

LETTER TO THE EDITOR

CYTO-Connect: A New Era in Cytometry Conferences Begins in Perth, Australia

Matthew D. Linden¹  | Henry Y. L. Hui²

¹The Division of Pathology and Laboratory Science, University of Western Australia, Perth, Australia | ²The Translational Cancer Pathology Laboratory, University of Western Australia, Perth, Australia

Correspondence: Matthew D. Linden (matthew.linden@cytometry.org.au)

Received: 12 June 2025 | **Revised:** 13 June 2025 | **Accepted:** 17 June 2025

Funding: This work was supported by the Australasian Cytometry Society and the International Society for the Advancement of Cytometry.

The International Society for the Advancement of Cytometry (ISAC) and its regional partner in Oceania, The Australasian Cytometry Society (ACS), are collaborating to introduce CYTO-Connect, a groundbreaking new conference set to debut in Perth, Australia, from November 27th to 29th, 2025 (<https://cytoconnectperth2025.com.au/>).

It is more than 45 years since ISAC was first established (as the International Society for Analytical Cytology) and it remains the premier international scientific community for cytometry and the quantitative cell sciences. ISAC's annual scientific meeting, known as "CYTO" attracts scientists and exhibitors from all over the world. While CYTO is hosted by a different city each year, historically these have always been in North America or Europe, leaving much of the globe under-represented in cytometry education and networking.

The ACS is an ISAC-associated society and has a similar history. Only slightly younger than ISAC, ACS was established in 1979 as the Australasian Flow Cytometry Group. ACS holds an annual scientific meeting, typically hosted in Australia or New Zealand.

CYTO-Connect will not be the first time that ISAC and ACS have worked together to deliver a landmark conference in Oceania. As far back as 1999 [1], ISAC partnered with ACS to host the second Sam Latt conference on Hamilton Island, Australia. Then, more recently, ACS and ISAC worked together with the Singaporean Society for Immunology to produce CYTO Asia. This groundbreaking meeting, chaired by Paul Hutchinson, was held in Singapore in 2017 and received international acclaim [2].

CYTO-Connect seeks to build on the success of these previous collaborations to blend the best of ACS and CYTO.

1 | About Perth

Overlooking the Indian Ocean on Australia's West coast, Perth is the capital city of Western Australia. While Perth is a lengthy flight (or two!) from North America and Europe, Perth is only a short hop away and roughly equidistant from major Australian capitals, as well as major cities in Southeast Asia; Singapore, Jakarta, Kuala Lumpur, Ho Chi Minh, Bangkok. Perth shares its time zone with China, Hong Kong, Brunei, and Philippines. A perfect location to connect with cytometrists in this rapidly growing region. Perth's unique position makes it a natural hub for connecting cytometry communities across Oceania, Asia, and beyond—exactly the kind of global exchange CYTO-Connect aims to foster.

The Cytometry Society (India) has partnered with ACS to support CYTO Connect, and we are excited to welcome delegates and speakers from India to present in Perth. Dr. Vainav Patel is Vice President (Basic Research) of The Cytometry Society of India (TCS) and heads the Viral Immunopathogenesis Lab at ICMR-NIRRH, Mumbai. Dr. Vainav also served as Nodal Officer of the Covid19 team of the institute. We are looking forward to his presentations at CYTO-Connect, including the topic of immune monitoring and vaccine development in the context of acute and chronic viral infections such as HIV, HCMV, SARS-CoV-2, as well as ACS and TCS collaborative efforts to promote cytometry education in our region. CYTO-Connect

will be offering a limited number of travel scholarships to support young members of TCS working in India to attend the meeting, subject to the availability of funds.

Outside of the conference, Perth has a lot to offer as a destination. With a population of 2.4 million people, Perth blends modern urban charm with stunning natural beauty and perfect beaches. Perth consistently ranks as one of the world's most desirable cities to live, thanks to its warm, sunny climate, stunning natural beauty, perfect beaches, abundant outdoor spaces, and laid-back yet cosmopolitan lifestyle. CYTO-Connect takes place in Perth's late spring, so delegates can expect perfect warm weather. This inviting atmosphere extends to a robust scientific community, where top-tier universities and research institutions actively utilize cytometry for cutting-edge advancements in fields like immunology, diagnostics, and environmental science. With a welcoming culture, modern infrastructure, and ongoing investment in high-tech facilities, Perth offers both an exceptional quality of life and a dynamic setting for pioneering cytometry research.

