



## GENUS Palaeo Pulse | February 2024

23 February 2024



**GENUS**  
**PALAEOSCIENCE**

[www.genus.africa](http://www.genus.africa)

## Note from the Director

Dear Genus Community,

At the start of a brand new year, it is with great excitement that we introduce our very first GENUS newsletter, marking the end of a productive and eventful 2023. This new initiative called Palaeo Pulse is set to be released bi-annually and is a testament to our ongoing commitment to connect and share the vibrant life of our community.

In this inaugural edition, we celebrate the remarkable achievements of our grantees. Their dedication and hard work are at the core of what makes Genus a leader in innovation and discovery!

Our community has been exceptionally active this year, with staff and students participating in a variety of field activities, conferences, training workshops, and global engagements. These experiences have contributed to their personal and professional growth and have elevated our presence on the local and international scientific stage.

This newsletter is a summary of events and activities and a spotlight on selected research that showcases the cutting-edge work being done within our community. Each story, each achievement, is a piece of the larger puzzle that defines our collective success.

As we look forward to the possibilities of 2024, let's take a moment to appreciate the milestones we achieved together in 2023.

Your continuous support and involvement are what makes Genus an extraordinary place to learn, teach, and grow.

Here's looking forward to another year of exceeding expectations and making a significant impact in our world.



*Professor Jennifer Botha*

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## Event Highlights

7– 10 December

The SAASC's Student Development Workshop in Johannesburg offered an enriching four-day experience for aspiring archaeologists. Highlights included expert-led sessions in palaeontology, heritage management, and effective science communication, fostering the next generation of scientists and communicators in a dynamic and engaging environment.



*The group of students participating in SDW '23 had a blast!*



*Dean of the Faculty of Science, Professor Nithaya Chetty, receiving a tour of the facility from Gideon Chinamatira. MSc student Erin Lund showcasing a scan and its uses.*

29 November -

The revamped state-of-the-art Micro CT scanner equipped with advanced 3D imaging technology, was unveiled in the Evolutionary Studies Institute. The scanner allows scientists to examine the interior of fossil-bearing rock samples non-invasively. This approach not only preserves the integrity of invaluable fossils but also streamlines the research process significantly.

31 October - 2 November -

The Genus Student Conference offered a friendly environment for students to present their research to their peers, with prizes on offer for the best presentation.

Professors Jennifer Botha and Jennifer Fitchett led informative workshops on how to present at scientific conferences and to the public. The conference also had many fun activities, including drumming hosted by Drumcafe and a student quiz night, won by Team Red Stars.



