

出國報告（出國類別:開會）

## 第 17 屆亞太臨床生物化學 與檢驗醫學聯合大會

服務機關：國立臺灣大學醫學院附設醫院

姓名：賴玫君

派赴國家：澳大利亞

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報告日期：113 年 11 月 11 日

## 摘要

第 17 屆亞太臨床生物化學與檢驗醫學聯合大會（APFCB）於 2024 年 10 月底在澳大利亞雪梨成功舉行，有幸獲得補助參與盛會，並於大會上發表關於 ANA patterns 判讀差異的壁報論文。本屆大會匯聚了來自亞太區的臨床生物化學專家，交流最新的研究成果與技術創新，涵蓋了臨床診斷、分子生物學、病理學、以及個性精準醫療等領域。大會的主題為「跨越界限，促進臨床生物化學的未來」，旨在促進學術界、臨床醫療和產業界之間的合作與對話。會議期間，與會者參與了多場精彩的學術報告、研討會和專題討論，認識了最新的診斷技術，如液態活檢、人工智能在疾病預測中的應用，以及新的生物標記在癌症和代謝疾病中的潛力。此外，大會也強調了在亞太區推廣精準醫療與健康管理的必要性，並討論如何應對公共衛生挑戰。透過亞太臨床生物化學與檢驗醫學聯合會及澳洲臨床生物化學與檢驗醫學協會舉辦的學術研討，我有機會與來自全球的學者交流，了解當前檢驗領域的最新指導方針和實踐經驗，這對我的工作與研究提供了極有價值的參考與啟發。

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## 一、 目的

亞太臨床生化和檢驗醫學聯合會（APFCB）於 1982 年正式成立，目前已成為一個龐大的區域性聯合會，有 18 個學會會員、5 個附屬學會會員和 22 個合作學會夥伴，除規模龐大，APFCB 的另一個特點是實驗室實踐的多樣性。致力於提高整個亞太區檢驗醫學的品質，並利用較發達區域的專業知識來幫助欠缺檢驗資源的地區，APFCB 與其他國際聯合會也有著良好的合作歷史，特別是與 IFCC 的長期合作夥伴關係和交流，此外，APFCB 與世界病理學和實驗醫學學會協會 (WASPaLM) 以及美國臨床化學協會 (AACC) 簽署合作備忘錄，共同推動實驗醫學和臨床化學的發展。透過參加亞太臨床生物化學與檢驗醫學聯合大會國際會議，可以深入了解各國在檢驗領域的最新發展與創新。本次參會的主要目的是發表壁報論文，主題在探討「AC-4a 和 AC-5 在 HEp-20-10 細胞上的免疫螢光抗體分析 (IIFA) 圖形差異」。並藉由參與大會的各項議程，進一步提升專業技能與掌握最新醫學知識，並與來自不同國家的醫檢專家交流檢驗方法最新進展，作為未來優化檢驗服務品質的參考方針。

## 二、 過程

此次大會吸引了來自全球約20個國家的學者，參會人數超過2000人。四天的學術研討會議程主要有：特別演講四場，專題研討會學術研習會數場，廠商贊助研習會及壁報論文400多篇，演講者超過40位。會議全程都可利用「ICMSA Event App」搜尋與會資訊，除了可尋找有興趣的主題聆聽，並可查詢演講者資訊，若對講者的研究主題有興趣，除了可當面探討外，亦可以透過APP來做交流，非常的便利和實用。主辦開幕式特別請來澳洲傳統樂器演奏者表演來歡迎與會嘉賓，在進行專業知識交流之前先讓大家融入了一場音樂饗宴，為未來四天的活動參與開啟了美麗的篇章。

會議期間適逢萬聖節，雖然在澳洲雪梨萬聖節的慶祝活動不如北美地區盛大，

但近年來越來越受歡迎，主辦為了應景，在議程第二天的晚上安排了豐盛的晚宴供與會者用餐交流外，為鼓勵大家融入西洋萬聖節的節慶裡，還有個變裝大賽，在會場外亦提供化妝師為與會者妝化成節慶相關元素，也是很用心和特別的體驗。

我發表的論文題目「Discussion on the IIFA Pattern Differences between AC-4a and AC-5 on HEp-20-10 Cells」，是一個方法學的影像結果探討。主題發想的背景為：國際抗核抗體圖案共識（ICAP）於2014-2015年建立，並根據2021年更新的分類樹，將Hep-2-10細胞圖案分為30種類型（AC-0至AC-29）。ICAP在最近將核型細點狀圖案（AC-4）重新定義為AC-4a（無數離散的細點狀核）和AC-4b（單純核細點狀）。AC-4a與抗SSA/Ro60抗體相關，而AC-4b則與抗Mi-2、TIF1- $\gamma$ 和Ku抗體相關。AC-5（粗糙核細點狀）則與抗Sm和RNP抗體有關。然而在實際的檢驗結果中，區分AC-4a和AC-5圖案尤其困難，特別是當這兩者與其他圖型結果共存時。本研究旨在利用自動輔助免疫螢光顯微技術（CAIFM），改善臨床檢體中AC-4a和AC-5圖案的區分。然而在我們的結果卻發現使用現有的CAIFM系統要在HEp-20-10細胞上區分AC-4a和AC-5仍然具有挑戰性，這是由於：(1) AC-4a的微小斑點會出現在不同聚焦平面，而CAIFM系統僅能在單一聚焦平面捕捉影像，(2) 混合圖形模式可能干擾準確結果判斷。研究結果強調了仍需改進CAIFM系統、增強演算法、更新判讀指南和判讀人員的經驗共識才能獲得一致性的判讀報告。

