

The Tasmanian Geologist

Next Meeting: Andy Spate AM will delve into **The Significance of Australia's karst**



Image supplied by A. Spate

IN THIS ISSUE

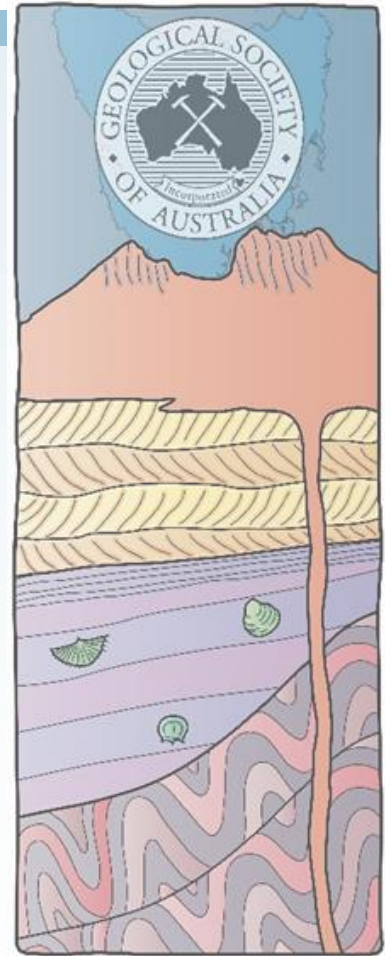
Our Next Meeting is Thursday 21st September 6:00PM Geology Lecture Theatre, University of Tasmania. Nibbles from 5:30 PM.

Past Meetings

Shambolic entertainment for the joint GSA-AIG student industry get together.
Adventures in the north of the state last weekend at Stony Head.
Michael Roach showcased 3D photogrammetry for the 4th RST Northern Branch-GSA joint meeting in Launceston.

Students Members

Meet GSA and AIG members from industry, government and university over a drink and nibbles at Shambles.



Inside this issue

This months meeting.....	2
Past Meetings.....	4
Ignite Program	7

Future Meetings

19th October Thursday
Martin Jutzeler Highlights
from the RV Investigator
Voyage off the west coast of
Tasmania.

30th November Tasmanian
Geoscience Forum Tullah

The significance of Australia's karst and caves

Andrew (Andy) Spate has over 60 years' interest and experience in caves, caving and the science of karsts. He graduated from the University of Canberra and went on to hold positions in CSIRO and NSW National Parks and Wildlife Service where he was the first professional specialist involved in karst management in the Southern Hemisphere. Some 20 years ago Andy set up his consultancy *Optimal Karst Management*. He has been involved in promoting geotourism, cave interpretation and management and has developed and contributed to seven World Heritage and UNESCO Global Geopark nominations in South Korea as well as in Australia. He was a founding member of Australasian Cave and Karst Management Association (ACKMA) and was made a Member of the Order of Australia (AM) for 'significant service to conservation, particularly to caves and karst' in Australia and overseas in 2019.



Supplied by K. Dixon

Some 50 years ago, my mentor in karst science, the internationally renowned Joe Jennings, wrote along the lines of the following statement:

Australia on a world scale is not well off for caves and karst – although Tasmania approaches the world's diversity.

Since that time, we have learnt much more about Australia's karst resources – ongoing research has revealed much, much more about the diversity and values of our karst and caves. Recent recognition that many of our spectac-

ular sandstone landscapes in northern Australia are a product of silica solution has dramatically extended our awareness of Australian karst-related sceneries.

Australia now has 23 inscribed World Heritage areas – surprisingly perhaps many of these areas have some relationship to karst environments. There are at least two further areas that should be inscribed. The Nullarbor Plain was identified by a report commissioned by the Commonwealth Government to be of World Heritage for its natural (meeting all four of the natural criteria) and cultural value - politics intervened. In my view the Limestone Ranges of the Kimberley (WA) could well be a candidate. The very young limestones along the coasts of Western Australia and east across the southern coasts as far as Lord Howe Island are also of international significance.

Many sites – not judged to be of World Heritage significance – are protected in national parks or similar tenures. Several of our 63 RAMSAR sites are karst based. We are also being confronted by development proposals that threaten some of our important karsts.

