

Australian Regolith Geoscientists Alliance



GSA Specialist Group



Newsletter

June 2024

From the ARGA's Chair



Australian Regolith Geoscientists Alliance Specialist Group

Quarterly Newsletter – June 2024

ARGAnauts Unite! Or, its that time of year again – Its Annual General Meeting time! We have postponed our 20th June AGM so as to accommodate as many attendees as possible. Have you been interested in being more involved with ARGA, or have some good ideas for how ARGA can reach out to GSA, to other researchers and scientists, and even the general public? We are so keen to grow our committee and become GSA's

Specialist Group of choice. The Annual Report was presented at the GSA Annual General Meeting in May – and is included within this newsletter.

Already, we are seeing a great amount of interest at our very successful webinars, and with the International Applied Geochemistry Symposium (IAGS) coming up in Adelaide in 2024, we will have a great opportunity to showcase Australian regolith science to the world (full disclosure – I am the Organising Committee Chair, but it really will be a great event and I hope to see a lot of ARGAnauts there!).

Also, we have a mini-talk planned with our Secretary extraordinaire, Leah Lynham presenting some exciting insights into Lefroy Palaeochannel (and it includes snazzy pics!). Our YouTube channel is finally up and running with some fabulous content too!

Looking forward to seeing you all next Thursday, 27th June at our revised AGM date, online, and please reach out with your ideas and inspiration. We are always looking for new talks, content for the newsletter, and happenings in the regolith world to promote. As I have been ticking through my daily work for the Geological Survey of South Australia, regolith has been on my mind as we pull out some interesting drillholes from the South Australian Arckaringa Basin – with basal Permian diamictites, debris flows and all sorts of great



sediments. These ancient landscapes are always revealing new insights through the tiny snapshots we are privileged enough to access via core inspections, or isolated outcrops. I have included a photo from a recent inspection, as there's so much to unpick – and its just a very cool section of core!

Anna Petts,

Chair, Australian Regolith Geoscientists Alliance Specialist Group

Photo (left): Wallira 2 drillhole basal sediments... approximately 690 feet, deep in the basal Permian units of the Arckaringa Basin.

Australian Regolith Geoscientists Alliance Specialist Group Committee

Anna Petts as Chair

Leah Lynham as Secretary

John Keeling as Treasurer

Ian Roach as webmaster

Nadir De Souza Kovacs as our Newsletter editor

And Savannah McGuirk, Juraj Farkas and Owen Missen as general committee members!

NEW ANNUAL GENERAL MEETING DATE!

The ARGA Specialist Group Annual General Meeting is now scheduled for Thurs, 27th June. Please make sure to register, for the quick meeting and also our minitalk from Leah Lynham.



Mini Webinar and AGM

A quick Overview of the Novel Fossils of the Lefroy Drainage System, Yilgarn Craton

The Lefroy Drainage System and its associated palaeochannels are filled with Cenozoic sediments featuring novel micro and macro fossils. Please join us for a quick overview of these

FOLLOWED BY

The ARGA AGM are welcome and all positions declared vacant.

if you are involved in regolith in any capacity we'd love for you to be involved.

Must be a financial member of the GSA to hold a committee position.



Leah Lynham

College of Science and Engineering
James Cook University



27TH JUNE, 2024



10:00AM-11:30AM AWST

REGISTER HERE: [Click here to register via Zoom](#)

ARGA YouTube Channel is Choccas with Content!



Regolith Geosciences Australia

@australianregolithgeosciences · 7 subscribers · 4 videos

Welcome to the Australian Regolith Geoscientists Alliance YouTube Channel. ARGA is a [...more](#)

regolith.org.au

Subscribed

Home Videos Playlists



Applications of FTIR for regolith material exploration.

No views · 8 minutes ago



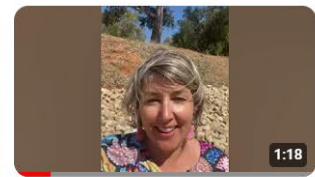
Are supergene ore deposits a guarantee of good ESG?

No views · 24 minutes ago



Sedimentary provenance, tectonics - detrital zircon geochronology...

1 view · 41 minutes ago



An exciting opportunity for Regolith Sciences!

