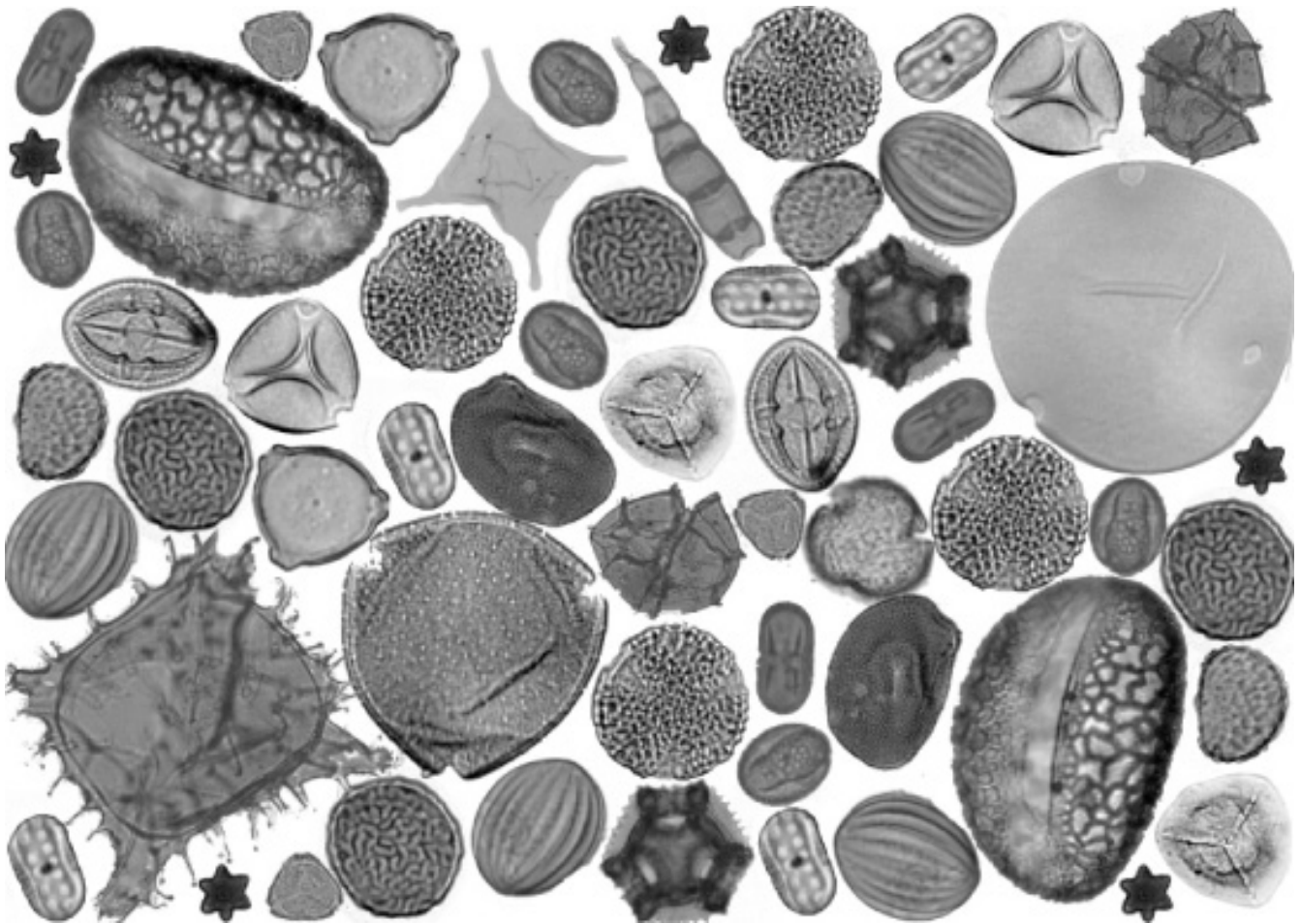


# AASP – The Palynological Society

Promoting the Scientific Understanding of Palynology since 1967



# NEWSLETTER

June 2024  
Volume 57, Number 2

Published Quarterly



# AASP – TPS NEWSLETTER

Published Quarterly by AASP – The Palynological Society

June 2024, Volume 57, Number 2

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# AASP

The Palynological Society

The American Association of Stratigraphic Palynologists, Inc. - AASP - The Palynological Society - was established in 1967 by a group of 31 founding members to promote the science of palynology. Today AASP has a world-wide membership of about 200 and is run by an executive comprising an elected Board of Directors and subsidiary boards and committees. AASP welcomes new members. The AASP Foundation publishes the journal *Palynology* (quarterly), the *AASP Newsletter* (quarterly), and the *AASP Contributions Series* (mostly monographs, issued irregularly), as well as several books and miscellaneous items. AASP organises an Annual Meeting which usually includes a field trip, a business luncheon, social events, and technical sessions where research results are presented on all aspects of palynology.

### **AASP-TPS Scientific Medal recipients**

Professor William R. Evitt (awarded 1982)  
Professor William G. Chaloner (awarded 1984)  
Dr. Lewis E. Stover (awarded 1988)  
Dr. Graham Lee Williams (awarded 1996)  
Dr. Hans Gocht (awarded 1996)  
Professor Svein B. Manum (awarded 2002)  
Professor Barrie Dale (awarded 2004)  
Dr. David Wall (awarded 2004)  
Dr. Robin Helby (awarded 2005)  
Dr. Satish K. Srivastava (awarded 2006)  
Professor Estella B. Leopold (awarded 2013)  
Professor Vaughn M. Bryant (awarded 2016)  
Professor David Batten (awarded 2018)  
**Dr. Robert Fensome (awarded 2024)**  
**Dr. James Riding (awarded 2024)**

### **AASP-TPS Honorary Members**

Professor Dr. Alfred Eisenack (elected 1975)  
Dr. William S. Hoffmeister (elected 1975)  
Professor Leonard R. Wilson (elected 1975)  
Professor Knut Faegri (elected 1977)  
Professor Charles Downie (elected 1982)  
Professor William R. Evitt (elected 1989)  
Professor Lucy M. Cranwell (elected 1989)  
Dr. Tamara F. Vozzhennikova (elected 1990)  
Professor Aural T. Cross (elected 1991)  
Dr. Robert T. Clarke (awarded 2002)  
Professor Vaughn Bryant (awarded 2005)  
Professor Alfred Traverse (awarded 2005)  
Professor Bernard Owens (awarded 2011)  
Dr. John E. Williams (awarded 2013)  
Mr. Paul W. Nygreen (awarded 2013)  
Professor Norman Norton (awarded 2016)  
Professor George F. Hart (awarded 2020)

### **AASP-TPS Board of Directors Award recipient**

Dr. Robert T. Clarke (awarded 1994)  
Dr. Thomas D. Demchuk (awarded 2014)

### **AASP-TPS Medal for Excellence in Education**

Professor Aural T. Cross (awarded 1999)  
Professor Alfred Traverse (awarded 2001)  
Professor Bill Evitt (awarded 2006)  
Professor Vaughn M. Bryant (awarded 2013)  
Professor Geoffrey Clayton (awarded 2016)  
Professor Sophie Warny (awarded 2021)  
Professor Francisca Oboh-Ikuenobe (awarded 2023)

### **AASP-TPS Distinguished Service Award recipients**

Dr. Robert T. Clarke (awarded 1978)  
Dr. Norman J. Norton (awarded 1978)  
Dr. Jack D. Burgess (awarded 1982)  
Dr. Richard W. Hedlund (awarded 1982)  
Dr. John A. Clendening (awarded 1987)  
Dr. Kenneth M. Piel (awarded 1990)  
Dr. Gordon D. Wood (awarded 1993)  
Dr. Jan Jansonius (awarded 1995)  
Dr. D. Colin McGregor (awarded 1995)  
Professor John H. Wrenn (awarded 1998)  
Professor Vaughn M. Bryant (awarded 1999)  
Dr. Donald W. Engelhardt (awarded 2000)  
Dr. David T. Pocknall (awarded 2005)  
Dr. David K. Goodman (awarded 2005)  
Professor Owen K. Davis (awarded 2005)  
Dr. Thomas Demchuk (awarded 2009)  
Professor Reed Wicander (awarded 2014)  
Professor Fredrick Rich (awarded 2016)  
Dr. James B. Riding (awarded 2016)  
Professor Martin B. Farley (awarded 2019)  
Professor Jennifer O'Keefe (awarded 2023)



# AASP – TPS NEWSLETTER

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Jan Hennissen, Editor

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Filipe Barreira, Laboratório Nacional de Energia e Geologia (LNEG), S. Mamede Infesta, Portugal

The AASP – TPS Newsletter is published four times annually. Members are encouraged to submit articles, “letters to the editor,” technical notes, meetings reports, information about “members in the news,” new websites and information about job openings. Every effort will be made to publish all information received from our membership. Contributions which include photographs should be submitted two weeks before the deadline. **Deadline for submission for the next issue of the newsletter is March 1, 2024.** All information should be sent by email. If possible, please illustrate your contribution with art, line drawings, eye-catching logos, black & white photos, colour photos, etc. **We DO look forward to contributions from our members.**

# A Message From Our President

## Dear Friends,

Our recent annual meeting, the 56<sup>th</sup>, just took place from June 24 – 28, 2024 in the beautiful city of Montpellier. Severine Fauquette (from the University of Montpellier) and I spent last year selecting the various venues and field trip sites, vendors, etc. After a year of carefully planning, the day finally arrived. About 75 palynologists from around the world participated onsite in Montpellier. From what we've heard, all had an amazing time and appreciated the quality of the talks, posters, and the other events. Palynologists from France, Belgium, the United States, India, Malaysia, the United Kingdom, South Africa, Egypt, Italy, Argentina, Colombia, and Panama, just to name a few, did a wonderful job sharing their research.

