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NOVEMBER NEWSLETTER



**The Royal Society of
Tasmania Presentation and Dinner
on Tuesday 3 December at 6.00pm**
in the CSIRO Lecture Theatre, Castray Esplanade,
Battery Point.

The President and Council of The Royal Society of Tasmania invite you to join them at the December presentation by historian **Dr Alison Alexander** who will enlighten us on her research into ***Maria Lord: from convict to governor's lady.***

The address will be followed by a two-course buffet dinner at \$44 per person.

Click on this link to access the [Invitation and Acceptance Form](#) and provide your details and preferred method of payment.



Northern Branch November Lecture

On Sunday 24 November at 1.30pm at the QVMAG Meeting Room at Inveresk, **Prof James Vickers** will speak on ***Reducing risk of dementia: evidence and opportunities.***



The greatest risk factor for dementia is age. However, there is evidence that approximately one third of cases may be avoided if several potentially modifiable risk factors are addressed. This presentation examines the current state of research on dementia risk and outlines educational and research opportunities that may assist in reducing susceptibility to this neurodegenerative condition.

[Meeting Room, Inveresk QVMAG](#)

Distinguished Professor James Vickers is Director of the Wicking Dementia Centre in Hobart. His interests include neurodegenerative disease and traumatic brain injury. He is a board member of the aged care provider, Glenview Community Services, which is building a new form of residential care specifically for people with dementia.

Generously sponsored by



Inaugural Recipient of the Peter Smith Medal

Geodesy is the Earth science of accurately measuring and understanding Earth's geometric shape, orientation in space and gravitational field by using signals from far distant radio galaxies. The field also incorporates studies of how these properties change over time and equivalent measurements for other planets.

On 2 October 2019, **Dr Lucia McCallum** became the inaugural recipient of the Peter Smith Medal. This medal is awarded biennially to an outstanding early career researcher in any field by The Royal Society of Tasmania. Dr

McCallum is pictured left holding her new medal beside the Society's Honour

Board.

Dr McCallum is a Geodesist at the School of Physical Science, UTAS, working in the AuScope Very Long Baseline Interferometry (VLBI) project with the University's own radio telescopes at Mt Pleasant, the Northern Territory and in Western Australia, in common measurements together with telescopes all over the world.

For about 30 years, the baseline telescope in Hobart has been measuring Earth by communicating with the telescope in Kokee, Hawaii, at an amazing precision of 7mm.

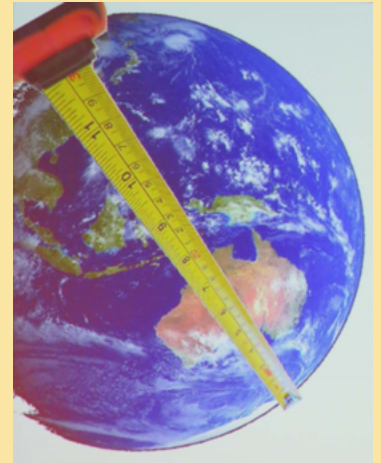
Our position on the globe is essential to everyday life.

Position allows us to locate ourselves in the world and get to where we want to go. Satellite positioning technologies have enabled the precise navigation and positioning we rely on at

the touch of a button, from smartphones to autonomous vehicles. This brings increased productivity, improved community safety and boosted innovation.

To determine position, velocity and time, we rely on global navigation satellite system technology. Australia is one of few countries in the world with high visibility to six international global navigation satellite systems due to our geographical location.

The Society sincerely congratulates Dr McCallum on her significant achievements.



**175 Years of Advancing Knowledge Honoured with a Plaque
by Dr Robert Johnson**



The 175th year of The Royal Society of Tasmania (RST) came to a memorable close at the Tasmanian Museum and Art Gallery (TMAG) this month. On 14 October, the Governor of Tasmania and RST Patron, Her Excellency

Professor the

Honourable Kate Warner AC along with Janet Carding, Director of TMAG and the RST President, Distinguished Professor Emeritus Ross Large AO unveiled a commemorative plaque at the historic entrance to the RST Museum and Library in Hobart.