80 views · 5 months ago

Have you checked out our ARGA YouTube page lately? Its looking good! All our webinars are hosted there, and we are keen for local/user content from YOU! Our members! Have a regolith concept you'd like to explain in a video? Or a small case study? Please get in touch, we'd love to host you!

youtube.com/@australianregolithgeosciences

IGC2028 Melbourne – Australasia’s bid to host the 38th International Geological Congress now Live!



The Australian Geoscience Council (AGC) is privileged to be bidding to host the international geoscience community in Melbourne for the prestigious 38th Session of the International Geological Congress.

The congress theme is *Geoscience for everyone, everywhere.*

The official bid website has just been launched at igc2028-melbourne.agc.org.au.

IGC2028 Melbourne bid will:

- Champion inclusion, diversity, and collaboration, not only for the delegates, but the geoscience offerings and education initiatives.

IGC2028 Melbourne will advance our science in ways and directions that the community may not have ever considered possible. This includes Indigenous people from across Australia, the region, and the world, who have supported their way of life and culture through their knowledge of the land and sea.

- Provide an exceptionally capable, attractive, sustainable, and viable destination for the IGC. Australia has an exceptional track record of successfully hosting major international scientific congresses. Melbourne is a desirable, safe, well connected, and accessible destination that offers exceptional conference facilities and support. It is a proven performer in attracting international visitors and delegates and perfectly located for extended touring of Australia and the Pacific region.
- Present an exceptionally well-funded and managed option for the IGC. The IGC2028 Melbourne bid team has confirmed guarantees for unprecedented financial support from City, State and National levels of government. The committee and management team have successfully delivered many large international conferences, including scientific gatherings.
- Offer unprecedented, once-in-a lifetime, world-class field trips from deep time, through the start of life, to present-day geological systems and research infrastructure: pre-, during and post-Congress. Field trips have been designed to align with a progressive, forward-facing scientific program. Equity and accessibility principles will be considered as part of the diverse field trip offerings that will be developed to create opportunities for training and building life-long peer-to-peer networks.
- Recognise the importance of providing opportunities for less fortunate and underrepresented geoscientists, from the region and around the world, to join us and actively participate to build their skills and knowledge. Our bid proposes record levels of financial support through GeoHost and a new funded delegate program.

Our bid team will be attending the 37th IGC in Busan and we have booked an exhibition booth and welcome you to visit us there so that we can meet in person. We will also be hosting a reception in Busan in support of the bid. If you would like any further information about the IGC2028 Melbourne bid, or if you would like to discuss any aspect of the bid including suggestions for the event, please contact us using the details below or email info@igc2028-melbourne.agc.org.au. In the meantime, please feel free to share this update with your colleagues and organisation and keep informed by subscribing to our social channels.

[IGC2028Melbourne | Facebook](#)

[@igc2028melbourne • Instagram photos and videos](#)

[\(23\) IGC 2028 Melbourne: Posts | LinkedIn](#)

Regolith on Show at the International Applied Geochemistry Symposium 2024

The upcoming IAGS 2024 in Adelaide this coming October is set to be a regolith-packed event, with applied geochemistry on show across the environment, resource exploration and even mine waste and rehabilitation. The keynotes have just been announced and include ARGA founding member, Dr Steve Hill! Steve is Geoscience Australia's Chief Scientist and its going to be great to have Steve open the conference, bringing an Australian perspective to applied geochemistry, and no doubt, some regolith science with it.

The field trips and workshops are now LIVE for registered attendees, with many workshops available for non conference attendees also. Here is a sneak peek of the Kapunda ISR trip:



KAPUNDA ISR Cu PROJECT - Pre-conference Full-day field trip (12 October 2024)

In situ recovery of copper at the historic sediment-hosted copper mine in Kapunda, SA

The Kapunda copper project is planning to be Australia's first in situ recovery (ISR) operation, demonstrating an environmentally friendly method of mining resources. This field trip will focus on the in situ recovery of copper at the historic Kapunda sediment-hosted copper mine. Participants will go on a guided tour of the historic mine followed by a visit to EnviroCopper ISR test site.

Workshops include a **Regolith Geology and Geochemistry** workshop presented by Dr Walid Salama, Dr David Cohen and Dr Ryan Noble. The 2 day online course aims to introduce the fundamentals of regolith, landscape evolution, mapping, and techniques used in modern exploration geochemistry with a focus on Australian settings (semi-arid mainly). Each day will feature 4 x ~90 min sessions and time allocated for discussion. The format will be PowerPoint presentation with an aim for open communication, with input from participants highly encouraged to share knowledge and experiences.

