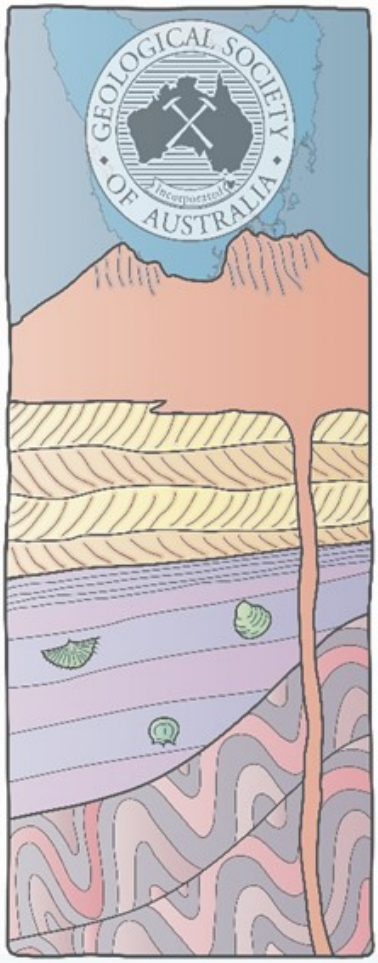
Geological Society of Australia Tasmania Division August 2023

The Tasmanian Geologist



Next Meeting

IN THIS ISSUE

Our Next Meeting is Wednesday 23rd August 6:00PM Shambles Brewery 222 Elizabeth Street North Hobart

September field trip and talk in northern Tasmania

Past Meetings

Earth Science Movie Night was a great success. Read about it and find out about the movies and where to watch them if you missed out.

Palaeo Down Under 3

Future Meetings

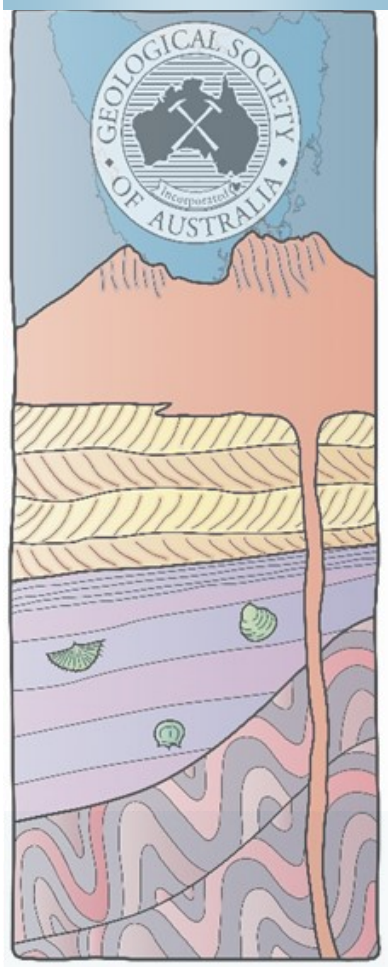
9th September Saturday One-day field trip to north coast Tasmania

10th September 1:30 PM

Sunday QVMA Inveresk joint meeting with RST- Michael Roach

21st September Thursday Andy Spate Significance of Australian Karst.

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



Mathinna Supergroup

The Mathinna Supergroup is a thick succession of turbidites that form eastern Tasmania. They extend from the Tamar valley area eastwards to the east coast. They were deposited in relatively deep marine environment between the Ordovician and the Devonian. The oldest named unit is the Stony Head Sandstone which outcrops along the north coast near Beechford and Stony Head. It extends inland on the eastern side of the Tamar to south of Lefroy. It is overlain by the Turquoise Bluff Slate which contains early to middle Ordovician graptolites. All the rocks of the Mathinna Supergroup are folded and intruded by granite.

