

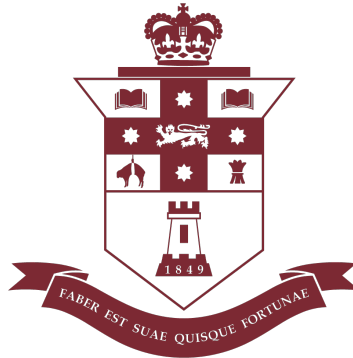
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The Fortians Union

Bulletin

Produced for former students of:

- Fort Street Girls' High School
- Fort Street Boys' High School
- Fort Street High School



Number 100

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Annual Dinner

The 2024 Annual Dinner will be held on **Friday, 18 October**, at **Club York**, 95 – 99 York Street, convenient for both Public Transport and Parking.

Our Guest Speaker will be **Philippa Scott** (1998), Councillor on the Inner West Council. Philippa gave an engaging address to the school at Speech Day earlier this year. Here is how Principal Juliette McMurray introduced her:

“Philippa Scott is a Labor Councillor on Inner West Council and a former deputy mayor, exemplifying her extensive leadership skills. As a lawyer, a university

lecturer and political advisor with a strong sense of social justice, she has worked and researched overseas and in Australia, providing legal and management advice to the public and not-for-profit sectors, using her skills and talents across a broad range of areas.”

Please arrive by 6:45 for a 7:00 pm start. The cost of the dinner is \$75 for Members and \$80 for others.

A Booking Form is attached or use the link (sites.google.com/view/fortians-union/dinner) or the QR Code.

Places are limited to 200, so start organising your Year Group now, and book early.



General Meeting Results

Members are advised of the outcome of the General Meeting, held on 2 July. More than 80% of the votes supported each of the 2 Motions, put the Members. An Interim Committee was elected, comprising:

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|--------------------------------|---|
| President: | Glenn Maddock (77) |
| Vice-President, Male: | Rod Broune (75) |
| Vice-President, Female: | Margot Cooper (75) |
| Secretary: | Don Newby (67) |
| Treasurer: | Paul Steenson (67) |
| Committee Members: | Alan Allison (67), Julia Bovard (65), Maria Castellanos (75), Gordon Hill (62), Julie Ivison (65), Ian McLaughlin (73), Helen Sarantopoulos (88), Adam Tran (91). |

Fort Fest

Friday, **20 September**, 2024 from **3:15 to 8:00**, at the School. Come along for a wonderful evening of food, entertainment, games, stalls and so much more. This year's Fort Fest will also celebrate the 175 years of Fort Street High Schools. Please use the link <https://form.jotform.com/gabrielleearls/fortfest2024> if you can provide sponsorship for Fort Fest, or donations, for prizes.

Fortians' Stories

Ray BINNS (1954) says *"Despite the Headmaster saying I should become a nuclear physicist, I became a geologist, graduating BSc from Sydney, then PhD from Cambridge. I taught at UNE Armidale and UWA, Perth, before joining CSIRO, to lead its Division of Mineralogy in Sydney."*

He retired in 2002 but retained an Honorary Fellowship at CSIRO until last year. He enjoyed a great career, including work on many Australian mines, and much international travel and marine expeditions. He may not have become an Astronaut, but he worked on meteorites and the Apollo moon rocks anyway. "Instead, I became a Hydronaut, diving to nearly 3 km in the Bismarck and Solomon seas, with Soviet and Japanese submersibles.

Maria Skyllas-Kazacos (1969), Emeritus Professor, UNSW Sydney Flow Batteries for Large-Scale Solar and Wind Storage in the Transition to Renewables.

Maria Skyllas-Kazacos AM FTSE is best known for her pioneering work of the vanadium redox battery, which she created at the University of New South Wales in the 1980s. Her design used sulfuric acid electrolytes and was patented by the university. In 1999 she was appointed a Member of the Order of Australia "for service to science and technology, particularly in the development of the vanadium redox battery as an alternative power source. Below is her account of this work.

2024 marks the 40th anniversary of the birth of the Vanadium Flow Battery (VFB) at UNSW Sydney. It all started in 1984 with the first experiments carried out by Honours Thesis student Elaine Sum (who subsequently completed her PhD in Aluminium smelting). Over the next 40 years, hundreds of students and researchers have worked to expand the research and development of the VFB technology at UNSW, with pioneering research in all areas of the flow battery including electrolytes, membranes, electrodes, sensors, stack design, electrochemical, hydraulic and thermal modelling and simulation, and battery management system development.