### 三、心得

這次參加國際會議真的讓我收穫滿滿！除了展示自己的研究海報外，還看到了來自各地的精彩成果，跟不同國家的學者交流真是大開眼界，從他們細膩的研究思維和分析方式中學到很多。在廠商的儀器展示區，看到那些最新的檢驗儀器設備，驚覺若不能提升自己的經驗價值，以後很可能都會被這些精密的儀器所取代！我們檢驗人員必須不斷學習吸取新知，要是停滯不前很容易就跟不上時代被

淘汰。故參加國際會議與世界接軌，檢視我們有何待加強的地方或是可引進國內的技術及新知，才能讓我們更加進步，最後，依個人感興趣選擇性的聆聽數場專題演講，得到很多有用的資訊和經驗分享。我聆聽的幾個主題中較有印象的是

(一)、 **Better diagnosis and healthcare for chronic diseases**：床邊檢測（Point-of-Care Testing, POCT）指在病人床邊或醫療現場進行的快速檢測，能夠在短時間內提供即時的檢驗結果。相比傳統的中央實驗室檢測，POCT 具有反應迅速、操作簡便的優勢，特別適合於急診室、重症監護室、手術室等需要即時報告的區域。不僅縮短了診療時間，還能及時改善患者治療效果。然而，POCT 的準確性依賴操作人員的技術水平和儀器的品質管控，加強操作人員的培訓與能力評估，以及確保設備的定期校準，是提高 POCT 檢測品質的關鍵。相較於中央實驗室檢測，POCT 雖能快速獲取結果，但在準確性上不及前者，僅適合應用於急需即時反應的臨床區域，而中央實驗室則適合於高複雜度的檢測需求。整體而言，通過整合品質管理、專業培訓與適當應用，POCT 能有效提升醫療效率，為患者帶來更快的診療服務。

(二)、 **Environmental sustainability of Clinical Laboratories**：隨著環保意識的提升，臨床實驗室在環保永續性發展上面臨新的挑戰。傳統實驗室操作往往伴隨著大量能源和試劑的消耗，並產生有害廢棄物，對環境造成負面影響。促進綠色實驗室的建設成為當前全球醫療界的重要議題。APFCB 積極推動多項永續發展措施，鼓勵臨床實驗室在日常運營中減少碳排放和資源浪費。建立永續的未來實驗室需要從減少能源消耗、改進廢棄物管理和引入環保設備等方面入手。數位轉型亦是關鍵，透過自動化和智慧管理系統優化流程，實現高效營運，同時降低碳足跡。未來臨床實驗室應平衡檢測準確性與環境保護之間的關係，以創建更永續的醫療檢測模式，助力在全球健康和環境保護上。

(三)、 **Risk Management in Clinical Laboratory**：臨床實驗室在診斷和治療過程中扮演關鍵角色，風險管理至關重要。實驗室操作中的風險可能來自設備故障、試劑

不穩定、樣本污染以及人為錯誤……等，這些都可能影響檢測結果的準確性，而影響患者的診療決策。風險管理流程包括風險識別、評估、控制與監測。首先，透過系統化的風險評估來辨識潛在問題，然後採取預防措施，如標準作業流程（SOP）的制定和員工培訓，以減少風險發生的機率。接著，實驗室需要定期審核風險管理措施的有效性，進行數據分析和流程優化，以實現持續改進。透過全面的風險管理，不僅能提高實驗室運營的可靠性和效率，還能確保患者安全，最終提升醫療服務質量。有效的風險管理是持續改進的基礎，有助於建立更穩健的臨床實驗室運營體系。

## 四、 建議事項

### （一）、檢驗儀器與技術的更新

此次發現有不少論文展示是利用質譜技術做的研究發表，且 Roche 此次亦發表了最新的生化免疫機臺 c703 與質譜儀 Mass Spec analyzer，若我們能夠引進新儀器，未來質譜可與軌道做結合，與生化免疫機臺串聯達到全面自動化，將可優化檢驗程序，從前端的採血到運送檢體至後端檢驗，可望全面一條龍式的應用，並發展更多檢驗項目，除了提升檢驗效能與品質，對於人力配置與空間應用上應能更彈性應用。

### （二）、實驗室環保永續經營

大會針對環保永續議題有一列的探討，世界各國在全領域也積極在推廣綠能，減碳議題一直高漲不下。然而在實驗室中，報告正確性與病人安全優先的前提下，如何兼具環保與經濟效益是很值得深思的。最簡單應從「人」教育訓練下手，實驗室同仁遵從 SOP 操作，也要宣導臨床開出正確的檢驗單，減少重複或無效的檢品浪費；其次在實驗室用水管理方面，可建立了水資源回收系統，將可重複使

用的純水進行循環利用，並定期監測用水量，有效減少水資源浪費；推廣節約用水，並進行儀器的用水資訊監測。在能源使用上，應逐步汰換老舊耗能設備，改用節能標章的儀器設備，並建置智慧化的溫度監控系統，合理調控空調用電。