Wednesday 23rd August
Talk on the rocks
Shambles Brewery

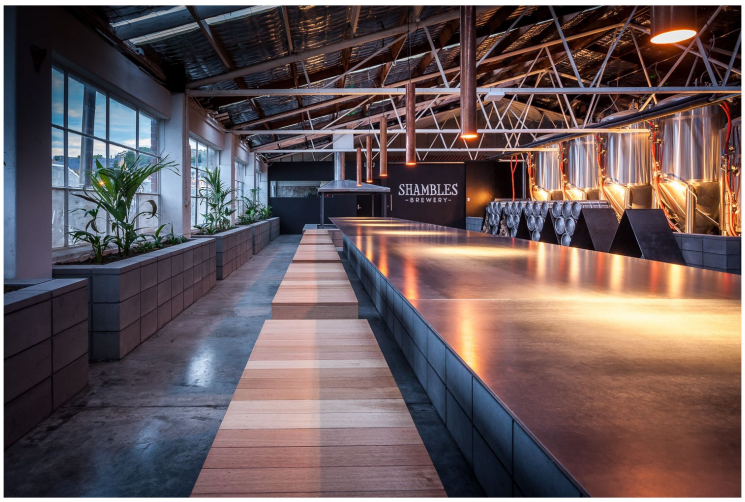
222 Elizabeth Street North Hobart at 6 PM

Joint meeting with AIG

Everyone come along to enjoy some local beverages with some nibbles.

Students: we really encourage you to participate to do some networking.

Get to know your fellow geoscientists from industry, government and university in a casual environment.



From Shambles website https://www.shamblesbrewery.com.au

Saturday 9th of September
Field Trip Stony Head north coast

Does the Benambran Orogeny exist in the western Mathinna Supergroup or not? We will ponder this question over several hours on the shore platform at Stony Head. Here we will examine folded Stony Head Sandstone, the oldest unit in the Mathinna Supergroup. The field trip will be led by Michael Roach.

Registration required please email: Karin.Orth@utas.edu.au

Sunday 10th of September: Making it 'Real' Geological Visualisation Methods for Research, Education and Public Outreach

Joint meeting with the Royal Society of Tasmania, Northern Branch

1: 30 PM Queen Victoria Museum

Inveresk, Launceston

Methods for generation of geometrically-correct, three dimensional, photorealistic, virtual models have developed rapidly in the last decade. These techniques are applicable at a wide range of scales and are very suitable for digitising both natural geological exposures and geological specimens. Virtual models can be fully georeferenced and convey the same geometric and textural information as a real geological outcrop. 3D models can readily be integrated with 360 degree imagery, 360 degree video, drone imagery, and high pixel count (gigapixel) images to generate intuitive and immersive virtual tours.

This presentation will outline methods for generation of 3D digital models and will showcase selected models from around Australia drawn from the AusGeol virtual library. The use of these 3D models, virtual tours, and new analysis software will be showcased for applications in geological education, geological research and public outreach.

Dr Michael Roach is a geophysicist and long term teaching staff member in the discipline of Earth Sciences and CODES at the University of Tasmania.

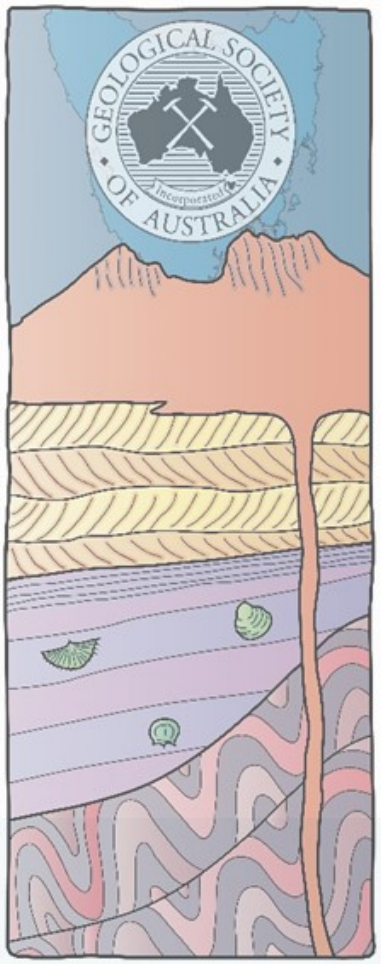
VOLCANISM IN AUGUST

20 volcanoes were active across the Earth between the 9th and 15th of August according to the Smithsonian Global Volcanism Weekly report. Fuego in Guatemala continues to erupt in a spectacular fashion. Ash is raining down as far as 30 km downwind, with rock avalanches along valleys and incandescent lava ejected as high as 200 above the summit. Bagana on the Island of Bougainville continues to cause disruptions with ash plumes rising to 3 km. Around 6 300 residents have been directly impacted and a possible 17 000 residents may be experiencing difficulties.
https://volcano.si.edu/reports_weekly

SIGNIFICANT EARTH QUAKE IN AUGUST

The largest earthquake this week reached 6.5 M and was located 42 km west of Sola, Vanuatu. It was one of two earthquakes that shook this region within hours of one another on the 16th of August. The other in the area was measured at 5.2 M some 150 km north northwest of Sola. Both were deep earthquakes at 193 km and 239 km respectively. These are both probably associated with eastwards subduction along the New Hebrides Trench.

https://earthquake.usgs.gov



Ausgeol website

The Ausgeol website is a free to use website set up by Michael Roach and team for geoscience education and outreach purposes funded by the Australian Government Office for Learning and Teaching and partner institutions. It is also a great website to go for some armchair geology when you feel like doing a bit of your own geotourism.