The 30+ graduate students and early career professionals definitely showed us that the future of palynology is in great hands. We did not envy the job of the award committee as the bar placed by students in all talks and posters was very high, and a selection of winners was not an easy task.

All abstracts, programs and many emails were handled very professionally by Ana Ejarque (ISEM, CNRS, Univ. Montpellier, France) and Reyes Luelmo (ISEM, Univ. Montpellier, France) who did a fantastic job putting together three days of



*Group picture of the participants of the 56<sup>th</sup> Annual Meeting of the AASP-TPS in Montpellier (France)*

well-organized scientific sessions and handled a lot of the logistics in the last month. Severine and I are also very grateful for the help from ISEM colleagues, Vincent Montade and Sylvie Rouland.

Our gratitude is also extended to Vladimir Torres who worked tirelessly this past year handling the many financial details and various contracts associated with hosting our meeting. We also thank Stephen Stukins for handling the memberships and all the announcements, Fabienne Marret for creating the website, and Marie Thomas and her team for handling all student travel scholarships and the various meeting awards.

Finally, we tried to keep registration fees as low as possible. It would not have been possible without the grants received from the University of Montpellier, ISEM, CEMEB, and Projet ANR MeSCAL. Additional funding was received from Hess Corporation in Houston. Vladimir Torres also provided personal funds to help support some of the Early Career Researcher (ECR) events.

### **Pre-conference field trip**

On *Monday June 24<sup>th</sup>*, 12 palynologists joined the pre-conference field trip that was designed to provide a view of the vegetation of Cam-



*Salt production at Salins d'Aigues Mortes.*

argues and study the various plants adapted to flooding by water of various salinities in marshes and pools.

This field trip was hosted by Dr. Patrick Grillas, who guided us to visit traces of ancient branches of the Rhone at the Tour du Valat Nature Reserve. Plants observed included several species of *Damasonium polyspermum*, *Pulicaria sicula*, *Cressa truncata*, *Nitella opaca*, *Chara* spp., *Tolypella* spp., various *Plantago* just to name a few.

The group had lunch at the Tour du Valat kitchen, before heading to the « Salin d'Aigues Mortes ». Aigues-Mortes is a fortified Middle Age town at the base of the salins. The name comes from the Latin *Aquae Mortuae*, i.e., dead waters, after the stagnant salty waters surrounding the town at its creation.

The impressive salins we visited are the site of salt production dates to Antiquity (4th century B.C.). The current company mining the salt was founded in 1856 as the "Salins". Their products are sold around the world as fine salt table "La Baleine" or in coarse crystal form "Fleur de Sel de Camargues".

Besides visiting the impressive production, we spent time reviewing the unique flora. The presence of salt creates an environment where only certain species of plants can survive. About 200 species of plants have been listed on the Aigues-Mortes site.

Other algae piqued the interest of our group, although not a dinoflagellate! This alga, responsible for the breath-taking pink colouring of the saline basins, is called *Dunaliella salina*. It is mostly found in hypersaline environments, such as salt lakes, marshes or evaporation ponds.



Saline basin coloured pink by *Dunaliella salina* with Aigues-Mortes in the background.

## Ice Breaker

That evening, we hosted the ice breaker in the "Jardin des Plantes", i.e. its Botanical Garden. In addition to being a stunning site to host our first social event, the Montpellier Botanical Garden has quite a history. It is the oldest in France, created in 1593 by Pierre Richer de Belleval, a young doctor, under the orders of Henri IV, to develop health through medicinal plants. Devastated in 1622, during the siege of Montpellier by the army of Louis XIII, it was restored in 1629.



*Ice-breaker at the Jardin des Plantes. A local artist entertained the crowd. All four regions of Belgium represented, with Flanders (S. Louwye and P. Meyvisch, Germanic (T. Servais), Wallonia (S. Warny) and Brussels (S. Leroy).*

The greatest botanists succeeded one another at its direction. In the 18th century, it was refurbished by F. Boissier de Sauvages. Throughout the 19<sup>th</sup> and 20<sup>th</sup> centuries, it experienced a period of rebirth and development. As a property of the State, it is currently managed by the University of Montpellier I. One of its notable specimens is the famous *Ginkgo biloba* (male tree) planted in 1795 and grafted with a female branch in 1830. All enjoyed the delicious food provided by local restaurant "le Tonneau" while listening to a local musician.

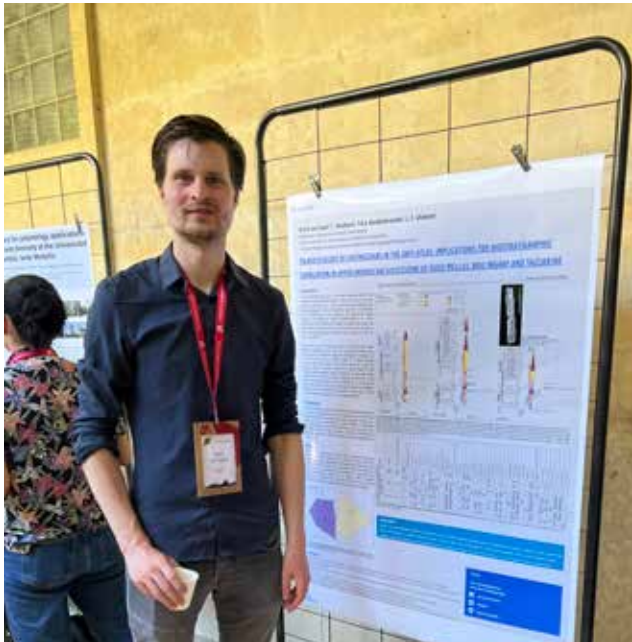


## Scientific sessions

Tuesday, Wednesday, Thursday June 25<sup>th</sup>-27<sup>th</sup>

A three-day scientific programme comprising many lectures and posters took place in the newly remodelled "Amphitheatre Charles Flahaut" of the former University of Montpellier's Botanical Institute.

Sessions included a) Dinoflagellate cyst research, b) Climate reconstructions and model simulations, c) Human-environmental interactions and vegetation change in and out of America, d) Vegetation dynamics beyond the Quaternary as a source of information about mountain uplift, sea-level fluctuations, plate tectonics, and e) an Open session on general palynology.



Nick van Faals presenting his research during the poster session.

## Early Career Networking lunch

Over 30 ECR scientists attended the luncheon funded by Hess Corporation and Vladimir Torres at the Broc Café, a local bistro located a short 10-minute walk from the Institut de

Botanique, in the beautiful old town. This event was offered to all students and post-docs attending the meeting to encourage networking across various laboratories. AASP-TPS is really proud to be an organization that cares for the well being and mentoring of their graduate students. To offer additional support to ECR scientists, a contract was signed with the university agency handling the dormitories for students, and lodging was offered at the low cost of about \$100 for the entire week.



Early career researchers participating in the ECR luncheon in the old town.

## Conference dinner on Wednesday evening

The conference dinner was hosted by Pierre and Marie de Colbert at their vineyard and restaurant, the Château de Flaugergues. Listed as a Historic Monument, this château is located in the heart of the vineyards on the slopes of La Méjanelle. Built at the late 17th century in the Montpellier countryside, Flaugergues is one of the so-called "folies", a country-side aristocrat mansion. Around the château, the park and gardens are a place of charm and harmony. In front of the château, the "à la française" garden has been classified as a "remarkable garden".

In addition to the dinner, conference attendees were treated to a visit of the garden and vineyard offering some details on grape selection and wine production, followed by a tour of the wine making facility, wonderful wine tasting,



and a delicious country-side 3-course dinner. The weather, food, and service were perfect. We are very grateful that their team did an excellent job handling the various allergies and diet.

### **Business Luncheon and Award Ceremonies**

Reviews of our finance, foundation and publications were provided to all attending the business luncheon. We thank Past-President Niall Paterson who is replaced by our new President-Elect, Matthew Pound. The student representative also went through an exchange this year. We thank Opeyemi Taiwo for her fantastic organization of mentoring events. The incoming Student Director-at-Large is Shaan Heydenrych.

