CIMP
COMMISSION INTERNATIONALE DE LA MICROFLORE DU PALÉOZOÏQUE

NEWSLETTER 93
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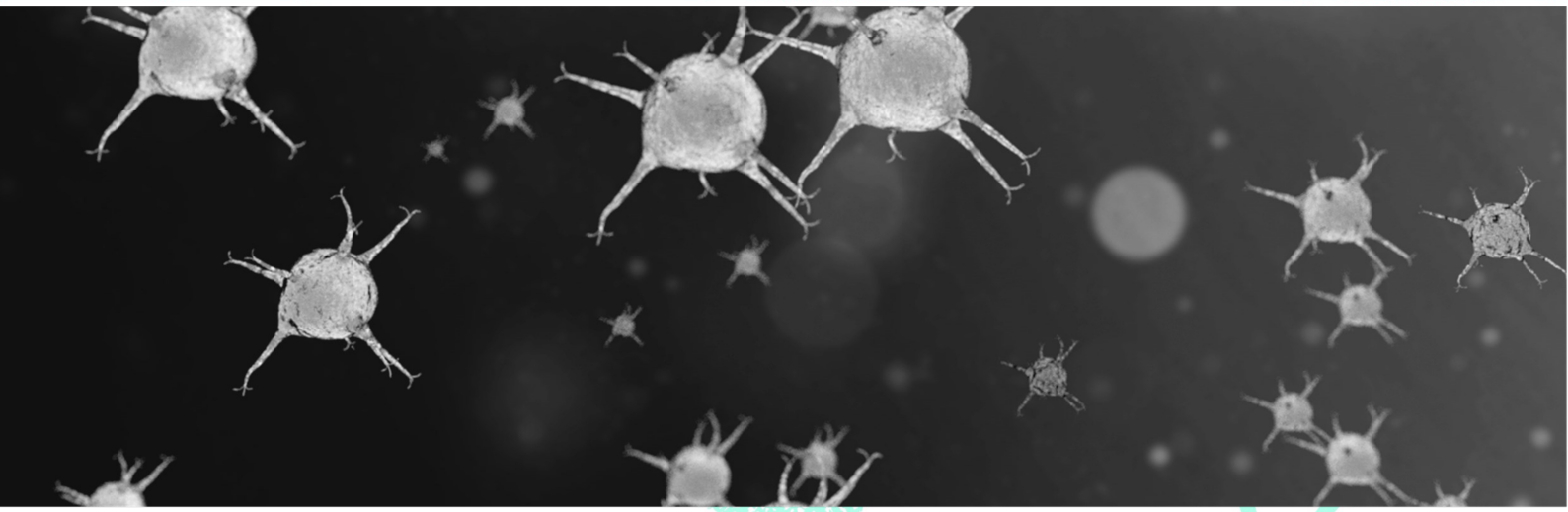

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COMMISSION INTERNATIONALE DE MICROFLORE DU PALÉOZOÏQUE

Thanks to all members who contributed to this newsletter!

Cover photo: 3D model of palynomorph deposition.
Credit: Filipe Barreira (LNEG)

CIMP

CIMP is an international federation of palynologists focused in Palaeozoic palynology, and membership is open to all individuals involved in this field of expertise. The commission aims to advance knowledge in Paleozoic palynology and related subjects by the promotion of international co-operation and meetings between scientists of all regions and countries.

To this end the CIMP arranges symposia and working groups which deal with various stratigraphical and taxonomic problems in Palaeozoic palynology. For more information on membership and activities, please see:

https://cimp.weebly.com/

PRESIDENT'S LETTER

Dear CIMP members,

Despite the difficulties imposed by the Covid-19 pandemic CIMP remains an active organisation. Biostratigraphers are facing up to the challenges of transferring their skills to new subsurface technologies for the energy transition such as deep geothermal and carbon capture and storage. More than ever palynologists are applying techniques to help solve new scientific questions that require multidisciplinary approaches. Meanwhile, the current geopolitical uncertainties mean that there are almost certainly turbulent times ahead. For CIMP to prosper we need to concentrate on our international aspects. If one good thing has come from the pandemic it is that scientists have accepted a world of virtual meetings. International symposia are a mainstay of CIMP activity. Now our meetings need to become hybrid: both

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physical and virtual. While there is no replacement for face-to-face discussion, the acceptance of hybrid meetings means that we can become geographically more inclusive while reducing our carbon footprints. The internet also provides a huge opportunity to develop research collaboration. Sharing of large amounts of data, not least of images of our palynomorphs and associated stratigraphical datasets, is becoming the norm. I see embracing these digital tools as central to how CIMP should develop in the next four years.