It includes sites from all across Australia with photos at a range of scales, including landscapes; outcrops and hand specimen scale.

Start your journey here:

https://ausgeol.org/

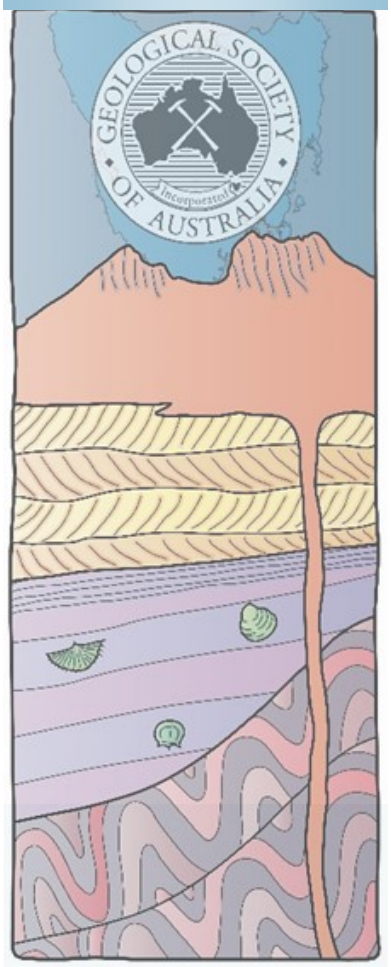
About 10 years ago Michael saw the potential for the application of emerging digital visualisation methods for geological education and research. Since then he has pioneered the application of these techniques for teaching, research projects and public outreach. Michael has produced the AusGeol virtual library of Australia's geology which is the world's largest collection of geological visualisations and virtual geological tours.

3D model of Tasman Island 1700 m long and 240 m high. (Image M. Roach)

3D model of trilobite, Earth Science collection UTAS (Image M. Roach)

3D model of folded Stony Head Sandstone, Stony Head , Note compass for scale (Image M. Roach)

3D model of supergene copper ore Earth Science collection UTAS (Image M. Roach)



SCINEMA

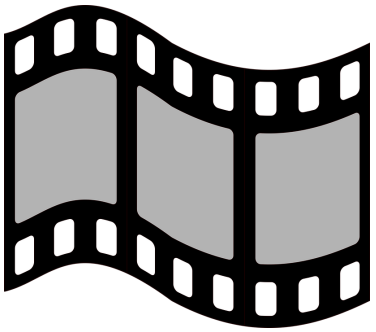
In August 2021 Clive Willman and Davide Michelines' films '*Beneath the Australian Alps'* and '*The Stavely Arc – Uncovering the Geological Evolution in Victoria'* , both commissioned by the Geological Survey of Victoria, were presented at the International Science Film Festival. SCINEMA is the largest film festival showcasing science-themed movies in the southern hemisphere.

It is on again now. You can register and watch the movies for free any time in August. To register or learn more about this go to

https://scinema.org.au/

Past Meeting

July 27th Earth Science Movie Night



The aroma of mulled wine and popcorn pervaded the corridors at UTAS on Earth Science Movie Night. It was a diverse group of families, students and members who congregated in the tea room to enjoy the pre-movie offerings. It was nice to see the Geology Lecture theatre filling with about 50 people ready to be entertained. Five movies were screened with three films less than 10 minutes duration and two slightly longer movies. If you missed out most of them can be seen online. Web addresses added:

Kilauea– Fire Within (6.5 min) *Lots of nice footage of pahoehoe lava moving and activity at the Halemaumau vent.* https://vimeo.com/122038715

Why Tasmania is different (Catalyst) (9 min) *Informative episode on the dating of the Rocky Cape Group and its place in tectonic reconstructions starring Jack Mulder and Jacqui Halpin.* https://www.youtube.com/watch?v=_f_Hcyfv5rU

