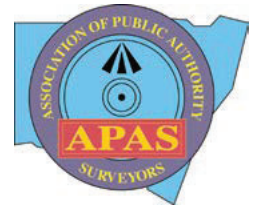
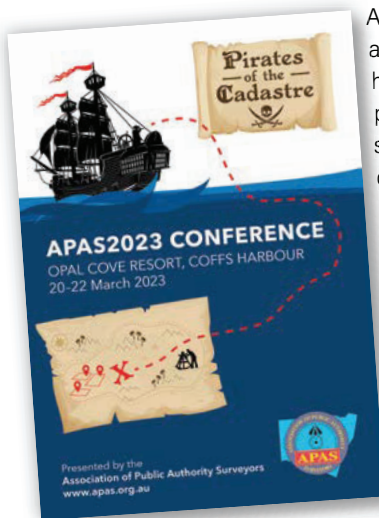


# PIRATES OF THE CADASTRE: APAS2023 CONFERENCE



## Dr Volker Janssen, DCS Spatial Services

The Association of Public Authority Surveyors NSW (APAS) was formed in 1994 primarily to cater for the needs of surveying and spatial information professionals working within state and local government and the education sector. Nevertheless, private surveyors also benefit immensely from APAS events such as conferences and seminars, which form an important part of the annual professional development events calendar.



APAS prides itself on organising an annual conference that is highly informative, focused on practical outcomes relevant to the surveying and spatial information community and provides ample opportunity for interaction with colleagues and exhibitors showcasing their newest technology.

The APAS2023 conference was held in Coffs Harbour on 20-22 March 2023, with the theme "Pirates of the Cadastre". As we set sail across the seemingly calm cadastral sea, we

encounter storms, face pirates and discover hidden treasure. However, by keeping our wits about and our powder dry, the surveying and spatial information profession is evolving and innovating to master the challenges faced.

APAS2023 encompassed 7 sessions with 20 presentations, most of which included a full paper. Continuing the tradition of being a practically oriented conference, a wide range of topics relevant to our profession was covered. This year's key topics included teaching and learning, WHS, cadastral surveying, updated legislation and guidelines, Live NSW, complex surveying tasks and how modern technology can be used to our advantage. There was also plenty of opportunity for networking and exploring the newest developments at the technical exhibitors' booths.

APAS2023 was a highlight on the CPD calendar and attracted 150 delegates from New South Wales and interstate, with 43% of delegates from private industry. As usual, the conference kicked off on Monday afternoon with the annual APAS team building event (golf tournament).

## 21ST MARCH - MORNING

The first session started with Dr Volker Janssen (APAS Publications Officer) highlighting some of the weird and wonderful research findings hidden amongst the scientific literature related to surveying and the spatial sciences (yes, drop bears were mentioned). Aiming to ensure that we remember the funnier side of science, he provided answers to questions that we may have been too afraid to ask and outlined humorous examples from surveying practice.

Chris McAlister (University of Southern Queensland) presented innovative ways to make surveying and engineering education not just more authentic, but also more engaging and fun without compromising curriculum. This included the introduction of interactive communication tools, zombie assignments, personalised assessment and lots of Lego. For this contribution, Chris later received the Keith Haddon Memorial Prize for the best conference paper.

John Brock (Brock Surveys) explored the life and work of Barthelemy Lafon, a French-born land surveyor, architect and town planner who worked in New Orleans at the end of the 18th and beginning of the 19th century. Most interestingly, Lafon changed career into the more lucrative, albeit less legal, undertaking of privateering, becoming a real-life pirate of the Caribbean!

The Official Opening took place at the beginning of the day's second session, starting with a Welcome to Country by Aunty Yvette Pacy from Garlambirla Guuyu Girrwa (Coffs Harbour Aboriginal Elders Group). Keynote addresses were then given by Cr Scott Wolgamot, Coffs Harbour City Council, Thomas Grinter, Deputy Surveyor-General of NSW, Lee Hellen, National Land Surveying Chair of SSSI, Mitchel Hanlon, President of ISNSW, Michelle Blicavs, CEO of the Association of Consulting Surveyors, and Nigel Petersen, President of APAS.

After the official opening, Fred de Belin (City of Ryde) discussed the alienation of Crown land from 1790 onwards. Focussing on Ryde, he provided food for thought in the quest to answer the many questions posed relating to first grants and alienation in order to better understand just what alienation actually is.