I took the opportunity to interview RST President, Professor Large at the time of the plaque unveiling. Prof Large reflected on his time as President during the 175th year of the RST, the significance of the RST in the 21st century, and his vision for the next 175 years of the RST. What follows is a transcript of my conversation with Prof Large.

Ross, can you tell us a little about yourself – what is your background?

I am a born and bred Tasmanian, with degrees from UTAS and University of New England. My ancestors are from convict and colonial stock. I worked as a mineral exploration geologist for 12 years before joining the University of Tasmania. I was the foundation professor for an international research centre in mineral deposit exploration called CODES. I have since retired as an emeritus distinguished professor, still involved in active research and PhD supervision. I am currently researching the evolution of the chemistry of the Earth's oceans and atmosphere.

The Royal Society of Tasmania (RST) has endured for a wonderfully long time in Tasmanian society. Can you explain the significance of the RST?

RST is the longest, continually operating scientific society in Australia, and the first Royal Society to form outside the UK. In the early years of the Tasmanian colony, it played a very significant role in the development of the colony. It has accumulated a very valuable collection of colonial artworks, rare books, maps and letters about the

colonial period. These are a unique and rare collection of documents. Today, the RST continues as a scientific (and historical) society with the mission of “The advancement of knowledge”.

Who founded the RST?

Governor Sir John Eardley-Wilmot was the principal founder, but Sir John and Lady Jane Franklin were instrumental in founding the precursor society, called the Tasmania Society. The latter disbanded not long after the RST was established.

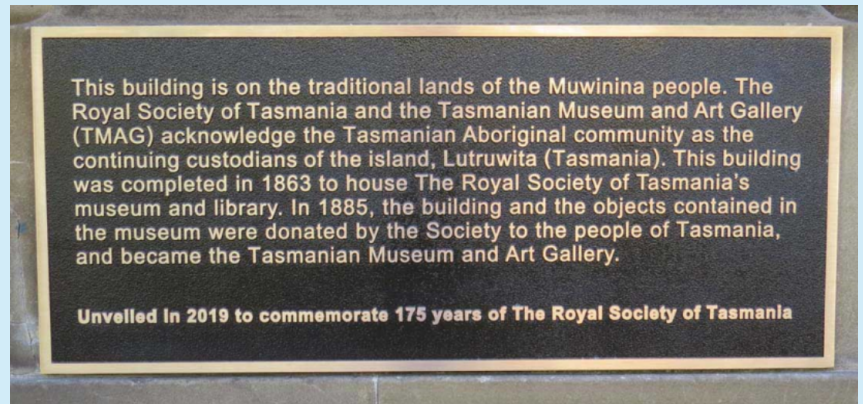
When was the RST founded?

14 October 1843.

A plaque is a fairly public statement. What do you hope to achieve by putting up this plaque?

We would like Tasmanians and visitors to be aware of where

and when the RST was established and that it was the forerunner of TMAG.



Where is the plaque situated?

It is situated on the Argyle Street side of the TMAG building, close to the corner with Macquarie Street at the site of the original rooms of RST in the TMAG building.

How will this help the mission of the RST?

Good question. I suppose it will advance the knowledge of Tasmanians about the presence of the RST.

How does it feel to be the RST President in the 175th year of the RST?

Very proud and immensely privileged to be the President of a scientific society with such a significant historical role in the development of Tasmania. But also, a society made up of members – volunteers who all want to give back something to their State by way of encouraging younger Tasmanians through scholarships, lectures, symposiums, dinosaur exhibitions, art exhibitions, etc. It all comes back to the advancement of knowledge for all ages.

