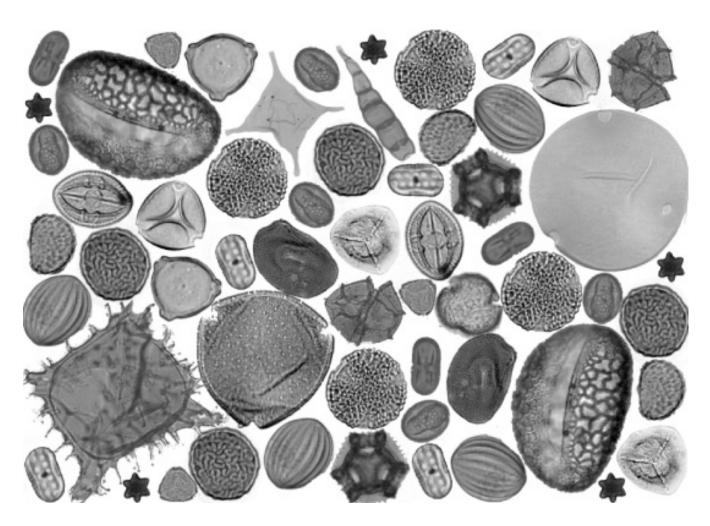


# **AASP – The Palynological Society**

Promoting the Scientific Understanding of Palynology since 1967



NEWSLETTER

June 2020 Volume 53, Number 2



## AASP - TPS NEWSLETTER

Published Quarterly by AASP - The Palynological Society

June 2020, Volume 53, 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 800 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.

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Dr. David K. Goodman (awarded 2005)

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Professor Reed Wicander (awarded 2014)

Professor Fredrick Rich (awarded 2016)

Dr. James B. Riding (awarded 2016)

Professor Martin B. Farley (awarded 2019)



### AASP – TPS NEWSLETTER

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June 2020 ISSN 0732-6041 Volume 53, Number 2 Gilda Lopes, 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 AUGUST 15. 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



Photo: Katrin Ruckwied, AASP - TPS President

Dear colleagues and friends,

This newsletter finds you at the time where we would normally gather for our Annual Meeting in Baton Rouge. Looking back, I am still grateful that we made the difficult decision to cancel the meeting early on and were able to minimize the financial impact for the association.

As for many of you work has for now completely shifted online and most meetings, including of course our board meetings, are held virtually, I still can't help but miss the face-to-face interaction with all of you: I miss the informal scientific exchange, not to mention

the camaraderie and private chats in the evenings, very much.

Even though there is not a lot to do about it but to hope that the world will overcome this situation soon, I wish all of you resilience, strength, and optimism for the months ahead!

Please stay healthy!

Katrin

Best regards, Katrin



# Managing Editor's Report

I am delighted to announce that Encarni Montoya of the University of Liverpool, UK has recently kindly agreed to become an Assistant Editor of *Palynology*. Encarni was already on the Editorial Board and is replacing Niall Paterson, who had to resign this position some time ago because of a job change. Encarni brings a wealth of experience in terrestrial palynology. Specifically she works on the palaeoecology of Neotropical ecosystems, mostly from the Late Glacial to the present-day. Welcome Encarni!

Part 2 of Volume 44 of *Palynology* was published online during April 2020. It comprises pages 195 to 390 inclusive, and this part carries 11 articles plus an obituary for the late Bernard Owens. The contents are listed below.

Normally, Taylor and Francis would have mailed out a printed copy of Parts 1 and 2 to all members who pay for paper copies by this time. However, mailings from their distribution centre to many countries have been disrupted by the Covid-19 pandemic. Many nations refused to accept mailings of this nature. This meant that the printing was delayed. However, the print and distribution of Taylor and Francis journals will be resumed from 11th May, with the first copies being dispatched by 18th May. So by the time you read this hopefully you will have your copy. However, please bear in mind that some countries are still operating reduced or closed postal services, and international freight carriage is subject to delays and changes to routing at short notice. Please accept our apologies for any delays to the print copies. If you have not received your paper copy by June, please let me know and I will forward your message on. The date of publication is unaffected because the part was published online in April.

On a brighter note, Taylor & Francis contacted

me recently offering to increase the annual page budget by 15% from 2021. This is cost-neutral for the association. This means an increase from 672 to 773 pages per year. Obviously I accepted their kind offer. The increase in page budget next year is especially good news in that, because of the rise in home working recently, many palynologists clearly have been taking the opportunity to finish off papers. We have seen a noticeable spike in submissions in recent weeks.

All the best and stay safe!

James B. Riding

Managing Editor, AASP – The Palynological Society

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15th May 2020

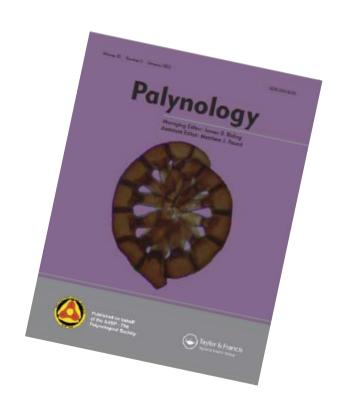
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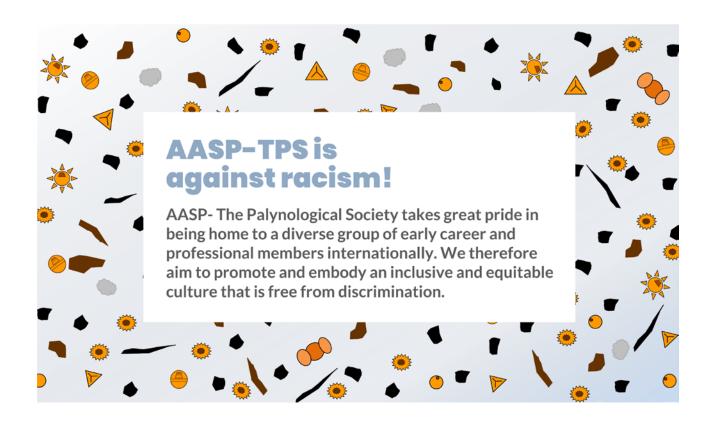
(online and print) (May 2020)