Mitchel Hanlon, Michael Spiteri, Rachel Greenwood, John McNaughton



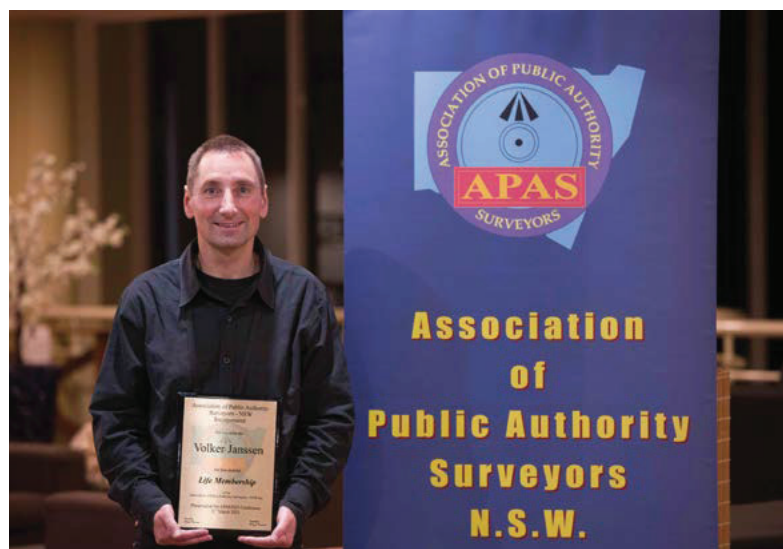
Chris Arnison (Transport for NSW) examined the history, legislation and surveys that led to the Australian Capital Territory as we know it today. This information proved to be very important for the proposed duplication of the Barton Highway from the ACT border towards Murrumbateman in NSW, as it requires the acquisition of land to accommodate the project in an area where a border becomes a boundary.

**21ST MARCH – AFTERNOON**

The first afternoon session began with Daniel Voysey (University of Southern Queensland graduate & APAS USQ Student Project Prize 2022 winner) assessing the detectability of underground water pipe leaks with non-invasive technologies. He found that ground penetrating radar was the most efficient option in leak detection, while infrared thermal images collected by a drone could identify leaks for shallow pipes only.

Andrew Jones (Position Partners) outlined the application of sensors and sensor networks in monitoring rail and tunnel infrastructure, while also demonstrating instances where the use of sensors has led to actions preventing a potential catastrophic failure. The use of autonomous sensors can increase data collection, analysis and cost efficiencies whilst also keeping the workforce and community safe.

This was followed by several technical exhibitor presentations, showcasing new advances in technology and surveying instrumentation and how these can be used in practice for a wide range of applications. Practical demonstrations gave delegates the opportunity to appreciate and evaluate the capabilities of these instruments in practical scenarios.



Technical exhibitor demonstrations

Top: Gala dinner speaker Michelle Blicavs  
 Middle: Gala dinner  
 Above: Dr Volker Janssen was awarded APAS Life Membership



At the beginning of the afternoon's second session, Michelle Blicavs (Association of Consulting Surveyors) reported on the future demand, supply and skills gap for surveying and geospatial professionals over the next 10 years. She highlighted the key findings of a new workforce capability study and identified the focus areas for the profession in the coming few years to ensure a sustainable and increased output from the workforce is achieved.

Wayne Fenwick (DCS Spatial Services) addressed on the review of Surveyor-General's Direction No. 6 (Water as a Boundary), which is now planned to be released in conjunction with the new Surveying and Spatial Information Regulation. He outlined why context, ethics and transparency are the three most important things when it comes to natural boundaries. Any change that may occur in water boundaries needs to be natural, gradual and imperceptible.

The Gala Dinner concluded the day with dinner speaker Michelle Blicavs (Association of Consulting Surveyors) returning to take a fun look at the way we work, unpack the genius within us all and discover how to better manage the frustrating part of our jobs and those we work with. She provided new insights to working in a team and how we can better work together to achieve the goals of our organisation.

Dr Volker Janssen was awarded APAS Life Membership in recognition of his outstanding service to the organisation over many years, particularly as APAS Publications Officer, Program Chair and Editor of the conference proceedings for the last 12 years.

## 22ND MARCH - MORNING

The day's first session kicked off with Riley Bryn (Endeavour Energy) discussing electrical safety, industry trends and incidents, lessons learnt from recent cable impacts and safety advice regarding the planning of work and safety around electrical infrastructure. If subsurface utility assets (which may be located just beneath the surface) are breached, this can cause serious Work Health and Safety (WHS) issues for surveyors and disrupt essential services for the surrounding community.

Stephen Saunders (Transport for NSW) showcased the development of an integrated and automated digital WHS workflow tailored to surveyors but adaptable for other field activities. This includes a risk register, Safe Operating Procedures (SOP), site-specific Safe Work Method Statements (SWMS) and Traffic Guidance Schemes (TGS) integrated into a digital platform that can be easily accessed in the field on a mobile device.

