

AACB/NZIMLS Combined Biochemistry Special Interest Group Meeting

28 October 2023, Hutton Lecture Theatre, Otago Museum, Dunedin

This year, we were proud to have combined once again NZIMLS Biochemistry Special Interest Group Meeting with the AACB Roman Lecture. This opportunity enabled us to bring together experts and key industrial figures from across the field to delve into the latest advancements and research being undertaken within the speciality of Clinical Biochemistry. The event was full of informative presentations which invoked some interesting questions and discussions. The highlight of the meeting was the Roman Lecture presented by international speaker Professor Sverre Sandberg, director of the Norwegian Quality Improvement Laboratory Examinations (Noklus), who shed light on the significant role medical laboratories play in enhancing medical decisions and ultimately improving patient outcomes. Interestingly, this became a bit of a theme for the rest of the meeting.

AACB Roman Lecture, Professor Sverre Sandberg: *Aspects of how Laboratorians can Contribute to Better Medical Decisions and Improve Patient Outcomes*

Drawing on extensive experience, and from an international perspective Professor Sandberg addressed the pivotal role of medical laboratories in the healthcare system. He specifically discussed quality aspects of Biochemistry, including internal quality control assessments and external quality assurance schemes. The final part of the presentation concentrated on point of care (POC) equipment and the importance of laboratory involvement. This included emphasis on how critical the laboratory input is in the decisions of which POC equipment to use and the tests to be offered, and most importantly how the continued laboratory oversight of the equipment improves the quality of point of care testing.

Dr Andrew Reynolds (Otago University): *Wholegrains for Health*

This thought-provoking presentation explored the impact of a wholegrain diet on patients' post-myocardial infarction (MI). Dr Reynolds' research provided compelling evidence supporting the notion that dietary interventions, specifically the incorporation of wholegrains, can significantly benefit cardiovascular health in the aftermath of an MI. The question was asked whether providing free healthy groceries to cardiac patients in recovery less expensive for the health system than the cost of re-hospitalisation after a second event. The presentation prompted thorough discussions on the practical implications of dietary recommendations in post-MI care.

Cat Roynayne (Otago University): *Through the Lipid Glass – is everything as it seems?*

Cardiovascular risk assessment (CVRA) took centre stage in another engaging session exploring the significance of lipid blood tests and their ability to predict cardiovascular events. Historic patient data from the Otago region was shared showing interesting trends in lipid markers over the last 30 years. The implications of these trends were examined, and explanations of the reasons for these trends were explored. Attendees gained valuable insights into the evolving landscape of cardiovascular risk assessment and how laboratory data can be used to increase our understanding of the relationship between lipid profiles and the overall assessment of cardiovascular risk.

Dr Colin Simon Shelly (Otago University): *Novel Breast Cancer Markers*

One of the key sessions of the meeting focused on the latest developments in breast cancer research. Dr Shelly is founder of Leukaemia Therapeutics LCC, in Boston, Massachusetts and he was in New Zealand to collaborate with Otago University researching a novel breast cancer marker using CD43. The presentation centred on cutting-edge molecular research that

identified CD43 as a novel biomarker for predicting the progression of breast cancer, paving the way for more personalized and effective therapeutic interventions. The audience expressed keen interest in the potential impact of these advancements on the clinical management of breast cancer patients.

Professor Peter McIntyre (Otago University): *Immunogenicity of MMR Vaccines*

Professor McIntyre is leading a study in the immunogenicity of the MMR (measles, mumps, rubella) vaccine and the potential effects of different modes of administration of these vaccines. The presentation described recent research findings related to vaccine responses, shedding light on the intricacies of immune reactions to these vaccines. Along with his Assistant Research Fellow, Melanie Millier they explained the study in detail, which involved administering vaccines via different modes to university students who had shown low antibody levels when tested as part of their Health Sciences screening blood tests. Discussions created from this presentation revolved around the importance of promoting vaccinations and how the different modes of administration may improve immunogenicity whilst also helping to address vaccine hesitancy.

Christian (Awanui Labs): *HbA1c Test Methods*

The meeting also addressed the technical aspects of diagnostic testing, with a dedicated session on HbA1c test methods. Christian summarised the theory and the nuances of different testing techniques and their impact on the accuracy of glycaemic monitoring in patients with diabetes. This session facilitated a deeper understanding of the strengths and limitations of various HbA1c testing methodologies and why they are suitable in each different clinical setting.

Sian Horan (Awanui Labs): *Renal Calculi Analysis by FTIR Spectroscopy*

The meeting concluded with a comprehensive examination of renal calculi, commonly referred to as kidney stones. The presentation explained in detail the principle of Fourier Transform Infrared Spectroscopy and how this technique is used to identify organic compounds within kidney stones.

In summary, the Biochemistry Special Interest Group meeting proved to be a dynamic and intellectually stimulating event, bringing together experts and enthusiasts to explore the multifaceted speciality of Clinical Biochemistry. The international speaker's presentation on the role of medical laboratories in improving patient outcomes set the tone for an insightful gathering. The diverse range of topics covered, from breast cancer research to cardiovascular health and renal calculi, reflected the breadth and depth of ongoing advancements in biochemistry. The meeting provided a platform for fruitful discussions and knowledge exchange, fostering a collaborative spirit among professionals committed to advancing the field for the betterment of patient care.