- 1. Riding, J.B., McLean, D. and Wellman, C.H. Bernard Owens (1938–2019). 195–204.
- 2. Nohro, S., Bera, S.K. and Jayakumar, S. Modern pollen spectra from the Pala Wetland Reserve Forest, Siaha District, Southern Mizoram, north-eastern India. 205–216.
- 3. Quamar, M.F. and Kar, R. Modern pollen dispersal studies in India: a detailed synthesis and review. 217–236.
- 4. Mudie, P.J., Fensome, R.A., Rochon, A. and Bakrac, K. The dinoflagellate cysts *Thalassiphora subreticulata* n.sp. and *Thalassiphora balcanica*: their taxonomy, ontogenetic variation and evolution. 237–269.
- 5. Quamar, M.F. Surface pollen distribution from Akhnoor of Jammu District (Jammu and Kashmir), India: implications for the interpretation of fossil pollen records. 270–279.
- 6. Steeman, T., De Weirdt, J., Smith, T., De Putter, T., Mees, F. and Louwye, S. Dinoflagellate cyst biostratigraphy and palaeoecology of the early Paleogene Landana reference section, Cabinda Province, Angola. 280–309.
- 7. Gurdebeke, P.R., Mertens, K.N., Pospelova, V., Matsuoka, K., Li, Z., Gribble, K.E., Gu, H., Bogus, K., Vrielinck, H. and Louwye, S. Taxonomic revision, phylogeny, and cyst wall composition of the dinoflagellate cyst genus *Votadinium Reid* (Dinophyceae, Peridiniales, Protoperidiniaceae). 310–335.
- 8. Liu, T., Li, T.-T., Wang, Z. and Li, Z. Palynological record of Holocene climate change from a Sphagnum peat mire on Qizimei Mountain, Central China. 336–343.
- 9. Paredes, R. and Bryant, V.M. Pollen analysis of honey samples from the Peruvian Amazon.

344-354.

- 10. Czerwiński, S., Margielewski, W., Gałka, M. and Kołaczek, P. Late Holocene transformations of lower montane forest in the Beskid Wyspowy Mountains (Western Carpathians, Central Europe): a case study from Mount Mogielica. 355–368.
- 11. Albert, B.M. and Innes, J.B. On the distinction of pollen grains of early varieties of *Hordeum* from *Glyceria* species: addressing the early cereal cultivation problem in palynology. 369–381.
- 12. Vieira, M., Casas-Gallego, M., Mahdi, S. and Fenton, J. *Impagidinium obscurum* sp. nov., a marker dinoflagellate cyst for the Thanetian (Paleocene) of the North Sea and the Barents Sea. 382–390.







### Publications...

#### **CONTRIBUTION SERIES N.49**

By Robert Clarke



#### **TITLE**

Biostratigraphic Evaluation of Miocene to Pleistocene Strata in Trinidad Using Palynology and Micropaleontology

#### **AUTHOR**

David T. Pocknall

#### **ABSTRACT**

This publication summarizes paleontological analyses (palynology and micropaleontology) of Neogene aged outcrop sections in Trinidad. The study was undertaken while the author worked for Amoco Production Company (in the 1990s) with a stated goal of understanding the paleontological succession and assemblages, and the environments of deposition of Late Miocene to Pleistocene strata thereby assisting in the correlation of the hydrocarbon bearing succession in the Eastern Venezuela and Columbus basins. The study includes 8 outcrop sections and 160 samples, one from the Central Range, seven from the eastern and

southern coasts of Trinidad, and the Iguana-1 exploration well from the Gulf of Paria. The analyses complimented a study of subsurface wells which for proprietary reasons are not able to be published. Sequences include the San Jose River section (Manzanilla Formation), Manzanilla Beach sections (Manzanilla Formation), Matura Bay section (Manzanilla, Springvale, and Talparo formations), Grand Calle Point, La Fontane (Tablas Point), Moruga (Alcatraz) sections (Moruga Formation), and Erin Bay (Puerto Grande Bay) section (Morne L'Enfer Formation). Age dating is based on a combination of planktonic and benthonic foraminifera and selected pollen events. Recovery of key fossils was hampered by shallow marine to non-marine environments of deposition, or marine environments where rates of deposition were high and not ideal for planktonic biota. This work builds upon many previous studies of the palynology and micropaleontology of the region and numerous palynological zonations that have been developed for the Neogene of the Trinidad and Venezuela region. The active tectonic setting for the region results in commonly reworked fossils ranging in age from Cretaceous to Middle Miocene. Environments of deposition have been interpreted from the foraminiferal and palynological assemblages. The basal member of the Manzanilla Formation (San Jose Calcareous Silt) was deposited in inner to outer neritic paleodepths, but water depth decreases to shallow marine to nearshore environments in the Montserrat Glauconitic Sandstone Member and to marsh to tidedominated marginal marine environments of the Telemague Sandstone Member. The Springvale Formation was deposited in intertidal conditions with some brackish water influence. The Morne L'Enfer Formation is interpreted to be of mainly deltaic origin (nearshore and estuarine) and tidally influenced. and the Talparo Formation was deposited as a nearshore deposit under brackish and fresh water conditions. Keywords: palynology,

micropaleontology, Miocene, Pliocene, Pleistocene, outcrops, Manzanilla Formation, Moruga Formation, Springvale Formation, Morne L'Enfer Formation, Talparo Formation, Trinidad.

- \* Print copies of Contribution 49 are available at U.S. \$45 + shipping or order the PDF if you prefer.
- \* Shipping to a U.S. address will be \$8 Priority

Flat Rate.