I have already attended several virtual meetings of the CIMP Executive Committee. Even before I took on the role of president, I sat in a meeting chaired by Hartmut Jäger, the previous incumbent, before he handed over to me. As you may know, after an early career in palynology and organic petrology and maturation, Hartmut has recently taken a new path and moved into teaching. On behalf of the board and the wider CIMP membership I wish him great success in this new endeavour. Hartmut presided over CIMP during the early and darker years of the Covid-19 pandemic, with all of the attendant difficulties of cancelled or postponed conferences and meetings. Indeed, we are still working through a backlog of postponed meetings as described elsewhere in this newsletter. I am delighted to be able to say that Hartmut is determined to continue to sit on the Executive Committee as Past President and allow us to benefit from his experience. One of the features of the Committee meetings is how well the officers work together, and I know that I am privileged to be part of that team as we head into the next chapter of CIMP's work. I feel that there is much that can be achieved, and the officers have great ideas on how CIMP can continue and develop some most promising initiatives.

Alex Ball will be retiring as Student Representative as his term of office is also due to expire in 2023. He defended his PhD in late 2022 and is currently, as they say, "looking for opportunities".

A mainstay of CIMP activities revolves around conferences and meetings. We have an interesting schedule of events with CIMP Symposia planned for the postponed 16th International Palynological Congress/11th International Organization of Palaeobotany Conference in Prague, May 25–31, 2024. But before that CIMP is going to be jointly involved with the 55th Annual Meeting of The Palynological Society in Kentucky, USA. The meeting will be held from June 6-10, 2023. As well as the usual field trips and social events, the Executive Committee has suggested that CIMP hold a hands-on microscope session, at which we can examine Palaeozoic palynological material from the collections of the Kentucky State Geological Survey or bring our own material for discussion. Hartmut Jäger is currently busy arranging this with the TPS meeting organisers. If it proves successful, I would hope to see similar events at future CIMP assemblies that are held where there are suitable collections and facilities.

New members, particularly student members, of CIMP are usually recruited at conferences. The recent lack of meetings means that membership of CIMP has fallen. The board is addressing this with a re-evaluation of our social media profiles (did *you* know that CIMP has a facebook page?) and development of our website. As you will know, the CIMP website has been inactive for several years, and we will be addressing this. Further, the role of webmaster is to be overhauled. We are currently discussing how best to run our website and two options are: integrating the roles of webmaster and student representative; or having the website admin-

istered jointly by all of the executive committee. The latter option seems preferable and would simplify and expedite things by removing one level of communication.

As we develop the website we are also exploring ideas about developing web-based databases for Palaeozoic palynomorphs. Our discussions about this are in their infancy, and we would be happy to have contributions from other members of CIMP concerning this.

Can I remind the membership, once again, to please pay your dues to support your CIMP. This is most easily done using PayPal on the CIMP website, or you can contact Paulo (pfernandes@ualg.pt) for bank transfer details. The main focus of our finances is to provide grants to allow students to travel to CIMP meetings to present their ongoing research. This is an important part of their education, allowing them to make contacts and network with other palynologists in their field. It may be worth mentioning that in the UK subscriptions to learned societies are tax deductible. If you fill in an annual tax return you can recover the cost of your CIMP subscription. I do not know if this applies in other countries, but it may be worth finding out.

Lastly, I hope that everyone has had a wonderful holiday season, and I wish you all a safe and happy New Year, and continued success in your palynological careers.