*The 2023 Genus student grantees enjoying the conference!*



## 2023 Event Highlights



*The entrance sign to the exhibition in Cape Town.*

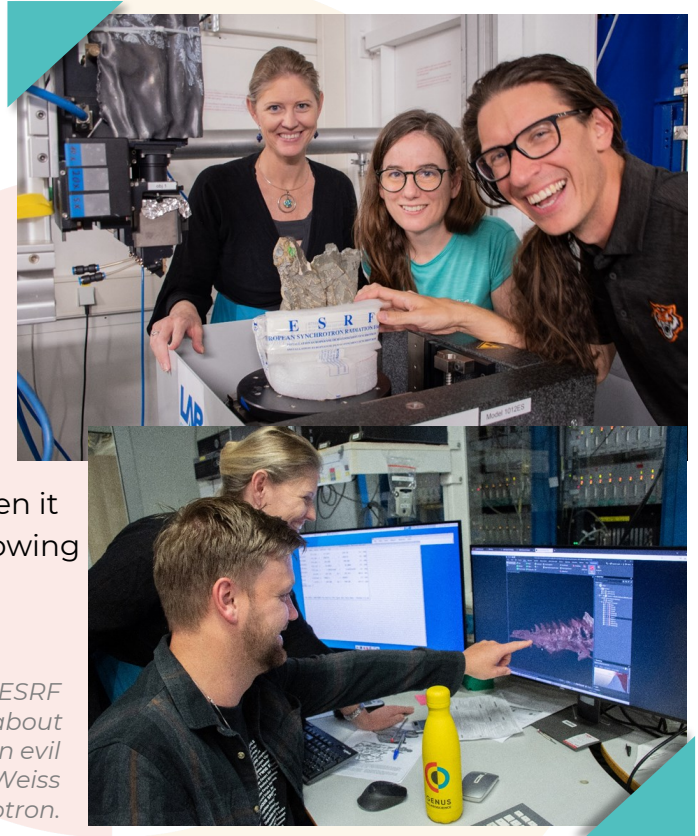
*27 September -*

Iziko Museums and HERI at UCT launched the 'HUMANITY' exhibition at the Iziko South African Museum, reimagining human evolution through diversity and creativity. The exhibition, blending art and science, showcases Africa's role in human history and encourages visitors to explore and reflect on our shared heritage.

*24 September - 1 October*

In an exciting expedition, GENUS Director Jennifer Botha and her eager students, Brandon Stuart and Bailey Weiss, journeyed to France's European Synchrotron in September 2023. Their mission? To unveil the hidden life stories of ancient crocodylomorphs through state-of-the-art scanning, all without harming these precious fossils. If the scans come out well, one can tell how old the creature was when it died, how quickly and in the manner it was growing during its life as well as many more life history characteristics!

*Right- Director Jennifer Botha with colleagues at the ESRF scanning Heleosaurus, an extinct animal that lived about 260 million years ago. The green scan has given it an evil glint to its eye! Professor Botha and student Bailey Weiss discussing the scans obtained from the synchrotron.*



Various public lectures and activity days at The Origins Centre - The lectures were presented by leading researchers - Prof Jose Braga, Prof Lyn Wadley and Dr Aurore Val, and a knapping demonstration with Prof Pierre-Jean Texier – and provide the public access to objects and palaeoscience research that isn't readily accessible to the public. The interactive family activities were designed to inspire young learners to actively participate in and explore the palaeosciences!



## 2023 Event Highlights



*Student presenters at the Palaeosciences Symposium at Nelson Mandel University.*

In February 2023, under new Director Professor Jennifer Botha, GENUS embarked on a South African tour to strengthen collaborations. Starting at Bloemfontein's National Museum in February, we focused on expanding support for museum paleoscientists. March saw us at Nelson Mandela University and the Palaeosciences Symposium, led by Dr. Lynne Quick, the new head of the African Centre for Coastal Palaeoscience. In Makhanda, Dr. Rob Gess at Rhodes University and the Albany Museum showcased his Devonian Ecosystems exhibit. Concluding in April, we connected with researchers and students from the University of Cape Town and the Iziko South African Museum. This tour significantly deepened our understanding of local research challenges and bolstered our commitment to collaborative growth in palaeoscience!



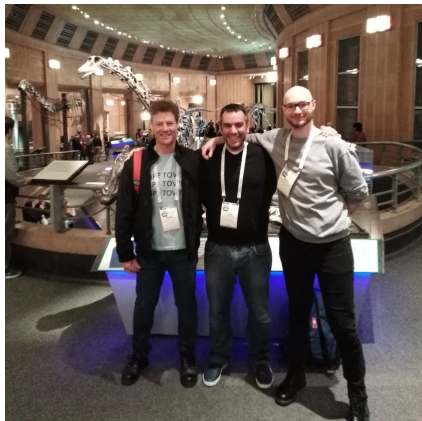
*Left—Dr Rob Gess showing the Genus team the Devonian Ecosystems exhibit he is developing at the Albany Museum. Here he is showing how they have developed a puzzle for children to assemble an extinct fish.*



*Right- Enjoying beautiful views during the Cape Town visit.!*

## Conferences

PhD candidate, **Atashni Moopen**, made significant contributions at a major palaeontology conference at the **Natural History Museum in London** on January 11th and 12th. Atashni presented groundbreaking research on South Africa's Late Triassic era, including the first complete dinosaur skull found in the region.



Dr. **Marc Van den Brandt**, Dr. **Luke Norton**, and former grantee **Viktor Radermacher** participated in the **Society of Vertebrate Palaeontology Conference** in Cincinnati, USA. Dr. Van den Brandt captivated the audience with his talk on the Late Permian pareiasaur *Nanoparia luckhoffi* from South Africa's Karoo Basin. Dr. Norton shared his innovative research on *Thrinaxodon liorhinus* using X-Ray Micro-Computed Tomography and also presented Dr. Julien Benoit's poster on the sensory organs and paleobiology of cynodonts.