- \* Shipping to a non-U.S. address will be more and vary according to country (price to be determined). However, during this pandemic it appears that many countries are not accepting book shipments for now. Therefore AASP Foundation recommends that international members order the PDF version.
- \* PDF copies of the entire publication will be U.S. \$35 (electronic, so no shipping charges). All Figures, Plates and Appendices are in color.

#### **PETROLIPALYNOLOGY**

By Eleanora Robbins

Seventeen copies of "Petrolipalynology," published by Springer Geology in 2016, by Dexin Jiang, Eleanora Robbins, Yongdong Wang, and Huiqiu Yang are available on a first come, first served basis for the price of the postage. The book has 263 pages and 47 plates. It came plastic wrapped in 2016, so it is Covid-19 free.

This book addresses the principles and methods for determining petroleum source rocks based on fossil spores and pollen. It is known that pollen and spores in a petroleum reservoir are from a specific source rocks. Studying petroliferous basins in China, we discovered that there are often as many as three different sources of the microfossils: the source rocks, the rocks along the pathway, and the reservoir rocks. Therefore, fossil spores, pollen and algae from inland and coastal shelf petroliferous basins are analyzed and illustrated to show this complex process. Furthermore, the organic origin theory of oil is proven and environmental characteristics for hydrocarbon source rock formation are discussed. Along with the geochronical and geographic distribution of non-marine petroleum source

rocks in China, the mechanisms of petroleum migration following the pathways to the reservoirs are investigated. It will be a valuable reference work as well as a textbook for wider research areas ranging from stratigraphy, palynology, palaeontology and petroleum geology.

Chapters include: Geological background, Fossil spores and pollen in crude oils, Petroleum sporo-pollen assemblages and petroleum source rocks, Spore/pollen coloration and petroleum source rock quality, Palynological evidence for organic petroleum origin theory, Environment for the formation of petroleum source rocks, Mechanisms of petroleum migration, and geochronic and geographic distribution of nonmarine petroleum source rocks.

For US customers, \$8 should cover first class, insured, priority. For other countries, see if you can calculate it knowing the weight (1 lb, 15.5 oz). On Amazon it sells for between \$72 and \$155.

Contact me by email: norrierobbins@cox.net

## New Board of Directors 2020

We would like to congratulate our newly elected board members and thank all the candidates that were standing for office in this year's election.

We would also like to take this opportunity to

recognise those individuals who are rotating off the board for their service to the society: Gunn Mangerud, Rebecca Hackworth, Sofie Lindström, and Julia Gravendyck. Thank you!

#### **President**



Katrin Ruckweid

#### **President-elect**



Niall Paterson

#### Secretary



Stephen Stukins

#### **Treasurer**



Vladimir Torres

#### **Managing Editor**



James Riding

#### **Director-at-Large**



Kimberley Bell

#### **Director-at-Large**



Vera Korasidis

#### **Student Director-at-Large**



Damián Cárdenas

# 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 silver anniversary. There are a limited number available of two designs, a dinoflagellate cyst of *Diphyes recurvatum* and a pollen grain of *Macrolobium multijugum*. They are sterling silver and each measure c.3/4" diameter.

Each necklace comes with a commemorative information card that includes a picture and description of the palynomorph. The society is selling them for \$150.00 (for members) and \$170.00 (for non-members). This is a wonderful way to support AASP and is a great conversation starter!

Payment can be made to the AASP Paypal account, thomasdd98@yahoo.com or check can be mailed to Treasurer, Rebecca Hackworth, 1030 East 14th Street, Houston, TX 77009. Necklaces can be mailed at your request.

# Goodbye & Welcome

By Julia Gravendyck (Student Director-at-Large; 2018-2020)





I am sad to have to say goodbye as your Student Representative on the Board of the AASP-TPS. Thank you so much for your trust and the possibility to make the most of this position. I have learned so much over the past two years, met colleagues and made new friends and learned about society business. It brought me closer to palynology and all of you.



The last months were unusual, with difficult decisions to make, and after the success of the new socialising event in Gent (#EarlyCareerNight) it was especially sad not to be able to see you all again in Baton Rouge. I would like to thank our sponsors - Shell and the SEPM who kindly agreed to sponsor our 2nd Early Career Night that I planned for Baton Rouge together with the great support of Sophie Warny and her team.

Even though I am stepping back, I will stay involved and invite you all to do the same. The annual board meetings at the conferences are public and everyone is invited to participate as observers to stay in tune with what is going on in the society politics. On top of that, the 'Business Luncheon', where the Board makes important announcements about recent developments and stands ready for questions and suggestions, is a good opportunity to socialise and stay up to date.

To be actively involved over the last two years has been a great and educative experience for which I will be forever grateful. Especially

as an early career member it has helped me to find my footing. So, I can only encourage each and every one of you 'early careers' to do the same. You are never 'too young' to get involved and stay connected with your society, be it as newsletter correspondent, fulfilling a job for the society, or simply by speaking up and getting in touch with others about your

ideas. The society is what we all shape it to be together.

With this I would like to give a warm welcome to my successor Damián Cárdenas and wish him good luck in this role.

# AASP-TPS 2020 Honorary Life Membership

AASP – The Palynological Society bestows upon

#### **GEORGE F. HART**

The Honorary Life Membership Award

It is a privilege for the Board of Directors to bestow upon George F. Hart 'Honorary Life Membership'. This award is presented for his fundamental contributions to the discipline of palynology and his role as a founding member of our society.

On behalf the AASP Board of Directors June 2020 Katrin Ruckwied (President)



In 2020, the annual AASP meeting was planned to be held at Louisiana State University, Baton Rouge, where George F. Hart was Professor and Director of the Museum of Geosciences and later Director of Research for the Louisiana Geological Survey. And George is one of the founder members of AASP, thus, Baton Rouge is indeed the right place, the right time and the right occasion to make George an honorary life member of AASP.