Best wishes,

Duncan McLean

Paulo Fernandes
pfernandes@ualg.pt

GENERAL SECRETARY'S LETTER

Dear CIMP Members,

Thank you for continuing to be a member of CIMP. It is with immense pleasure that I present to you the 2023 newsletter. I hope this issue can bring you great readings! I want to acknowledge all the members that took their time to write a contribution. The newsletter is made for and by the members. So, please send us your news for the past year. Even if you don't have much time to write things down, send us a list of the papers published throughout the year. This small gesture will help us all! In the present newsletter, you will find important information about the member's activities throughout this past year, among other news.

I would also like to acknowledge Filipe Barreira (LNEG's designer) for all his support with the newsletter layout.

Best regards,

Gilda Lopes

Gilda Lopes
cimp.palynology@gmail.com

TRESURER'S LETTER

Dear CIMP Members,

Your membership fees support our community through student travel grants to attend conferences and payment of IFPS membership. Additionally, CIMP members are eligible to join the board to participate in the running of the commission.

Membership is valid from the 1st of January to the 31st of December. We have a programme of upcoming events that includes symposia and workshops in 2023 and 2024, and we also have big plans to reinvigorate our website and databases and to initiate a programme of field excursions.

On behalf of the committee, we hope you will renew your membership with CIMP. Subscriptions can be paid for several years

in advance.

You can proceed with PAYPAL payment at the CIMP website. Please click on the PayPal logo to access secure payment.

http://cimp.weebly.com/membership.html

Alternatively please write to me at this address (pfernandes@ualg.pt) to discuss options.

Kind regards

Paulo Fernandes

DIRECTOR-AT-LARGE AND IFPS COUNCILLOR

Jiří Bek
bek@gli.cas.cz

Dear CIMP Members,

Jiří Bek has worked on Palaeozoic palynology for more than thirty-six years. Almost the whole time he spent in the Institute of Geology v.v.i. of the Academy of Sciences of the Czech Republic in Prague. His main domain of study is on Pennsylvanian dispersed spore and pollen assemblages although he has also published a few papers on Silurian, Devonian and Permian material. The second target of his research is in situ spores and pollen, i.e. those isolated directly from reproductive organs of fossil plants (in the Silurian to Permian). He has published more than seventy papers concerning this research connecting palynology and palaeobotany and some tens of others dealing with dispersed spore and pollen assemblages. Jiří is collaborating with several Palaeozoic palynologists as well as palaeobotanists, members of IFPS and IOP. He has been active in service to our small palynological community as Councillor of OCSP (Organisation of Czech and Slovak Palynologists) for ten years, as IFPS Vice-President for four years, and as IFPS Secretary-Treasurer for other four years. Jiří co-organised some important meetings in the Czech Republic including the Commission Internationale de la Microflore du Paléozoïque (CIMP) General Meeting in Prague, 2006, the 7th European Palaeobotany Palynology Conference in Prague 2006, and the future 15th IPC / 11th IOPC in Prague in 2024.

His CIMP activities will be focused mainly on developing the CIMP database (created by Phillipe Steemans) that will be very useful for all palynologists, as well as promoting CIMP interests within IFPS and supporting the CIMP President with his activities.

CIMP NEWSLETTER GUIDELINES AND FACEBOOK PAGE

The CIMP Newsletter is released once a year by the Commission Internationale de Microflore du Paléozoïque, and welcomes contributions from both members and non-members. You are invited to submit items related to CIMP members' fields of study that might include technical notes, meeting reports and reviews, book reviews, and other news related to Paleozoic palynology. Articles are preferred in Microsoft Word or plain text formats, and high resolution photos and other illustrations are welcomed.

All contributions should be sent by email to the Newsletter Editor, Gilda Lopes, at:

cimp.palynology@gmail.com

All membership can also contribute to the CIMP Facebook page at:
CIMP - The Power of Palaeozoic Palynology.

CIMP SUBSCRIPTION RATES

CIMP has an annual subscription regime. We encourage you to check your annual status and make your payment!