In September, **Nelson Nhamutole**, a PhD candidate at the University of the Witwatersrand, made a significant impact at the **29th Colloquium of African Geology (CAG)** in Windhoek, Namibia. He presented two research papers: one on the Tete Fossil Forest in Mozambique as a world-class geoh heritage site, and another on organic matter characterization in the Maniamba Basin for petroleum exploration potential.



Dr **Angela Effiom**, Ms **Busisiwe Hlophe** (MSc student) and Dr **Abraham Dabengwa**, along with Dr. Christine Steininger, were part of the thought-provoking **INQUA 2023 Congress**. Exploring the theme "Time for Change," this event highlighted how Quaternary sciences play a crucial role in shaping solutions for today's global challenges.

In August, Dr **Jaganmoy Jodder** presented at **Sasol Techno X**, taking aspiring young minds through the day in the life of a geologist. His talk was fun and inspiring, showing young learners the exciting possibilities in geology and palaeontology.



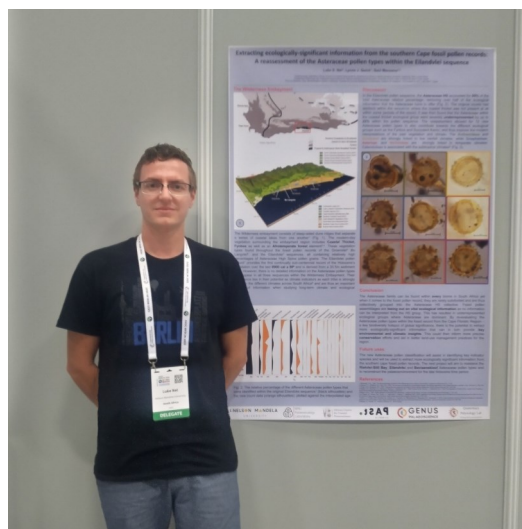


The African Scholars Program, sponsored by GENUS and involving the Field Museum of Natural History, facilitated a fruitful exchange with three professionals from the Iziko South African Museum. During their visit to the Field Museum in Chicago, the team enhanced their skills in fossil vertebrate curation and maintenance, collaborating with experts like Akiko Shinya and William Simpson. Additionally, they engaged in educational activities, such as presenting at the Earth Science Club of Northern Illinois and developing online courses for the Iziko Museum's new training portal, PalaeoLink. This program, supported by various partners including the University of Cape Town, is a significant step in promoting international collaboration and knowledge-sharing in palaeosciences.



Students **Janaïs Delpert, Ruan Van Mazijk, Lydia Madika, Abigail Kirkaldy, and Xichavo Andronica Mathebula** attended the XVI SASSB 2023 Conference and 14th International Polychaete Conference (IPC) in Stellenbosch.

**Luke Nel** attended the **28th IUGG General Assembly** in Berlin in August, and presented his research poster on "Extracting Ecologically Significant Information from the Southern Cape Fossil Pollen Records."



**Ryan Nel** attended the PalaeoDownUnder conference in Perth, Australia, from July 10-14, 2023. Not only did he get to share his research and connect with international experts, but he also had the chance to work with some of the world's best-preserved 3D fish fossils from the Devonian Period at the Western Australian Museum and the Australian Museum in Sydney!

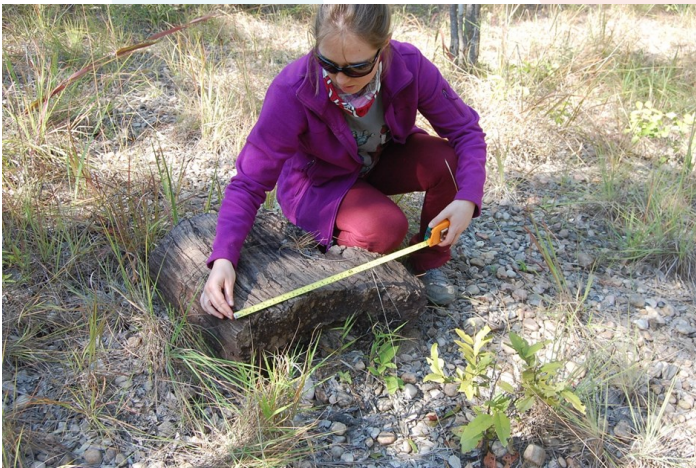


## Field Snapshots

*Below: Precious Chiwara-Maenzanise excavating a Middle Stone Age site in Tswalu Kalahari, delving into her passion for modern human behaviour and stone tool technology.*