Photo: AASP meeting in Ghent in 2019. George and the AASP president Gunn Mangerud at the conference dinner. Photo by Annette E. Götz.

Unfortunately, the 2020 AASP meeting had to be cancelled when the world became ruled by the outbreak of the SARS-CoV-2 pandemic earlier this year. And still we are fighting against the global spreading while research for a coronavirus vaccine is happening at breakneck speed. Most of us are still working remotely from home, face-to-face teaching at universities is suspended and lectures delivered online and we are indeed far away from "normality".

However, this should not stop us from honouring the achievements of an outstanding palynologist!



Photo: Field trip of the University of Sheffield in 1957 – do you spot young George? Photo by courtesy of George F. Hart.

Born in Yorkshire, George was educated as a biostratigrapher at Sheffield University, UK, and Moscow State University, Russia. He earned a BSc in 1957 and a PhD in 1961, both from the University of Sheffield. And his interest in Permian palynology dates back to this time.

His reputation as an internationally recognized scientist is backed by the fact that he has held many prestigious international Research Fellowships and Awards. This commenced when he was awarded a British Council Studentship to Germany and Belgium (1959) and later became a British Council – Soviet Ministry of Education Fellow to the USSR

(1960-61). At that time he was the first western geologist allowed into the Soviet Union on a long term basis after Stalin's death, and the first western geologist to teach Field Methods at the Moscow State University Field Camp in the Crimea. During 1961-63 he held a NATO Fellowship to South Africa, followed by an Anglo-American Senior Fellowship at the Bernard Price Institute of Paleontology in Johannesburg (1963-1966). During that period, he ran the Microstratigraphy Basin Research Unit, which specialized in studying the Karoo Basin. Together with his colleagues Edna Plumstead and Raymond Dart, he was instrumental in re-building the Bernard Price Institute of Palaeontology, University of Johannesburg. In 1973-74 he was the National Academy of Sciences of the USA Senior Fellow to the former Soviet Union and was awarded a Fulbright Fellowship to India in 1983.

In addition to his work in Europe, the former Soviet Union, and South Africa, he undertook research for approximately 20 years in India where he initially went as a United Nations Consultant (1983-84) and later became affiliated with the American Institute of Indian Studies in New Delhi, sponsored by The Smithsonian Institution, USA, studying the deltas of Peninsular India in cooperation with the scientists at Andhra University.



Photo: Student days Moscow State University 1961. Photo taken by friend Yuri Yevtushenko: the well-known Russian poet.

Working myself on Permian coals in South Africa and the Karoo Basin, my first contact with George was in 2015 by email and this correspondence encouraged me to unravel the postglacial basin history using palynology as a key tool. And finally, in 2019 I met him and his wife Clare at the AASP meeting in Ghent where we had long discussions – not only about the Karoo!

George is a passionate palynologist, an outstanding scientists and a wonderful person



Photo: The Hart Family at their Field Camp cabin in Colorado, where George was teaching field methods at the time around 1970-71. Photo by courtesy of George F. Hart.



Photo: George and Clare, South Island, New Zealand. Photo by courtesy of George F. Hart.

with a great sense of humour! I think we all agree that George, as a founder member of AASP, is most deserving of the Honorary Life Membership Award.

Congratulations George!

Annette E. Götz, Sophie Warny, Thomas D. Demchuk, Gilda Lopes, and Paulo Fernandes
June 2020

# AASP – TPS 2019 Student Research Grant Awardee

I wish to thanks the AASP award committee and other members of that Association who kindly supported my Student Research Award. It was a great economic contribution to the progress of my project entitled: "Marine palynomorphs of the Neogene in the Colombian Caribbean: Paleoecological and biostratigraphic implications". In these difficult economic times for Argentina, the grant was very important for

my academic development and helped me with several important activities, such as sample processing from one of my study sites. It also provided me the possibility of conducting an internship with the Biostratigraphy Team at the Colombian Petroleum Institute at the end of 2019. During the time that I was working on my internship, I had the opportunity to review the reference fossil material obtained

from the drilling of several oil wells in the Colombian Caribbean which are stored in the palynological collection of the mentioned Institute. Moreover, I also discussed the taxonomy of the most important palynomorph taxa obtained from the studied material. These activities give me the opportunity to construct a preliminary biostratigraphic model for the analyzed sequences. Currently, I am working on the analytical phase of my project, and writing a scientific paper related to the preliminary palynological results of one of the studied sections.

On the other hand, I would like to highlight that from my personal point of view, getting the grant was an affirmation that my research has an interesting value for palynologists and biostratigraphers and it was a great motivation for me to continue this research line in the future. AASP must continue promoting palynology because it is an important support for young researchers to go on with their scientific projects.

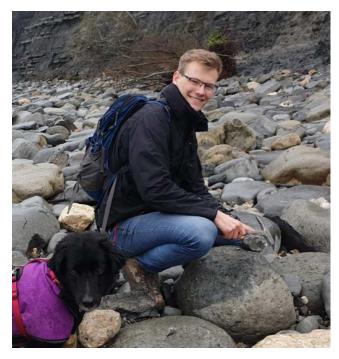


**Diego Pinzón**PhD Student
IANIGLA, CCT CONICET, Mendoza, Argentina

## AASP - TPS 2020 Travel Award Winners

This year, we received several excellent applications for the AASP-TPS Student Travel Award, making the Awards Committee's task especially difficult. This truly reflects the large number of incredibly talented 'early career' palynologists in our membership and is a promising sign for the society's future!

Despite the unfortunate cancellation of this year's scheduled meeting in Baton Rouge, we have decided it is only fair to give this year's winner's the recognition that they deserve. We hope to see them all at next year's meeting in Manizales and look forward to seeing their research progress.