Also being offered as a workshop is a half day, **A Practical guide to exploration hydrogeochemistry** by Dr. Nathan Reid, Alex Hunt, and Cassady O'Neill. This half day course will introduce you to the why of hydrogeochemistry:

- what can it tell you about geology under cover, its strengths and weaknesses,
- targeting mineral systems at regional and camp scales,
- how to collect consistent samples and the tools we can provide
- what laboratory analyses are required and at what detection limits
- how to check your data (QA/QC)
- how to process data with XTHydroTM
- How to interpret your data within the regional context and tips for targeting.

More info here: <https://www.iags2024.com.au/>

Upcoming ARGA Webinar

Our next ARGA webinar is July 18th, with Dr Owen Missen presenting 'Environmental chemistry of critical metal cobalt across semi-arid Australian regolith'. This will be a great chance to hear about a critical metal, Cobalt, in a regolith and environmental context!



AUSTRALIAN REGOLITH
GEOSCIENTISTS ALLIANCE

Webinar Series

Environmental chemistry of critical metal cobalt across semi-arid Australian regolith

Cobalt is one of the most critical commodities of the 21st Century due to its importance in the battery industry. The cycling of cobalt in Earth's regolith environment is not well-understood, meaning that its increased use may result in multiple contamination pathways as the volume of cobalt-containing materials being utilised, recycled and scrapped rapidly increases.

Our work informs the regolith cycling of cobalt by studying cobalt mobility and transformation reactions in the oxidation zones of four different deposit types, all of which are found in Australia. Australia is in the top three countries for global cobalt reserves, but currently only produces ~5000 tonnes of cobalt per year. Single particle inductively coupled plasma mass spectrometry (SP-ICPMS) was employed to determine the number and mass of cobalt-based nanoparticles in the soils and X-ray fluorescence mapping and X-ray Absorption Near Edge Spectroscopy (XANES) were conducted at the ID21 beamline of the European Synchrotron Radiation Facility (ESRF). Together, these techniques show that cobalt is dynamically cycled in the regolith. A strong association for cobalt and manganese was observed across the different deposit types.



OWEN MISSEN

Centre for Ore Deposit and Earth Sciences,
University of Tasmania, Hobart, Australia



18TH JULY, 2024



11:30AM-12:30PM AWST

REGISTER HERE: [Click here to register via Zoom](#)

Upcoming ARGAnaut talk – Dr Gresley Wakelin-King

Our very own Dr Gresley Wakelin-King will be presenting the 2024 Howitt Lecture at the Royal Society of Victoria in Melbourne (and online). The topic is Australian drylands fluvial geomorphology, and its implications for biota, ecologists and land managers.

GSA-Vic and Royal Society Vic Howitt Lecture

Details: Australian Desert Rivers: So Cool, So Dry, So Dynamic with Dr Gresley Wakelin-King, Fellow, Geological Society of Australia.

Abstract: Australia's drylands rivers are qualitatively different from temperate-zone perennial rivers. Aridity creates special conditions for rainfall, run-off, vegetation-landform relationships and biotic life cycles, while the Australian geological context gives our drylands that characteristic look and feel. We'll look at some iconic landscapes while exploring the importance of geomorphology to sustainable land management.

Location: Royal Society of Victoria, 8 Latrobe St, Melbourne; or online

Time: 6:00 PM to 7:30 PM AEST

Tickets: <https://events.humanitix.com/australian-desert-rivers>

Register here: <https://lnkd.in/gbTQGCC4>

The poster features a central dark grey panel with white text, flanked by two vertical panels showing a landscape with red soil and white-barked trees. At the top left of the central panel is the Geological Society of Australia logo. To its right are the logos for 'The Royal Society of Victoria' and 'Inspiring Victoria'. The main title 'Australian Desert Rivers' is in a large, bold font, followed by the subtitle 'So Cool, So Dry, So Dynamic'. Below this, it says 'featuring' and 'Dr Gresley Wakelin-King', with his titles 'Consultant Geologist, Geomorphologist & Research Scientist'. The event is identified as 'The 2024 Howitt Lecture' at '6:00pm' on 'Thursday, 27 June, 2024'. At the bottom, it lists 'The Royal Society of Victoria' and the location '8 La Trobe Street, Melbourne and online'.