My proudest moment this 175th year was seeing all the young children having so much fun at our dinosaur exhibition and at the dinosaur picnic in the Royal Tasmanian Botanical Gardens. These were collaborations with TMAG and RTBG, the two organisations that the RST founded and ran for 40 years from 1843 to 1885.

I have also been incredibly proud of our RST Council and associated members who have worked tirelessly over our 175th year to bring such a varied and exciting program of events to the general public of Tasmania.



And finally, what is your vision for the next 175 years of the RST?

My vision is that RST will grow in both membership and stature. It will come out from the shadow and become recognised as an organisation in its own right.

Tasmanians will come to recognise the significance of RST as we play a bigger role in future scientific and historical activities around the State, especially in

collaboration with other organisations: UTAS, TMAG, Allport Museum and RTBG. You may regard this as wishful thinking, but it can and should be achieved.

In the photo above, North meets harmoniously with South as RST President Ross Large AO greets RST Northern Branch representative Chel Bardel beside the new TMAG plaque.

Below: Snapshots from the 175th Plaque Unveiling Event

Top left: 175th Anniversary events organiser Dr Anita Hansen with RST President Prof Ross Large AO with the new TMAG plaque.

Top right: TMAG Director Janet Carding socialises with Her Excellency the Hon Prof Kate Warner AC, Governor of Tasmania.

Middle left: Patricia Sabine (in yellow with back to camera) and Dr Greg Lehman chat with Her Excellency at the plaque unveiling event.

Middle right: The Hon Sir Guy Green AC KBE with Her Excellency the Hon Prof Kate Warner AC, Governor of Tasmania.

Bottom left: Royal Tasmanian Botanical Gardens Director Gary Davies chats with Major Malcom McWilliams (the Governor's Aide de Camp) and Stephenie Cahalan, Manager Development Philanthropy, TMAG.

Bottom right: John and Chel Bardell from RST Northern Branch listen intently to another guest.



**Know Your Members:
Council Member, Roxanne Steenbergen**

Managing the membership of any organisation is vital to smooth operation and it is

no different for The Royal Society of Tasmania. People join, leave, resign, die, renew, change addresses (physical, postal and email), marry, etc, and the Society must process these events. Roxanne Steenbergen, the new face in the 2019 Council, has taken on the responsibility for managing membership changes, so that all members receive their entitlements in a timely manner.



Recently retired from a long career in primary school education, she brings to the table a methodical and systematic approach. But there is another side to Roxanne. For over fifteen years, she taught gifted and talented students across the state online through the Department of Education's *Centre for Extended Learning Opportunities*.

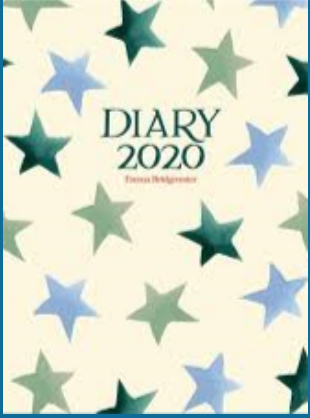
A deep interest in childhood literacy resulted in her receiving the *Scholastic Literacy Champion Award* in 2013.

Roxanne believes that every student should have a book in their hands whenever they wish, whether they are classics, like *Journey to the Centre of the Earth*, or more contemporary literature, such as the *13-storey Treehouse* series. To further promote literacy, she invited Tasmanian authors to share their work with students in her classroom and others in her school. She worked with the writers to make a long-term impact on the literacy of Tasmanian students. This encouraged students to develop the confidence to write their own work.

Getting back to RST membership, to ensure that you receive all the benefits of membership and are kept informed on all things about our Society, please let the Society know if your circumstances change — and do it as soon as possible.

Also let the Society know immediately if you have any concerns about your membership status. You can use the “Contact us” form on the Society’s website <https://rst.org.au> but an email to Royal.Society@tmag.tas.gov.au is often better because it provides a reliable reply address.

2020 Dates for your Diary



The Society's Council has decided to trial a **Sunday afternoon lecture time** for all of the Hobart meetings in 2020. Council has received feedback that this may be more convenient for many members.