*Below: Simone Kock doing field analysis of a fossil wood specimen while on a fieldtrip in Zambia.*



*Above: Atashni Moopen having fun jackhammering away in a quarry!*



*Above: Erin Lund on a field trip to Prince Albert Road , where she discovered the skull of a specimen of Tapinocaninus. The Tapinocaninus (nicknamed “Celine”), was relatively easy to excavate, but it took 10 of the men on the team to pick her up and load into the bakkie!*

*Left: Sebastian Bielderma - Excavating at Klasies River main site under Prof. Wurz's guidance, he unearthed the layer that contributed to his MSc lithics sample.*



## Field Snapshots

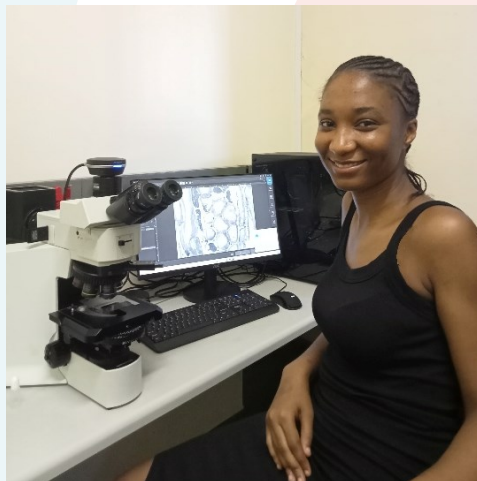


Left: Fonda Matlhaga—A remarkable moment after finding a *Lystrosaurus* skull and associated postcrania during the TRINAX2023 fieldwork in Oranje, South Africa.



Below: Wade Harris—Dug a trench just her size during one of the exciting trips doing fieldwork in Qhemega, Eastern Cape!

Right : Busisiwe Hlophe analysing archaeological macrochar-coal samples in the lab as part of her MSc .



Above: Lutendo Mukwevho—First time in the field during the Evolutionary Studies Institute Honours Field Trip.



Left: Ryan Nel excavating a nodule containing a shark spine, in the Klipbakkop Formation, Bokkeveld Group during the Devonian Ecosystems Project field trip in November 2023.



## Research in the Spotlight



Master's student Caitlin Reddy published on *Krommaster spinosus*, the oldest-known brittle star in the southern hemisphere. This 410-million-year-old finding marks a significant stride in our understanding of ancient marine ecosystems.

Dr Jaganmoy Jodder's co-authored publication of Hadaean to Palaeoarchaeon stagnant-lid tectonics revealed by zircon magnetism in *Nature* showed that the emergence of life on Earth did not require Plate tectonics!



Research led by Dr Cameron Penn-Clarke showed a series of environmental crises in what is now South Africa, which occurred during a time known as the Early-Middle Devonian period. These crises led to the extinction of a unique group of marine animals called the Malvinokhosan biota. This groundbreaking study is the first to document such a large-scale extinction event of this nature and magnitude in South Africa, adding to growing evidence that changes in climate and sea levels can have global consequences!

Research led by Prof Jennifer Botha re-shaped our understanding of crocodile evolution by pinpointing the onset of slow growth rates to the Late Triassic Period, much earlier than the previously assumed Early Jurassic timeline. It also showed that this slow-grow strategy was probably key to croc ancestors surviving the End-Triassic mass extinction!



## Awards & Honours



Professor **Jonah Choiniere** was inducted as a Fellow of the Royal Society of South Africa at a ceremony held in Pretoria on 4 November 2023. The Society also awarded Professor **Jennifer Fitchett** its 2023 Meiring Naudé Medal, which recognises outstanding early career scientists (under 35-years-old) who have already made a mark in their field and who are poised to become scientific leaders.

