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If you encounter any problems or have any questions, please email: office@cmls.org.au.

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WHY BECOME CERTIFIED?

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- 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

Microbiology Quiz

1. Pseudohyphae
2. Hyphae
3. Hyphae

Your Victorian Branch Committee

Tina Pham
Chair & Benchpress co-Editor
tina.pham@svha.org.au

Patricia Szczurek
Vice-Chair
patricia.szczurek@austin.org.au

Teresa Abadjo
Secretary
t.abajo@alfred.org.au

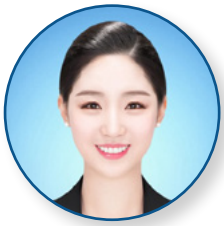
Gurbaksh Singh
Member
gurbaksh.kanda@rch.org.au

Pramod Subedi
Member & Benchpress co-Editor
p.subedi@latrobe.edu.au

Amrit Sharma
Member
amrit.sharma@4cyte.com.au

Nao Shimada Ramos
Student Member
s3963372@student.rmit.edu.au

Jack Openlanio
Student Member
s3988029@student.rmit.edu.au



Stellar Eunyoung Jun
Student Member
S4062611@student.rmit.edu.au

Alejandra Retamoza Modoo
Student Member
S3946907@student.rmit.edu.au

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