Subscriptions are set at:

Professionals

10€ per year (+ 0.50€ of charge whatever for how many years you pay your fees)

Students and retired members:

FREE

Information on methods of payment can be found at: **http://cimp.weebly.com/membership.html**.

It is easy, but why pay? Simple - you can help CIMP members (mainly students) to participate in meetings and conferences. You also may help in offsetting the costs of organizing social events during meetings, and participate in discussions between CIMP members. Your annual CIMP member dues also provide the fees for the CIMP subscription to IFPS (International Federation of Palynological Societies).

Thank you!

CIMP STUDENT REPRESENTATIVE 2023 ELECTIONS

Dear Membership,

During the first half of 2023 CIMP is electing a new Student Representative. Any student member is eligible to stand in the election if they comply with the following criteria:

1. Candidates have to have a research record in Palaeozoic palynology.

2. Candidates should be actively involved in CIMP for a certain time (e.g., contributing to CIMP newsletters, CIMP sessions in conferences).

3. Candidates should have some research experience.

Nominations should be sent by **April 2nd, 2023**, and include a photo of the candidate, a brief biography, the research interests, and a paragraph explaining why you are applying to the position.

Feel free to contact CIMP General Secretary at cimp.palynology@gmail.com, or any of the board members about this issue.

NEW MEMBERS

New members have registered in the past year. On behalf of CIMP, I would like to welcome all of you!

Adrianna Jankowska
University of Wrocław
Poland

Position: PhD Student
Location: Wrocław

Interests: Miospores; Carboniferous.

Giacomo Rettori
University of Perugia
Italy

Giacomo Rettori is a PhD student in "Ethics of Communication, Scientific Research and Technological Innovation" at the University of Perugia (Italy). He received a BSc in Natural Sciences and a MSc Environmental Sciences from the University of Perugia. His research topic is mostly focused on global climate changes from both social (climate anxiety, dissemination of information) and scientific point of view. This second target of his research is addressed to investigate, throughout palynology, the deep past climate changes to model future scenarios.

Simonetta Cirilli
University of Perugia
Italy

Simonetta Cirilli is a full Professor in Stratigraphy Geology and Sedimentology at the Department of Physics and Geology (University of Perugia, Italy). Her main research topics are in paleogeography, palaeoclimatology, sedimentology and sequence stratigraphy. She is presently working on the Paleozoic and early Mesozoic palynology (palynostratigraphy and palynofacies) of Europe, Middle East, North America and Canada.

Vojtěch Kovář
Charles University
Czech Republic

I am a PhD student at the Charles University (Prague), studying under the supervision of Oldřich Fatka. I finished my BSc in 2018 and my MSc in 2020 with both theses focused on small carbonaceous fossils. In 2019, I spent three months on a traineeship at the University of Leicester (UK) under the supervision of Tom Harvey. Last autumn, I further spent two months at the Forschungsinstitut und Naturmuseum Senckenberg, Frankfurt am Main (Germany) on a traineeship under the supervision of Rainer Brocke.

The main focus of my PhD project is on OWMs from the Cambrian Příbram-Jince and Skryje-Týřovice basins. The goals are to fill gaps in the acritarch biostratigraphy of these basins and to analyse small carbonaceous fossils. I've been working on a project focusing on relationships between micro-, meso- and macrofossils and on chemical extraction of portions of selected macrofossils (including some Ordovician and Silurian phyllocarids and plant/algal remains) comparing them with material in residues. In the last year, me and my colleagues published a paper on acritarch paleoecology, and we are planning to finish further papers dealing with acritarch biostratigraphy and small carbonaceous fossils in the coming year.

Publications:

KOVÁŘ, V., FATKA, O. & VODIČKA, J. 2022. Acritarch clusters from the Cambrian (Miaolingian) of the Příbram-Jince Basin, Czech Republic. Palynology, 1–18.