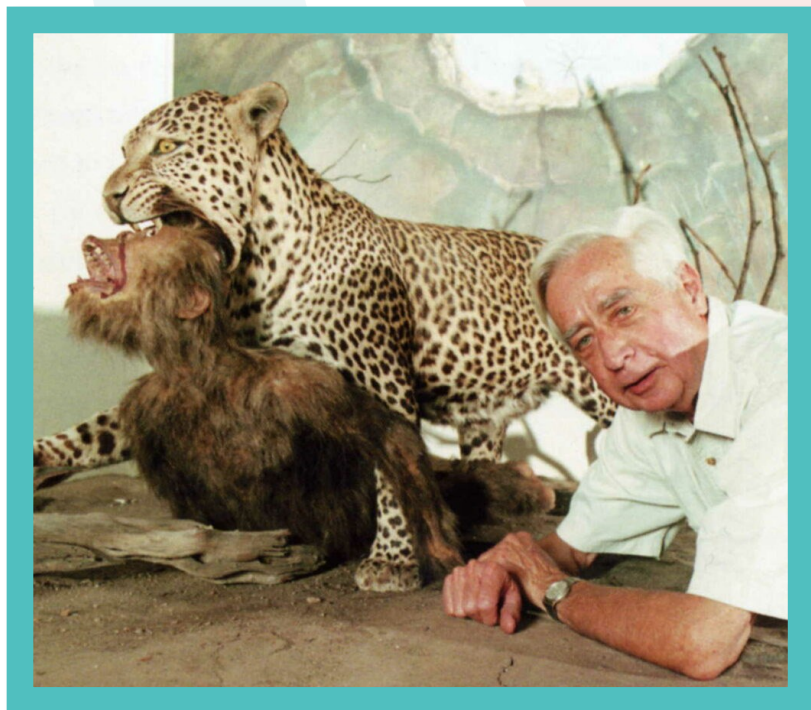
**Professor Bruce Sidney Rubidge**, affectionately known as the “God of the Karoo,” is celebrated in the latest volume of *Palaeontologia Africana*. This special edition, a festschrift, honors his illustrious career and remarkable contributions to South African Palaeosciences. Featuring a diverse array of writings from his students, colleagues, and friends – a testament to the indelible impact he's had in these overlapping circles – this volume stands as a tribute to his enduring legacy!





## Remembering the Greats

Dr Michael A Cluver (80), Karoo palaeontologist and former Director of the South African Museum in Cape Town, passed away on 6 November 2023. We celebrate a life marked by monumental scholarly achievements and visionary contributions to the stewardship of our natural heritage.



On 6 June 2023, the scientific community bid farewell to Dr Charles "Bob" Kimberlin Brain (92). We honour the life and legacy of this remarkable scientist whose pioneering contributions forever transformed our understanding of human evolution and the ancient world.



## Looking Forward

2024 holds a variety of exciting upcoming projects. Be on the lookout for some of the following events coming soon!

**Genus is partnering with Geocache South Africa** to bring the public an exciting palaeontology-themed adventure!

Find the hidden Genus treasure at selected sites around the country, snap a fun selfie and stand the chance to win a cool prize!



**The Sterkfontein Cave** signage and lab facilities are due for an upgrade, and along with MGC, Brett Eloff, the Sterkfontein team and PAST, we've been hard at work designing some exciting things that are currently in production. Watch this space, you won't want to miss what is coming to Sterkfontein soon!

### Fossil Tours and Talks

Genus is partnering with Safari Odyssey and Ancient Odysseys to bring tailor-made tours to the public! Guests will enjoy the educational fossil dig sites, eat delicious food and participate in a variety of fun outdoor adventures. All for a good cause; proceeds from these tours will support the GENUS grant programme, directly contributing to the next generation of scientists! Also be on the lookout for our new Webinar series coming soon!

