

ANNUAL REPORT



Royal Society of Western Australia

2024 Annual Report

The Royal Society of Western Australia acknowledges the Traditional Owners of country throughout Western Australia and recognises their continuing connection to land, waters and community. We pay our respects to them and their cultures; and to elders both past and present.

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President's Letter

Dear Members,

I am pleased to present the Royal Society of Western Australia's Annual Report for the financial year 1 July 2023 to 30 June 2024 including reports of event that occurred before the 2024 AGM.

This year saw strong progress in promoting the natural sciences and modernising how we connect with members and the community. A key achievement was the launch of our new website, **www.rswa.org.au**, which now integrates membership management, event promotion, communications, and journal access. This upgrade has streamlined operations and improved visibility of our activities and student support programs.

Two major events showcased Western Australia's scientific excellence: the **'Future WA' Symposium**, highlighting innovation in space, computing, and biodiversity, and the **Fourth John Glover Symposium**, *Perth as a Megadiverse City*, which drew wide participation and celebrated emerging scientists through grants and poster awards.

I thank all members, Council, and volunteers for their continued dedication. Together we are strengthening the Society's role in advancing and celebrating science across Western Australia.

Hans Lambers
President

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About the Royal Society of Western Australia

As the premier society of scientists in Western Australia, the Royal Society of Western Australia (RSWA) proudly fosters exchange among natural and physical scientists and promotes the natural sciences in all their aspects through publications, meetings, symposia, and special events.

Our peer-reviewed *Journal of the Royal Society of Western Australia* features original scientific research with an emphasis on local science. Broad in scope, it covers the natural and physical sciences, as well as anthropology and archaeology.

We also organise symposia and excursions on topics of current importance or interest, foster science in the community through special events and education, and maintain a publicly available library at the Western Australian Museum.

The Society was established in 1914 and is inspired by the Royal Society of London, the world's oldest scientific academy.

The Patron of the Royal Society of Western Australia in 2024 is His Majesty King Charles III, and the Vice-Patron is His Excellency the Honourable Chris Dawson AC APM, Governor of Western Australia.

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The year in review

During the financial year 2023-24, the RSWA continued its work in promoting and supporting the advancement of the natural sciences in Western Australia. Highlights during the 2023-24 financial year — including some which occurred after the end of the financial year, but before our 2024 Annual General Meeting — are detailed below.

RSWA Symposium 'Future WA'

Held on Saturday, 15 June 2023 at the Centre for Entrepreneurial Research & Innovation (CERI), this year's annual RSWA symposium was entitled 'Future WA', showcasing current WA science and research that can lead WA into future technology and industry diversification, and build on our state's unique advantages. This year, the "Future WA" Symposium focused on space and radioastronomy, super- and quantum-computing and future opportunities offered by WA's unique flora and landscapes - plus a deep look at who our future WA scientists and researchers could be.

Speakers and topics included:

- Caitlin Collins MLA (Member for Hillarys, representing the Minister for Innovation, Hon Stephen Dawson MLC)
- Vivienne Hansen - 'Indigenous Noongar knowledge on bush food and medicine in the future of WA'
- Prof. Simon Ellingsen (Executive Director, International Centre for Radio Astronomy Research) - 'WA - A State Thriving in the Space Age'
- Prof. Cathryn Trott (Deputy Director, ARC Centre of Excellence for All Sky Astrophysics in 3D, ICRAR Curtin) - 'The Square Kilometre Array (SKA) and what it means for humanity's future understanding of our Universe'
- Dr Sarah Pearce (SKA Low Telescope Director, SKA Observatory) - 'The "Shared Sky" Indigenous art project'
- Dr Ellie Sansom (Director of the Australian Desert Fireball Network and Global Fireball Observatory) - 'WA observatories are pioneering a Global Fireball Observatory for planetary defence' (*replacing: Prof. Phil Bland, Curtin University School of Earth and Planetary Sciences - 'Advanced spacecraft platforms supporting future WA missions'*)
- Assoc. Prof. Sascha Schediwy (ICRAR, UWA) - 'TeraNet: Developing the next-generation of laser-powered, space communication networks in Western Australia'
- Mark Stickells AM (Pawsey Supercomputing Centre) - 'Accelerating Scientific Discovery through Advanced Computing (HPC to Quantum)'
- Prof. Jingbo Wang (Director, Centre for Quantum Information, Simulation and Algorithm, UWA) - 'The era of quantum computing is coming - and here are the opportunities for WA'
- Prof. Harvey Millar (ARC Centre of Excellence in Plants for Space and International Space Centre, UWA) - 'Developing a role for WA plant & agricultural sciences in Moon to Mars space exploration 2025-2050'
- Digby Gowns (Senior Plant Breeder, Kings Park & Botanic Garden) - 'Developing WA's native flora – resilient plants and resilient landscapes' [*Kings Park's 'plant breeding for export'*]
- Malcolm French (Eucalypts WA) - 'Eucalypts - Enhancing Perth's & the Regions tree canopy, and new discoveries'
- Dr Kathryn Ross (Founder of IncludeHer) - 'Balancing the equation: The importance of gender analysis in a future of scientific innovation'

The event was organised by the Society's Vice-President Michael Tucak, based on initial advice from WA Chief Scientist Prof. Peter Klinken AC, and attracted attendees from a

broad range of scientific disciplines. It was a successful event, including the collaboration with CERI which helped attract a new audience and gave attendees an opportunity to learn more about the projects being worked on by CERI's innovators .