**Alexander C. Ball**The University of Sheffield, Sheffield, UK

#### Abstract:

Initial insights from novel Early Devonian in situ spores from the Anglo-Welsh Basin, UK.

Alexander C. Ball<sup>1\*</sup>, Charles H. Wellman<sup>1</sup>, John B. Richardson<sup>2</sup>, Stephen Stukins<sup>2</sup>, Paul Kenrick<sup>2</sup>

<sup>1</sup>The University of Sheffield, Western Bank, Sheffield, S10 2TN, UK

<sup>2</sup>The Natural History Museum (London), South Kensington, London, SW7 5BD, UK

Palynological evidence from the Lower Old Red Sandstone of the Anglo-Welsh Basin points towards a major adaptive radiation amongst stem-tracheophytes across the Siluro-Devonian boundary, leading to a major ecological turnover from stem-embryophytes (cryptophytes) to stem-tracheophytes. Whilst the palynological record provides a relatively complete picture of this episode, macrofossils

of these earliest land plants are rare and typically offer only limited information owing to a lack of recalcitrant tissues. Because of this duripatric bias, dispersed spores often lack context as their parent plants are often unknown and as a result, their morphology, affinities and evolutionary patterns often remain largely elusive. This problem has been partially reconciled for some Přídolí and Lochkovian spore species through the uncovering of minute, charcoalified sporangia and spore masses from the Anglo-Welsh Basin. These beautifully preserved mesofossils not only provide a tangible link between the plant megafossil record and the dispersed spore record, but also provide useful information including taxonomic characters (of otherwise morphologically macrofossils), evolutionary patterns and the fecundity of various early embryophytes. More detailed studies of the ultrastructure of spores can provide a wealth of information including plant affinities, internal spore construction and ontogenetic development. Here, initial investigations into novel sporangia collected from an early Lochkovian horizon in the Anglo-Welsh Basin are presented. These sporangia contain dispersed cryptospore and trilete spore species that have not previously been found in situ, including Hispanaediscus sp. and Emphanisporites sp. These specimens are discussed in terms of their implications for the dispersed spore record, evolutionary patterns and the insights they offer into the hypothesised adaptive radiation amongst Euramerican stem-tracheophytes.

#### Abstract:

Palynological Analysis and Evaporite Palynology of the Zechstein Group (Lopingian) of the UK.

Martha E. Gibson<sup>1\*</sup>, Charles H. Wellman<sup>1</sup>

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The Zechstein Sea was a semi-isolated inland sea that occupied the Southern Permian Basin during the late Permian (~258Ma). The sea endured at equatorial latitudes for 5 to 7 million years during which time it underwent five cycles of evaporation. In the context of an Icehouse-Greenhouse climate transition, classic Zechstein reconstructions show cyclic regressions accompanied by evaporative down-draw leading to hypersaline conditions. This resulted in dramatic short term reductions in biotic abundance and diversity in both the marine and terrestrial realms. However, it is hypothesised that transgressive phases experienced sufficient precipitation to allow ecosystem recovery in both marine and terrestrial environments.

Borehole material provided by Sirius Minerals PLC (SM4, SM7, SM11, SM14b) and the British Geological Survey (Salterford Farm, Woolsthorpe Bridge) from the Yorkshire Sub-Basin, in conjunction with outcrop material from the Durham Sub-Basin, has enabled the most complete palynological analysis of the Zechstein strata to date. In addition, a new approach for extracting palynomorphs from evaporative lithologies has been developed which has significantly improved the sampling resolution of this study, and permitted the first investigation of evaporite palynology in the UK.

The spore-pollen assemblages are dominated by taeniate and non-taeniate bisaccate pollen, accompanied by rare monosaccates, trisaccates, and spores. Typical late Permian taxa have been identified including *Illinites*, Falcisporites, Klausipollenites, Labiisporites, Lueckisporites, Nuskoisporites, Perisaccus, Protohaploxypinus, Taeniaesporites,



Martha E. Gibson
The University of Sheffield, Sheffield, UK

Vestigisporites and Vittatina. These taxa lend support to a transient gymnosperm Euramerican vegetation, dominated by phylogenetically advanced conifers, one to two species of ginkgophytes, and rare cycads, pteridosperms and pteridophytes.

of Quantitative analysis spore-pollen assemblages reveals how the vegetation occupying the seas hinterlands responded to ariditisation within each cycle, the effects of repeated cyclicity, and general late Permian climate warming trends. This has allowed previous assumptions regarding the homogenous nature of the Zechstein palynoflora to be guestioned, and will facilitate more accurate ecological reconstructions, contextualizing the Zechstein vegetation with regards to the floristic changes occurring at the Palaeozoic-Mesozoic boundary.

An unexpected palynomorph abundance from the Boulby Halite and Brotherton Formation of the third cycle and a similarly abundant assemblage from Carnallitic Marl Formation in the fourth cycle have been observed. The presence of such an abundance of palynomorphs during later cycles questions previous assumptions that late Permian equatorial climates were continuously arid. These findings suggest the climate was at times damp enough to support extensive gymnosperm forests despite the impending Permian-Triassic extinction event.