Volcanos: Hugo and the killer hive (7 min) *B-grade movie style short film follows a young volcanologist studying Villarica volcano in Chile. As if the volcano does not present enough danger there are also bees between Hugo and his data.* https://www.earthfuturesfestival.com/the-films/v/volcanoes-hugo-and-the-killer-hive?categoryId=63d142f180532a55e7f60581

The Weight of Mountains (11 min) *Poetic musing on the building and erosion of mountains and the landscapes they produce. Great scenery of icy Iceland.* https://vimeo.com/87651855

Geoscience: Beneath the Australian Alps (25 min). *Clive Willman film on the deep seismic project that collected data beneath the Australian Alps. A massive logistical undertaking with breathtaking data for geoscientists to ponder.* https://www.youtube.com/watch?v=_S-024Cb5VE

PALAEO DOWN UNDER 3

11-15 JULY 2022

Report by Peter McGoldrick

Many geologist were attracted to the profession by a childhood interest in minerals or fossils. Most graduate to specialise in other areas, but, often a love for fossils remains. Australasian Palaeontologists (AAP) is an active specialist group of the GSA who publish the quarterly journal 'Alcheringa' and a semi-regular Memoir series. Their flagship meeting is the quadrennial 'Palaeo Down Under' conference. When Palaeo Down Under 3 (PDU3) announced a nine day pre-conference field trip to Shark Bay and some of the Pilbara, Fortescue Group and Collier Basin 'early life' sites, this 'would be palaeontologist' decided to attend his first ever palaeontology conference.

PDU3 ran early July and was held at the Perth Cultural Centre on the traditional lands of the Whadjuk-Noongar people . Upwards of 130 delegates attended four and a half days that included ~90 oral and 13 poster presentations, in a mix of general sessions, five symposia and six excellent plenary speakers. My main academic interest was the Wednesday morning symposium on 'Mid-Proterozoic Macroscopic Life'. This was largely a string of beads: 'I'll show you mine and you show me yours' session for Western Australian and Tasmanian Horodyskia, with some 850Ma jellyfish thrown in.

The oral poster presentations I attended were all excellent, and a couple of the plenaries were highlights. Pam Reid, from the University of Miami, gave a talk about a new 3D model for microbialite accretion and growth that, perhaps for the first time, reconciles difficulties in interpreting ancient forms using living examples. Pam and her co-workers are publishing this soon in a review paper - watch out for it. Steve Salisbury from UQ, spoke about Australian dinosaurs (always a winner) in the context of

Palaeo Down Under LOGO

The logo for the PDU conference (see left) was chosen by competition with submissions from across the country. The winner was Nellie Pease an honours student and illustrator from University of Queensland. Here is her description of her winning entry:

"I've included a few key fossils from Western Australia in this logo. From the centre outwards, I've included the string-of-pearls Horodyskia williamsii fossils, the Shark Bay stromatolites, the trace fossils of the Tumblagooda Sandstone, the arthropod Kalbarria, a Gogo fish, some Permian glossopterids, some Jurassic conifers and ferns, the Broome dinosaur trackways, and Thylacoleo. They're arranged roughly in chronological order, in the shape of an ammonite, to represent WA's Miria Marl fossils, which are the largest collection of Cretaceous ammonites in the world. I wanted to include some plant and invertebrate fossils in this, to show that palaeontology is the study of all living things over all evolutionary time - not just the big recognisable ones!"

Stromatolites

Stromatolites are structures that grow by sediment entrapment in sticky material on microbial mats. The microbes are cyanobacteria. The cyanobacteria are simple microorganisms that discovered the brilliant survival strategy of photosynthesis around 3.5 billion years ago. They became a successful life form, changing the Earth's atmosphere in the late Archean to one with free oxygen.

Stromatolites formed reef complexes in the Proterozoic (2.5-0.58 billion years ago) and were among the dominant life forms during this the longest of Earth's eons. More complex creatures evolved at the end of the Proterozoic that began to graze on microbial mats. The nibbling and chewing saw stromatolites decrease in abundance — they were down but not out. They persisted throughout the rest of Earth history and are still present in the modern in refuges where extreme conditions make grazing animals less numerous or absent. An example of a modern day refuge is the very salty waters of Shark Bay in Western Australia

the explosion of discoveries in Mainland Australia in recent decades. However, the most interesting part of Steve's presentation came when he related the story of the dinosaur trackways from Walmadany, north of Broome. Tracks had been 'discovered' at Broome in 1935, but had always been part of a song cycle of the Goolarabooloo people tracing the journey of a Dreamtime creator (Marala - the 'Emu Man'). (More information on the trackways and the fight to preserve them: https://stories.uq.edu.au/shorthand-uq/changemakers/issue3/saving-australias-jurassic-park/).