2 | CYTO Connect Program and Highlights

Spanning 3 days, the main conference will feature plenary sessions as well as themed breakouts focusing on a diverse array of current topics: ranging from biomedical and environmental applications of cytometry, clinical and diagnostic methods, shared resource laboratory operations, career development, to innovations in quantitative cell sciences and engineering. Over 400 delegates are expected to attend, representing more than 10 countries.

It is an important and interesting time in the cytometry field. The availability of very high-dimensional cytometric, proteogenomic, and spatial multiomic technologies continues to drive research innovation. At CYTO-Connect, experts will present their groundbreaking panels, tools, and workflows and their applications in research. Speakers include Dr. Florian Mair—Director of the Cytometry Facility at ETH Zurich, Dr. Felix Marsh-Wakefield—Senior Researcher at The Centenary Institute Sydney, Dr. Christian Tjiam—Medical Scientist in Charge (Infection & Immunity) at PathWest Laboratory Medicine, Perth, and Dr. Amy Prosser—Research Fellow in the Transplantation Laboratory at The University of Western Australia.

The high dimensional and spatial information generated by these emerging capabilities, when combined with the AI revolution, has drawn excitement in both the research and clinical space, but also some concerns and restrictions on use [3]. CYTO-Connect is a great platform to hear from and discuss the future of cytometry and AI with global experts, including presentations from ISAC's own Educator in Chief Professor Paul Wallace, and Professor Franklin Fuda, Director of Flow Cytometry at UT Southwestern.

New imaging and spectral panels are being introduced to clinical laboratories to diagnose and monitor disease, a paradigm-shifting development for clinical cytometry. CYTO-Connect will be your opportunity to hear from those working on the clinical validation of these workflows for clinical use. Speakers on

this topic include Professor Wendy Erber (University of Western Australia), Dr. Ainsley Davis (Canberra Clinical Phenomics Service), and A/Prof Elizabeth Tegg (NSW Health). Together, these talks will provide a vital update on how advanced cytometry technologies are reshaping diagnostic workflows and clinical decision-making.

Other current clinical topics include validation of in new cytometry assays (Emily Hinds—Royal Hobart Hospital), acute lymphoblastic leukemia minimal residual disease (Dr Ben Hedley—Victoria Hospital Canada) novel workflows for allergy immunotherapy (Dr Sharon Choo—Pediatric Allergist Immunologist and Immunopathologist at Royal Children's Hospital Melbourne) and primary immunodeficiencies (Dr Cindy Ma—Head of the Human Immune Disorders Laboratory at the Garvan Institute of Medical Research in Sydney).

Novel applications of cytometry are always a popular topic at any ACS or CYTO meeting. CYTO-Connect will feature applications of cytometry and cell sorting in microbiome banking (Dr Allison McKinnes—Senior Flow Cytometry Scientist at Queensland University of Technology), sorting for Environmental Genomics in Marine Ecosystems (Dr Haylea Miller, CSIRO), using cytometry to guide antimicrobial therapy (Dr Kieran Mulroney, University of Western Australia), using cytometry to measure inflammation caused by microplastics (Prof Michaela Lucas—Immunopathologist at WA Health), and applications of cytometry in monitoring water quality in regional areas (Kathy Fuller—University of Western Australia and Luke Zappia—WaterCorp Western Australia).

The shared resource laboratory is the engine room of research. At the same time, the role of technical staff in cytometry is changing. At CYTO-Connect we will hear about new career opportunities, recognition and support for technicians in research through the Technician Commitment Initiative. Presentations and discussions of this topic include Kelly Vere MBE (Director, UK Institute for Technical Skills and Strategy) and Professor Andrew Filby (Professor of Practice, Newcastle University), ACS President Robert Salomon, and Dr. Randall Grose (Adelaide Health and Biomedical Precinct Cytometry Facility). These conversations are especially timely as the role of technicians evolves from behind-the-scenes experts to recognized leaders in scientific innovation and training.