Insights on regolith research

Geochemical Pathways Defined by Predictive Regolith-Landform Models Using TanDEM-X Data in the Tanami Region, Australia

Richard Llewellyn Langford

A new publication has just come out, from Richard Langford who is ex Geological Survey of Western Australia, now a consultant. This new work on on regolith-landform mapping in the Tanami may be of interest to ARGAnauts. This will be part of a larger volume on Digital Geoscience (<https://www.escubed.org/research-topics/9/digital-geoscience>) that should be published later this year in ES3 (<https://www.escubed.org/journals/earth-science-systems-and-society>).

Here is the link: <https://www.escubed.org/articles/10.3389/esss.2024.10111/full>

Richard writes – “When I was mapping in the Tanami in 2006, I was fortunate enough to meet up with Brad Pillans, Lisa Worrell and yourself at the end of my field trip for a look at some other regolith features.

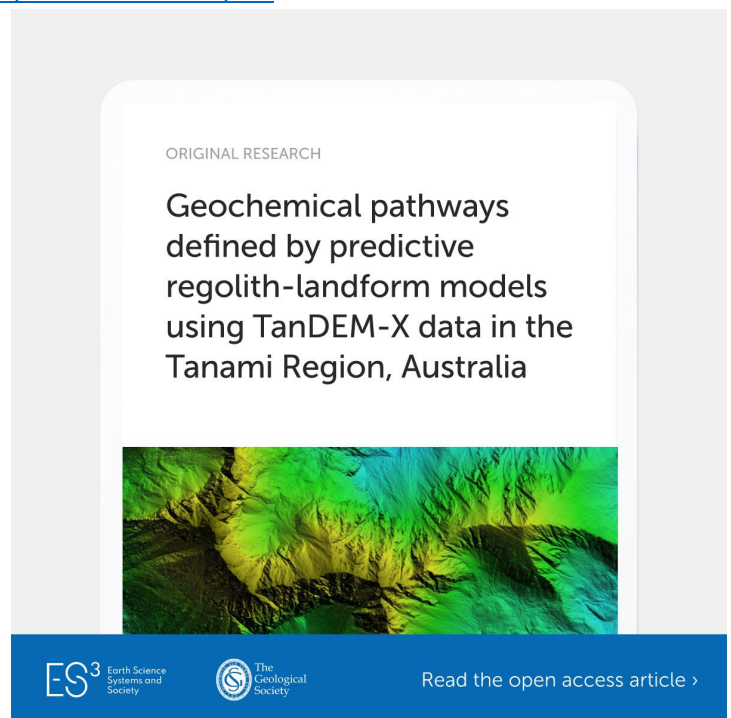
Bob Gozzard and I were always of the view that simple visualisation is the best methodology, although it is hard to ignore the desire of most mappers to put lines around things. Although I did some early work using SRTM, the TanDEM data are so much better, and I knew that there was a story to be extracted. Hopefully, the paper will get mappers focused on a more robust visualisation methodology.”

ARGAnauts, we're bringing you merchandise!

At this stage our offerings will be limited to a few select items, as hats, t-shirts, and long sleeve field shirts. However, if there's a particular item of merchandise you would really like, please reach out so we can gauge interest.



Emails to ARGA's secretary Leah Lynham, leah.lynham@my.jcu.edu.au



ARGA Book club

Have you read a great book lately? Please send in a review! We'd love to share great books and reviews.

Events and conferences

IAGC 2024 – Adelaide

Institute of Australian Geographer's Conference



Adelaide has been announced as the location of the 2024 Institute of Australian Geographer's Conference. The conference will be held in July 2024. For more information follow the link

<https://www.iag.org.au/conferences-iag2024-conference>



IAGS 2024 – Adelaide

International Applied Geochemistry Symposium 30th edition

14 – 18 October 2024

Hey folks, did you know regolith geochemistry will be spotlighted at the upcoming [30th International Applied Geochemistry Symposium \(IAGS 2024\)](#) in Adelaide, this coming October? There are workshops and fieldtrips also – registrations open and also workshops/fieldtrips!

