

THE VICTORIAN GEOLOGIST



Geological Society of Australia
Victoria Division
Lunchtime Lecture

Thursday 17th December 12:30 p.m.

Zoom

Topic: GSA VIC Division December Meeting

Time: Dec 17, 2020 12:30 PM Canberra, Melbourne, Sydney

Join Zoom Meeting

<https://zoom.us/j/95793484212>

Meeting ID: 957 9348 4212

The development of shear planes in ductile shear zones: a numerical modelling approach

Dr Melanie Finch

Assistant Lecturer, [School of Earth Atmosphere and Environment](#)

Speaker bio...

Dr Melanie Finch is a structural and metamorphic geologist at the School of Earth, Atmosphere and Environment at Monash University. She completed her PhD in 2016 on the evolution of a thick, high strain shear zone. She was then awarded the Alexander von Humboldt Foundation Postdoctoral Fellowship, based at the University of Tuebingen in Germany, where she modelled the development of ductile shear zones. Her current focus is on subduction shear zones and the relationship between high pressure fluids and deformation. Melanie is a 2021-2022 'Superstar of STEM' and runs the WOMEESA seminar series, which features monthly seminars from women Earth and Environmental Scientists.



Research output:

<https://research.monash.edu/en/persons/melanie-finch/publications/>

Postgraduate Research Grant Scheme

The Geological Society of Australia (Victoria Division) awards an annual Postgraduate Research Grant Scheme for the encouragement of research in Earth Science. Projects address Victorian problems, although research that extends beyond the State will not be excluded.

The Victoria Division is delighted to announce the award of the 2020 Postgraduate Research Grant to PhD candidate **Anthony Lanati** from the ARC Centre of Excellence for Core to Crust Fluid Systems (CCFS),

Macquarie University.

Anthony's project entitled Deciphering the Potassic Magmas of Eastern Australia: A Re-evaluation will Potassic volcanism in Eastern Australia will reanalyse and reassess the Eastern Australian Leucitites in the context not only of mantle source but magmatic evolution and rock type. These leucitites have been heavily underexamined with respect to other forms of magmatism such as the flood basalts. In the last 20 years there has been a clear shift in thinking around magmatic sources and how we identify them away from a major element focused assessment system toward a trace element focused system. This study will reassess the rocks in this new paradigm and will also include a number of previously unanalysed leucitite occurrences, thus making the study the most complete evaluation of these rock thus far.

<https://researchers.mq.edu.au/en/persons/anthony-lanati>

In 2021 up to two Ph.D. students will be given Postgraduate Research grants of \$5000 per annum for two years. The award applications must be lodged to the Secretary the GSA Victoria via gsavictoria@gmail.com, and will include an outline of around 300 words of the proposed project. Applications for the 2021 grant year will open Friday 18th December and close at 5 pm Friday the 15th of January.

A selection panel appointed by the GSA Victoria will judge the submissions and the panel will reserve the right to make as many awards as they feel appropriate, within the constraints of the budget.

Successful applicants will be notified no later than the 2021 February committee meeting. The awards will then be announced to the members at the April Annual General Meeting and will be published in The Victorian Geologist.

Each successful awardee will generally be required to provide a presentation to the GSA Victoria Division. If this is not feasible, the awardee will provide a short report of an aspect of their research to be published in The Victorian Geologist.

Please check the mailed notifications of this scheme.

In Memoriam

John Leslie Neilson
1930 -2020



John Neilson died on the 18th October after a 5year fight with leukemia. He was supported by his wife Karin, his daughters, Kirsten and Andrea and their families. Fortuitously, John was able to have a wonderful 90th birthday party with family and friends, just one week before the recent Melbourne Covid-19 lockdown.

John was educated at Wesley College, although for 2 years during WW2 Wesley shared the Scotch College campus where he met his lifelong friend, Trevor Faragher. John graduated from the University of Melbourne in 1954, the same year as Ian Donald, with a major in Geology and post-graduate work in Geomorphology. He joined the Geological Survey of Victoria (GSV) and up until 1958 was involved in regional geological mapping, including the Moroka and Wonnangatta geological sheets. In 1958 he was asked to provide geological assistance during the design and construction of the King St Bridge foundations. Additional requests for engineering geological advice meant that the GSV established the Engineering Geological Section in 1963 with John in charge through to 1990 when it closed.