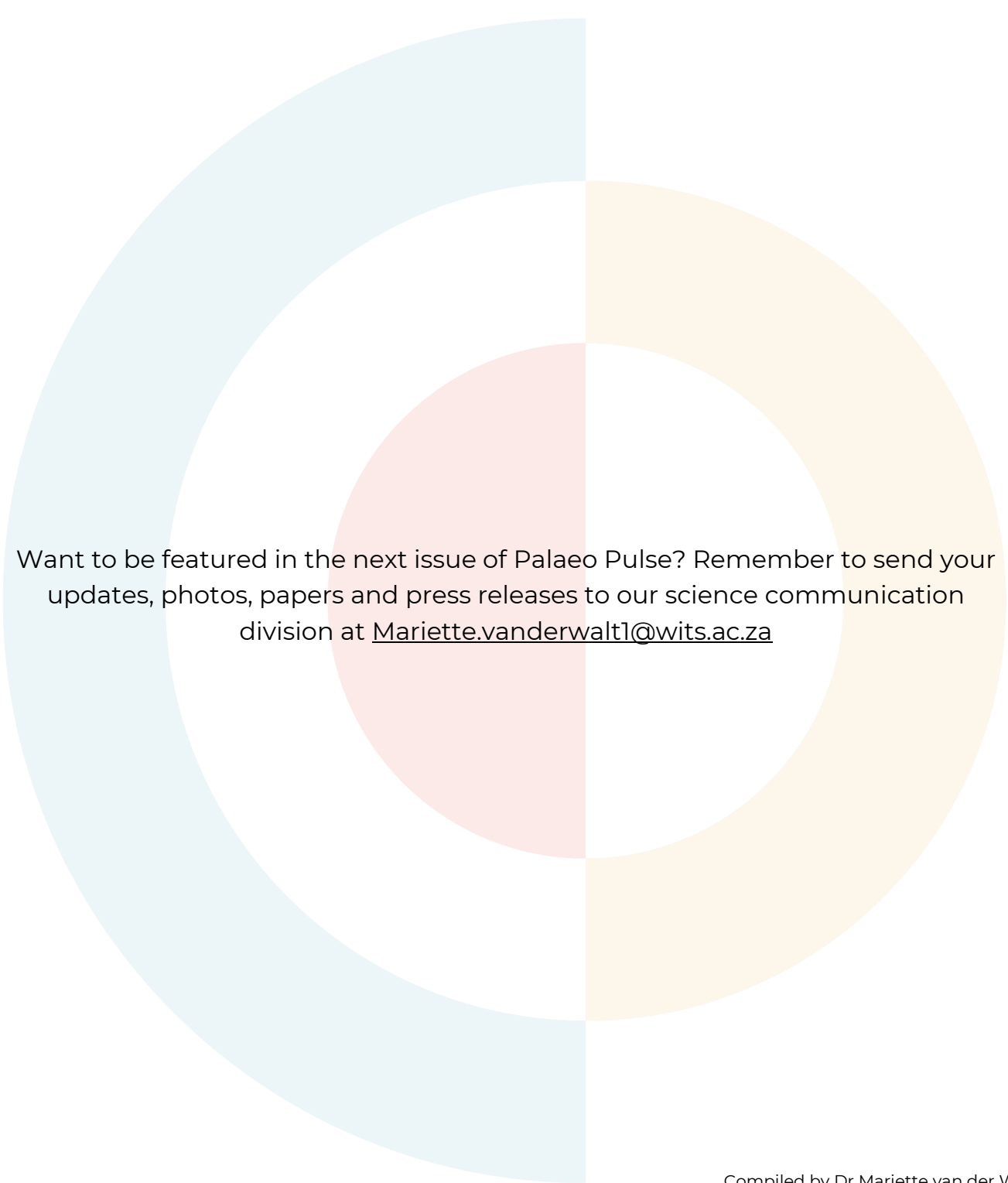
*Ancient Odysseys*



### Taung Fossil Turns 100!

This year, the palaeontology community is celebrating 100 years of discovery of the Taung child Skull (1924). This landmark event will be celebrated in a variety of ways, including articles, events and art exhibitions! Watch this space!





Want to be featured in the next issue of Palaeo Pulse? Remember to send your updates, photos, papers and press releases to our science communication division at [Mariette.vanderwalt1@wits.ac.za](mailto:Mariette.vanderwalt1@wits.ac.za)

Compiled by Dr Mariette van der Walt

Science Communication Officer

Genus: DSI-NRF Centre of Excellence in Palaeosciences

Hosted by the University of the Witwatersrand, Johannesburg

Office Tel: +27 (0)11 717 6069

[Mariette.vanderwalt1@wits.ac.za](mailto:Mariette.vanderwalt1@wits.ac.za)