This will start with the AGM on Sunday 1 March 2020 at 3 pm and will **continue on the first Sunday afternoon of each month until November**. The Christmas lecture and dinner will still be held on the first Tuesday evening in December.

Towards the end of 2020, this decision will be reviewed and feedback from members will be sought.

In the meantime, please ensure that you put **Sunday 1 March 2020 at 3pm** in your 2020 diary today for the first Society meeting and AGM. We look forward to seeing you there.



Sprinkle Some Sparkle with these Christmas Specials

The Publications Committee has reduced the price of the following books as a special for the Christmas period. Get in quickly to take advantage of this great offer.

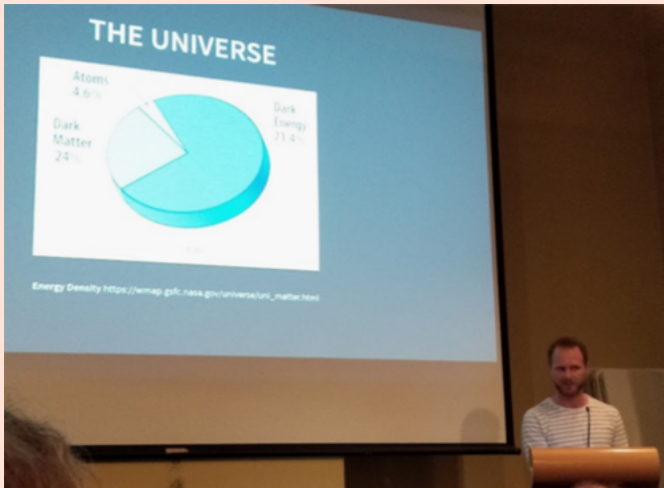
- ***The Library at the End of the World*** now priced at \$55 hardcover and \$35 softcover.
- ***Poles Apart: Fascination, Fame and Folly*** (- see more details of this in this Newsletter in the blue box far below) now reduced to \$60 hardcover and \$40 softcover.

Order online for quick purchasing and to view the wide range of other gift 'treasures' from the Society: [Visit all Society products](#)

What lovely gifts books, cards and calendars from The Royal Society of Tasmania make as treats for family and friends.

2019 Post Graduate Night Lectures

Black holes and galaxy evolution



Patrick Yates' research is modelling the effect that black holes have on their host galaxy as a function of different environments. At the November meeting, he focussed his presentation on radio jets, which are super-heated and relativistic jets of plasma launched from the accretion disks that punch through the environment and which can produce structures 10

times larger than the diameter of our own galaxy, the Milky Way.

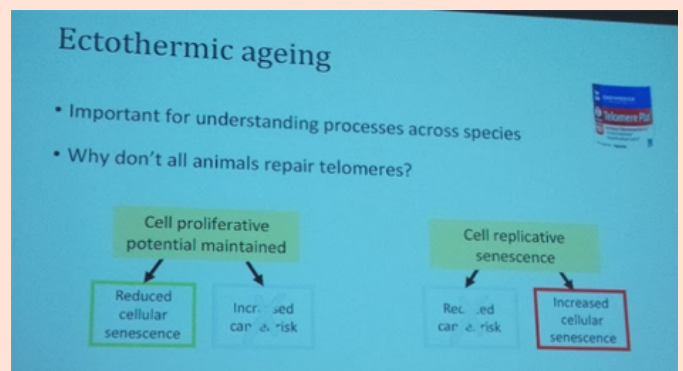
By developing state-of-the-art numerical simulations, Patrick used radio, optical and x-ray observations and analytical modelling to study how the radio jets are formed, how they grow to such large sizes, and how their violent passage through the environment is responsible for maintaining the delicate balancing act that prevents the catastrophic collapse of galaxy clusters.