In addition to the invited speaker program, the conference will feature many oral presentations selected from abstract, as well as posters during the exhibition. Abstracts are open until 25th June and we encourage all to consider submitting your work. Abstract categories include;

Clinical Cytometry

- a. Laboratory Hematology
- b. Clinical Immunology
- c. Infection & Immunity

Research Applications of Cytometry

- a. New Cytometry Applications and Panels
- b. Biomedical Research (including immunology)
- c. Environmental Research
- d. Industrial & Agricultural Research and Development

Cytometry Training, Services & Careers

- a. Careers in Cytometry
- b. Shared Resources (Core Lab) Operations
- c. Cytometry Training
- d. Partnerships in Cytometry
- e. Cytometry in Resource Constrained Settings

Cytometry Innovation and Technology

- a. Innovations in Quantitative Cell Sciences
- b. Innovations in Labelling & Chemistry
- c. Innovative Engineering in Cytometry
- d. Innovations in Imaging and Spatial Cytometry

In addition to the categories above, CYTO-Connect is featuring a new abstract category focused on partnerships. This is an exciting initiative designed to showcase collaborative efforts in solving challenges through cytometry. We are seeking submissions from teams where each partner played a key role in addressing a problem, with both contributors presenting their perspectives and contributions.

Submissions should demonstrate how combining distinct areas of expertise led to innovative or impactful outcomes. For example:

- A researcher and a cytometry core facility technician collaborate, with the researcher presenting the scientific question and significance of the project, while the technician discusses panel design, optimization, and technical considerations.
- An agricultural scientist and a cytometry applications specialist share how they worked together to monitor product safety using cytometry.

We welcome any creative or interdisciplinary partnerships where cytometry played a critical role in problem-solving. Presentations should highlight both the scientific or industrial impact of the work and the technical innovations or optimizations that made it possible.

3 | Worldclass Workshops

Sunday November 30th will feature a dynamic post-conference workshop designed to build on the expertise showcased during the main conference. Hosted at the Harry Perkins Institute for Medical Research and The University of Western Australia, this interactive forum will feature our confirmed headliners, along with local talent and ISAC Emerging Leaders, in parallel half-day sessions that delve into advanced topics such as spectral panel design (Kate Pilkington, Florian Mair, and others), spatial multi-omics workflows (Felix Marsh-Wakefield, Thomas O'Neil, Givanna Putri and Paula Niewold), and publishing best practices (Bartek Rajwa and regional CPA editors). Additional sessions will explore clinical assay validation, myeloma minimal residual disease monitoring, regional cytometry education approaches, and career development. With more speakers soon to be confirmed, this workshop promises a rich opportunity to deepen skills, exchange ideas, and connect with the brightest minds in the field.

4 | Trade Exhibition

A major highlight will be the exhibition, showcasing the latest advancements in quantitative cell sciences from leading industry players. Leading global and regional innovators and suppliers of instruments, reagents, and solutions in the quantitative cell science will be on site to demonstrate their products and meet with delegates to find solutions to their cytometry needs. Cytek Biosciences has come on board as the Platinum Sponsor, while Sysmex Corporation and ThermoFisher Scientific are also prominently featured as Gold Sponsor exhibitors. The exhibition floor will feature a range of other global and regional companies, including Beckman Coulter, BD Biosciences, Miltenyi Biotec, Australian Biosearch, Biolegend, TECAN, and Challen Biosciences. Whether you are looking to explore the newest platforms or connect with solution providers for your lab, the exhibition will be a dynamic space for hands-on learning and collaboration.

5 | Social Program

The social program is the heart of conference networking. Delegates arriving in Perth the day before the conference kicks off will be welcome to come along to a sundowner icebreaker event held at The Maali at Perth's conservation zoo. Getting to The Maali from Perth's CBD and conference centre is an easy, picturesque late afternoon ferry ride across the Swan River and a short stroll through South Perth's entertainment precinct. Once at the icebreaker you can enjoy an opportunity to catch up with colleagues or meet new ones over a refreshment. There will be opportunities to hear about the conservation science being done at the zoo, and even an opportunity to see some of the animals before sunset.