Development of a new website

A major milestone this year was the successful transition of the Royal Society of Western Australia's website to a new platform, www.rswa.org.au. All content was transferred and updated to improve accessibility and functionality. The new site now provides fully integrated management of memberships, with automated processing of new members, and events are promoted through Eventbrite with immediate synchronisation to the website. Communications are managed through Mailchimp, ensuring consistent messaging and automatic updates for new members. Dedicated pages have also been created to highlight the **John Glover Fund, student support, and scholarship opportunities**, improving visibility and access for prospective applicants. The RSWA journal and other key resources are now easily accessible online, creating a modern, streamlined, and professional digital presence that enhances engagement with members and the broader community.

4th John Glover Symposium

This year marked the fourth annual two-day symposium named in the late John Glover's honour, following his very generous bequest in 2020.

Held on Friday, 4 October and Saturday, 5 October 2024 at the University Club at UWA, the John Glover Symposium explored Perth as a Megadiverse City: From the Indian Ocean to the Perth Hills. The event was opened by Fiona Argyle, Mayor of the City of Nedlands

The following speakers presented at the symposium:

1. David Haig, UWA: Keynote 1 - Perth: a four-dimensional view beneath our megadiverse city
2. John Bunting, J A Bunting & Associates: The Tamala Limestone in the Perth region – its origin and demise
3. Richard Harper, MU: A diversity of soils and their origin
4. Sally Thompson, UWA: Climate is changing the hydrology of the Swan Coastal Plain – what does it mean for Perth's urban ecosystems?
5. Jane Chambers, MU: Wetlands under urbanisation and climate change: the way forward
6. Steve Hopper, UWA: Where are all those plant species in megadiverse Perth?
7. Kingsley Dixon, CU: Keynote 2 - Conserving and restoring our biodiversity and why this is important
8. Jess Beckerling, Conservation Council of WA: Threats to our biodiversity
9. Simon Kilbane, UWA: How to design cities to enhance biodiversity and to cope with climate change
10. Grey Coupland, MU: Miyawaki forests: providing rapid greening and enhancing urban biodiversity
11. Geoff Barrett, DBCA: Protecting biodiversity assets in the Swan Region – a conservation manager's perspective
12. Marion Cambridge, UWA: Diversity of seagrasses
13. Philip Jennings, MU: Recognising and conserving Perth's biodiversity
14. Cate Tauss, Tauss and Associates: Against all odds: community Friends of biodiversity in the post-truth age of ecocide
15. Will Stock, ECU: What do we need to do in Perth to look after our threatened Carnaby's Black Cockatoo?
16. Greg Keighery, DBCA: Banksia woodlands as a threatened ecological community

17. Theo Evans, UWA: Is the polyphagous shot-hole borer a threat to the biodiversity in Perth?
18. Nick Cook, WATCA: The urgent need to protect, enhance and diversify Perth's urban canopy
19. Angela Rossen, Artist and Biodiversity Educator: Engaging the general community through a biodiversity survey of their own place
20. Erik Veneklaas, UWA: Plant water relations in Perth in view of our declining rainfall
21. Paul Poliwka, Poliwka Legal: Tree canopy targets: punitive or prescient?
22. John Bailey, The Leeuwin Group and MU: Biodiversity: science and beyond - enough is enough!

Organised by Hans Lambers, this truly multidisciplinary event was well attended and led to several new members joining the Society — many of them tertiary students. At the event, we also announced seven successful research grant recipients arising from the John Glover bequest (set out below) and awarded 11 student poster prizes.



Winners of poster prizes at the forth John Glover Symposium.

Journal of the RSWA

The Journal of The Royal Society of Western Australia provides a peer reviewed, open access outlet for research with a clear emphasis on science relevant to Western Australia across the natural and physical sciences, archaeology and anthropology. In 2024 all journal information and processes moved to the Scholastica online platform, which now supports electronic submission, peer review, editorial management and article layout, and offers a single location where readers access current and archived issues. Volume 107 (2024) comprised four contributions, including studies on cryptic reptiles in the Perth region, long term change in insect visitors to Jarrah flowers, the status of tiger snakes on Carnac Island and revised Jurassic to Miocene stratigraphy in Timor-Leste. During 2025, volume 108 has published seven articles, notes and an obituary, involving more than twenty contributing authors and covering topics such as citizen science and bat boxes, unexpected captures of hopping mice, groundwater and streamflow decline, and new

geological insights from Western Australia and Timor-Leste. A guide for authors and all published papers are available through the RSWA website and the Scholastica journal portal, and the Society continues to welcome submissions on science of direct relevance to Western Australia.