針對實驗室廢棄物處理，應嚴格執行分類管理制度，將生物醫療廢棄物、化學廢液及一般廢棄物分開處理，並與合格廢棄物處理廠商合作，確保安全妥善的處置流程。同時繼續推動無紙化作業，建立電子化系統處理報告和紀錄減少紙張使用量。在採購方面，優先選用具環保標章的實驗室耗材，並與供應商合作研發可重複使用的器材，減少一次性耗材的使用。此外，也可定期舉辦環保教育訓練，提升同仁的環保意識，共同打造綠色實驗室。透過以上措施，不僅能降低營運成本，更實現了環境永續的重要目標，為醫療產業的環保發展樹立典範。


### (三)、鼓勵同仁積極參加國際會議

參加本次 APFCB 國際研討會是一次非常寶貴的經驗。大會的豐富議程與廠商展示的尖端儀器，讓我在學術與文化交流中收穫頗豐。透過口頭報告與壁報展示，我有機會與國際專家分享研究成果，並深入了解臨床檢驗領域的最新發展趨勢和研究方向。這次經歷讓我更加認識到國際交流的價值，因此建議醫院或部門應創造更多機會，鼓勵同仁參加國際會議。儘管經費有限，但若能靈活運用資源，推動各領域醫檢師共同參與，必將激發更多創新思維。透過廣泛參與，我們不僅能從多元視角吸收新知識，還能進一步展現臺大醫院的專業實力，提升國際知名度。這種跨國的學術交流，不僅有助於部門研究實力的提升，也能推動全臺檢驗技術進步，進一步促進醫療檢驗產業的發展，並大幅提升診斷效率與整體醫療表現。




# 五、 附錄

## (一) 發表之壁報論文



### Discussion on the IIFA Pattern Differences between AC-4a and AC-5 on HEp-20-10 Cells



Mei-Jun Lai<sup>1</sup>, Shang-Lin Lee<sup>1</sup>, Yen-Chun Tsai<sup>1</sup>, Shu-Yuan Ho<sup>1</sup>, Chih-hui Chang<sup>1</sup>, Sui-Yuan Chang<sup>2</sup>  
<sup>1</sup>Department of Laboratory Medicine, National Taiwan University Hospital, Taiwan  
<sup>2</sup>Department of Clinical Laboratory Sciences and Medical Biotechnology, National Taiwan University College of Medicine

**Introduction**

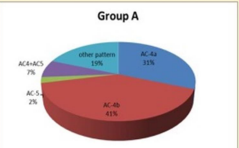
The International Consensus on ANA Patterns (ICAP) was established in 2014-2015 and categorized Hep-2 cell patterns into 30 types (AC-0 to AC-29) based on the updated classification tree in 2021. ICAP recently redefined the nuclear fine speckled pattern (AC-4) into AC-4a (myriad discrete speckled nuclear) and AC-4b (plain nuclear fine speckled). AC-4a is linked to anti-SSA/Ro60 antibodies, while AC-4b is associated with anti-Mi-2, TIF1gamma, and Ku antibodies. AC-5 (coarse nuclear speckled) is associated with anti-Sm and -RNP antibodies. However, in our laboratory, we observed that distinguishing between the AC-4a and AC-5 patterns is challenging, especially when they coexist with other patterns. This study aims to improve the differentiation of AC-4a and AC-5 patterns in clinical samples using computer-aided immunofluorescence microscopy (CAIFM).

**Materials and Methods**

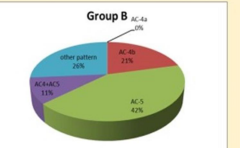
Eighty clinical serum samples with ANA IIFT, anti-SSA/Ro60, anti-Sm, and anti-RNP antibodies were selected for the study. The autoantibody concentrations were measured using the ImmunoCAP 250 system (Thermo Fisher) with EliA Specific IgG assay kits. ANA tests were conducted on Hep-20-10 substrate slides, and the IFT images were automatically acquired digitally by computer-aided immunofluorescence microscopy (CAIFM) - EUROPATERN (EUROIMMUN).

**Results**

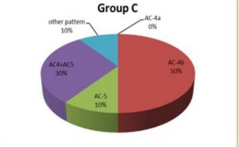
Based on antibody test results from the Phadia assay, specimens were categorized into four groups as follows:  
 Group A (N=42): Anti-SSA+, Anti-Sm-, and Anti-RNP-  
 Group B (N=19): Anti-SSA-, Anti-Sm+, and/or Anti-RNP+  
 Group C (N=10): Anti-SSA+, Anti-Sm+, and/or Anti-RNP+  
 Group D (N=9): Anti-SSA-, Anti-Sm-, and Anti-RNP-



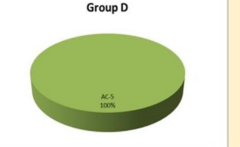
**Group A**



**Group B**

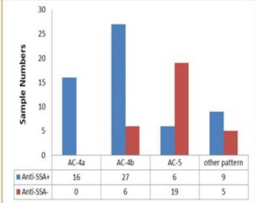


**Group C**

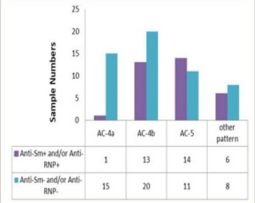


**Group D**

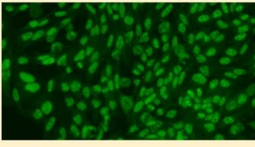
**Figure 1.** The ANA pattern results (%) of AC-4a/AC-4b/AC-5/AC-4a+AC-5/other pattern in groups A, B, C, and D were 19/31/40/3/7, 26/0/21/42/11, 10/0/50/10/30, and 0/0/0/100/0, respectively.