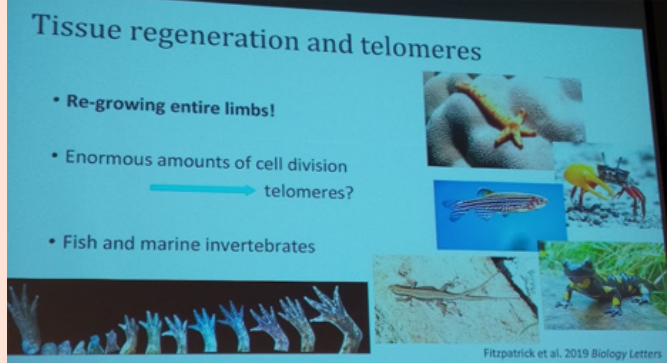
Patrick has concluded that:

- active galactic nuclei and radio sources play an important role in the evolution of galaxies
- studying radio jet-environment interaction is critical to understanding large-scale radio structures and AGN feedback
- linking observations and simulations lets us use radio jet asymmetry to probe their host environment.

Tail loss and telomeres in lizards

Marine biologist and zoologist **Luisa Fitzpatrick** explained that ectotherms (reptiles, fish, amphibians and invertebrates) depend mainly on external heat sources, and their body temperature changes with the temperature of the environment. She focussed her studies on senescence in ectotherms and the links between telomeres, temperature, tissue regeneration, reproduction and life history using the Spotted Snow Skink (*Niveoscincus ocellatus*) found on top of Tasmania's Mt Wellington.





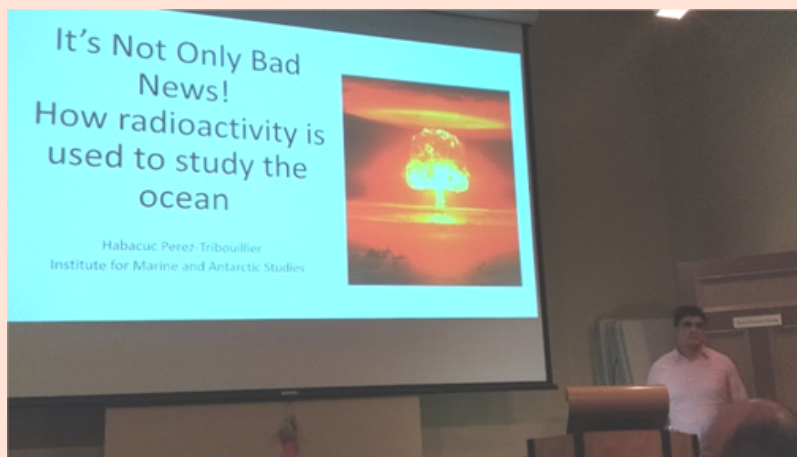
Luisa

determined that tail regeneration involves a response to oxidative stress which comes at a cost to telomere repair. This change in telomere maintenance demonstrates a potential long-term cost of tail regeneration.



At right, you can see the joys of working with skinks!

It's not only bad news: how radioactivity is used to study the ocean by Habacuc Pérez-Tribouillier



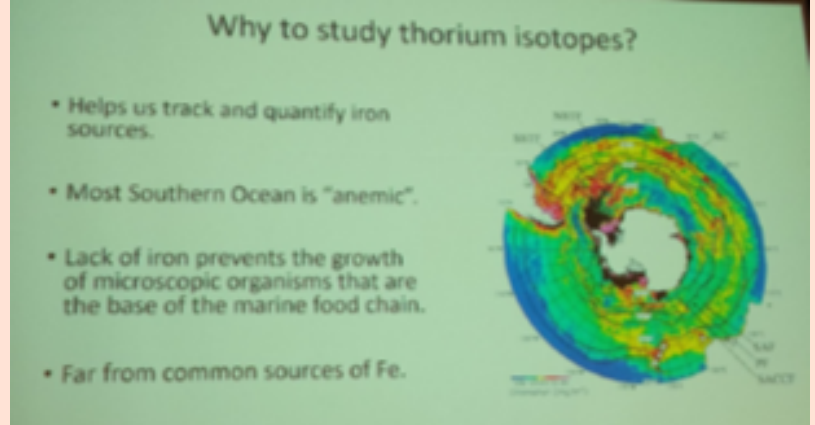
As the Southern Ocean is far from common sources of Fe (iron), most of it is iron deficient (anaemic) which prevents the growth of microscopic organisms that are the base of the marine food chain. The Kerguelen Plateau in this ocean contains Australia's only active volcano and