The food at the luncheon was delicious but it was a challenge for French cooks to adapt to our request for a gluten-free diet and we regret that a couple of our members couldn't share this event with us because of allergies. We'll

try our best to do better in Morocco (2025 meeting) and Argentina (2026 meeting).

This year, two of the society's highest awards were bestowed upon two individuals who have made fundamental contributions to the development of the discipline of palynology and both have a substantial research record in the field. They are Jim Riding and Rob Fensome. We thank Julia Gravendyck and Vania Correia for spearheading and handling the two nominations. These were given during the business luncheon at the Botanical Institute with both recipients present.

During the conference, Marie Thomas and her selection-committee judges reviewed all posters and talks given by students to select a top candidate and a runner up for the L.R. Wilson Best Student Paper Award and the Vaughn Bryant Best Poster Award. The Paper award is named after Leonard R. Wilson, University of Oklahoma, a pioneer in the field of palynology. Evaluation criteria include audibility, clarity, audience engagement, and pacing of



*Conference dinner on Wednesday 26 June at the Château de Flaugergues.*



*Julia Gravendyck presenting the Medal of Scientific Excellence to Rob Fensome.*

the speaker, with emphasis placed on a clear statement of the problem, methods, and conclusions of the research. The award recipient selected by the Award Committee this year is Piotr Meyvisch, from Ghent University. His prize includes a certificate, \$250 cash prize, and a two-year membership in AASP-The Palynological Society.

The Vaughn Bryant Best Poster Award is named after Vaughn Bryant (Texas A&M University), who was a world-renowned palynologist, respected teacher, long-time leader and member of The Palynological Society, widely recognized as the pioneer of forensic palynology and melissopalynology in the US. This year, the poster award went to N.D.H. van Faals, also from Ghent University.

In addition to these awards, fellowships were given to several students from a diversity of laboratories to help with travel expenses. For additional details and future applications, see this link: <https://palynology.org/student-support/student-awards/student-travel-awards/>



*Vania Correia presenting the Medal of Scientific Excellence to Jim Riding.*

## **Post-conference field trip**

To wrap up this full week, a post-conference field trip was organized to visit Paleozoic and Mesozoic sections. Sites selected included three locations; Graissessac, Lac du Salagou and Mourèze. Topics reviewed included plant macrofossils in a coal mine, Permian volcanism, dolomite, paleoenvironment, vegetation change, trace fossils, and paleoclimate.

Our expert guides were Anne-Laure Decombeix (a paleobotanist from AMAP, Montpellier), and Michel Lopez (a retired professor of sedimentology from Géosciences, Montpellier).

At the first stop, an abandoned coal mine in Graissessac, we were treated to stunning and abundant Pennsylvanian palaeotropical wetland fossil vegetation.

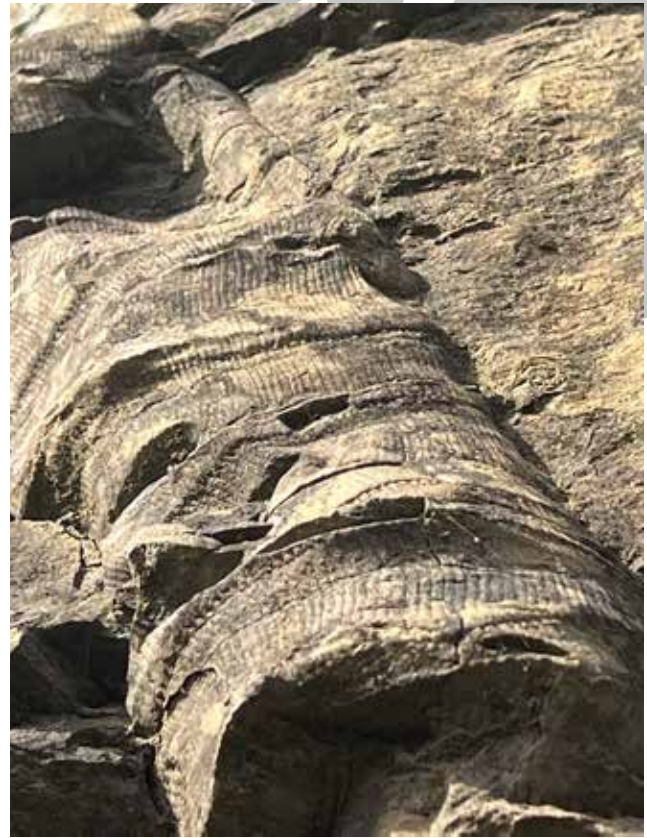
These included Lycopsidea, Sphenopsida, Filicopsida, Pteridospermopsida and Cordaitales.

The second stop focussed on Middle Permian succession at la Lieude-Mérifons sections



A leaf of *Acer monspessulanum*, serving as the logo for the 56<sup>th</sup> annual meeting.

where facies analysis, stratigraphic architecture and trace fossils were observed and discussed. Focus was on the Salagou Formation, a 2000m thick vertical accretion of dominant pelites deposited in a floodplain and playalake environments.



*Calamites* at the abandoned Coal Mine in Graissessac

These sediments alternated with green fine sandstone and dolomite-rich layers displaying desiccation cracks, reptilian foot prints, and invertebrate impression casts. The team stopped for lunch at the Mas de Riri on Lake Salagou, to escape the heat.

We were once again served delicious food. To wrap up the day, we visited the picturesque Mesozoic ruiniform dolomite cirque of Mourèze, made of Triassic and Lower Jurassic seires deposited in a very shallow epicontinental sea dominated by the deposition of stromatolitic carbonates. The ruiniform facies is linked to a karstification process.

Thank you to all our members and nonmembers who spent this very special week with us. We hope to see you in April 2025 in Morocco for our next meeting.

Sophie Warny and Séverine Fauquette.



Co-organisers Séverine Fauquette and Sophie Warny under a "Montpellier Maple".

**57<sup>th</sup> Annual Meeting**  
**AASP-The Palynological Society**  
**Rabat, Morocco**  
**April 22 to 26, 2025**



## Organizing committee:

Pr. Hamid Slimani, Institut Scientifique, University Mohammed V of Rabat, Morocco.

Pr. Nadia BARHOUN & Pr. Naima BACHIRI TAOUFIQ (Université Hassan II de Casablanca, Faculté des Sciences Ben M'Sik, Département de Géologie, Casablanca, Morocco)

Pr. Sophie WARNY (CENEX, Louisiana State University, Baton Rouge, US)

## Possible conference program

### Monday/Tuesday

Travel days and Arrival in Rabat.

Salé Airport or Rabat–Salé Airport (IATA: RBA, ICAO: GMME) is an international airport located in the city of Salé, also serving Rabat, the capital city of Morocco.

### Tuesday

Icebreaker: at a local restaurant or hotel (Bou Regreg marina, Royal Nautique Club, Hotel Ibis, Hotel Le Musée, Institut Scientifique in the room adjacent to the auditorium, etc..)

### Wednesday, Thursday and Friday

Conferences (at the Institut Scientifique or at the National Library)

Conference dinner: possibly at ( Royal Nautique Club, Le Ziryab, Dar chrifa,...)

### Saturday

Post-conference field trip (1 day):

Geology of the Paleozoic basement and the Miocene cover in the Bouregreg and Akreuch valleys, including the Tortonian /Messinian GSSP.

Sidi Boughaba National Park

Transport Companies:

DESTINATION CAR: <https://destinationcar.com/flotte/>

MOUNTED TOURS: <https://www.mountedtours.com/index.php?div=book&id=33>

RELAIS CAR: <http://www.relaiscar.ma/location-minibus-rabat.php>

# Managing Editor's Report

by Jim Riding

The first two parts of *Palynology* Volume 48, for 2024, have been published both online and in print (see: <https://www.tandfonline.com/toc/tpal20/current>). Issue 1 comprises 175 pages, and includes one obituary and 11 research articles. Issue 2 has 210 pages and includes 17 items including four obituaries (an unfortunate record). The contents are listed below. The running order for Issue 3 (August) has been submitted (15 items and 242 pages), so we are now filling up Issue 4 (November).

The Editorial Team had a very constructive annual business meeting with our counterparts at Taylor and Francis during early January 2024. Manuscript submission rates have been very good indeed recently, and we have received some large manuscripts (in terms of pages). This is good because we are no longer constrained by an annual page budget.