ACKNOWLEDGEMENTS

I would like to thank Roger Barton and Christian, who on behalf of the AACB were pivotal in the organisation of the day and helped create a fantastic programme. I would also like to extend thanks for their generous support to our sponsors; Bio Rad Pty, Roche Diagnostics, and Abacus Dx. I would like to express sincere appreciation to all the participants whose presentations enriched the meeting and stimulated discussions on numerous compelling topics. Lastly, a special thank you to everyone who dedicated their time to travel to Dunedin and attend this gathering, contributing significantly to the success of the day.

Report by: Sian Horan, Head of Department, Biochemistry, Awanui Labs, Dunedin.

Anatomical Pathology Special Interest Group Meeting

21 October 2023, Nelson

The APSIG this year was held in sunny Nelson at the Rutherford Hotel where we had an amazing turn out with some really interesting talks. We were lucky enough to have a range of technical staff speak as well as pathologists and doctors. Ranging from immunohistochemistry to case studies and cultural considerations. Everyone was kept on their toes or their bottoms with some movement during the day as well as when the final quiz took place, testing the knowledge that we learnt over the course of the day. There might have been a slight incentive to win, a cheeky chocolate bar. Old friendships were renewed, and new friends were made over muffins, pastries, tea, coffee and a delicious lunch. It was a great opportunity for us to all meet and discuss ideas, opportunities and put faces to names that we see so frequently over the phone and email.

Kirsty Sewell presented to us an amazing talk about entering the world of theatre and how we could build relations with nurses and doctors. Her case study presentation was mesmerizing with some incredible images. Kirsty was awarded best presentation of the day for keeping us all on the edge of

our seats and the drive to cross those theatre doors and build some relationships.

Michelle Cheale and Xin Xin were awarded the runner up presentation and unfortunately had to leave to catch a plane before prize giving. They presented to us a prostate biopsy trial. We were so curious to see how they progressed through the journey from patient to pathologist with the chip. Thank you for sharing this with us and good luck for future trials.

Congratulations to Kirsty, Michelle and Xin Xin and to all our other speakers on the day. Thank you to everyone who took time out of their day to present and to everyone who came to the SIG. It was truly a fantastic day with everyone getting involved and this would not have been possible without the NZIMLS and my team here in Nelson. Looking forward to seeing everyone again next year for another enlightening day!

Report by: Paige Chase, Head of Department Histology, Awanui Laboratories, Nelson

Preanalytical Special Interest Group Meeting

11 November 2023, Auckland

Pre-Analytical Services Special Interest Group (PASSIG) had a successful and productive year 2023. The four meetings held throughout the year with 12 to 15 members from different labs attending each time provided a platform for discussing various issues related to Pre-analytical services in New Zealand Laboratories. Congratulations to Ailsa Bunker (Manager, Specimen Services, Middlemore Hospital Laboratory) PASSIG member for being the convenor of South Pacific Congress 2023 and receiving the Life Membership of NZIMLS. The Pre-Analytical session at SPC had great presentations adding to the group's achievements.

The seminar at Waipuna Conference Centre in Auckland also had an impressive turnout with 246 registrations. The 13 presentations from different disciplines showcased the diversity of topics discussed.



Special congratulations to Eunice De Castro from Te Whatu Ora, Waikato, for winning the best presentation award, and to Jordon Haig from Awanui Labs (Labtests, Auckland) for winning the second-best presentation award. It's always rewarding to see members recognized for their contributions.



As Annette Bissett, the previous convenor of PASSIG and Phlebotomy coordinator from North Shore Hospital, retiring this year after more than 30 years of dedicated service to Pre Analytical Services, the group extends their best wishes for a good and healthy retired life to her. Also, congratulations to all PASSIG members who sat and passed their exams this year.

Lastly, a big thank you goes out to all members of NZIMLS for their kind and continued support throughout the year. Here's to another successful year ahead!

Reported by: Ajesh Joseph (Convenor), NZIMLS Secretary/Treasurer

Microbiology Special Interest Group Meeting

4 November 2023, Palmerston North Conference & Event Centre

The MSIG was held at the Palmerston North Conference and Event Centre on 4th November 2023. We had approximately 75 attendees and 10 extremely good talks were presented.

Heather Davies from ESR (Environmental Science and Research) kicked off the event with the title of IRIS hibernated to bloom another day". This covered respiratory disease statistics affected by the Covid outbreaks in New Zealand.

ESR provided two other speakers throughout the day, Jenny Szeto with "Colistin Resistant" a recount of an observed phenomenon of well skipping in microtiter plate dilutions. And Audrey Tiong gave Fiona Lee's presentation Clinical Listeriosis-an informative talk on sporadic vs outbreaks of Listeriosis in New Zealand, as unfortunately Fiona was unable to attend.