International Association of Geomorphologists conference Christchurch, NZ, in February 2026,

The ANZGG has been successful in its bid to host the IAG 11th International Conference on Geomorphology. The conference proposal was approved by the International Association of Geomorphologists (IAG) Council in Sept 2022. The conference will be held at the new convention centre, Te Pae, in Christchurch in 2026. To make it a successful conference, we hope to engage the help of our ANZGG colleagues, e.g., for running sessions, fieldtrips, and encouraging attendance. We have already been in touch with some colleagues about running fieldtrips, in preparation of the bid (there will be 2 post and 2 pre-conference fieldtrips, 2 of which will likely be in Australia). If you are keen to get involved, please get in touch. The conference website is planned to be up and running soon. more info at this link: <https://lnkd.in/gGradk6k>

Will be a great conference and perhaps we can work together for regolith session!



International Geological Congress in Busan, Korea

The Australian Geoscience Council has made a special opening of the travel grant scheme to provide support for early career geoscientists to attend the International Geological Congress in Busan, Korea, which will be held in August.

Please access the following links for more information and how to apply:

<https://lnkd.in/g7dWwhPr>

<https://lnkd.in/eyci2Sbp>

Keeping up to date with ARGA



ARGA Facebook page

<https://www.facebook.com/groups/10150125426600193/>



ARGA is on INSTAGRAM!

<https://www.instagram.com/ausregolith/>



ARGA is on LinkedIn

<https://www.linkedin.com/company/australian-regolith-geoscientists-alliance-arga/>

Australian Regolith Geoscientists Alliance
@AusRegolith Follows you

Official Account of the Australian Regolith Geoscientists Alliance (ARGA) Specialist Group of the Geological Society of Australia
RTs are not endorsements

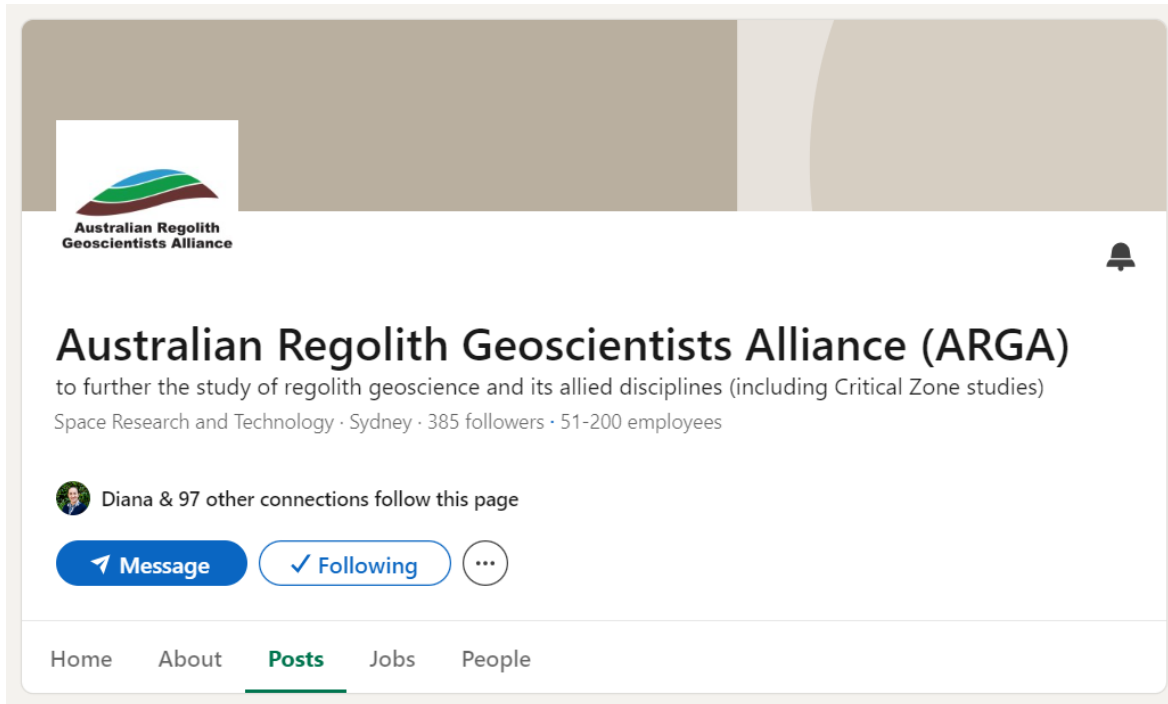
regolith.org.au Joined June 2021

52 Following 31 Followers

Followed by AuScope National Virtual Core Library, Alexandra Stavropoulou, and 20 others you follow

Tweets Tweets & replies Media Likes

Australian Regolith Geoscientists Alliance @AusRegolith · 2h
It's almost #WorldSoilDay and this year the focus is on salt affected soils
Are all salt affected soils a global threat? Find out more here (fao.org/world-soil-day...)