PLAIN TUQ AKAG

Damián Cárdenas Loboguerrero

Missouri University of Science and Technology, MO, USA

#### Abstract:

Quantitative morphological analysis of closely related taxa: a tool for improving biostratigraphic resolution

Damián Cárdenas Loboguerrero<sup>1,2\*</sup>, Felipe de la Parra<sup>3</sup>, Francisca Oboh-Ikuenobe<sup>1</sup>

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classification Accurate taxonomic of morphospecies is critical for both the definition and correlation of reliable biostratigraphic data. Although morphology plays a key role in taxonomy, assessment of fossil pollen morphological characters is usually semiquantitative. Traditional morphometrics are the statistical analyses to sets of measured morphologic traits, including linear distances, angles, and ratios. Geometric morphometrics, on the other hand, uses Cartesian coordinates to analyze the geometry of specimens. Both approaches, which are seldom used in paleopalynology, have been used to study the morphologic variations of two key biostratigraphic pollen taxa — Echitriporites suescae and Echitriporites trianguliformis across the Cretaceous-Paleogene boundary in northern South America. A third method. the index of Pollen Curvature (iPC), was used to quantify the curvature of triangular pollen grains in polar view (concave, convex or straight). Altogether, the combination of these three quantitative techniques enabled the differentiation between two morphological closely-related pollen taxa that are difficult to distinguish through light microscopy during routine palynological analyses. Currently, Neogene Lejeunecysta dinoflagellate cyst species from the northern Neotropics are being analyzed by morphometric techniques in order to refine their taxonomic resolution and biostratigraphic ranges in a largely understudied region.



**Erica Mariani**University of Exeter, Cornwall, UK

#### Abstract:

Oceanographic and vegetation changes across the Palaeocene-Eocene Thermal Maximum in NW Europe and the Arctic

Erica Mariani<sup>1\*</sup>, Sev Kender<sup>1,2</sup>, James B. Riding<sup>2</sup>, Karen Dybkjær<sup>3</sup>, Gunver K. Pedersen<sup>3</sup>, Kate Littler<sup>1</sup>, Stephen P. Hesselbo<sup>1</sup>, Melanie J. Leng<sup>4</sup>

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<sup>3</sup>Geological Survey of Denmark and Greenland (GEUS), Øster Voldgade 10, DK-1350 Copenhagen K, Denmark.

<sup>4</sup>NERC Isotope Geosciences Facilities, British Geological Survey, Keyworth, Nottingham, 15 NG12 5GG, UK.

\*Corresponding author: dcvvt@mst.edu

The Palaeocene-Eocene Thermal Maximum (PETM, ~56 Ma) was a geologically brief hyperthermal event characterised by massive injection of 13C-depleted greenhouse gases into the atmosphere, which eventually led to a

global temperature increase of  $\sim 5-8$ °C. Due to its abrupt nature, the PETM is considered one of the best analogues in the geological record for ongoing anthropogenic climate and carbon-cycle disruption. Despite being extensively studied, the warming event and its associated palaeoenvironmental changes are not well documented at mid-high northern latitudes: the aim of our study is to reconstruct how greenhouse gas input and consequent temperature increase affected sensitive midhigh latitude vegetation and oceanography. The research is carried out on two pristine marine sediment cores, E-8X and Augusta-1, located in the Danish sector of the North Sea Basin. Both cores are optimal for high resolution stable isotope, geochemical and palynological analyses. Vegetation on the nearby continent is reconstructed by studying pollen and spore assemblages, whereas oceanographic changes are investigated through dinoflagellate cyst assemblages. The palynological data are coupled with geochemical data (stable isotopes and XRF elemental abundances) in order to correlate interpreted enhanced terrestrial runoff with shifts in dinocyst assemblages, consequently providing important information on changes to water column properties. We find that the North Sea Basin became stratified with a lower salinity and high nutrient water mass from the earliest part of the PETM. Cores Augusta-1 and E-8X are correlated to an additional core (22/10a-4), also recovered in the central part of the North Sea Basin, in order to produce a regional overview of palaeoenvironmental changes during the PETM at mid-high latitudes.



# Overview of AASP – TPS Awards Application Deadlines

#### Niall W. Paterson

Awards Committee Chairman

AASP—The Palynological Society has several awards that recognize outstanding service to the Society or to the discipline of palynology.

The basic nomination procedure is similar for most awards (main letter of nomination accompanied by letters of support, which describe how the nominee meets the award criteria). Details of the procedures for each award can be found below. The deadline for submission of society awards nominations is **March 1** of each year.

A list of previous winners can be found on the third page of this newsletter.

#### **Board of Directors Award**

This award is given by the Board of Directors to individuals who have made extensive and long-standing contributions to AASP-TPS. It is given infrequently to AASP-TPS members for a lifetime of service to the society. The nomination of candidates and decisions are made within the board.

#### Medal for Scientific Excellence

This is the society's highest award and has primarily been bestowed upon individuals who have made fundamental contributions to the development of the discipline of palynology. Recipients should have a substantial research record in the field.

# Medal for Scientific Merit and Outstanding Promise

This newly established award recognizes individuals in their mid-career who have made important contributions to the science of palynology, and who show the promise of continued excellence in the discipline. Typically, nominees will have no more than 15 years' experience beyond their MSc or PhD graduation (excluding time spent in industry or on leave).

#### **Distinguished Service Award**

This award recognizes individuals who have generously supported the AASP-TPS with their work and resources over several years, and whose efforts have advanced the Society. Typically, recipients have held society office, participated in committees, or dealt with publications or meetings.

#### **Medal for Excellence in Education**

This medal recognizes leaders in palynological education. Nominees are expected to have considerable experience and accomplishment in aspects of academic education involving palynology.

#### **Honorary Life Membership**

This is the oldest AASP-TPS award, with the first awards dating to 1975. This award is either bestowed upon individuals who have made a fundamental contribution to the discipline of palynology, or to people who have given devoted service to the AASP-TPS (or both). These may be persons who are not members of the society.

### Other news...

# Time Scavengers: An online source to learn about geosciences and paleontology/micropaleontology

By Ingrid Romero and Jennifer Bauer

During these times of isolation and uncertainty, online teaching has become the main source of the learning process at different levels. And in sciences, it is now our major tool of communication among the scientific community and to the public at large. Online teaching has also brought new challenges, such as the creation of new material, finding accurate online sources for teaching, and keeping the material dynamic for students. One website and project that has been created to increase science literacy in geosciences is Time Scavengers. In the website there is a small section about palynology as paleoproxy that can be expanded with additional information or teaching material.