our largest mountain and is the largest barrier to the flow of the Antarctic Circumpolar Current. The interaction between that current and the Plateau releases terrigenous material which, in turn, allows phytoplankton to grow.

When iron reaches anaemic regions, large blooms of phytoplankton appear extending for thousands of square kilometres. These blooms have the potential of absorbing atmospheric CO₂ and, if the conditions are right, to transport it into the deep ocean, thus having a potential impact on climate regulation.

Using radioactivity to study thorium isotopes in seawater from the Kerguelen Plateau allowed Habacuc to track and quantify iron sources in the ocean. His conclusions are that:

- radioactivity is useful for oceanographers
- meticulous techniques are required to measure it in seawater, and
- he quantified the input of iron and continental material produced from the Kerguelen Plateau using only thorium isotopes.



November meeting presenters Luisa Fitzpatrick, Patrick Yates and Habacuc Perez-Tribouillier each receive copies of the RST book *Poles Apart: Fascination, Fame and Folly* as a thank you token from the Society for their illuminating presentations.

Seen at the PhD lectures evening in November:

Top: Dr Greg Lehman chats with presenter Luisa Fitzpatrick.

Left: (from left) Dr Deborah Beswick (Howrah), Noel Beswick (Acton Park), Shirley Thorne (Sandy Bay) and Heather Pryor (West Hobart) wait expectantly for the three edifying talks by the PhD lecturers.

Right: RST member Peter Manchester has just moved from the north to Hobart and was accompanied by Kathy Lyne.



The Royal Society of Tasmania Annual Doctoral (PhD) Awards Call for Nominations – 2019

Background:

The Royal Society of Tasmania established this award in 1998 to honour young, recently-graduated doctoral (PhD) awardees who have made significant advances in the



course of their doctoral research. Each award is valued at \$1000. Two awards may be made in any one year.

Conditions:

- The nomination shall be made no more than three years after the conferring of the PhD degree.
- To be awarded in any field – sciences, medicine, arts or humanities – within the purview of the Society.
- The Awards are for work leading to significant advances based on the PhD research, as evidenced by published or *in press* peer-reviewed papers in the national/international literature.
- The works are to have been largely carried out in Tasmania or under the aegis of a Tasmanian-based organisation.
- The nationality of the recipients is not to be considered in making the Award, that is, the Award is not restricted to Australian nationals.
- The recipients shall be less than 35 years of age on the day of conferment of the PhD.

Submitting nominations

Please email nominations to royal.society@tmag.tas.gov.au and marked *Doctoral Award Nomination. For attention: Honorary Secretary.*

What to include:

- A full academic curriculum vitae including the date of birth, the date of conferring of degrees (including the date of PhD conferment) and a full list of published works. The most significant works are to be highlighted with an asterisk. Where the candidate's standing relies on many co-authored papers, the candidate's roles in those significant publications should be indicated.
- An abstract (not more than one A4 page) of the PhD study, including the thesis title.
- A letter of nomination from the candidate's Department Manager and/or PhD supervisor. **Applications will not be considered without this document**, which must include a statement of the new and original contribution to the field of research.

Key dates:

- Nominations must be received by **5pm 15 November 2019**.
- The Awards will be announced at the Society's Annual General Meeting in Hobart in March 2020.