Lan En, a scientist from Medlab Central Palmerston North was unable to attend due to illness but the SIG was lucky enough to have Lan record the talk over the slide presentation. "Microbiology meets machines" was a "hot" topic regarding AI (Artificial Intelligence) and its role in the microbiology laboratory.

Awanui Labs Dunedin were then represented by Jenna Paterson's talk "Vaginal gram stains. Out with the old and in with the new?" Jenna has recently graduated from Otago University and gave a remarkably interesting and thorough talk about recent technologies to supersede gram staining vaginal swabs. Jenna was a first-time speaker who commanded her audience with her research knowledge and was well equipped to answer questions on the topic.

After a delicious morning tea our guest speaker of the day "Dr Cynric Temple-Camp" a pathologist from Medlab Central gave a scintillating talk on "The perfect murder." This was very well received by an attentive audience, and everyone now has a good understanding of what is needed to achieve a murder and not be arrested for it. The Waikato VRE outbreak was the next topic presented by Sean Munroe. A comprehensive talk on discovering an outbreak and then the measures needed to control it.

Lunch was a sumptuous affair and then Jan Deroles-Main reported on the *Salmonella typhi* outbreak in the Gisborne region." Foggy Fever" was well received and even more so when transmission was human to human not from a food source! Sabiha Kaur, a technician from Medlab Central, took out the Best Presentation Prize with her talk "The Mysterious case of our night shift discovery" An extremely thorough case study of *Mycobacterium marinum*. Sahiba was a first-time presenter so a big congratulations for taking out the top prize. Rebecca Lucas-Roxburgh HOD of Molecular Medlab Central won runner up with her comprehensive account of "Development of an Extraction free qPCR for the detection of Group A Streptococcus in throat swabs." A topic of interest especially since costs were covered as well.

The attendees were all happy to be able to have face-to-face meetings again and the venue facilities and delicious food were well received as well as all the informative talks for the day.

Thank you to all the presenters and Sean Guilfoyle, who stepped in as IT helper at the last minute due to Lan being unwell.

Reported by: Tina Lusher, Technical Director, Microbiology Department, Medlab Central, Palmerston North

Molecular Diagnostics Special Interest Group Meeting

20 October 2023, Auckland

The Molecular Diagnostics (MoID) SIG held in Auckland at the Auckland Domain Lodge was a very successful event! Success being measured by the fact that almost all the delegates who registered were in attendance, the presentations were all excellent, and the food and coffee was plentiful! This was the first in-person MoID SIG to be held since Covid, which is a success to be celebrated in itself.

The day started with a presentation by Dr Max Bloomfield (Awanui Labs, Wellington) via Zoom. Despite some hesitation that it would work, the talk via Zoom was a very positive experience and a wonderful option if being in person is not a possibility. Dr Bloomfield spoke on using real-time low-cost genomic surveillance to identify and control hospital outbreaks (recently published Bloomfield et al, Pathology 2023). Next up was Dr Gary McAuliffe (LabPLUS, Auckland) whose presentation entitled, "Molecular automation – time to think like a robot", made us all think about reducing TAT for infectious disease diagnostics. Jason Copedo (Grafton Clinical Genomics, Auckland) rounded up the first lot of talks with his very thorough overview of NGS and precision medicine.

After morning tea, we had the benefit of hearing from Dr Sandra Fitzgerald (University of Auckland), who presented her PhD work on the translational of liquid biopsies from research to the clinic. Dr Fitzgerald won the Best Presentation Prize, which was a unanimous decision by our wonderful judges. Thereafter, we heard from Dr Mareike Erdmann (LabPLUS), Tom Manning (Labtests) and Dr Clinton Turner (Auckland Hospital). The scope

of topics varied from WGS of *Mycobacterium tuberculosis*, to non-invasive prenatal screening and the evolution of brain tumour diagnosis (respectively).

Lunch was a delicious affair with a wide variety of options from our caterers; Mahuhu. After lunch, we "navigated our way through genomes, one case at a time" (Polona Le Quesne Stabej/ Jasmine Chew - University of Auckland/LabPLUS), learned all about Lynch Syndrome, specifically an MSH6 case (Sabine Grey - Canterbury Health Laboratories), and heard about an extraction free qPCR for Group A strep in throat swabs (Dr Rebecca Lucas-Roxburgh – Medlab Central). Sabine Grey won our Runner Up Best Presentation Prize for a very well-presented talk.

The final stretch of the day included a case study presented by Yeshmira Moodley (IGENZ) entitled "What the TERT? A telomerase reverse transcriptase case study". Luke Williamson (LabPLUS) ended off with his talk on the validation of a targeted NGS pipeline for gene panel diagnostic testing.

As with all SIG days, a lot of time and effort was put in by a team of people. I would like to especially thank my colleagues at IGENZ as well as Roberto Mazzaschi from LabPLUS for their invaluable input and assistance. I would also like to thank the presenters who put up their hands to give a talk, without which, a SIG would not happen.

Report by: Bronwyn Neumann (Convenor), Team Leader, Molecular Testing, IGENZ DNA Diagnostics, Auckland.