This presentation will discuss the values of karst and then review Australia's karst resources, their significance, and potential threats.



Windjana Gorge, Limestone Ranges, Kimberley, Western Australia

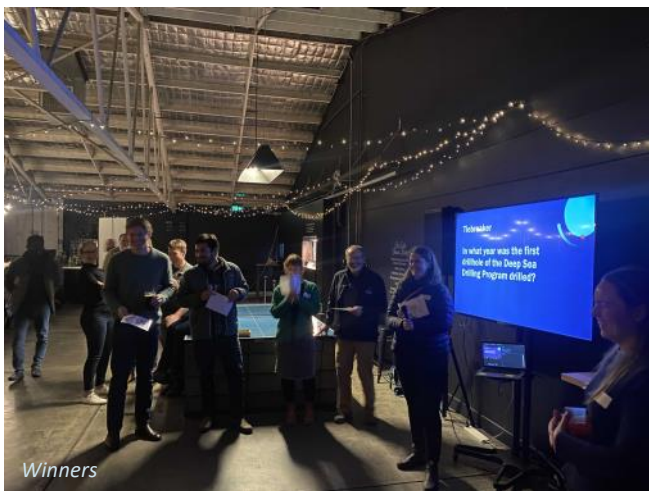


Calcite, gypsum & halite stalactites
Witches Cave, Nullarbor Plain

I want to zoom into the meeting

August 23rd Talk on the rocks Shambles Brewery GSA-AIG joint event

This was the second year that Shambles has been the location for our student-focused event in partnership with AIG. The relaxed atmosphere allowed students and members from academia, government and industry to mingle and get to know one another. Free finger food and first drink were a hit as was the vaguely geology-themed 10 question trivia competition. Four teams tied for first place and were given the tie breaker question “What year did the ocean drilling program commence?” Congratulations to winning team ‘Andalusite Schists’ who were rewarded with chocolate blocks. Great work GSA student committee members Acacia Clark and Jeremy Asimus who organised the event with the AIG committee.



All photos by J. Asimus

September 9th Stony Head Field Trip

The sun shone on our small group gathered for the Stony Head Field Trip in northern Tasmania. After a briefing by our Defence Forces escort for the day Kate, we had an introduction to the geology by Rob Scott. We headed out to the coast in a small convoy and then walked single file to view some multiply deformed Stony Head Sandstone on the foreshore. Rob Scott and Michael Roach pointed out four deformations in these rocks. Early events generated large folds which were tightened by co-axial events. The deformation events were marked by cleavage, refracted between the sandstone and fine-grained lithologies. Overprinting relationships were subtle and easy to miss but most apparent in some of the fold hinges in the fine-grained lithologies. Quartz veins developed in the succession were also folded. Late kink bands marked the final event. We had a bonus stop on our way out of the Stony Head Reserve to a basalt quarry with excellent curved basalt columns.



Left: Participants gather to listen to the discussion on folds and cleavages in the Stony Head Sandstone.

Lower left: Fold hinge of a large anticline looking southeast downplunge.

Lower Right: Fold hinges at the eastern end of the outcrops.



Photos by K. Orth

***September 10th
Joint meeting with the Royal Society of Tasmania
Northern Branch
presented by Michael Roach on Making it 'Real'***

Our 4th annual lecture in Launceston with the Royal Society of Tasmania Northern Branch had the audience transported to various sites all over Tasmania and Australia. Michael took us through the why, how and applications of 3D photogrammetry. He highlighted how the work that he and his team have completed has led to a free website of geological sites across Australia. As well as 3D images of rocks and outcrops there are full spherical panoramas that allow true immersion in location and movement across sites. These resources were expanded during COVID19 capturing many of the samples in the Earth Sciences teaching collection, allowing the teaching in Earth Sciences to continue to function despite lockdowns. These models are provided free online and were also used by other universities and teaching institutions in Australia and internationally. Despite initial skepticism from geologists, those who participated in online Masters Short courses were positive about their learning experiences on virtual field trips.



Applying 3D images to cave art, Cape York



David Morris (President RST-NB) thanks MR

GeoVis software developed at the University of Tasmania further enhances the application of the 3D models enabling accurate measurements of structural and lithological features. Michael has also been using helicopters to capture photos to create 3D models of inaccessible locations or areas of interest for detailed studies including Federation Peak. Michael has also been applying this type of modelling beyond Earth Sciences to Cultural Heritage. At the end of the talk he had a line of people curious to experience the virtual reality goggles and be transported elsewhere.