Bursaries Available to Tasmanian Students 2019



The Royal Society of Tasmania is offering bursaries for Tasmanian secondary/senior secondary students who have been selected through a competitive process to represent Australia at an international event. The amount of each bursary may be up to \$1000.

What is the Royal Society of Tasmania? The Society has been in active existence since 1843 and we have continued to achieve our aim of 'advancing knowledge' in a wide variety of ways. The bursaries are one way in which we support the youth of Tasmania. More information about the Society's activities is available on our website: <https://rst.org.au>

Who can apply? In 2018, bursaries were offered in the fields of science, mathematics and engineering. In 2019, the bursary program is being broadened to also support students selected through a competitive process for international events in the arts, humanities and social sciences.

What is the closing date? There is no closing date for applications, as applications are considered on a rolling basis throughout the year.

How to apply: Students need to send a written application including:

- a brief descriptor of the international summer school or event they have been selected to attend, including dates and costs
- a copy of the recommendation from the Australian selection event or activity that they were selected to attend
- a concise statement, written by the student, about their goals and aspirations and a short CV (max. two pages)
- the endorsement of a senior staff member of their school.

Note: As the student/staff member may be contacted for interview/further information, please provide contact phone numbers.

Youth ANZAAS 2019: Students accepted for Youth ANZAAS 2019 are also eligible

to apply for financial support.

Send applications to: deborah.beswick@education.tas.gov.au



2020 Calendar – OUT NOW!

Penguins and sea birds of Antarctica: the illustrations of Edward Adrian Wilson (1872–1912), artist on the Robert Falcon Scott expeditions to the south.

The Royal Society of Tasmania 2020 Calendar is now available for purchase. A beautiful gift for any occasion. The calendar can be purchased at our online shop, by postal order or directly from the Royal Society Rooms.

If you purchase directly from the Royal Society rooms, the price is \$18.00 – open Wednesday mornings at 19 Davey St (opp. Constitution Dock).

Retail price: \$19.95 – click here to go to our [online shop](#).

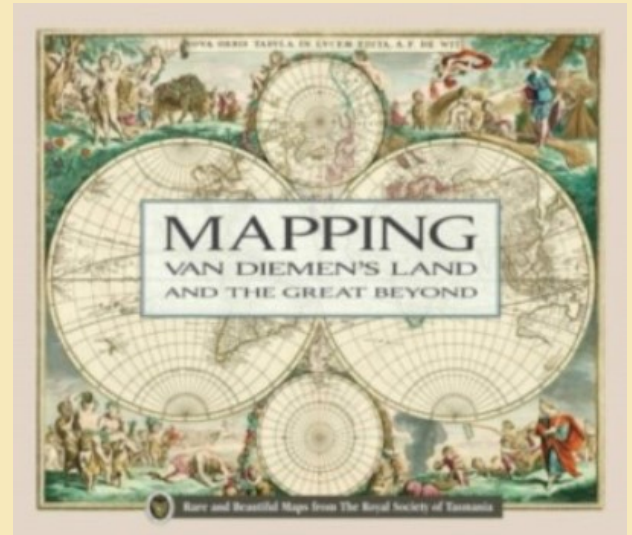
Or order by post for \$24.00 per copy (including handling and postage within Australia).

Download the Order Form here: [2020 Calendar Order Form](#)

Recent Royal Society of Tasmania Publications

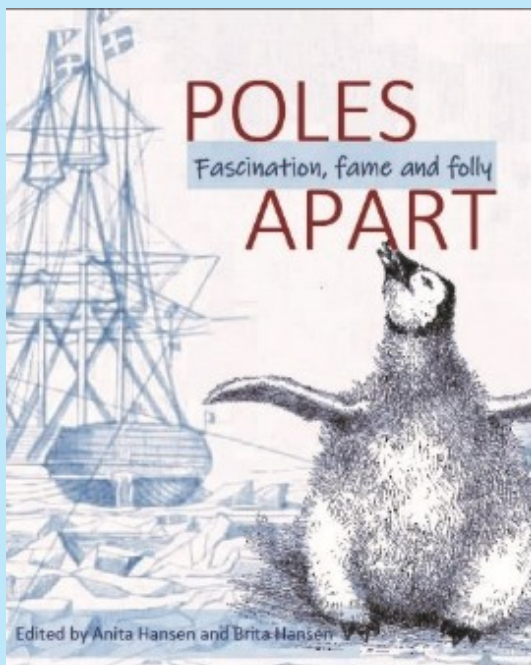
Why not consider these as gifts for Christmas?