James B. Riding  
Managing Editor, AASP – The Palynological Society  
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E-mail: [jbri@bgs.ac.uk](mailto:jbri@bgs.ac.uk)  
3rd June 2024

## The contents of *Palynology* Volume 48, Part 2 (May 2024)

### Obituaries

1. Maleki, S. The life and scientific work of Ebrahim Ghasemi-Nejad (1960–2020). Article number 2289575, 5 pp.
  2. Backhouse, J. and Playford, G. Basil Eric Balme (1923–2023): doyen of Australian palynology. Article number 2305050, 2 pp.
  3. Williams, G.L. Herbert J. Sullivan (1933–2023): an AASP pioneer. Article number 2308347, 3 pp.
  4. McLean, D. and Riding, J.B. Dr Arthur Harold Victor Smith (1923–2023). Article number 2325803, 6 pp.
- ### Research Articles
5. Kovář, V., Šilinger, M., Fatka, O. and Brocke, R. Chemical processing of fossil phyllocarid cuticle: a comparison of micro- and macro-fossil remains. Article number 2267642, 8 pp.
  6. Tiwari, P., Rawat, R., Negi, S. and Rawat, D.S. Pollen morphology of *Ipomoea* L. species from Garhwal Himalaya, India. Article number 2264357, 8 pp.
  7. Vasilyeva, O.N. New dinoflagellate cyst species from the Middle Eocene of the Lower Volgograd–Volga region, south-west Russia. Article number 2266491, 12 pp.
  8. Matos, V.R. and Gaglianone, M.C. Floral resources of *Epicharis flava* (Hymenoptera, Apidae) in an urban area, detected from the pollen spectrum in the scopae. Article number 2273942, 12 pp.
  9. Soliman, A. and El Atfy, H. The history of palynology in Egypt. Article number 2273940, 11 pp.
  10. Paine, B., Armbrrecht, L., Bolch, C., McMinn, A. and Hallegraeff, G.M. Dinoflagellate cyst distribution over the past 9 kyrs BP from off-shore east Tasmania, southeast Australia. Article number 2273267, 25 pp.
  11. Liang, Y., Nölvak, J. and Hints, O. Ordovician chitinozoans of the Miaopo Formation at Zhenjin, Upper Yangtze Platform, South China. Article number 2271086, 15 pp.

12. Kasso, T.M., Jensen, A.B., Johns, S., Rof-fet-Salque, M., Collins, M.J. and Enevold, R. Beescapes – extracting pollen from historical Danish beeswax to explore honeybee foraging. Article number 2288220, 9 pp.

13. Patrício, P.T., Cardoso, P.H. and Luiz-Ponzo, A.P. Pollen morphology and its taxonomic potential in *Stachytarpheta* sect. *Stachytarpheta* (Verbenaceae) occurring in Brazil. Article number 2284144, 12 pp.

14. Akyalçın, H. and Topal, M.C. Çanakkale bee pollen: diversity, chemical composition, antioxidant and antibacterial properties. Article number 2295890, 13 pp.

15. Thakre, D., Samant, B., Mohabey, D.M., Manchester, S.R. and Sangode, S. Palynology of the uppermost Cretaceous to lowermost Paleocene Deccan volcanic associated sediments of the Mandla Lobe, central India. Article number 2288669, 30 pp.

16. Head, M.J., Mertens, K.N. and Fensome, R.A. Dual nomenclature in organic-walled dinoflagellate cysts I: concepts, methods and applications. Article number 2290200, 25 pp.

17. Head, M.J., Mertens, K.N. and Fensome, R.A. Dual nomenclature in organic-walled dinoflagellate cysts II: *Spiniferites elongatus* and *S. membranaceus*, and their equivalent non-fossil species *Gonyaulax ovum* comb. nov. and *G. lewisiae* sp. nov. Article number 2300838, 14 pp.

(210 pages)

## The contents of Palynology Volume 48, Part 1 (February 2024)

### Obituary

1. McLean, D. and Riding, J.B. Roger Neves (1932–2020). Article number 2277630, 4 pp.

### Research Articles

2. Gómez-Lizárraga, L.E., Ramírez-Arriaga, E., Mendoza-Garfías, M.B., Prámparo, M.B. and Valiente-Banuet, A. Pollen morphology of columnar cacti from Tehuacán-Cuicatlán Valley, Mexico. Article number 2251560, 18 pp.

3. Escobar-Torrez, K., Cassino, R.F. and Ledru, M.-P. Relationship between pollination syndromes, pollen morphology and plant ecology in Quaternary deposits of the Cerrado. Article number 2252871, 20 pp.

4. Lazar, J., Prasad, S., Barboni, D., Das, L., Kumaresan, V. and Anupama, K. Diversity matters: Diet of *Apis cerana* in southeast India includes one consistently occurring and several seasonally available floral sources. Article number 2255990, 14 pp.

5. Chi, C., Xiao, X., Wang, J., Ke, R. and Jai, B. The vertical distribution of modern pollen in the southeastern edge of the Tibetan Plateau, China. Article number 2258941, 15 pp.

6. Chalabe, A.C., Olivera, D.E., Martínez, M.A. and Zavala, C. Palaeoenvironments and palaeoclimate of the uppermost Cuyo Group and lowermost Lotena Group at Quebrada Álvarez, Picún Leufú Sub-basin, Patagonia, Argentina: a preliminary study based on palynology. Article number 2254364, 18 pp.

7. Edwards, K.J. and Östensson, P. 'The man who vacuum cleaned the Atlantic' - the aerosol collector and Gunnar Erdtman's attempts to measure pollen rain. Article number 2260437, 16 pp.

8. Karami, S. and Ranjbar, M. Pollen morphology of *Matthiola* and the related genus *Dvorakia* (Brassicaceae) in Iran. Article number 2260457, 21 pp.

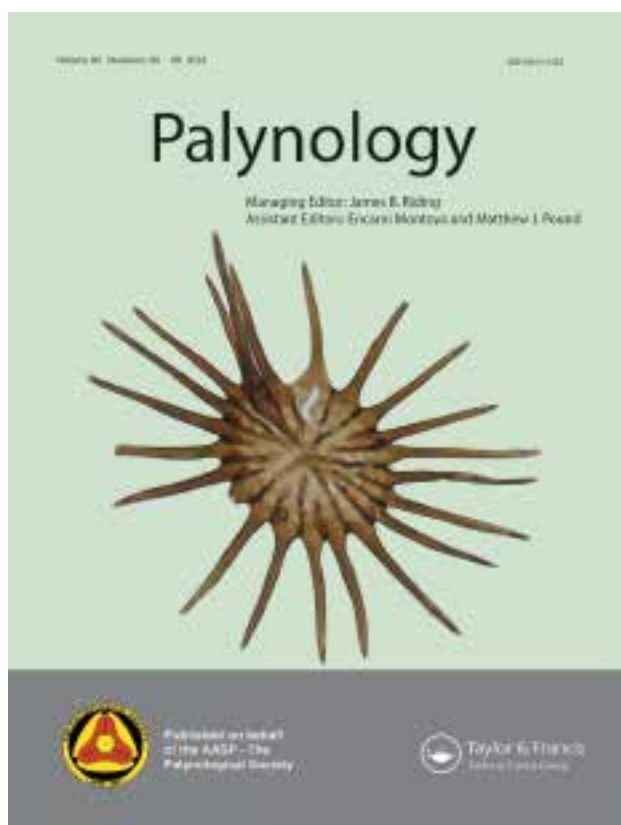
9. Pereira Coutinho, A., Ortiz, S., Cordeiro, D., Serrano, M. and Zuzarte, M. Palynotaxonomy of the subtribe Anisopappinae (Athroismeae, Asteraceae) and the genus *Duhaldea* (Inuleae, Asteraceae) based on their exine ultrastructure. Article number 2261997, 9 pp.

10. Khan, A., Ahmad, M., Sultan, A., Ullah, Z., Majeed, K., Ullah, T. and Zafar, M. Contribution to the pollen morphology of *Astragalus* L. section *Aegacantha* Bunge (Galegeae, Fabaceae) and its systematic significance. Article number 2264352, 14 pp.

11. Martins, T.R.B., Souza-Souza, R.M.B., Leite, W.P., Esteves, R.L., Mendonça, C.B.F. and Gonçalves-Esteves, V. Palynotaxonomy of species of *Dendrophorbium* (Asteraceae: Senecioneae) occurring in Brazil. Article number 2262530, 12 pp.

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(175 pages)





# AASP – TPS 50th Anniversary Jewelry Collection

*Exclusive, Custom-made 50th Anniversary Jewelry*

*Limited-Edition and availability*



Special thanks to John Firth and Ingrid Romero for palynomorph images.

**Celebrate the 50th anniversary of AASP – The Palynological Society with a beautiful, sterling silver palynomorph necklace.** The Society board worked with jeweler and designer, 'Science-inspired jewelry', to create these one-of-a-kind, unique necklaces in honor of our golden anniversary. There are a limited number available of two designs, a pollen grain ***Macrolobium multijugum*** (a) and a dinoflagellate cyst of ***Diphyes recurvatum*** (b).

Each necklace comes with a commemorative information card that includes a picture and description of the palynomorph. **The society is selling them now for \$60.00 OR one *M. multijugum* + one *D. recurvatum* for \$100.00.** This is a wonderful way to support AASP-TPS and is a great conversation starter!