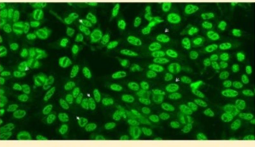
**Figure 2.** In the anti-SSA+/- cases, anti-Sm+ and/or anti-RNP+ and anti-Sm-/anti-RNP- cases, the numbers of AC-4a/AC-4b/AC-5/other patterns were 16/27/6/9 and 0/6/19/5 respectively.

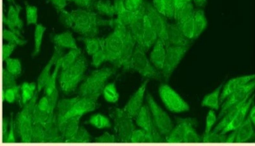


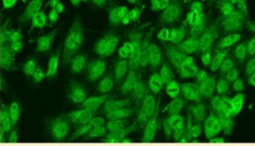
**Figure 4.** AC-5 show a coarse speckled, sometimes medium to fine speckled fluorescence, which is spread over the entire cell nucleus, leaving the nucleoli free.



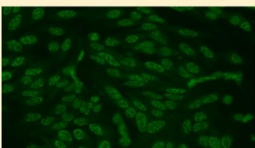
**Figure 3.** On Hep-20-10 cells AC-4a shows fine to discrete, uniformly distributed, speckles in the nuclei of the interphase cells.







**Figure 5.** If cytoplasmic antibodies were also stained, it might obscure or block the specific reaction or staining signal of nuclear antibodies that should be observed, affecting the visibility of other markers within the nucleus and thereby influencing the accurate assessment of nuclear morphology. The interpretation of the ANA report would be further complicated.



**Figure 6.** In Group D, the negative specific antibody results in the ANA AC-5 pattern reports may have two explanations: first, the staining of these spots could be attributed to anti-RNA polymerase III antibodies; second, inconsistencies might arise from differences in testing methodologies.

**Conclusions**

Differentiating between AC-4a and AC-5 patterns on HEp-20-10 cells remains challenging due to (1) the tiny dots in the AC-4a pattern, which may appear at different focal planes while the CAIFM system captures images in only one plane, and to (2) mixed patterns that can interfere with accurate identification. Our findings underscore the need for advancements in CAIFM systems, enhanced algorithms, and updated guidelines. Improvements in these areas, along with better image interpretation, accumulated experience, and lab consensus, are crucial for improving the accuracy of autoimmune disease diagnosis.