<https://ausgeol.org/>

Ignite

Building pathways to successful STEM careers for young women

A few weeks ago I was part of an innovative program put together by Pitt and Sherry to encourage young women to enter careers in STEM. Here is an abridged report from Megan Abbott the program co-ordinator.

You can't be what you can't see. In Australia, only 37% of women enrol in STEM degrees and only 15% hold STEM-qualified jobs. We are missing out on diverse talents and women are missing out on high-paying STEM careers. At pitt&sherry we decided to do something about it.

Pitt&sherry hosted our IGNITE School Program for Young Women in STEM aimed at Year 9 and 10 students in Hobart and Devonport. Led by exceptional women at pitt&sherry together with our industry partners, the students engaged with our engineers, scientists, and leaders in STEM. They visited industrial sites, engaged in technical talks and experienced firsthand what it means to have a career in STEM.

Students donned high-vis and put boots on the ground across Tasmanian workplaces to witness STEM in action. In Hobart, IGNITE students visited MONA to examine the tunnel construction inside the gallery and heard from leading geotechnical engineer Delia Sidea (pitt&sherry) about the project. At Nyrstar they learnt about mineral processing and environmental rehabilitation. Finally, they heard from legendary Dr Barbara Frankel about the latest exploration and monitoring technology at Mineral Resources Tasmania.

In Devonport, students visited Elphinstone (who doesn't love big trucks!), TasNetworks' Burnie substation to highlight the critical role of power distribution and the Hive Planetarium in Ulverstone, where they heard Dr Martin George of ABC radio fame explain the wonders of space!

Students engaged with some amazing women in STEM fields through formal presentations and informal networking. Women at all career levels spoke about their unique fields, the challenges they've faced, and the steps they've taken to shape their careers.

We thank our industry partners MONA, Nyrstar, Hive, Elphinstone, Tas Networks, and Hydro Tasmania, and the Department for Education, Children and Young People for supporting the IGNITE School Program for Young Women in STEM.

What is the GSA Endowment Fund?

The Geological Society of Australia (GSA) Endowment Fund was set up in 2007 to support students undertaking graduate studies in the Earth Sciences. The fund was set up as a separate entity to the GSA and the Australian Tax Office imposed elements that restricted this support to Australian students at Australian educational institutions. Financial assistance in the form of awards can be granted to Australian students by the GSA Endowment Fund Committee and the awards are not restricted to GSA members. Honours/ Masters student from each state are eligible for a \$1000 grant and PhD students compete nationally for a \$5000 grant.

The Geological Society of Australia Endowment Fund is a charity and all donations are tax deductible. *(from GSA website)*

Student Members

Hello student members. No doubt you are in the midst of second semester . It was great to meet some you at Shambles. I know that the industry people were very keen to meet students and some of them came with offers of vacation and ongoing work too!

Hope you can make our talk on karsts later in the month and there will be one more ordinary meeting in October with Martin Jutzeler inspiring us about RV Investigator Voyage off western Tasmania.

Two Travel Scholarships available to GSA Student Members

Two Travel scholarships worth \$300 each are available to two GSA student members.

One scholarship is available to help with travel to the October 10-12th subglacial workshop in Maydena

One scholarship is available to assist with costs to travel to the Tasmanian Geoscience Forum on the west coast at Tullah

Please contact Karin.Orth@utas.edu.au for more information

Membership

There are also special rates for graduate membership so no need to miss out once you have graduated. We would love to keep in touch!

Any queries about your membership contact our membership officer Rebecca Carey (Rebecca.Carey@utas.edu.au).