The first book published in 2018 by The Royal Society of Tasmania to celebrate its 175th Anniversary year was ***Mapping Van Diemen's Land and the Great Beyond***, edited by Lynn Davies, Margaret Davies and Warren Boyles.



This highly informative volume contains over 100 high resolution images of rare and beautiful maps from the Society's Rare Book Collection with interpretive text from a range of authoritative contributors. This beautiful book is a 'must' for everyone's personal library. Available in hardcover for \$65 or soft cover \$45.

Purchase your copy of 'Mapping Van Diemen's Land and the Great Beyond' now.



The second book published as part of the Society's 175th Anniversary celebrations is ***Poles Apart: Fascination, Fame and Folly*** edited by Dr Anita Hansen and Dr Brita Hansen and is based on the Society's Rare Books Collection.

The last two frontiers on Earth, the Antarctic and the Arctic, are the stuff of heroes, heartache, courage, mystery, misery, endurance and loss. All these and more are captured in the pages of *Poles Apart: Fascination, Fame and Folly*. This wonderful book lays out, in a series of snapshots, mankind's incredible persistent battle in both taming and understanding our amazing icy wilderness.

Both hard and soft cover versions are available and can be obtained from the [Society's website](#) and from bookshops. The 1000 hardcover copies are numbered

and signed by the editors.

Christmas Special: For this Christmas, the hardcover version is reduced to \$60.00 and the soft cover version is down to \$40.00. **Ensure that a copy of this exciting book finds its way to your bookshelf or give copies as superb gifts!**

REVISED POLES APART INDEX

A number of errors have unfortunately been found in the index to our recent book *Poles Apart: Fascination, fame and folly* so to rectify this, Anita Hansen and John Volkman have produced a new index. A printed version is available free of charge to purchasers of the book and can be collected from the RST office on Wednesday mornings or at our lecture on the first Tuesday of the month. Alternatively, a printed copy or pdf can be provided by email by contacting the Honorary Editor at johnkvolkman@gmail.com

Purchase 'Poles Apart: Fascination, Fame and Folly' now.

Save the Date

Hobart March 2020 Event

All welcome: Members and friends are invited to attend the AGM and meeting to be held at the location, new time and day on **Sunday 1 March at 3 pm** at The Old Woolstore Hotel lecture theatre, 1 Macquarie Street.

The Northern Branch

This Branch will meet again on **Sunday 24 November** at 1.30pm for a presentation by **Prof James Vickers, University of Tasmania** on '**Reducing risk of dementia: evidence and opportunities**' – **Can Tasmanian data show how 30 to 50% of dementia cases can be prevented by public intervention on particular risk factors?**

Open to the general public. Admission is free for members of the Royal Society of Tasmania; \$6 for general admission; \$4 for students, QVMAG Friends and the Launceston Historical Society.

[Meeting Room, Inveresk QVMAG](#)

Note: The first 2020 meeting for the Northern Branch will be on **Sunday 23 February** 2020 at 1.30pm.



The Tasmanian Museum and Art Gallery (TMAG) is open Tuesdays to Sundays between 10:00 am and 4:00 pm from 1 April until 24 December.

TMAG is also open from 10:00 am – 4:00 pm on Monday public holidays year-round.

The museum is closed Good Friday, Anzac Day (25 April) and Christmas Day.

[TMAG What's On - calendar of events.](#)



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