Dr. Jennifer Bauer, one of the creators, explains below what Time Scavengers is, as well as the motivations of starting this project and how we can collaborate.

#### What is Time Scavengers?

Time Scavengers is a collaborative project that works to increase science literacy specifically

surrounding the geosciences. The project offers easy to digest background pages that explore various facets of geology, paleontology, evolution, and climate change, as well as six blog series that provide a look into the lives of scientists with the hope of increasing public trust in scientists and their work.

# When and how this project started? What were the motivations behind its origin?

The project was first conceived in the fall of 2016 as a need to provide a service to the public at large. During the election season in the United States, there was an increased animosity toward scientists and evidencebased ideas. This was concerning to us, myself and my co-developer Dr. Adriane Lam, and we wanted to do something. We had some experience with web design through our master's program working with Dr. Alycia Stigall on the Digital Atlas of Ancient Life project and figured digital outreach was a way to reach more people outside of our close circles. We spent months working on a name, site structure, and building a network of collaborators. The site was officially launched in July 2017, and we advertised its origin on Twitter (@TimeScavengers) and shared content on our personal Facebook pages. It has since grown to include both a Facebook and Instagram account (@TimeScavengers). We are also piloting an internship program, worked with classes to develop activities and science communication exercises, and grown to 14 global collaborators from all sorts of backgrounds and expertise.



# How students and scientist can participate or collaborate in this project?

We always welcome contributions from all levels of scientists, and this includes students and community scientists. Feel free to email us at TimeScavengers@gmail.com or contact us through one of our social media platforms. In terms of contributions, we have a regular Meet the Scientist blog where we feature new scientists twice a month. We have an easy to follow template to help guide your blog post. The other blogs include: Education and Outreach, Teaching Sources, Science Bytes, Field Excursions, News, and Byte of Life. We welcome one-time contributions or if you are interested in being a more regular contributor, we are happy to provide you with more information on joining the team!



#### **GSA 2020 Update**

By Francisca Oboh-Ikuenobe



# Message from the GSA Director of Meetings & Events

In this time of uncertainty and unknowns, when things change not just daily but sometimes within minutes, I'd like to thank you for your patience and understanding as we at GSA headquarters take the time to

evaluate all the various possibilities for the 2020 Annual Meeting, scheduled for 25–28 October in Montréal. We are working closely with Tourism Montréal, the Palais de congrès, and the various hotels in Montréal to learn how COVID-19 is affecting their city and also what their local and national governments are doing in response. All summer festivals and events have been cancelled through August, and the border between the United States and Canada remains closed. Our crystal ball, like many others, is foggy for what fall may look like; however, GSA is operating with the health and safety of our members at the forefront of any decisions we make.

Rebecca Fazzari

# Call to Serve Newsletter open positions



Not sure that you want to run for office but want to help the society?

Current vacancies include:

- · BOOK REVIEW EDITOR
- · UNITED KINGDOM CORRESPONDENT

Become a newsletter correspondent, either formally or informally! We welcome student and professional news, book reviews, reports on meetings, workshops, etc. Submissions are due on November 15, February 15, May 15, and August 15, annually.

The AASP - The Palynological Society Newsletter is a publication with an ISSN number (ISSN 0732-6041), which **helps your CV!** 

Our newsletter is only as good as the news we receive. Please stay in touch!

Gilda Lopes Newsletter Editor

# Consider Helping our Mission

#### **AASP FOUNDATION CENTURY CLUB**



#### What?

The Century Club of the American Association of Stratigraphic Palynologists Foundation is an organization founded by the Trustees of the Foundation in order to provide persons with the opportunity to support activities of the AASP Foundation.

#### Why?

- 1. To develop an established level of giving that will continue to provide a solid financial base for the Foundation.
- 2. To provide unrestricted funds to support the various publishing activities of the Foundation.
- 3. To provide a meaningful organization and method of recognition of dedicated "friends" of the AASP Foundation.

#### How?

Your tax-deductible contribution of \$100 or more to the AASP Foundation entitles you to belong to the Century Club. The 2020 "membership" drive is on now. Your contribution may be made by personal check or by a pledge which is **payable on or before December 31, 2020.** 

#### Join!

To join the Century Club, simply complete the attached Contribution/Pledge Form and mail to the address listed below.

The AASP Foundation is a 501 (c)(3) not-for-profit, public organization registered in the United States. This means that contributions to the AASP Foundation are fully deductible on your U.S. Federal Income Tax return. Also, many employers have a matching gift program whereby they match your personal gift to not-for-profit organizations. It is well worth the effort to explore this possibility concerning your gift to the AASP Foundation.

# 2020 AASP Foundation Century Club Contribution Form

Mail to: Robert T. Clarke, Treas. AASP Foundation 3011 Friendswood Dr. Arlington, TX 76013-2033

Name:	
Address:	
Contribution Enclosed: \$	I wish to pledge: \$
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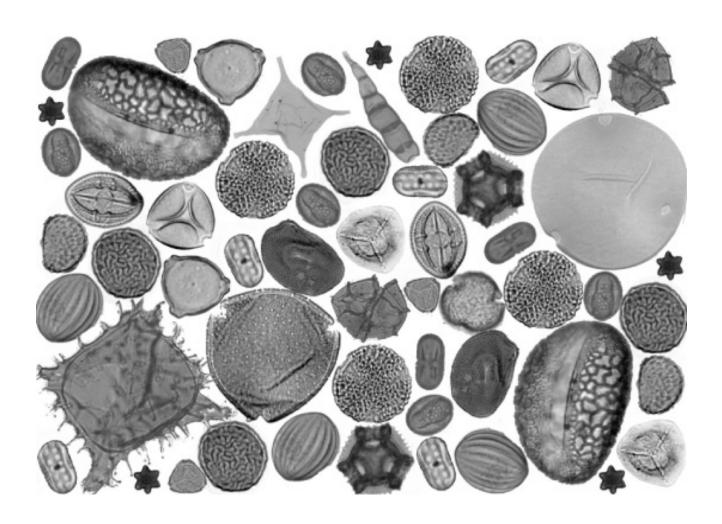
# Upcoming AASP – TPS Meetings



August 8-12, 2021 **54th Annual Meeting of the AASP - The Palynological Society** 

Manizales, Colombia

Organizers: Ingrid Romero, Angelo Plata & Andres Pardo





We are excited to held the 54<sup>th</sup> annual meeting of the AASP – The Palynological Society in Colombia, at the Universidad de Caldas, on the beautiful coffee city of Manizales, between Sunday, Aug. 8<sup>th</sup> and Thursday, Aug. 12<sup>th</sup>, 2021.