You can have a short article on events or topics related to regolith studies appearing as part of ARGA's quarterly newsletter publication. Please allow plenty of time to promote the event. Short article with 400 words and 3 pictures maximum. Please email article to Nadir.DESOUZAKOVACS@dmirs.wa.gov.au



**Geological Society
of Australia**

Australian Regolith Geoscientists Alliance (ARGA) AGM Report

HIGHLIGHTS

- Bi-monthly Webinar series by various industry and academic community members, with good turnout ranging from 10-45 registrations
- A successful 2 day symposium at AESC2023 featuring a variety of talks from government, academia and industry across regolith geoscience themes
- A successful field trip “from sea to scarp” as part of AESC2023
- Starting our YouTube Channel
- A regular newsletter featuring news/events/bookclub
- Representation at outreach events including CoRE and National Science Week
- Successfully running our Facebook group and Linked In accounts, generating discussion.

COMMITTEE

Anna Petts- Chair

Leah Lynham- Secretary

John Keeling- Treasurer

Ian Roach- Web Master

Nadir de Souza Kovacs-Newsletter Editor

Owen Missen, Savannah McGuirk, Juraj Farkas-General Committee Members

MEMBERSHIP

We have 73 Friends of ARGA as of March 2024, in November 2023 our membership base was 66, and October 2023 was 65, so there is a small but steady increase each month following that trend. Our financial members total 55

ARGA offers specialist membership at a very low rate of only \$5.50, and this includes access to all webinars, and this year the ARGA field trip “Sea to Scarp” was free for ARGA members. Gaining members is becoming easier as we are more active on social media and raise the profile of ARGA and regolith science across Australia.

FINANCES

Australian Regolith Geoscientists Alliance (ARGA)

Statement of Financial Position

As at 1 May 2024

Note	ARGA (GSA) 01 May 2024 \$	ARGA (GSA) 25 June 2023 \$
Current Assets		
Cash		
Westpac Community Solutions cash reserve account	492.17	492.17
Westpac deposit account	644.47	644.47
GSA ARGA Specialist Group	28,940.45	28,123.00
	30,077.09	29,259.64
Non Current Assets		
Property, investments etc.	0.00	0.00
TOTAL ASSETS	30,077.09	29,259.64
Current Liabilities		
Payables	0.00	0.00
TOTAL LIABILITIES	0.00	0.00
NET ASSETS	30,077.09	29,259.64

Statement of Income and Expenditure

As at 1 May 2024

Note	01 May 2024 \$	25 June 2023 \$
Income¹		
Membership	250.00	212.00
Conference registrations	488.34	0.00
Interest allocation	413.53	600.28
Donations	0.00	0.00
Net operating Income	1151.87	812.28
Expenditure		
Administration, website	0.00	0.00
Conference expenses (incl. bus hire)	299.59	1,350.00
Eventbrite Fees	34.83	0.00
Net operating expenses	334.42	1,350.00
NET PROFIT (LOSS)	817.45	(537.72)
Opening cash	29,259.64	29,797.36
CLOSING CASH	30,077.09	29,259.64

Notes: ¹ Membership and interest by GSA for calendar year 2023 only

FUTURE ACTIVITY

- To continue our now established webinar series, future meetings are secured, but we would like to increase our speaker diversity to present for us (include culturally and linguistically diverse speakers and as well gender diversity to reflect our membership base).
- To produce a special edition of regolith themed papers for AJES
- To be involved with IAGS 2024 in some capacity, either as a low-level sponsor or to have an informal catch up and meeting.
- To provide merchandise for our membership base. We have had requests for field shirts and other items.
- To arrange another symposium piggy-backing on another conference in relation to AESC? But we are open to have it jointly held with another specialist group
- We will run a competition for YouTube videos, with the prize being a copy of “Regolith Science” by Colin and Pain, this can be on any aspect of Regolith science and we will utilise the submissions for content. We will run a school competition also, asking schools to submit videos on Regolith in line with the National Curriculum.