**17<sup>th</sup> APFCB CONGRESS | 31 October - 3 November 2024 ICC Sydney, Australia**

## (二) 大會議程表

Day 1: Thursday, 31 October 2024					
Time	Track 1	Track 2	Track 3	Track 4	Track 5
8:00 am - 8:30 pm	Registration Opens				
Pre-Congress Workshops (Optional; tickets purchased separately)					
9:00 am - 1:00 pm	<b>Cookle Bay Room 1</b>	<b>Cookle Bay Room 2</b>	<b>Meeting Room C2.2 &amp; C2.3</b>	<b>Meeting C2.2 &amp; C2.3</b>	
	<b>A1 Workshop 1</b>	<b>A2 Workshop 2</b>	<b>A3 Workshop 3</b>	<b>A4 Workshop 4</b>	
	Chair: Andreas Bilenbeck	Chair: Joel Smith	Chair: Rosita Zakaria	Chair: Brett McWhinney	
	Patent-Based Real-Time Quality Control Update	Myeloma Diagnosis and Monitoring	IFCC Working Group Method Evaluation Protocols	Mass Spectrometry - Post Analytical	
	Andreas Bilenbeck Basic PBQC	Peter Moltes A clinician's perspective of MG testing - including where MG is useful	Chi Mai Tran Thi An overview of the method evaluation, comparison	Brett McWhinney	
	Luke Duan Newer PBRTQC models and their advantages	Nitika Wijetane Current analytical issues of monoclonal gammopathy testing	Rosita Zakaria How to perform the precision evaluation	Avis McWhinney	
Chantelle Ebenroth Applying PBRTQC	Joel Smith Available Guidelines	Conry Markus	Danijela Kocic		
Andreas Bilenbeck How to select/deprioritize the parameters using his webtool	Theo De Malmarche Case Studies	Brian Cooke How to Perform Linearity Evaluation	Jenny Yeuk Ki Cheng		
1:00 pm - 2:00 pm	Lunch				
2:00 pm - 3:30 pm	Pymont Theatre Chair: Helen Martin Opening Ceremony Plenary Session 1 ICPQADAP A/Professor Ken Slikaas Analysing Clinical Governance				
3:30 pm - 4:00 pm	Afternoon Tea				
4:00 pm - 6:30 pm	<b>B1 Symposium 1</b>	<b>B2 Symposium 2</b>	<b>B3 Symposium 3</b>	<b>B4 Symposium 4</b>	
	Chair: Hubert Vesper	Chair: Ronda Greaves	Chair: Tjan Stan Hwe	Chair: Chin Kin Felix Wong	
	Establishment of sustainable measurement infrastructure for CVD markers	Urgent need for neonatal bilirubin test standardisation	Better diagnosis and healthcare for chronic diseases	Therapeutic Drug Monitoring and Pharmacogenomic testing in Hong Kong	
	Cecilia Swart Establishing a metrologically robust o-Tropoin I measurement infrastructure: where are we now?	Christian Hulzebos Clinical need to prioritize standardization of neonatal bilirubin tests	Thyza Darmadi Quality Management in POCT	Chi Kin Felix Wong Sourcing of Dihydropyrimidine Dehydrogenase (DPD) Deficiency by Plasma Uridyl Measurement before Fluoropyrimidine Chemotherapy and Therapeutic Drug Monitoring of 5-Fluorouracil	
	Christa Cobbaert Establishing an SI-traceable Reference Measurement System for Multiple Apolipoproteins to Address Residual Cardiovascular Disease	Marcy Thomas Overview of non-invasive devices and new technologies for bedside neonatal bilirubin diagnosis and monitoring	Tjan Stan Hwe Competency and Training in POCT	Kam Chi Teresa Tsui An Overview of Therapeutic Drug Monitoring (TDM) and Pharmacogenetics (PG) Service Development in Hong Kong	
	Hubert Vesper Transitioning from a WHO-IFCC Reference Measurement System (RMS) for serum apolipoproteins A-I, B and (a) to an SI-traceable RMS: what are the implications for IVD-industry and end-users?	Lindsay Mackay Setting up a traceability chain for standardization of conventional and emerging neonatal bilirubin tests	Praewit Mitra POCT versus central lab testing	Pak Lam Sammy Chen Prevalence of NUDT15 Variants and Association to Thiopurine-induced Toxicities: Implications for Pharmacogenetics in Clinical Practice	
5:30 pm - 7:30 pm	Welcome Reception				
Day 2: Friday, 1 November 2024					
Time	Track 1	Track 2	Track 3	Track 4	Track 5
7:00 am - 8:00 pm	Registration Opens				
8:00 am - 9:15 am	Meet the Expert Breakfast Sessions				
9:30 am - 10:30 am	Pymont Theatre Chair: Ronda Greaves Plenary Session 2 OCPL Dr Carla Cuthbert CDC The changing landscape of laboratory testing - Lessons learned from newborn population screening in the US				
	Morning Tea				
11:00 am - 12:30 pm	<b>C1 Symposium 5</b>	<b>C2 Symposium 6</b>	<b>C3 Symposium 7</b>	<b>C4 Symposium 8</b>	
	Chair: Andy Hooftagle	Chair: Greg Ward	Chair: Prasentil Mitra	Chair: Woochang Lee	
	Evaluating molecular biomarkers using next generation protein diagnostics	Hypertension - assigning the correct aetiology is still key to optimum management	Environmental sustainability of Clinical Laboratories	Nationwide standardization activities for clinical laboratory testing: Korean experience	
	Jennifer Van Eyk Fundamental insights in the human glycoproteome and its clinical relevance for Precision Medicine	Cherie Chiang Primary Aldosteronism: Screening to Surgical Cure	Tjan Stan Hwe Green Lab: Global Challenge and APFCB initiatives on sustainability	Woochang Lee Current status of creatinine standardization in Korea	
	Shane Ellis Spatial Metabolomics using Mass Spectrometry Imaging To Study Disease Tissues	Ed Mun Lim An Update on the Clinical Diagnosis of Pheochromocytoma and Paraganglioma	Prasentil Mitra Creating the sustainable clinical laboratory of the future	Sang-Guk Lee Experiences and challenges for lipid assay standardization in Korea	
	Andy Hooftagle Is peptide-based calibration in Reference Measurement Systems the way forward for standardization of molecular defined protein measurands?	Cathie Lane Renal Hypertension	Mohd Jamsari Mat Salleh Digital transition in sustainable management	Kyungheon Lee Ongoing glucose standardization activities in Korea	
12:30 pm - 2:00 pm	Lunch and Poster Session 1 (The Gallery & Parkside Ballroom 1)				
Concurrent Submitted Oral Presentations					
2:00 pm - 3:30 pm	<b>D1 Pymont Theatre</b>	<b>D2 Cookle Bay Room 2</b>	<b>D3 Meeting C2.2 &amp; C2.3</b>	<b>D4 Meeting Room C2.2 &amp; C2.3</b>	<b>D5 Cookle Bay Room 1</b>
	Chair: Robert Flatman	Chair: Tze Ping Loh	Chair: Greg Ward	Chair:	Chair:
	Nguyen Thi Thanh Hai Diagnostic validation of protein induced by vitamin k absence-II (piva-II) and the gsd algorithm for hepatitis b virus-related hepatocellular carcinoma surveillance in vietnam	Semall Das Clinical validation and comparative study between the Idigo 2012 kit criteria and the aacc guidance document 2020	Mat Barrow How the UK National Pathology Exchange saved lives during Covid	Wei Hong Tay Multi-center clinical validation of a mass spectrometry immunoassay for the diagnosis of multiple myeloma and associated disorders	Songlin Yu Revisiting the specificity characteristics of LC-MS/MS in the measurement of steroids
2:15 pm - 3:30 pm	Jalprakash Mohanraj Association between Leptin and Leptin Receptor Polymorphisms with Leptin, BMI, Stress, Sleep and Eating Patterns among Metabolic Young Malaysian Adult Population from a Healthcare University	Chaohao Ma Establishment of reference intervals for serum protein electrophoresis parameters using Hoffmann and refined algorithms based on big data and evaluate its feasibility	Renee Ruhaak Correlation and comparability study among an ms based candidate reference measurement procedure and immunoassays measuring Apolipoprotein A-I and Apolipoprotein B	Wendell Kong The association between non-high-density lipoprotein cholesterol ratio (NHDR) and risk of endometrial cancer among US adults: A population-based study	Danni Mu Plasma steroid profiling combined with machine learning for the differential diagnosis in mild autonomous cortisol secretion from nonfunctioning adenoma in patients with adrenal incidentalomas