During this period John was involved in mapping the sub-surface geology of many iconic Melbourne projects, including the Underground Rail Loop, Hobson's Bay Sewer Tunnel, West Gate Bridge foundations, Melbourne City Link and Victoria Dock redevelopment. He was often called to provide advice on local government and private bodies to comment on regional planning, cemetery site selection, coastal cliff stability, beach erosion, mine subsidence, landslide studies and mapping of the sub-surface geology of the Melbourne CBD. John was a strong advocate for the engineering mapping of the CBD and regional development areas, such as Berwick. He travelled widely in Europe to study engineering geological mapping at Hamburg, Kiel and Stockholm Universities. He arranged for Professor Hermann Jaeger, a well-known paleontologist from Humbolt University, to visit Victoria and the ANU and other states. John was a classical music enthusiast and in 1963, on one of these trips, he also visited Bayreuth in Germany to take in the annual Wagner Festival. Upon arrival he found all the hotels full, so was billeted with a family who had an 18yo daughter, Karin. The rest is history; John and Karin were married in Bayreuth three years later, in 1966.

There were many aspects of John's insightful professional work. He closely followed new developments in mapping of geological hazards and the related risk assessments. He visited the German Geologic Survey in Copenhagen, Hamburg and Stuttgart and the US Geological Survey in Denver. Contacts he made with colleagues overseas enriched his work in regional studies such as the impact of landslides on land use in the Strzelecki and Dandenong Ranges. Overall, John loved the Victorian High Country and all the geological processes that informed the landscape. John authored approximately 40

reports for the GSV on investigations across Victoria.

After retiring from 35 years with the GSV John became a consultant in 1992 to many professional organisations to share his extensive knowledge on their projects. These included dam sites, quarry resources, highway alignments and landslides. He was involved as an Expert Witness on several Environment Effects Studies and court cases. John was actively involved with the GSA, AGS and the IEAG where he was highly regarded for his friendship and technical insights. He contributed to many engineers and geologists through his presentations at the GSA, the AGS and as a guest lecturer at universities and conferences. He was a contributing Editor for the publications "Engineering Geology of the Melbourne Region" and "Geology of Victoria". In 2003 he received the GSA Victoria Division Selwyn Medal for his long service to the profession with the particularly important contributions to the establishment of the early classification of weathering zones for the Silurian Sedimentary bedrock beneath Melbourne and his deep understanding of the Yarra Delta sedimentary profile.

John will be remembered by his friends, colleagues, students and his family as a gentleman and we will think of him often.

Membership renewals for 2021

For those who haven't renewed their GSA membership yet for 2021, you can pay your dues by:

- Paying via credit card over the phone to the GSA Business Office on 02 9290 2194
- Mailing a cheque or a renewal form to the GSA Business Office (a self-addressed envelope and renewal form were enclosed with renewal notices)
- Paying via Electronic Funds Transfers
Account Name: Geological Society of Australia Inc.
(BSB: 082067 Account Number: 52-507-4491)
- Signing in and accessing your profile page on the GSA website (www.gsa.org.au).

Please see the following HELP videos if you encounter any difficulties:

- [How to re-set a password](#)

- [How to sign-in and pay online](#)
- [How to print a receipt/invoice](#)

If you need assistance, please contact the GSA office: membership@gsa.org.au
Want to know more about GSA membership? Contact us!

Forthcoming events

Unless otherwise noted all upcoming meetings will continue to be held via webmeeting on Zoom.

February 25th: Monthly Meeting

TBC

March 25th: Monthly Meeting

TBC

Student Scholarships

The GSAV are pleased to offer scholarships for honours and postgraduate students in geological sciences for assistance with travel costs associated with attending conferences (fieldwork excluded). The number and value of the scholarships awarded each year is made at the discretion of the GSA Victoria committee. Up to \$500 for travel within Australia and between Australia and New Zealand and \$700 for travel elsewhere is available, paid half before and half after the conference. More information, including the eligibility criteria and application form, is available at <http://www.gsavic.org/scholarship.html>.

Contributions to The Victorian Geologist

If there are any events, happenings, news, or views that would be of interest to the membership, please send your details and information to the secretary at gsavictoria@gmail.com.

Newsletter deadline: First Friday of the month, except for December and January.

Contribute to TAG

It is member contributions which make TAG (The Australian Geologist) a member magazine – please keep the contributions coming and assist with informing all of the membership (not just your Division) about your activities.

Please send your news to: tag@gsa.org.au

About the GSA Victoria Division

General information about the Geological Society of Australia and GSA Victoria Division can be found at www.gsa.org.au and www.gsavic.org.

Contact details for the GSAV Committee can be found at www.gsavic.org/committee.html.

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