You can become a member right now

I want to become a Member

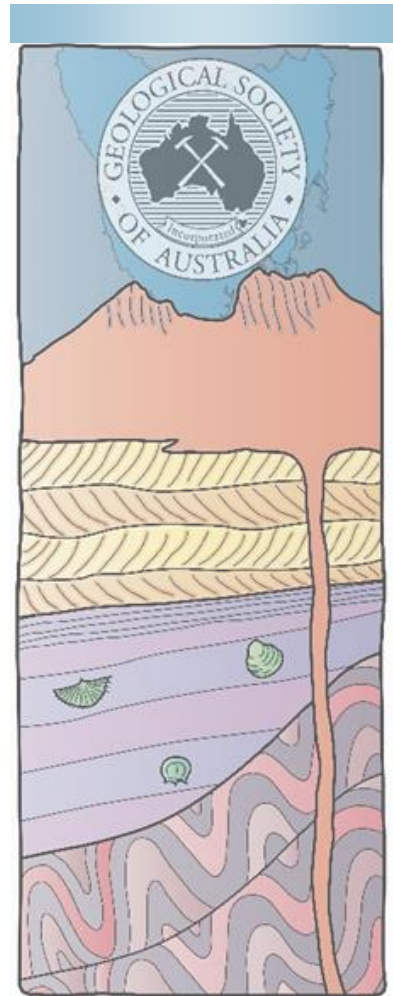
Meet a graduate

Olivia Wilson won the Honours Endowment Scholarship for Tasmania in her honours year in 2020. Despite the lockdowns of that year, she eventually managed to get into the field to spend her money. Olivia is now employed by Entura in Hobart. She was an undergraduate member of the GSA and here is her testament to how it can be helpful for your future.

“Being a student member of the Geological Society of Australia enriched my experience of studying geology.”



Supplied by Olivia Wilson



Olivia Wilson on being a GSA student member

‘Being a student member of the Geological Society of Australia enriched my experience of studying geology. Especially important to me were the opportunities to make connections and learn about the research of other society members. As a student, it is also invaluable to have an environment in which you can interact with geoscientists from all career stages – hearing their experiences allows you to develop your own career aspirations. GSA membership also demonstrates that you have a level of passion and commitment to your field beyond ‘

Other Events coming up

10-12th October

Subglacial hydrology, geology and geomorphology workshop
Maydena. See flyer attached

13th Tasmanian Geoscience Forum Tullah

30th of November
See flyer attached

The Geological Evolution of Tasmania

The flagship publication of the Tasmanian Division of the GSA, '[The Geological Evolution of Tasmania](#)' (Special Publication 24 of the GSA) is available for ordering.

I want to know more about the book

You can purchase them personally from Caroline Mor-dant (publications@CODES.utas.edu.au or phone on +61 3 6226 7537.

Members	\$99
---------	------

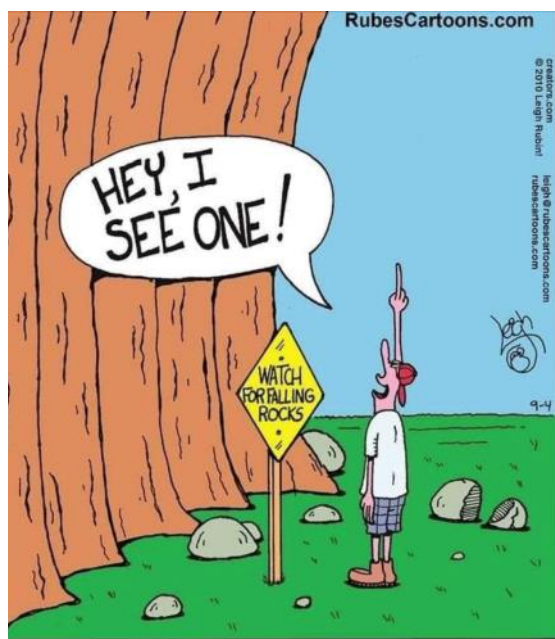
Non Members	\$113
-------------	-------

Students	\$75
----------	------



edited by Keith D. Corbett, Patrick G. Quilty and Clive R. Calver

Last word from Noel



**Blind obedience rarely shares company
with common sense.**

OCTOBER MEETING

19th October Thursday
Martin Jutzeler Highlights
from the RV Investigator
Voyage off the west coast of
Tasmania.
Geology Lecture Theatre
University of Tasmania

Our details

Geological Society
of Australia website:

www.gsa.org

And our own
website:

<http://>

GSA Tasmania Division Committee 2023-2024

Chair: Karin Orth

Secretary: Ron Berry

Ron.Berry@utas.edu.au

Treasurer: Claire Kain

Committee Members:

Sheree Armistead

Jeremy Asimus

Rebecca Carey (Membership)

Acacia Clark (Student Rep)

Grace Cumming

John Everard

Matt Ferguson

Barbara Frankel

Jacqueline Halpin

Claire Kain (Geotourism)

Peter McGoldrick

Hannah Moore

Owen Missen

Sebastien Meffre

ANY NEWS,
ANNOUNCEMENTS OR
INTERESTING
PHOTOGRAPHS OF
TASMANIAN GEOLOGY
YOU WOULD LIKE TO
INCLUDE IN THE NEXT
NEWSLETTER, PLEASE

SEND IT THROUGH VIA
EMAIL TO
karin.orth@utas.edu.au

**Workshop in
Subglacial Hydrology, Geology and Geomorphology
Maydena, Tasmania 10-12 Oct 2023**

**Information and registrations:
<https://tinyurl.com/bdtr8mux>
Email: subice2023@gmail.com**



ACEAS
Australian Centre for Excellence
in Antarctic Science

 **SAEF**
Securing Antarctica's
Environmental Future
Antarctica Research Council Special Research Programme



AAPP
Australian Antarctic
Program Partnership

The 13th Annual Tasmanian Geoscience Forum

To be held at Tullah, Tasmania on
Thursday, 30th November 2023

Register to attend and Expressions of
Interest for Speakers & Sponsors

Seminar Overview

The AusIMM Tasmania Branch, GSA, AIG and Mineral Resources Tasmania are pleased to bring you the 13th Geoscience Forum. The purpose of this forum is to gather geoscientists in one pleasant place to share their progress in exploration, mining and research.

This event is for sharing geologically focused results and ideas and for learning more about geology, in particular the geology of Tasmania.

<https://www.ausimm.com/conferences-and-events/community-events-details/tasmania-branch-geoscience-forum/>

This year we will have improved AV – so better vision and sound for our guests.

Expressions of Interest for Guest Speakers

Please email Sheree Armistead if you have any suggestions for speakers.

Email Sheree.Armistead@utas.edu.au

Field Trips Friday, 1st December 2023

Organised by the AIG and GSA

Field trips are planned the day after the Forum to visit historic and geological sites of interest.

Sponsorship Opportunities

We welcome sponsors to assist in this event. Display tables will be available at the venue. Contact John Stanton to become a sponsor.

Event Details and Location

Date: Thursday, 30th November 2023

Time:

9.00am – 5.00pm Forum

7.00pm Forum Dinner

Location:

Tullah Lakeside Lodge

56 Farrell St, Tullah 7321, Tasmania

Registrations

Registrations now open for 2023- Click on link to register

<https://ausimm.eventsair.com/39301-tasmania-branch-2023/the-13th-annual-geoscience-forum-geobash>

2023 registration rates are as follows.

Member rates are applicable to AusIMM, GSA or AIG members.

Combined seminar and dinner

Member \$165

Non member \$185

Student \$130

Seminar only member \$80

Seminar only non member \$100

Seminar only – Student \$65

Dinner only \$90

You can book your own accommodation direct with the venue - Mention the AusIMM Geoscience Forum 2023 to get access to rooms held for this event.

Accommodation

Please book direct and mention AusIMM Geoscience Forum. We have pencilled in a block booking-rooms will be held till Oct 15th then released.

Room Type	Room Rate (per night)
Budget Double	\$120
Standard Double	\$130
Standard Queen	\$140
Premium Queen	\$150
Lakeview Queen	\$150

Rates quoted are per night.

**We have been notified by the host, that the cost of accommodation will be refunded if this event is cancelled due to Covid and 24 hours notice is given.*

Tullah Lakeside Lodge 0364734121, email info@tullahlakesidelodge.com.au

www.tullahlakesidelodge.com.au

Other room configurations are available via direct contact with the venue.

Covid-19 Notice

The venue Seminar room is large enough to seat up to 100 guests under current COVID-19 rules. This event is planned on the basis that the current COVID-19 rules still apply in December.

Thank you for your interest in Geobash 2023 on behalf of the organising committee.
John Stanton

email john.stanton@epiroc.com

This event is co-hosted by



Sponsors



Ren Gregory Prospecting