2:30 pm - 2:45 pm	<b>Anurodh Gupta</b> AFMC/ICMR PE Panel: A metabolomics based panel of plasma biomarkers for early detection of preeclampsia	<b>Cui Luyan</b> Serum exosomal miRome-1258 may be a novel biomarker for the diagnosis of acute exacerbations of chronic obstructive pulmonary disease	<b>Divika Sapsitha</b> Pre-natal dietary imbalance of excess folic acid with low vitamin b12 impacts the histone profile of placental imprinted genes and outcomes of pregnancy	<b>Rishi Kumar Nigam</b> Comparison of Various e-GFR Equations in Estimating Glomerular Filtration Rate in Indians	<b>Jian Zhong</b> Interpretable Steroid Profile-Related Diagnostic Models for Prostate Cancer Based on Random Forest Model and Shapley Value
2:45 pm - 3:00 pm	<b>Maurice O'Keefe</b> Diagnosing heterozygous familial hypercholesterolemia (FH): the N. Ireland experience	<b>Rahimaz Usman Bedrabettu</b> Harnessing the potential of mirna-494 as a diagnostic and monitoring biomarker for nephrotic syndrome	<b>Bin Yan</b> Clinical application of platelet-derived values in the diagnosis and management of common children thrombocytopenia		<b>Yusheng Zhu</b> A double-delta algorithm for the stage of chest pain patients using a High-Sensitivity Cardiac Troponin T Assay
3:00 pm - 3:15 pm	<b>Chun Yiu Law</b> A treatable metabolic cause of elevated creatine kinase in adult: glutaric aciduria type II	<b>Anahika Chaudhan</b> Gene expression signatures of circulating tumour cells act as predictive biomarker for oral squamous cell carcinoma	<b>Clarissa Theodora</b> A 5-year descriptive study of congenital hypothyroidism, congenital adrenal hyperplasia, glucose-6-phosphate dehydrogenase deficiency newborn screening in a tertiary hospital in Jakarta, Indonesia	<b>Muhammad Zabri Tan Marisa Shah</b> Beyond Percentiles: Leveraging Minimum and Maximum Values for Enhanced Reference Interval Estimation Using a Clustering-Based Method	<b>Hans Schneider</b> Do we need altered reference intervals for Transaminases? Evidence from the Asprex study
3:15 pm - 3:30 pm		<b>Devali Vidya Sridag</b> Association of rs30268 and ppar-g gene polymorphism in type II diabetes mellitus in South India		<b>Sesreev Nayak</b> Application of patient-based real-time quality control (PBRTQC) in a tertiary care setup of a developing healthcare sector: From primary principles to practice pipeline	<b>Kevin Mantik</b> Steroid profiling in the diagnosis of Adrenal Disease
3:30 pm - 6:00 pm	Afternoon Tea				
	<b>Pymont Theatre</b>	<b>Cockle Bay Room 2</b>	<b>Meeting C2.2 &amp; C2.3</b>	<b>Meeting Room C2.5 &amp; C2.6</b>	<b>Cockle Bay Room 1</b>
	<b>E1 Symposium 9</b>	<b>E2 Symposium 10</b>	<b>E3 Educational Workshop 1</b>	<b>E4 Educational Workshop 2</b>	<b>E5 Educational Workshop 3</b>
	Chair: Zhen Zhao	Chair: Peter Graham	Chair: Preeteen Sharma	Chair: Ferdj Marpeung	Chair: Dr Sarweena Ghoshan
4:00 pm - 8:30 pm	Applications of omics technologies in liquid biopsy in laboratory medicine. Liquid biopsies consist of isolating tumour-derived entities followed by an analysis of genomic and proteomic data	What is wrong with this patient?	Risk Management in Clinical Laboratory	Laboratory Testing for Tuberculosis: sharing experience from Indonesia	Rejuvenating Health Professional Education in Laboratory Medicine
4:00 pm - 4:30 pm	<b>Jing Cao</b> Application of proteomics in liquid biopsy in Laboratory Medicine	<b>Penny Coates</b> Hypokalaemia post abdominal surgery	<b>Preeteen Sharma</b> An Overview of Risk Management	<b>A.A Winandani Lestari</b> Spotum Greener Microscopy in Tuberculosis: Challenge and Opportunity	<b>Aamir Ijaz</b> Innovation in Teaching and Assessment
4:30 pm - 5:00 pm	<b>Zhen Zhao</b> Advances of metabolomics in laboratory medicine	<b>Nilika Wijeratne</b> 12 year old with 7 iron deficiency	<b>Praseetha Mitra</b> Risk Management Process in the Clinical Laboratory	<b>Jusak Nugraha</b> Latent Tuberculosis Infection: Implementation of antibody testing	<b>Imran Siddiqui</b> Development of C3 Level MCQs in Non-Clinical Topics
5:00 pm - 5:30 pm	<b>Wei Cui</b> Advances of liquid biopsy in molecular diagnostics	<b>Nelen Martin</b> A case of paracetamol poisoning	<b>Raja Elina Adddin</b> Applying Risk Management for Continuous Improvement	<b>Ida Parwati</b> Molecular testing in early detection and drug resistance management	<b>Aamir Ijaz</b> Curriculum Development using a Virtual Community of Practice (CoP) in Biochemical Genetics
7:00 pm - 11:00 pm	Congress Dinner Dollons House Jones Bay Wharf, Pymont				
Day 3: Saturday, 2 November 2024					
Time	Track 1	Track 2	Track 3	Track 4	Track 5
8:30 am - 8:50 pm	Registration Opens				