Stewart Folley (DCS Spatial Services) and Jarad Cannings (NSW Public Works) revisited the devastating floods that occurred in north-eastern NSW in early 2022, focussing on the survey work to collect water levels across five LGAs for the SES flood intelligence gathering project. They also told a story of grieving and healing, resilience, power of community after a natural disaster, and the delicate situation the surveyors found themselves in when capturing this much-needed data during a very challenging time.

At the beginning of the second session, Geoff Songberg (formerly Crown Lands) discussed pirates and their hidden treasures in the cadastre, showing some of the survey plans that should not be, their treasures and how they came about. It is hoped that, with due diligence and the required skills, the remaining treasures can be unearthed, the cadastre calmed, and the pirates sent sailing for home port and retirement, never to bury another treasure.

John McNaughton AM (Palmer Bruyn Surveyors) offered tips for understanding old survey plans and field notes in surveying



John McNaughton AM and his circumferentor

practice, where boundaries were measured with link chains and circumferentors. Hoping to help surveyors make sense of historical survey information in the modern era of surveying, he outlined these methods and explained how to interpret the resulting survey plans, also showing examples of column notes (which were very common in surveys from the 1830s).

This was followed by Les Gardner (DCS Spatial Services) providing an update on the remake of the Surveying and Spatial Information Regulation for implementation in September 2023 (or potentially 2024) and the proposed changes. Following a modern approach used by the Parliamentary Counsel's Office, the proposed regulation has been completely re-structured, and all 'clause' numbers will change to new 'section' numbers.

Grant Calvin (MidCoast Council) proposed an elegantly simple solution to address the continuing problems of siltation and beach erosion within the entrance of the Manning River at Harrington. This proposal has the potential to dramatically reduce coastal erosion in at least one of the coastal erosion hot spots in NSW, at a fraction of the cost of other heavily engineered solutions.

## 22ND MARCH - AFTERNOON

The last session commenced with an interactive demonstration and discussion forum on Live NSW and the spatial digital twin. Adrian White and Thomas Grinter (DCS Spatial Services) highlighted the key initiatives that form part of, or relate closely to, the Live NSW program and the impact they will have on industry. This included topics such as digital survey plans, foundation spatial data, the NSW gravity model and industry benefits.

Ian Jones (Sydney Trains) outlined the railway boundary definition process, which requires approval from Transport for NSW acting on behalf of the Transport Asset Holding Entity (TAHE). In an effort to reduce the number of rail boundary approval requests being returned to the surveyor for clarification or amendment, he presented examples of the problems encountered and explained the reasons for requisition.

The conference concluded with Fred de Belin (City of Ryde) returning to showcase the creation of a simplified, abridged scan of the built environment at street intersections to house, hold and deliver thousands of points that are useable, stable and accurate enough

to define or re-establish a street intersection. He concluded that the scanning procedure is now sufficiently reliable, repeatable and sub-centimetre accurate to rely on such scanned data for cadastral purposes and thus tame the Best Estimate Asserting Survey Truth (BEAST).

At the Annual General Meeting, the following APAS office bearers were elected for 2023/24: Nigel Petersen (President), Micheal Kocoski (Vice President, Conference Manager & ISNSW Representative), Wayne Fenwick (Secretary & Public Officer), Joel Haasdyk (Treasurer), Jarad Cannings (Past President), Dr Volker Janssen (Publications Officer), and Committee Members Alex Burrridge, Alecia Goodrich and Don Urquhart.

The APAS2023 conference proceedings are available online from the APAS website (<https://www.apas.org.au/>).



Chris McAlister received the Keith Haddon Memorial Prize for the best conference paper

### APAS2024

APAS2024 will be held in Canberra on 18-20 March 2024. Please consider contributing to next year's conference by presenting a paper. There is a lot of fantastic work being done out there – why not tell

the profession about it? For more information and to indicate interest in presenting at APAS2024, please contact the APAS Publications Officer, Dr Volker Janssen ([Publications@apas.org.au](mailto:Publications@apas.org.au)).

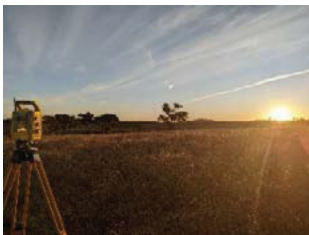
## We're Hiring

With continued growth and regional expansion, we're looking for more staff within our multidisciplinary company. We're excited to open an opportunity to join various departments across the company in the following positions:

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- Senior Civil Engineer (Hunter)
- Civil Superintendent/ Contract Administrator (Central Coast and Hunter)
- Civil Draftsperson (Central Coast and Hunter)



If you are interested in obtaining more information about any of these roles, please see [www.adwjohnson.com.au/careers](http://www.adwjohnson.com.au/careers) for details.



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