The conference dinner is a capstone of the social program. This will be hosted at the function rooms of Perth Stadium. Perth Stadium is the home of Cricket and Australian Rules Football in Western Australia. Our function rooms look out over the hallowed turf on one side, with stunning sunset views of the Swan River and Matagarup Bridge on the other. The night will provide an opportunity to enjoy some time with the new connections made at the conference, and perhaps a spot of dancing.

6 | Travel Support and Awards

A number of schemes are in place to support delegated to travel to and present at the conference. Members of ISAC's leadership development programs (LDP—Scholars, SRL-EL's and Innovators) who are unable to attend CYTO in Denver in June, will be able to access any unspent travel support funds for 2025 to attend CYTO Connect.

The ACS are offering a small number of travel awards for members who are presenting their papers at CYTO Connect (apply through the registration site).

The late Sandy Smith was a former president of ACS and an enormously influential leader in cytometry in Australia and New

Zealand, particularly in clinical cytometry. In Sandy's memory, an award is being offered to offset travel expenses for ACS members who are presenting clinical papers at CYTO Connect.

Though partnership with TCS (India), the Indo-Australian Young Investigator Travel Award is offered to offset travel expenses for a member of TCS working in India to travel to the Perth meeting.

7 | Other Meetings in Perth

In addition to CYTO Connect and the post-conference workshop, there are opportunities to extend your business stay in Perth to make the most of satellite meetings and other conferences associated with CYTO Connect.

Immediately prior to CYTO Connect, the International Council for Standardization in Hematology (ICSH) is holding a special hematology symposium (<https://www.icsch.org/meetings/morphology2025registration>). The three-day program runs from 24th to 26th November, including morphology, flow cytometry, and molecular genetics focused breakouts.

Immediately following CYTO Connect commences the 53rd Annual Scientific Meeting of the Australian and New Zealand Society for Immunology (ASI)—running Dec 1—5th. Also being hosted at the Perth Convention and Exhibition Centre, the program will be of interest to many who are traveling to Perth for CYTO Connect.

8 | Future Directions

Like ISAC, many professional medical scientific organizations have recognized the need to engage the Oceanic and Asian region. Several organizations have held their annual scientific meetings in the region in recent years. Given the success of the current three-year rotation of CYTO, ISAC has committed to CYTO meetings in Denver (USA, 2025), West Palm Beach (USA, 2026) and Helsinki (Finland EU, 2027). A successful CYTO Connect event will represent an important first step in a new type of global cytometry engagement, paving the way for future regional events including plans for a return to CYTO Asia in the very near future or potentially similar CYTO Connect events to engage other regions like South America and Africa. With successful regional conferences, the global exchange of knowledge and best practices in cytometry is achieved, and the potential for a change in the three-year rotation to incorporate regions outside the US and EU is demonstrated. A strong showing at CYTO Connect could be the catalyst for a more inclusive future—where every region, regardless of geography, has a seat at the table in shaping the direction of cytometry science. CYTO-Connect is poised to be a remarkable and unique event. We are looking forward to hosting you.

Register at <https://cytoconnectperth2025.com.au/registration/>

Earlybird registrations are open until 19th September 2025.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

Matthew D. Linden
Henry Y. L. Hui

References

1. Signalling for Life and Death: Cytometry in the Analysis and Modelling of Cell Signalling. Proceedings of the 2nd Sam Latt Conference. Hamilton Island, Australia, July 18–21, 1999, "Cytometry 43, no. 3 (2001): 163–226.
2. P. E. Hutchinson, P. K. Wallace, and V. Nguyen, "CYTO Asia 2017 Meeting Highlights," *Cytometry. Part A* 91, no. 12 (2017): 1143–1146, <https://doi.org/10.1002/cyto.a.23297>.
3. Executive Order 14081 of September 12, 2022 (Advancing Biotechnology and Biomanufacturing Innovation for a Sustainable, Safe, and Secure American Bioeconomy), <https://www.federalregister.gov/documents/2022/09/15/2022-20167/advancing-biotechnology-and-biomanufacturing-innovation-for-a-sustainable-safe-and-secure-american>.