John Glover Bequest

The third cohort of John Glover Research grants was awarded. These grants are financed through a gift to the Hackett Foundation to administer the research grants for relevant postgraduate students at all Western Australian universities, including \$10,000 for research support and \$5,000 towards living allowance. The applicants successful in 2024 receive their funding in 2025.

In 2024, the recipients of these research grants were as follows:

- Sara Cavalcanti Marques (MU) - Assessing co-benefits of incorporating bush tucker to land stewardship practices
- Ling-Ling Chen (UWA) - Phosphorus-utilisation strategies in Proteaceae, Fabaceae, Myrtaceae and Ericaceae in contrasting habitats
- Carmelo de Benito Abello (MU) - Foraging ecology of green turtles inhabiting a dynamic environment in the Kimberley region, Western Australia
- Cameron Dodd (UWA) Cryptic Kultarr: Evolution and Biogeography of arid-zone dasyurids
- Natalie Grassi (MU) - How do predators prefer to move through the landscape? An analysis of telemetry data
- Zachary Kayll (MU) - Biodiversity change in wetlands exposed to a rapidly drying climate.
- Hanna Whitaker (UWA) – A Re(ef)-Scaling of Our Tools for Managing Marine Heatwaves and Identifying Climate Refugia in Western Australia’s Marine Parks
- Zhe Zhang (UWA) - Protection of eucalypt species against Phytophthora infection in an extremely phosphorus-impooverished environment: insights into the different roles of mycorrhizal fungi
- Mnqobi Zuma (MU) - The implications of multiple disturbances on plant-soil interactions

We look forward to being able to report on recipients of these grants and progress in our future reports.

STAWA Sponsorship

ScienceIQ is an online, curriculum aligned science quiz program that supports Years 5 to 9 students to build science knowledge and teamwork through friendly interschool competition. The Royal Society of Western Australia fully sponsors ScienceIQ, which runs quizzes for teams of four students across Terms 2, 3 and 4, with teachers choosing times that suit their class timetables within each competition window. In 2024 the relaunched program attracted 35 schools in Term 2, 23 in Term 3 and 19 in Term 4 from across Western Australia, with strong primary school participation, substantial regional school involvement and an increasing number of schools entering multiple rounds. Winning teams received gift card prizes for first, second and third places in each division, and the Society’s support covered all prize vouchers, website administration, and certificate design and printing. Through this sponsorship, RSWA provides a structured opportunity for students to work collaboratively on challenging science questions in a flexible online format that teachers integrate into regular classroom programs.

End of Year Talk

Professor Steve Hopper: Worlds apart - Darwin's Orchid Bank, UK, compared with Gingin Cemetery, Western Australia, in the context of Ocbil theory

Friday 8th of December 2023



This seminar examined Darwin's Orchid Bank and Gingin Cemetery as examples of young versus old landscapes within Ocbil Theory. Ocbils are old climatically-buffered infertile landscapes mainly in the Southern Hemisphere, while Yodfels are younger frequently disturbed fertile landscapes. Darwin's Orchid Bank is a typical Yodfel, and Gingin Cemetery is an Ocbil disturbed since colonial settlement. The study involved sampling flora, recording dispersal abilities, and using DNA sequencing to explore phylogenetics and endemism. Findings support Ocbil Theory's predictions and its relevance for conservation management and further ecological, evolutionary, and anthropological research.

Councillors

Since the last AGM, members who have served on Council have been:

•President:	Prof. Hans Lambers
•Vice President:	Mr. Michael Tucak
	Prof Richard Harper
•General Secretary:	Prof. Treena Burgess
•Membership Secretary:	Dr Sarah Sapsford
•Treasurer:	unfilled
•Editor-in Chief:	Prof. David Haig
•Librarian:	Ms Bobbie Bruce
•Student representative:	Mr Clément Tremblin
•Councillor:	Dr. Liz Barbour
•Councillor:	Dr. Giada Bufarale
•Councillor:	Dr Leon Harris

Acknowledgements

We thank the Board of the Botanic Gardens and Parks Authority for allowing the Society to hold meetings on the Kings Park premises under their jurisdiction and for providing support for Society activities. The Society is very thankful to our Librarian Bobbie Bruce and the Western Australian Museum who manage and house the Society's library, for storing a sizeable stock of additional copies of the Journal, for assisting the Museum of Victoria to digitise the Journals, for attending to enquiries, and for occasional mailing of publications when required. As we move to a new website managed inhouse by the Society, we thank Dr Peter Williamson for his voluntary services of in managing the Society's website for many years. All members of Council are thanked for their voluntary contributions during the year, with particular thanks to the retiring members, Dr. Hugo Bekle, Dr Arthur Mory, Dr. Eckart Hakansson, Dr. Justin Parker and Mr Andrew Lynn