Payment can be arranged by contacting the AASP-TPS Treasurer, Vladimir Torres, at [vladimir.torres@exxonmobil.com](mailto:vladimir.torres@exxonmobil.com).

# Awards Committee News

By Marie Thomas and Jan Hennissen

It has been a busy few months for The AASP Awards Committee with the evaluation applications for the AASP-TPS 2024 Student Research Awards, the AASP-TPS2024 Travel Awards to attend our 56<sup>th</sup> annual meeting and at the meeting, the judging of student presentations and posters for the LR Wilson and Vaughn Bryant Awards.

Below, is the first part of the biographies of the recipients of these Awards and the Annual Meeting Awards. The remaining biographies will be included in the September Issue of the Newsletter (Volume 57, Nr. 3).

## L.R. Wilson & Travel Awards

### Pjotr Meyvisch

Ghent University, Belgium

**Project Title:** Macromolecular characterization of modern and fossil organic-walled microalgal resting stages using spectroscopic methods, with a focus on dinoflagellate cysts and infrared spectroscopy.

**Supervisors:** Dr. Kenneth Mertens (Ifremer), Prof. Dr. Stephen Louwye.

**Biography:** My first hands-on experience with micropaleontology was during the concluding research project of a Bachelor of Science in Geology program at Ghent University, where I looked at dinoflagellate cysts from Neogene sediments extracted from the bones of fossil phocids, this for dating purposes and under the supervision of Dr. Leonard Dewaele and Prof. Dr. Stephen Louwye.

During the first year of a subsequent Master of Science in Geology program, I went to the University of Helsinki (Erasmus exchange) where I got acquainted with pollen palynology,

to then return to Ghent for a final year during which I explored another microfossil group in my dissertation on chitinozoan-based biostratigraphy of Upper Ordovician shales in the Appalachian and Illinois Basins (US) under supervision of Prof. Dr. Thijs Vandenbroucke (UGent) and Prof. Dr. Patrick McLaughlin (University of Indiana).

Hungry for more palynomorphs, I postulated for a PhD in Ghent and was hired in October 2018 as a teaching assistant at the Department of Geology, a six year-long position which combines doctoral research (60% of the time) with teaching geology-oriented practicals and field trips (40%) to undergraduate and graduate students.

My research is focused on the macromolecular characterization of modern and fossil palynomorphs using spectroscopic methods and is supervised by Dr. Kenneth Mertens (Ifremer) and Prof. Dr. Stephen Louwye (UGent). I am currently wrapping up the project, expecting to defend my PhD in Spring 2025, and planning to continue with molecular-palynological research afterwards.



**Research:** The goal of this research is to systematically apply spectroscopic techniques like infrared, Raman, UV-VIS, and solid-state nuclear magnetic resonance spectroscopy to characterize the biomolecules that comprise the walls of a wide array of modern and fossilized palynomorphs. This to: (1) explore and understand their variability (both between and within compound classes such as dinosporin, sporopollenin and algaenan), (2) unravel their molecular taphonomy (i.e., how these molecules change upon burial and diagenesis), and (3) assess if and how these data can be used for chemotaxonomic applications (e.g., in assigning biological affinities to certain morphologically unclassifiable acritarchs, with the possibility for identifying pre-Mesozoic dinoflagellates).

So far, the project has yielded publications on: (1) a standardized protocol for the collection of infrared spectra from single microfossils, (2) an elucidation of dinosporin variability in modern dinoflagellate cysts and its link to trophic modes and, possibly, ecological niches, and (3) the compositional characterization of several recently described microscopic resting stages. Currently, manuscripts on the molecular taphonomy of fossil dinosporins, the comparison with other compounds like sporopollenin and algaenan, and case studies of chemotaxonomic applications are being prepared for publication.

## LR Wilson Award Honourable Mention

### Shaan Heydenrych

University of Aberdeen, Scotland, UK

**Project Title:** Biostratigraphy and Palynology of Late Triassic strata in the Barents Sea.

**Supervisors:** Prof. Adrian Hartley and Dr. David Jolley

**Biography:** I completed my Bachelor of Science majoring in Geology in 2014 at Rhodes University, South Africa. It was during this time, in an undergraduate micropalaeontology class, where I became fascinated with the world of palynology and palaeoenvironmental interpretation.

I then went on to complete a BSc Honours year at the University of Pretoria, South Africa, with a dissertation focused on the palaeoenvironmental reconstruction of Permian coalfields in South Africa utilising terrestrial palynomorphs.

Following this I studied my Masters in Geoscience at Keele University, UK, focusing on Cretaceous sea level changes within the Vercortian Basin in France. This project involved palynomorphs from a shallow marine carbonate shelf analysed via palynomorph counts and ratios. Both my Honours and Masters projects were conducted under the supervision of Prof. Annette Goetz.

While undertaking my Masters year I was taught and co-supervised by Dr. Michael Montenari. I am in the fourth and final year of my PhD at the University of Aberdeen supervised by Prof. Adrian Hartley and Dr. David Jolley. My PhD focuses on Triassic palynology from the Norwegian North Sea and Barents Sea.



**Research:** The Triassic of the Barents Sea contains thick fluvio-deltaic sediments rich in terrestrial palynomorphs. The Barents Sea was a large drainage basin with sediment input coming from the Fennoscandian mountains and then terminating in a marine shelf where Svalbard is currently located. The Late Triassic palynomorph recovery provides a window into analysing palynofloral communities and their changes leading up to the End Triassic mass extinction, caused by the Central Atlantic Magmatic Province.

This period has proven to be associated with malformed and aberrant pollen and spores in other areas of the world. The Late Triassic Tubaen Formation is also important for carbon storage projects. The Norwegian government has been successfully injecting carbon into the Tubaen Formation in the Snohvit Field since 2006. Analysis of the palynomorphs and palaeoenvironmental conditions in the Barents Sea can provide insight into the reservoir and seal pairings along with palynofloral changes associated with mass extinction events.

## Vaughn Bryant Award

### Nick van Faals

Ghent University, Belgium

**Project Title:** Palaeo-ecology and regional spatial distribution of chitinozoans in the Anti-Atlas and Anticosti Island Ordovician successions: Implications for biostratigraphy and climate reconstruction.

**Supervisor:** Prof. Thijs Vandenbroucke.

**Biography:** During my MSc in Cultural Geography (graduated in 2014) at Wageningen University, I strengthened my interest in education. I obtained a MA in Teaching Geography at Utrecht University (2016) and worked accordingly for 3 years as a secondary school teacher. As geology became one of my main

interests during my job I decided to study geology as well. I finished my MSc in 2022 at KU Leuven with a master's thesis about the evaluation of a new biostratigraphic marker for the Latest Danian Event (Paleocene) supervised by Prof. Speijer. I studied the abundance and coiling direction of planktic foraminifera species from Egypt, Indian Ocean, South Atlantic Ocean and North Pacific Ocean.

My passion for micropalaeontology, palaeoclimatology and sequence stratigraphy was triggered during my chosen major track Surface Processes and Paleoenvironments. I was introduced to palynology when I started my PhD research at UGent in 2023 under the supervision of prof. Vandenbroucke. My research is about the palaeo-ecology and regional distribution of chitinozoans in two Ordovician basins: the Anti-Atlas and Anticosti Island. Possible ecological dependence of chitinozoans has implications for biostratigraphy and climate reconstruction.



**Research:** The Late Ordovician (Hirnantian stage ~444 Ma) is characterized by one of the major icehouse states of the Phanerozoic. This interval of palaeoclimatological change has already been extensively studied on chitinozoan biostratigraphy and palaeobiogeography. Yet, palaeo-ecological control on chitinozoan distribution is still poorly understood, which should be studied in depth in order to utilize the full potential of chitinozoan biostratigraphy and palaeo-climate reconstructions.

The study locations, the Anti-Atlas basin and Anticosti Island, are respectively from Late Ordovician higher-palaeolatitude Gondwana and lower-palaeolatitude Laurentia. These basins have excellent temporal and palaeo-environmental control.

My research focuses besides chitinozoan biostratigraphy on the palaeo-ecological dependence of chitinozoan distribution across shoreline proximal to distal locations in the Anti-Atlas basin and offshore carbonate-dominated to nearshore mixed siliciclastic-carbonate locations in Anticosti Island for various sequence stratigraphically defined cycles and time slices.

The preliminary study, presented with the poster at the 56<sup>th</sup> annual meeting of AASP, was on chitinozoan biostratigraphy and palaeo-ecology for three locations in the Anti-Atlas basin (Oued Mellili, Bou Ingarf and Tazzarine) around the 'Ouzregui' bed.

The statistical analysis shows that the apparent diachronous occurrences of regional marker *Tanuchitina elongata* and different chitinozoan taxa assemblages around this Katian/Hirnantian boundary marker bed are explained by the sample location's distance from the (inferred) basin's shoreline.