In closing, the committee and volunteers are to be commended for the great job in organising an excellent conference, I hope it won't be my last. Look out for conference proceedings in a special issue of Alcheringa next year, and an outreach film shot at PDU3 being created by the group that made the award winning 'Rola' from last years Earth Futures Festival (https://www.australasianpalaeontologists.org/documentary).

Living stromatolites, Carbla, Shark Bay, W.A. (Image P. McGoldrick)

Student Members

Hello student members. We encourage you to come to this month's meeting at Shambles to get to know us. Should be a fun evening for all.

Membership

There are 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).

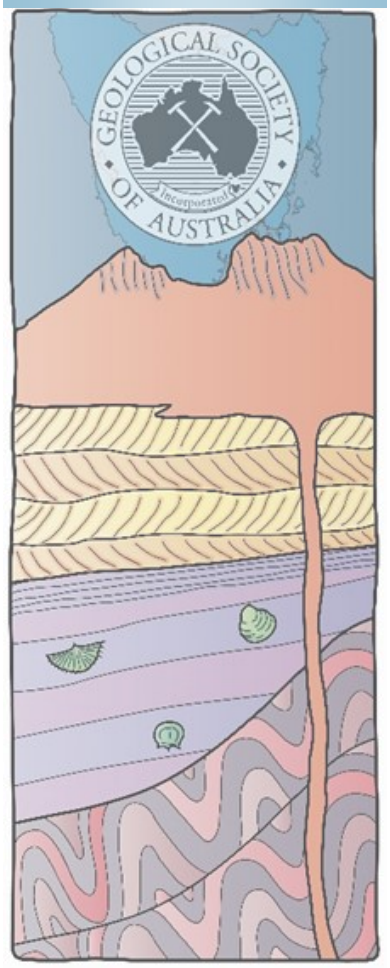
I want to become a Member

Meet a graduate

Olivia Wilson won the Honours Endowment Scholarship for Tasmania in her honours year in 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 '

Events coming up

19th August
Festival of Bright Ideas
Princes Wharf 1 Hobart
https://festivalofbrightideas.com.au/

20th August
great Gondwanan Day Out
Inala, Bruny Island
See flyer
Registration Open Now

9th September Saturday part day field trip to north coast Tasmania

10th September 1:30 PM
Sunday QVMA Inveresk joint meeting with RST Michael Roach

21st September Thursday Hobart
Andy Spate Significance of Australian Karst.

10th-12th October
Subglacial geology and hydrology workshop (see flyer)

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

30th of November
13th Tasmanian Geoscience Forum Tullah
Registration Open (see flyer)

The Geological Evolution of Tasmania

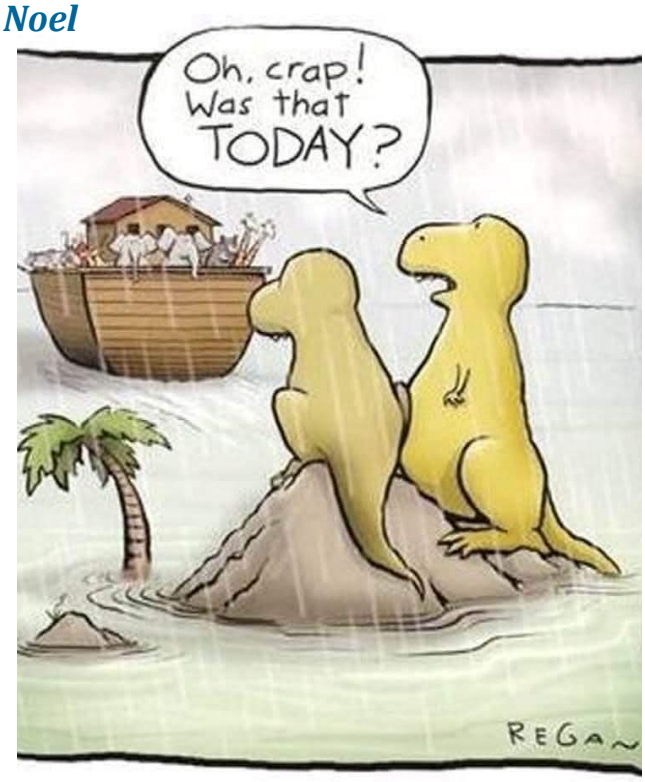
The flagship publication of the Tasmanian Division of the GSA, 'The Geological Evolution of Tasmania' (Special Publication 24 of the GSA) is available for ordering.