9:30 am - 10:30 am	Pymont Theatre Chair: Tony Badrick Preliminary Session 3 Professor Gerald Watts Between Soya and Cheryllite: Navigating Risk of Inherited Heart Disease due to FH and High Lp(a)				
10:30 am - 11:00 am	Morning Tea				
11:00 am - 12:30 pm	<b>Pymont Theatre</b>	<b>Cockle Bay Room 2</b>	<b>Meeting C2.2 &amp; C2.3</b>	<b>Meeting Room C2.5 &amp; C2.6</b>	
	<b>F1 Symposium 11</b>	<b>F2 Symposium 12</b>	<b>F3 Symposium 13</b>	<b>F4 Symposium 14</b>	
	Chair: Ronica Greaves	Chair: Tony Badrick	Chair:	Chair: Jagat Kameer	
11:00 am - 11:30 am	<b>Zomilza Stark</b> Accelerating new disease diagnosis: from rapid leading to newborn screening	<b>Chitra Farrell</b> Troubleshooting HbA1c external quality assurance results	<b>Yi Huang</b> The role of Apo E gene polymorphism variants in lipid metabolism	<b>Rajiv Ranjan Shaha</b> Demographic Profile and Metabolic Aberrations of Non-Alcoholic Fatty Liver Disease	
11:30 am - 12:00 pm	<b>Marie Fuller</b> Where biochemistry bumps genomics	<b>Anthony Killean</b> NALMA and harmonization of methods	<b>Jun Wu</b> The Pathophysiology of Inflammation Induced Coagulation - Experience in Diagnosis and Treatment of Posttraumatic Coagulation Disease	<b>Mihir Banerjee</b> Immunopathogenesis of NAFLD	
12:00 pm - 12:30 pm	<b>Carla Culbert</b> The future of genomics in paediatrics	<b>Belinda Pope</b> KIMMS - the value of monitoring of pre- and post-analytical errors	<b>Ramesh Rishabh</b> Reinvigorating antithrombin: understanding the hidden world of functional, dysfunctional and unfunctional (glyco-) proteoforms to improve patient care	<b>Seema Bhargava</b> Insulin resistance: the unifying metabolic aberration of both Type 2 Diabetes & NAFLD	
12:30 pm - 2:00 pm	Lunch and Poster Session 2 (The Gallery & Parkside Ballroom 1)				
2:00 pm - 3:30 pm	<b>Pymont Theatre</b>	<b>Parkside Ballroom 2</b>	<b>Meeting C2.2 &amp; C2.3</b>	<b>Meeting Room C2.5 &amp; C2.6</b>	
	<b>Silibe</b>	<b>Abbott</b>	<b>Quidel Ortho</b>	<b>Thermo Fisher</b>	
	Laboratory Medicine: Bridging Personalised Care and Public Health	Future-Ready Lab: Transforming Operations with Real-Time Data and Advanced Digital Solutions	High-sensitivity troponin: From the ED to the Laboratory	Importance of risk-based thinking in Internal Quality Controls (IQCs)	
3:30 pm - 6:00 pm	Afternoon Tea				
4:00 pm - 8:30 pm	<b>Pymont Theatre</b>	<b>Cockle Bay Room 2</b>	<b>Meeting C2.2 &amp; C2.3</b>	<b>Meeting Room C2.5 &amp; C2.6</b>	<b>Cockle Bay Room 1</b>
	<b>G1 Symposium 15</b>	<b>G2 Symposium 16</b>	<b>G3 Educational Workshop 4</b>	<b>G4 Educational Workshop 5</b>	<b>G5 Educational Workshop 6</b>
	Chair: Fernando San Gil	Chair: Tina Yan	Chair: Tae Ping Loh	Chair: Peter Graham	Chair: Dr Shari Kawatra
4:00 pm - 4:30 pm	<b>Chemical Pathology Investigations in gastroenterological disorders</b>	<b>The Investigation of Metabolic Bone Disease</b>	<b>Result Interpretation</b>	<b>All about Porphyrins</b>	<b>Basics and Implementation Of Artificial Intelligence In A Laboratory For Patient Care: A Clinical Biochemist's Perspective</b>
4:30 pm - 5:00 pm	<b>Anudaththa Thebtsaran</b> Role of Chemical Pathology Laboratory in Investigation of Upper Gastro-intestinal Disorder	<b>Sam Vaikaran</b> Use of bone turnover markers and current international guidance	<b>Raja Elina Adddin</b> Challenges in the interpretation of drugs of abuse tests	<b>Virginia Cronin</b> Update on the Porphyrins	<b>Shivani Jassal</b> Basics of Artificial Intelligence in the Clinical Laboratory
4:30 pm - 5:00 pm	<b>Nishant Ganga WBhana</b> How to Investigate a Patient with Lower Gastro-intestinal Symptoms	<b>Terry Diamond</b> Bone histomorphometry - insights into disease pathophysiology	<b>Tran Thi Chi Mai</b> Paediatric reference intervals	<b>Chris Florkowam</b> Case studies in porphyria	<b>Ashishkumar Agravatt</b> Practical approach to implementing AI in the laboratory
5:00 pm - 5:30 pm	<b>Thushara Naleem</b> Interactive Case Discussion Based on Gastro-intestinal Disorders	<b>Rory Clifton Bligh</b> Metabolic bone disease - old (PTH) and new (FGF23) markers	<b>Kay Wang Chey</b> Web-based Clinical Decision Support in Laboratory Medicine	<b>Jole Bajovic</b> Current role of genetic testing in porphyria	<b>Animesh Bardoloi</b> Ethics and Regulations of AI
Day 4: Sunday, 3 November 2024					
Time	Track 1	Track 2	Track 3	Track 4	Track 5
7:00 am - 8:30 pm	Registration Opens				
8:00 am - 8:30 am	Meeting Room C2.4 Industry discussion on PBQC: Aligning Solutions with Laboratory Needs (Invitation only)				
9:15 am - 10:45 am	<b>Pymont Theatre</b>	<b>Cockle Bay Room 2</b>	<b>Meeting C2.2 &amp; C2.3</b>	<b>Meeting Room C2.5 &amp; C2.6</b>	
	<b>H1 Symposium 17</b>	<b>H2 Symposium 18</b>	<b>H3 Symposium 19</b>	<b>H4 Symposium 20</b>	
	Chair: Adil Khan	Chair: Robert Flatman	Chair: Tina Yan	Chair: Raja Elina Raja Addidin	