## Vaughn Bryant Award Honourable Mention

### Yoanna Katreva

Sofia University "St. Kliment Ohridski"/ Institute of Biodiversity and Ecosystem Research, Bulgarian Academy of Sciences (IBER-BAS), Sofia, Bulgaria

**Project Title:** Unveiling Holocene Paleoenvironment and Human Interactions: Sozopol Harbor, Black Sea Coast, Bulgaria.

**Supervisors:** Dr. Elena Marinova (Lab for Archaeobotany, Hemmenhofen), Dr. Kamen Boyadzhiev (National Archaeological Institute).

**Biography:** In 2023, I earned a Bachelor's degree in Archaeology from Sofia University "St. Kliment Ohridski". During my Bachelor's research, I had the opportunity to undertake an internship at IBER-BAS, in the Division of Paleobotany and Palynology. Under the guidance of Dr. Mila Andonova-Katsarski, I was introduced to the captivating field of archaeobotany and the study of human-environment interactions during the Holocene.

My fascination with palynology started during a specialization in the Laboratory for Archaeobotany in Hemmenhofen, Germany in 2022. The complexity and potential of palynological studies for understanding the bond between humans and past landscapes and assessing the relationship between vegetation and human behavior inspired me to pursue further specialization in Holocene palynology for my current Master's degree at Sofia University.

My thesis research is conducted under the joint supervision of Dr. Elena Marinova, Head of the Lab for Archaeobotany, Hemmenhofen, and Dr. Kamen Boyadzhiev, National Archaeological Institute with Museum, BAS. The focus of the thesis is on exploring the potential of archaeological records for the reconstruction of

regional vegetation and human impact in the Thracian Plain, Bulgaria, through the analysis of sediment deposits from deep negative dug-in features (wells) dating back to the 5th – 3rd millennia BC. The objective of this research is to use multi-proxy research methods to obtain a picture of the anthropogenic vegetation and land use captured in those structures and to compare it with already published results from well-dated palynological records in the surrounding areas (mainly peat bogs).



**Research:** The Black Sea is of key importance within the field of underwater archaeology, particularly concerning prehistoric habitation along its western coastal regions. The sea level fluctuations, particularly during the Late Glacial and the Holocene, significantly influenced its archaeological and environmental history. In this context, our current investigation adds new data for the very local changes of the vegetation and environment in the micro-region of Sozopol exposed to anthropogenic impact and sea fluctuations shaping the bay.

The preliminary pollen, spore, dinoflagellate cyst, and non-pollen palynomorph study of deposits from the submerged prehistoric set-

tlements within Sozopol harbor has provided direct evidence of vegetation and land use during their occupation.

The pollen analysis indicates two distinct phases of substantial human influence on local forest vegetation dated in the Chalcolithic (c. 4150 to 3850 BC) and the Bronze Age periods (c. 3200-1600 BC), characterized by significant signals for agricultural activities, pasture/fallow land, and animal husbandry in a landscape with rather open character.

Future AMS radiocarbon dating promises to provide an absolute-chronological framework for the observed vegetation dynamics, particularly in areas lacking dated archaeological materials with indicators for an increase in saline water and a rise in sea level. The analysis of additional pollen samples, combined with dendrochronological and plant macro-remains studies, will enable us to obtain a detailed picture of human-environmental interactions along the Southern Black Sea Coast.

## AASP-TPS Research Award 2024

**Patrick Kennedy**

University of Melbourne, Australia

**Project Title:** Fuel loads and fire: A palaeoecological reconstruction of K'gari (Fraser Island).

**Supervisors:** Prof. Michael-Shawn Fletcher and Dr. Vera Korasidis.

**Biography:** I was first introduced to palynology in the final year of my Bachelor of Science (which I commenced in 2018) at the University of Melbourne. Studying the Biogeography and Ecology of Fire (a Geography Major subject), I was fortunate enough to analyse sub-fossilised pollen from sediment cores extracted from North-West Tasmania, Australia. I was immediately fascinated by the ability of pollen to provide an insight into the foregone

world, particularly the ways in which vegetation communities respond to changes in climate, sea level, and anthropogenic influences.

Between completing this subject, and commencing my honours year, Australia experienced its worst bushfire on record (Black Summer Fires). Intrigued by this disaster, and still wishing to study palynology, I formulated a research project which combined the two.

Under the supervision of Prof. Michael-Shawn Fletcher, I compared fire and fuel (i.e. vegetation) dynamics in a fire effected area of northern-New South Wales, Australia (Bundjalung National Park). My palaeoecological reconstruction (of which palynology was central to) highlighted stark changes in vegetation in the region (namely the expansion of flammable *Eucalyptus* spp.) because of British Invasion and the loss of cultural burning.

I have been fortunate to share these findings at International Union for Quaternary Research (2023, Rome, Italy), and Australasian Quaternary Association (2022, Adelaide, Australia), at which I was awarded Best Student Presentation. Outside of studies I have spent time implementing ecological burns and responding to wildfire through my previous role as a firefighter for Parks Victoria.



I am currently 6 months into my PhD at the University of Melbourne under the supervision of Prof. Michael-Shawn Fletcher and Dr. Vera Korasidis. My PhD research has been codesigned with the Butchulla Aboriginal Organisation, as part of the Australian Research Council Centre of Excellence for Indigenous and Environmental Histories and Futures.

K'gari (formerly Fraser Island) is a place of rich spiritual, cultural, and ecological importance to its Traditional Owners (Butchulla), but also a region impacted by recent catastrophic wildfire. In response, Butchulla Aboriginal Corporation have identified a dire need for long-term datasets on past fire and fuel (i.e. vegetation) dynamics to understand the key drivers of wildfire in the region. This information is vital to ensure that land management techniques (especially Butchulla led Care for Country), and wildfire mitigation attempts, are both appropriate and effective.

To do so, I am applying an array of palaeoecological methods (of which palynology is central to)(e.g., pollen, charcoal, Micro XRF, Loss on Ignition, Fourier Transform Infrared (FTIR)) to wetland sediment cores. A modern pollen survey of plant communities on K'gari will ensure that interpretations of the fossil pollen spectra in palynological reconstructions statistically represent vegetation communities (sensu Fletcher and Thomas 2007). FTIR spectroscopy will test for palaeo-fire temperature and importantly indicate the composition (to species level) of combusted fuel from past landscapes.

Being a novel technique in palaeoecology, I will focus on constructing an analogue set for FTIR that is both replicable and true to fire in the Australian landscape. Using these palaeoecological methods to explore the notion that a loss of cultural burning, rather than climate change alone, may have led to shifts in fuel loads and fire is a unique approach to understanding Australia's wildfire problem.

# AASP-TPS Research Award 2023 - Research Update

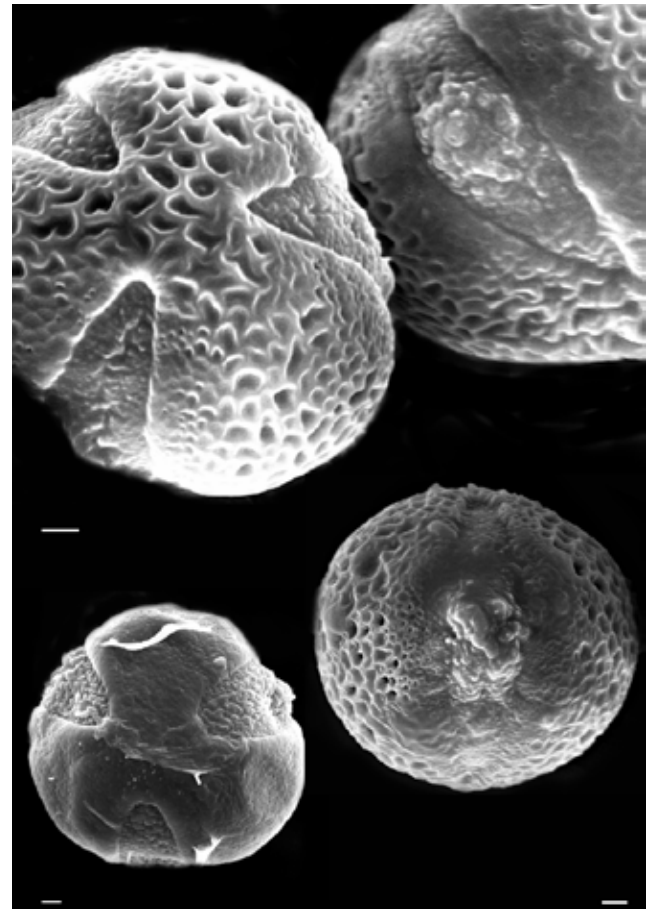
By Talita Bellonzi

Over the past year, I've demonstrated resilience and dedication in my academic pursuits, particularly in the face of the pandemic's setbacks. Despite the challenges, I've managed to re-engage with my research, a testament to my unwavering commitment.