I want to know more about the book

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

Members	$99
Non Members	$113
Students	$75

Last word from Noel



Our details

Geological Society of Australia website: **www.gsa.org**
And our own website: **http://www.gsatasmania.org**

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

A Great Gondwanan Day Out

GONDWANA

Three engaging presentations by three renowned Tasmanians covering the geology and flora of Tasmania's Gondwanan heritage, followed by an exploration of the 'living fossils' growing in the Inala Jurassic Garden

Keith Corbett

Tasmanian Geologist, Researcher and Author
GONDWANA'S CHILD – THE GEOLOGICAL STORY

Rob Blakers

Environmentalist, Photographer and Videographer
TASMANIA'S LONG-LIVED PALEOENDEMICS

Tonia Cochran

Owner and Senior Guide Inala Nature Tours
THE LIVING FLORA OF TASMANIA - REPRESENTATIVES SOME OF THE WORLD'S MOST RELICTUAL PLANT LINEAGES

August 20th 2023 - Only $20 pp

10am Three Presentations and Q & A
12.30am Morning tea (included in ticket price)
1pm Jurassic garden 1hr guided walk

320 Cloudy Bay Road - South Bruny
Bookings Essential: Scan the QR code or find us on Eventbrite

This event is possible through a grant from Inspiring Australia and National Science Week

inala nature tours
Inala Jurassic Garden
national science week 2023
Australian Government Initiative
Inspiring AUSTRALIA

27 June 2023

THE ROYAL SOCIETY OF TASMANIA

THE ADVANCEMENT OF KNOWLEDGE

The Royal Society of Tasmania and the Geological Society of Australia

INVITE YOU TO A PUBLIC LECTURE BY

Dr Michael Roach

Making it 'Real'

Geological Visualisation Methods for Research, Education and Public Outreach

when:	**1.30 pm Sunday 10th September 2023**
where:	**Meeting Room, QVMAG at Inveresk**
admission:	**Free for members of the Royal Society of Tasmania and the Geological Society of Australia**
$6	**general admission**
$4	**for students, QVMAG or TMAG Friends, and members of Launceston Historical Society**

Methods for generation of geometrically-correct, three dimensional, photorealistic, virtual models have developed rapidly in the last decade. These techniques are applicable at a wide range of scales and are very suitable for digitising both natural geological exposures and geological specimens.

This presentation will outline methods for generation of 3D digital models and will showcase selected models from around Australia drawn from the AusGeol virtual library. The use of these 3D models, virtual tours, and new analysis software will be showcased for applications in geological education, geological research and public outreach.

Dr Michael Roach is a geophysicist and long-term staff member in the discipline of Earth Sciences and CODES at the University of Tasmania. About 10 years ago Michael saw the potential for the application of emerging digital visualisation methods for geological education and research. Since then, he has pioneered the application of these techniques for teaching, research projects and public outreach.

Generously supported by

City of LAUNCESTON
QUEEN VICTORIA MUSEUM & ART GALLERY

2023 Launceston Lecture Series

Subglacial Geology and hydrology workshop

Join us for a three-day workshop on subglacial hydrology and geology at Tarraleah from October 10th to 12th. The workshop aims to enhance our understanding of Antarctic subglacial conditions through interdisciplinary discussions. During the workshop, we will have exciting excursions to explore the postglacial landscape in Tasmania.

The early bird registration is $520, which includes local transport and full-board accommodation at Tarraleah. To register and access more details about the workshop, please visit: https://payments.utas.edu.au/Register/booking and find the event.

We also invite abstract submissions related to the workshop's theme. Please send your abstracts to tarraleah2023@gmail.com before August 20th for consideration.

For any questions or further information, don't hesitate to get in touch with Toby at tobias.staal@utas.edu.au.

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

Ron Gregory Prospecting