NEWS FROM THE MEMBERSHIP

Charlie Wellman
University of Sheffield
Sheffield, UK

In 2022 work continued on a NERC-funded grant studying the Devonian sequences of Northern Spain. Our second and third field campaigns took place in June and September with palynological and geochemical sampling by myself, David Bond, Gilda Lopes, John Marshall and Spanish colleagues from the University of Oviedo (Javier Sanz-López and Silvia Blanco-Ferrerra). Other fieldwork took place in the Silurian-Devonian of the Midland Valley of Scotland (the Lesmahagow and North Esk Silurian inliers) and the Ordovician-Silurian of the Cape Supergroup in South Africa.

Publications:

OWENS, B., MARSHALL, J.E.A., TELNOVA, O.P. & WELLMAN, C.H. 2022. Morphological relationships of *Ancyrospora* species from the Givetian and Frasnian deposits of the Pan-Arctic Region. Paleontological Journal 56, 58-80.

WELLMAN, C.H. 2022. Morphology and wall ultrastructure of the Devonian spore *Acinosporites macrospinosus* Richardson 1965 and its bearing on the origin of the megaspore apical prominence. International Journal of Plant Sciences 183 (6), 441-449.

WELLMAN, C.H., BERRY, C.M., DAVIES, N. S., LINDEMANN, F.-J., MARSHALL, J.E.A. & WYATT, A. 2022. Low tropical diversity during the adaptive radiation of early land plants. Nature Plants 8, 104-109.

WELLMAN, C. H., CASCALES-MINANA, B. & SERVAIS, T. 2022. Terrestrialisation in the Ordovician. In. HARPER, D.A.T., LEFEBVRE, B., PERCIVAL, I.G. & SERVAIS, T. (eds) A global synthesis of the Ordovician System. Part I. Geological Society, London, Special Publications 532, https://doi.org/10.1144/SP532-2022-92.

WELLMAN, C.H. & RIDING, J.B. 2022. Obituary: John Brian Richardson (1935-2021). Palynology 46, 2057123.

Claudia Rubinstein
IANIGLA-CCT-CONICET
Mendoza, Argentina

Publications:

García Muro, V.J. & Rubinstein, C.V. 2022. Revision of the Devonian acritarch genus *Pyloferites* Quadros 1999 based on palynomorph assemblages from Brazil. Palynology 46 (3), 1-13.

García Muro, V.J., Rubinstein, C.V., Pereira, E. & Steemans, P. 2022. Early Devonian organic-walled phytoplankton from the Ponta Grossa Formation, Paraná Basin, Brazil. Review of Palaeobotany and Palynology 307, 104777.

Waisfeld, B.G, Benedetto, J.L., Toro, B.A., Voldman, G.G., Rubinstein, C.V., Heredia S., Assine, M.L., Vaccari, N.E. & Niemeyer, H. 2022. The Ordovician of southern South America. In: A Global Synthesis of the Ordovician System Part 2. The Geological Society, London, Special Publications.

Rubinstein, C. V. 2022. ¿Jujuy cuna de las primeras plantas terrestres? Lo que nos cuentan las esporas (Conference). XVIII Simposio Argentino de Paleobotánica y Palinología. Boletín de la Asociación Latinoamericana de Paleobotánica y Palinología, 22, p. 26.

García Muro, V.J., Rubinstein, C.V., Pereira, E. & Steemans, P. 2022. Lower

Devonian acritarchs from Brazil: new taxonomic and biostratigraphic data. XVIII Simposio Argentino de Paleobotánica y Palinología. Boletín de la Asociación Latinoamericana de Paleobotánica y Palinología 22, 39-40.

Projects:
Origin and radiation of land plants from the Ordovician to the Devonian and their impact on the evolution of the marine phytoplankton through the palynological record. PICT-2017-0532. Scientific and Technological Research Fund, Argentina (ANPCyT, FONCYT) (in progress)

Participation in new projects:
Comparative high-resolution biostratigraphic analysis in the Paleozoic basins of northwestern Argentina and Precordillera, based on graptolites, palynomorphs, and conodonts. PICT-2020-SERIE A-02853. Scientific and Technological Research Fund, Argentina (ANPCyT, FONCYT) .