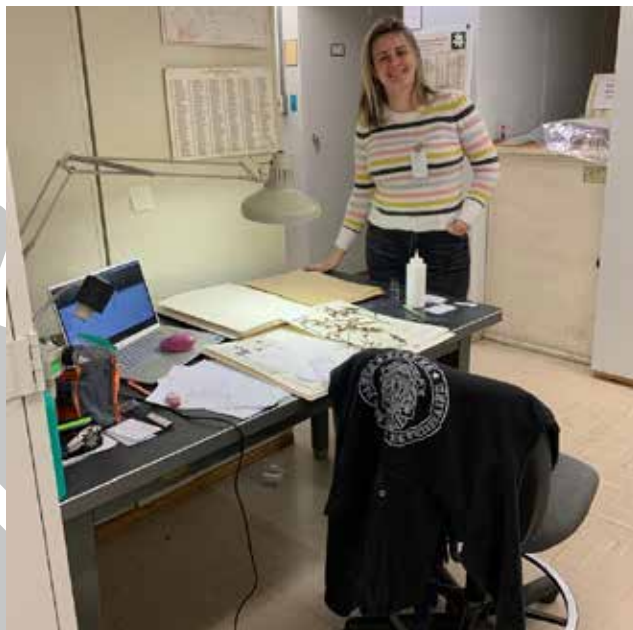
During the second semester of last year, I had the opportunity to travel to the United States to collect species from the "Paradrymonia alliance" clade (Gesneriaceae). This trip was crucial, representing my research project's main collection of herborized anthers. While on the trip, I visited the SEL, US, MO, and NY herbaria, where I gathered a large amount of material. This will allow me to analyze practically 100% of the species in each genus of the clade. It was a truly unique experience!

This semester, I am conducting pollen grain analyses using optical and scanning electron microscopy. Our observations have revealed a variation in the ornamentation of pollen

grains varies among the species of the clade. In some, the ornamentation pattern differs between the mesocolpium and apocolpium. Therefore, ornamentation may prove to be one of the most important diagnostic characteristics of the clade.



*Paradrymonia ciliosa* (Mart.) Wiehler (Upper); *Nautilocalyx erythranthus* J.L.Clark & M.M.Mora (Bottom - left); *Chrysothemis panamensis* (Seem.) M.M.Mora & J.L.Clark (Bottom right)



Talita Bellonzi collecting in the U.S. Herbarium

The Student Research Award has been instrumental in facilitating our scanning electron microscopy analyses. As we approach the final stage of my project, where we will analyze the exine of the species through transmission electron microscopy, we are filled with anticipation and excitement. We are eager to see the results that will contribute to the field, thanks to the assistance of this grant.



## AASP-TPS Travel Award 2024

### Sonia Camina

IANIGLA, Mendoza, Argentina

**Project Title:** Chitinozoan-based paleogeographic patterns in the Lower and Middle Devonian. A review of the similarity coefficient methods.

**Supervisors:** Dr. Anthony Butcher (University of Portsmouth).

**Biography:** I completed my geology degree in 2016 at San Luis National University in Argentina. For my final project, I focused on sedimentology and stratigraphy from the Potrero de los Funes locality (San Luis, Argentina).

While my primary interest lies in sedimentology and stratigraphy, I've always been fascinated with palaeontology and its practical applications in solving geological problems. After my geology degree, I moved to Mendoza and I was introduced into the palynological world by Claudia Rubinstein who became my PhD supervisor. In 2018, I was awarded an Internal Doctoral Scholarship from the National Council on Scientific and Technical Research (CONICET) to work at the Argentine Institute of Nivology, Glaciology and Environmental Sciences Institute (IANIGLA).

My doctoral project involved Devonian chitinozoans from northwestern Argentina and southern Bolivia. The main focus of the PhD was the biostratigraphy, paleobiogeography and paleoenvironments using these fascinating microfossils. Later on, in 2020 Anthony Butcher from the University of Portsmouth, UK, joined this project becoming my second supervisor.

In the following years, I was involved in several research projects regarding chitinozoans. One of those projects received the Frances Parker grant from the Micropalaeontological Society and allowed me to travel for an internship

with Anthony at the University of Portsmouth. Earlier this year I successfully completed my PhD and defended my thesis. While awaiting postdoctoral grants, I'm fully committed to publishing the exciting results I obtained and presenting them at international conferences and meetings.



**Research:** I'm using this microfossil group to complement the biostratigraphic information given by acritarchs and spores from the same basins. Devonian basins from Western Gondwana are believed to be interconnected and, therefore, the microfossil associations should bear strong similarities. However, we have obtained exciting results that reveal new endemic species within these basins.

This phenomenon may be attributed to the fact that most studies have focused on Brazilian basins and few studies come from other Western Gondwana Basin. We also have some really interesting material from the Silurian and Devonian of the Chacoparaná basin in Argentina, where hardly anything has been

studied. The first results from this basin have already been published in *Ameghiniana*'s last issue.

We are looking forward to starting to analyse other new material from the Ordovician in the Puna and Precordillera Argentina regions where the graptolites are being studied and it should be possible to obtain high-resolution biostratigraphy. Other projects we are working on involve Silurian chitinozoans from Measley Ridge (Ohio, USA) and palaeogeography patterns using statistical similarity coefficient methods.

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## Emily Ellefson

Stanford University, California, USA

**Project Title:** Changes in Average Miospore Size Through the Silurian and Devonian.

**Supervisors:** Profs. Andrew Leslie (Stanford University), Eric Sperling (Stanford University), Charles Wellman (University of Sheffield).

**Biography:** I am from Calgary, Alberta, Canada. I first got involved in palynology during my undergraduate degree when I completed a senior thesis focused on plant recovery following the Permian-Triassic extinction. I enjoyed the field so much I continued on with a masters studying the Jurassic-Cretaceous transition in the Canadian Arctic. A few years ago, I moved from Canada to California to work on my Ph.D.

**Research:** The diversification and spread of terrestrial plants was one of the most profound changes in the history of Earth. While it is long accepted that the evolution of terrestrial plants had considerable impact on Earth systems, there are still widely varying views about the extent to which the emergence of land plants increased global productivity, drove atmospheric oxygenation, and altered the global marine redox landscape.



The goal of my Ph.D. project is to connect and evaluate the effects of plant evolution on the marine redox record through palynology, paleobotany, and geochemistry.

Additionally, I have also been working on a project looking at changes in spore size over the late Silurian and Devonian. The late Early through Middle Devonian represents one of the most unusual intervals in the palynological record, where maximum spore sizes increased dramatically over the Middle Devonian, but the exact nature, timing, and geographic extent of the trend towards larger spores is unclear.

Compiled spore corpus diameter measurements in published works will be used to explore when the spore size increase occurs, whether it occurs globally or regionally, and whether it best corresponds to a passive or an active trend.

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## Danielle R. Noto

Cenex, Louisiana State University, USA

**Project Title:** A Mio-Pliocene Palynological Record of Paleoclimate, Sea-Surface Conditions, and Biostratigraphy as a Proxy of the Mediterranean-Atlantic Gateway Evolution.

**Supervisor:** Prof. Sophie Warny

**Biography:** I began my studies at the University of Louisiana at Lafayette where I completed both my Bachelor of Science (2021) and Master of Science in Geology (2023) degrees. Here, I worked as an undergraduate and graduate research assistant in Dr. Brian Schubert's stable isotope geochemistry laboratory. This is where I found my passion for paleoclimatology and paleontology.

The Schubert Lab studies environmental change through the analysis of the oxygen and carbon isotopic composition of modern and fossil wood. As a research assistant in the lab, I prepared wood samples for cellulose extraction by slicing and weighing each sample and completed over 350 cellulose extractions.

My master's thesis focused on reconstructing seasonal Arctic temperatures from high-resolution intra-ring oxygen isotope profiles of two modern wood cores. While completing my thesis, I met with Dr. Sophie Warny at Louisiana State University to discuss potential Ph.D. projects, and I applied to sail on IODP Expedition 401 to study the Mediterranean-Atlantic Gateway Exchange.



**Research:** For my current research, I sailed on IODP Expedition 401 Mediterranean-Atlantic Gateway Exchange (9 December 2023 to 9 February 2024) as a sedimentologist and collected samples which I will use for a palynological analysis to be conducted under Dr. Warny.

Mediterranean-Atlantic oceanic exchange exhibits one of the largest dense saline water outflows of the global ocean. As this plume is thought to be a critical driver of Atlantic Ocean circulation patterns, the transport of water between the Mediterranean Sea and the Atlantic Ocean potentially has great implications for global thermohaline circulation and atmospheric carbon cycling. The evolution of the exchange, from the initiation of Mediterranean Outflow Water (MOW) to the establishment of its modern configuration, can therefore significantly impact these processes.

Expedition 401 recovered a nearly complete late Miocene to early Pliocene sedimentary record of the evolution of the gateway by drilling successions on either side of the Gibraltar Strait. This study will be used to evaluate sea-surface conditions and the type of vegetation that covered the area adjacent to the drilling paleo-location. The purpose is to provide a detailed chronology of any observed vegetation and environmental changes throughout the late Miocene to early Pliocene.