#### **Manizales**

Manizales lies on the Colombian Central Mountain Range in the Andes. It is described as a city with an "abrupt topography", characterized by a great deal of ridgelines and steep slopes which, combined with the seismic instability of the area, has required architectural adaptations and public works to make the city safer. The city is located near the volcano Nevado del Ruiz, which has an altitude of 5,321 meters (17,457.3 ft).





The vegetation of Manizales and its surroundings goes from the mountain forest to Paramo. Down the valleys the vegetation is more of a premountain forest.

One of the main attractions of Colombia is its coffee. Manizales is located in the northern part of the Colombian Coffee-Growers axis ("Eje Cafetero"), and it is considered the main center of coffee production. Even though Manizales has a very complex topography, there are many coffee plantations in its fertile lands.





#### Universidad de Caldas, IIES

Universidad de Caldas is among the 10 best universities in the country. And the IIES is a research institute that focused in the development of research projects related with biostratigraphy, palynology, nannofossils and foraminifera, petrography, sedimentology and geochemistry





# XVIII Simposio Argentino de Paleobotánica y Palinología

- Conferencias magistrales
- Sesiones plenarias
- Excursiones
- Cursos
- · Premios
- y mas....





30 de agosto al 2 de setiembre



San Salvador de Jujuy, Jujuy, Argentina









Asociación Latinoamericana de Paleobotánica y Palinología

### XVIII SIMPOSIO ARGENTINO DE PALEOBOTÁNICA Y PALINOLOGÍA-SAPP 2021

"Los enfoques ecológicos y paleoecológicos, a diferentes escalas espaciales y temporales, desde la paleobotánica y la palinología"



Tenemos el agrado de invitar a la comunidad cientifica a participar del XVIII Simposio Argentino de Paleobotánica y Palinología (SAPP 2021), a realizarse por primera vez en la ciudad de San Salvador de Jujuy, provincia de Jujuy, entre el 30 de agosto y el 2 de setiembre de 2021. En esta oportunidad entre los ejes temáticos de la reunión se enmarcan los enfoques ecológicos y palenecológicos, a diferentes escalas espaciales y temporales, desde la paleobotánica y la palinología, perspectiva que ha tomado relevancia en diversos trabajos de investigación, como pudo observarse en recientes eventos científicos. Se espera también contar con aportes y nuevas ideas que apunten a incorporar diversas disciplinas básicas y aplicadas.

#### Antecedentes:

Este prestigioso evento científico nuclea a los especialistas más reconocidos tanto a nivel local como mundial, co-organizado con la Asociación Latinoamericana de Paleobotánica y Palinología (ALPP). Cuenta con el aval de la Universidad Nacional de Jujuy (Resol. R. Nº 1355/18), de la Facultad de Ciencias Agrarias de la misma universidad (Resol. CAFCA Nº428/2018), del Instituto de Ecorregiones Andinas INECOA del CONICET y del Gobierno de la Provincia de Jujuy, a través de la Secretaria de Ciencia y Tecnología del Ministerio de Educación (declaración de Interés Provincial. Expediente Nº 1081 144/18) Esta edición contará con conferencias plenarias del ámbito nacional e internacional, sesiones generales y temáticas, como también talleres y cursos. Tiene como objetivos fortalecer los vinculos entre investigadores, motivar las vocaciones científicas en nuestros jóvenes becarios y estudiantes y las proyecciones nacionales e internacionales de nuestras investigaciones.

Además es importante destacar que la realización de esta reunión en el marco de una Universidad Nacional posibilita la participación de los estudiantes de carreras afines a las disciplinas que se desarrollan en el Simposio.

#### Sede del evento

La provincia de Jujuy se encuentra en el extremo noroeste de la Argentina, cuenta con una alta diversidad biológica y de climas, consecuencia de la variación altitudinal, lo que se refleja en una amplia gama de ecosistemas, desde los 300 msnm, en la ecorregión del Chaco, hasta más de 4.000 msnm en la Puna y Altos Andes.

La sede del evento es la Universidad Nacional de Jujuy (www.unju.edu.ar) en la ciudad de San Salvador de Jujuy y, que se encuentra a pocos kilómetros de lugares emblemáticos de la provincia, como la Quebrada de Humahuaca hoy patrimonio Mundial de la Humanidad en la categoria de paisaje cultural de la UNESCO (https://whc.unesco.org/es/list/III6 ); la Puna con majestuosos salares, volcanes, humedales (Laguna de Pozuelos: https://rsis.ramsar.org/es/ris/555? language-es ; Laguna de Vilama: https://rsis.ramsar.org/es/ris/1040? language=es ) y las Yungas con sus exuberantes bosques subtropicales Jujuy también se caracteriza por la cultura local, con festividades tan arraigadas en la gente como el festejo del carnaval y las ofrendas a la Pachamama. Para ampliar la información dirigirse a la Secretaria de Turismo de la Provincia de Jujuy: http://www.turismo.jujuy.gov.ar/

#### Comisión Organizadora

Para sugerencias de simposios/mesas redondas y otros asuntos de âmbito científico, o relacionados con la logística operativa, por favor contactarse por mail.