UNSW filed the first patent on the VFB in 1986 and by 1993, the Thai-based construction company Thai Gypsum Products was granted a licence to the technology for the South-East Asian region. Around the same time, the University granted a licence to Kashima-Kita Electric Power Corporation and Mitsubishi Chemicals. This was followed by a 5-year R&D collaboration programme between the UNSW research group and the Japanese companies, leading to the first commercial-scale 200 kW / 800 kWh VFB installed at the Kashima-Kita Electric Power Plant for load-levelling field trials in 1987. Several field trials were also undertaken by UNSW in a solar powered house, electric golf cart and in an emergency back-up system for submarine applications. The UNSW VFB patents

were sold to Pinnacle VRB in 1998, and a licence was subsequently granted to Sumitomo Electric Industries in Japan, but despite the early licensing and field testing by UNSW and Sumitomo Electric Industries, it took more than 25 years for the energy storage market to mature to the point where the technology is now realising significant commercial uptake in medium-scale to large MW-scale systems.

Since 2015, the interest in vanadium flow batteries for long duration energy storage has grown exponentially as the world accelerates its transition to renewables in response to concerns over the effects of Climate Change. Unlike common batteries, flow batteries employ two redox couple solutions that react at inert electrodes in a cell stack. The energy capacity of a flow battery depends on the volume of electrolyte and active material concentration, while power rating is determined by stack size. Moreover, flow batteries have lower fire safety risks compared with lithium batteries and are more cost effective for long duration storage. They also have fast response, high energy efficiency, long service life, flexible design and relatively low environmental impact.

China is currently leading the world in the implementation of the VFB, with GWhs of vanadium flow battery storage systems already installed, the largest being a 200 MW/800 MWh VFB integrated to a wind farm by Rongke Power in Dalian. With Australia's large reserves of vanadium, the possibility of growing a local industry around the mining and processing of vanadium for local vanadium battery manufacture and for export has been supported by a number of state governments. Several Australian companies are now producing vanadium electrolyte and multiple MW-scale VFB installations are being planned and implemented around Australia.

After growing up with the Vanadium Flow Battery for 40 years, my family managed to all come together in January this year to visit UNSW and see the commercial VFB installation in the Tyree Building. It was a very special family moment as captured by the following photograph showing my husband Michael (who worked on the VFB project for almost 20 years at UNSW and who, together with Nick and George, founded the spin-off company, V-Fuel in 2005), sons Nick (who spent all his Uni holidays doing volunteer work in the VFB lab at UNSW and a number of years with V-Fuel), George (who also dedicated several years to the VFB development at V-Fuel) and Anthony (who was forced to attend countless technical conferences with me as he was growing up). Unfortunately, V-Fuel was wound up in 2010 because the energy storage market was still not ready.



Phil Kafcaloudes (1977)

Dr Phil Kafcaloudes is a writer, academic and broadcaster. He worked for the ABC for 26 years as a TV political reporter and radio presenter. He has taught at La Trobe and RMIT universities. His PhD examined the legitimacy of telling true stories in a fictional context.

1977 alumni Phil Kafcaloudes is about to stage his first play, *Of Forgetting*, which is a three-hander that tells the true story of his maternal grandmother, a spy in Greece in WWII. It is an adaptation of his 2011 novel, *Someone Else's War* which was translated into Greek for the European market.

The play will be staged at Melbourne's legendary La Mama Theatre in Carlton in September, and will be directed by Gary Young, who originated the Australian productions of *Mamma Mia* and *The Mousetrap*. Phil's grandmother will be played by his



real-life partner Jackie Rees (Green Room nominee for her portrayal of Madame Girya in *Phantom of the Opera*). Casting for the other two roles is expected to take place in June.

"It's been a long time coming," Phil says. "La Mama has such a great history, especially notable for being the place where David Williamson staged his first play half a century ago. It's an intimate theatre and the people behind the scenes are just fantastic."

Phil hopes to eventually turn the story into a TV mini-series. It has been a busy year for the writer and long-time ABC broadcaster. He has been commissioned by a British publisher to write the biography of hard rock superstars Deep Purple, and in-between interviewing rock gods he has seen two academic papers published this year, including one about why many Greek migrants anglicised their names on arrival in Australia.

But Phil credits Fort Street for forming his love of writing:

"Mrs Williams was my Year 12 English teacher in 1977, working with us in a demountable on the north end of the school abutting what was then Miller's brewery. She awakened in me a joy in the writing of Shakespeare, Arthur Miller, George Eliot and John Donne. As a child philistine I had always considered each of them turgid self-obsessed overwriters. She set me straight and I wish I could find her to thank her for it."

Phil and Jackie now live in Melbourne with Molly, a border-kelpie, who rules their lives.

Of Forgetting will be staged from September 10-12 as part of La Mama's explorations program.