Palynology will provide data key to answering expedition-specific questions regarding paleoclimate reconstructions. Quantification of these environmental parameters has the potential to refine our understanding of the nature of the Mediterranean-Atlantic gateway evolution which is still not entirely understood. Studying regional events such as the evolution of the Mediterranean-Atlantic gateway exchange will help us to understand and characterize their impact on global-scale processes such as ocean circulation patterns, heat transport, and changes in sea ice volume.

## Angelo Plata Torres

Universidad de Salamanca, Spain; Universidad de Caldas, Manizales, Colombia

**Project Title:** The Cenozoic palynology of the Colombian Caribbean (NW South America).

**Supervisor:** Profs. Andres Pardo-Trujillo and José A. Flores.

**Biography:** I am a biologist and graduated from Universidad Industrial de Santander in Bucaramanga, Colombia (2007), with a subsequent MSc in Earth Sciences from Universidad de Salamanca, Spain (2012).

During my master's program, I delved into the study of marine diatoms of the Miocene from outcrops on the Colombian Pacific coast. Currently, I am in the final stages of completing my PhD in Geology at the same university under the supervision of Profs. Andrés Pardo-Trujillo and José A. Flores, where my research focuses on the palynology of the Cenozoic in the Colombian Caribbean.

My career as a palynologist began at Ecopetrol-ICP in 2007 under the supervision of Dr. Vladimir Torres-Torres. As an expert palynologist, I have been affiliated with the IIES at Universidad de Caldas since 2010 where intermittently teach courses on palynology and sedimentary organic matter to both undergraduate and graduate students.

My academic expertise primarily lies in palynostratigraphy and palynofacies interpretation across various Colombian basins and other neotropical regions from the Cretaceous to the Cenozoic ages. Over the years, I have received extensive training in biostratigraphy, palynology (pollen, spore, and dinoflagellate cysts), paleoecology, marine diatoms, palynofacies analyses, and organic geochemistry applied to the hydrocarbon industry. In the past decade, I actively participated in projects with public and private entities, contributing my expertise to various research endeavors.



**Research:** In Colombia, palynology emerged in the 1950s, closely intertwined with the interests of the hydrocarbon industry and the need for comprehension of geological evolution. Despite the presence of a considerable number of palynological publications (approximately 111 articles published), most of them are concentrated in areas associated with petroleum exploration.

Nonetheless, much of this valuable data remains undisclosed due to the industry's inherent confidentiality, leading to restricted or limited information in certain regions of the country. Within the Colombian Caribbean region, the Sinú-San Jacinto Basin (SSJB) has emerged as a frontier basin, undergoing extensive study over the past decade.

This presents a unique opportunity to bridge the knowledge gap in this particular area. Collaboratively, Universidad de Caldas (via IIES), in partnership with the National Hydrocarbon Agency (ANH) and the Ministry of Science and Technology of Colombia (Minciencias), has developed a program facilitating the publication of a significant quantity of data acquired in the last decade.

My PhD project provides an overarching view of palynology, establishing for the first time a

palynostratigraphic zonation scheme for the Cenozoic in this region, based on a composite section of 14 cores drilled from the SSJB.

Our palynological findings were cross-referenced with other studies conducted in the northern area of South America and Colombia, leading to the proposal of twelve palynological zones spanning from the Late Paleocene to the Pleistocene.

Some particular findings were: 1) The first report of a Paleocene palynological assemblage for this part of the basin. 2) The record of the variations in the biostratigraphic ranges of certain palynomorphs as well as the description of new species with biostratigraphic value, 3) the documentation of high diversity and abundance of dinoflagellate cysts in specific stratigraphic intervals which require a more detailed study, and 4) the identification of reworking in select stratigraphic intervals, underscoring the importance of scrutinizing the last appearance record of microfossils in exploration and geologic mapping.

Lastly, the concurrent examination of calcareous nanofossils and planktonic foraminifera has facilitated an independent calibration of the palynomorph assemblages to the international chronostratigraphic chart.

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# Other News

## Palynology makes it onto UK Television!

by Jim Riding

The BBC television quiz programme **University Challenge** is a UK institution. It began in 1962 and hence is one of the pioneers of tv quizzes. The premise is that teams of four students from UK universities compete in a knockout competition lasting several months, culminating in a grand final (see: [https://en.wikipedia.org/wiki/University\\_Challenge](https://en.wikipedia.org/wiki/University_Challenge)).

During the 2023–2024 series (the 53<sup>rd</sup>) there was a second-round match between the University of East Anglia and the Open University, broadcast on the 13th of November 2023, where our subject was mentioned. At 10 minutes, 49 seconds into the half-hour contest, the quizmaster, Amol Rajan, asked the Open University team:

“Of use, for example, in the study of ancient climates, what single-word term denotes the study of pollen grains or spores either from living plants or from fossils”

Sadly, the Open University students said that they had “no idea”, and their captain guessed at “palaeon-sporeology”. Amol Rajan replied with a mispronunciation saying: “no, its pay-lin-ology”.

You can watch the programme by typing “University Challenge S53E18 UEA v Open University” into the search bar in YouTube (<https://www.youtube.com/watch?v=J5-QeyYmqgg>).

Its fantastic that our subject got such a mention in the mainstream media, but clearly we have a way to go with knowledge of palynology, and its pronunciation, with the lay public!

Jim Riding



## Special issue on marine sedaDNA in J. Mar. Micropaleontol.

Submissions to a special issue on marine sedaDNA in the Journal Marine Micropaleontology are still open until Dec 31, 2024. The Virtual Special Issue (VSI) format allows fast publication of the manuscripts in regular journal issues, and manuscripts are subsequently gathered in the VSI per se, which increases their visibility internationally significantly.

Below is some brief information on the Special Issue, for more details please see: <https://www.sciencedirect.com/journal/marine-micropaleontology/about/call-for-papers#the-invisible-complement-using-sedimentary-ancient-dna-sedadna-to-improve-marine-ecosystem-reconstructions>

### **The invisible complement: using sedimentary ancient DNA (sedaDNA) to improve marine ecosystem reconstructions**

Sedimentary ancient DNA (sedaDNA) offers a novel approach to investigating past ecosystems—from the smallest bacteria to plankton and their predators. Knowledge about paleoecosystems can provide broad-scale biological context to paleoceanographic reconstructions from polar to tropical environments and over up to ~2Ma. However, sedaDNA research is complicated by the miniscule amounts of DNA preserved and limited reference sequences and genomes, making it difficult to detect rare species. This special issue seeks to bring together the latest research aimed at improving environmental reconstructions using sedaDNA techniques.

We encourage sedaDNA focused research as well as interdisciplinary studies that combine sedaDNA research with aspects of micropaleontology, biomarker, geochemical and/or modern DNA research. Technical (field, laboratory, computational optimisations, statistical tools) as well as (paleo)ecologically focused research articles are welcome.

Looking forward to hearing from you!

The Guest Editors: Dr. Linda Armbrecht, Dr. Heike Zimmermann, Prof. Dr. Stijn De Schepper, Dr. Xavier Crosta

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# Upcoming Conference



The poster features a background image of a snowy, mountainous landscape with a winding path. The title 'ArcSTRAT' is prominently displayed in large, bold, dark blue letters. Below it, the subtitle 'Arctic Ocean Stratigraphic and Paleoclimate Conference' is written in a smaller, dark blue font. The dates '22<sup>nd</sup>– 25<sup>th</sup> October 2024, UiT The Arctic University of Norway, Tromsø' are centered below the subtitle. The poster is divided into two main columns: 'Conference Topics' on the left and 'Keynote Speakers' on the right. At the bottom, there are several logos for partner organizations, a QR code, and the conference website URL.

## ArcSTRAT

### Arctic Ocean Stratigraphic and Paleoclimate Conference

22<sup>nd</sup>– 25<sup>th</sup> October 2024, UiT The Arctic University of Norway, Tromsø

**Conference Topics:**

- Current Arctic stratigraphic framework
- Current knowledge of Quaternary climate evolution
- Developing an Arctic Ocean multi-stratigraphic toolbox
- Application of multi-stratigraphic and proxy toolbox

**Keynote Speakers:**

**Matt O'Regan**  
Stockholm University  
Sweden

**Ruediger Stein**  
MARUM University of Bremen  
Germany

**Anne de Vernal**  
Université du Québec à Montréal  
Canada

**Renata Lucchi**  
National Institute of Oceanography  
and applied Geophysics  
Italy

**Jutta Wollenburg**  
Alfred Wegener Institute of Marine  
and Polar Research  
Germany

**Claude Hillaire-Marcel**  
Université du Québec à Montréal  
Canada

**Stijn De Schepper**  
NORCE Climate and Environment in Bergen  
Norway

Geological Survey of Norway  
Geological Society of Norway  
The Research Council of Norway  
UiT The Arctic University of Norway  
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