	Improving wellness, emergency response, and resilience with Prehospital testing	Quality in the Post-Analytical Phase	Complications of Pregnancy – Pre-eclampsia and Intrahepatic Cholestasis of Pregnancy	Advancing Health: Bridging Gaps in Endocrine Test Reporting and Novel Lipid Profiles in Malaysia
9:15 am - 9:45 am	<b>Adil Khan</b> Artificial Intelligence and POC Testing bridging the disparity gap in healthcare	<b>Chris Farrell</b> Identifying errors - Technical Verification of Results	<b>Jon Hyett</b> Pre-eclampsia – predictive screening in first trimester	<b>Leslie Charles Lal</b> Standardised laboratory reporting for prediabetes. An initiative of the 'Stand Against Prediabetes' national campaign
9:45 am - 10:15 am	<b>Gerald Kost</b> POC Strategies for the Archipelagos and Island Nations of the Pacific	<b>Craig Campbell</b> Critical result management	<b>Shaun Brennecke</b> Pre-eclampsia – diagnostic testing at presentation with hypertension	<b>Pavai Sthaneswar</b> Screening for Macroprolactinaemia: Malaysian Scenario
10:15 am - 10:45 am	<b>Samarina Muzard</b> Pre-hospital tests: Its impact on the indigenous population of the Northern Region of New Zealand	<b>Graham Jones</b> Result communication - Importance of report formatting	<b>William Hague</b> Intrahepatic Cholestasis of Pregnancy: how, when and what bile acids to measure	<b>Subashini C. Thambiah</b> A Closer Look: Malaysian Insights into Atherogenic Pattern B Lipoprotein Profile
10:45 am - 11:15 am	Morning Tea			
11:15 am - 12:45 pm	<b>Pyrmont Theatre</b>	<b>Cockle Bay Room 2</b>	<b>Meeting C2.2 &amp; C2.3</b>	<b>Meeting Room C2.4 &amp; C2.5</b>
	<b>Symposium 21</b>	<b>Symposium 22</b>	<b>Educational Workshop 7</b>	<b>Educational Workshop 8</b>
	Chair: <b>Praveen Sharma</b>	Chair: <b>Graham Jones</b>	Chair: <b>Leslie Lam</b>	Chair: <b>Masanori Saito</b>
	Better diagnosis and healthcare for chronic diseases	Getting to the heart of troponin assay problems	All About Thyroid	The usefulness of reaction curve monitoring to detect abnormal reactions of clinical biochemical testing
11:15 am - 11:45 am	<b>Pavai Sthaneswar</b> Current practice of laboratory testing of kidney disease and eGFR reporting- Malaysian Scenario	<b>Louise Cullen</b> Integrating POC testing into the ED: A Clinician's perspective	<b>Jun Guan Tan</b> The Thyroid Gland – Biochemistry and Pathology	<b>Keiichi Nakano</b> Importance of observing reaction curves
11:45 am - 12:15 pm	<b>Mitu Banerjee</b> Current practice of Diabetes Testing and the standardisation of specimen, based on their survey implemented in Sri Lanka, the Philippines & Singapore	<b>Martin Than</b> POC testing for Troponin	<b>Joanna Lee</b> Thyroid Assays – Methods, Tricks and Tips	<b>Ryunosuke Okawa</b> Tips for identifying and managing abnormal reaction curves
12:15 pm - 12:45 pm	<b>Bamall Das</b> Autoimmune and Neuroimmune Diseases: Case Based Discussion	<b>Lao Lam</b> Macroprolactin	<b>Leslie Lam</b> Clinical Case Studies – Thyroid	<b>Nau Ishimine</b> Detecting abnormal reactions using real-time reaction curve monitoring
12:45 pm - 2:00 pm	Lunch and Poster Session 3 (The Gallery & Parkside Ballroom 1)			
2:00 pm - 3:00pm	<b>Pyrmont Theatre</b>			
	<b>J1</b>	<b>Plenary Session 4</b> Chair: <b>Greg Hines</b> <b>Professor Mashea Whitaker</b> Leaving no-one behind – the critical role of laboratory services to support universal health coverage in Low and Middle Income countries		
3:00 pm - 3:30 pm	<b>J2</b>	Closing Ceremony		

### (三) 會場照