Comparative analysis of the spatio-temporal distribution of different lower Paleozoic fossil groups from northwestern Argentina: new methodologies and applications. PIP 2021/2023 (11220200102403CO), Argentinean Research Council (CONICET)

Activities for 2023:
January-February 2023: Attendance at the University of Brasilia (Brazil) as a Visiting Professor for the teaching of a course on Paleozoic Palynology, a workshop on acritarchs, lectures, and scientific research cooperation.

DUNCAN MCLEAN
MB Stratigraphy Limited
Sheffield, UK

Work on the biozonation of the Carboniferous of the British Isles is ongoing. Plates and maps to complete. I had no papers published this year, but one describing Permian miospores from the Cadeby Formation at Cadeby Quarry near Doncaster (Stephenson & McLean) is due for publication in March, 2023, and one descibing the application of cyclostratigraphy to the North Sea Westphalian by a PhD student at the University of Delft was submitted just before the Christmas break (Baars et al.). This study uses miospore biostratigraphy as a baseline for correlations. There is an ongoing programme of miospore dating of Carboniferous strata in New Bruswick, including dating some of the Tournaisian vertebrarte trackways there. Palynology contributed to three papers at the Geological Association of Canada/ Mineralogical Association of Canada, Annual Conference in May 2022 King et al. 2022a,b; Hinds et al., 2022).

Publications:

BAARS, T.F., HUIS IN T'VELD, R., ZHANG, L., KOOPMANS, M., McLEAN, D., MARTINIUS, A.W. & ABELS, H.A. in prep.. A cyclostratigraphic framework of the Westoe and Cleaver formations in the southern North Sea Basin as a predictive stratigraphic methodology. Submitted to Netherlands Journal of Geosciences.

HINDS, S., STIMSON, M., KING, O., McLEAN, D. & PARK, A., 2022. The Millstream Subbasin within the Midland to Lower Millstream areas: Implications for the regional tectonics of southern New Brunswick during the early Mississippian. Geological Association of Canada/

Mineralogical Association of Canada, Annual Conference, May 2022, Abstracts, 111.

KING, O., McLEAN, D., MacRAE, R.A., STIMSON, M., HINDS, S. & LUCAS, S. 2022. Palynology of the Horton Bluff Formation, Horton Bluff, NS. Geological Association of Canada/Mineralogical Association of Canada, Annual Conference, May 2022, Abstracts, 125.

KING, O., MacRAE, R.A., STIMSON, M., HINDS, S., PARK, A. & McLEAN, D., 2022. Palynology of the Albert Formation of New Brunswick. Geological Association of Canada/Mineralogical Association of Canada, Annual Conference, May 2022, Abstracts, 126.

STEPHENSON, M.H. & McLEAN, D. 2023. Lopingian (Late Permian) palynomorphs from the Cadeby Formation, Cadeby Quarry, Yorkshire, UK. Rivista Italiana di Paleontologia e Stratigrafia, 129, 5-44.

Gil Machado
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This has been a busy year with projects from different parts of the World. We continue to work with evaporite palynology and the first full paper is going to be out in January 2023 in the AAPG bulletin on the Wieliczka salt mine samples. We had the chance to work with other evaporite samples from the Early Jurassic of Portugal and the Devonian of the USA.
Namibia has been a hot area for us, with real-time biostratigraphy of several wells, post-drill analyses, fieldwork, and hopefully soon, some publications on that topic.
On the R&D front we started an AI project dedicated to palynology. This is now possible with the usage of high-resolution scanners which I believe will change the way we work in the coming years. The scanner alone is a major boost in our productivity, but we wanted to take the next step and at the time of writing we are training the algorithm to identify types of particles (in a palynofacies/kerogen typing perspective) and the results so far are great. We hope to have a business-ready service/product in early 2023. Beyond that, we are exploring possibilities to use the same technology for genus and species -level identification. Exciting time ahead!

Gilda Lopes
The University of Sheffield
Sheffield, UK
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It's been a year since I moved to Sheffield and started working with Charlie Wellman on his Devonian project. After two field campaigns, a lot of microscope hours, and a paper after, the project is running smoothly and with interesting data coming up!
Apart from the project, I continue to be involved with colleagues from Norway and Portugal, which led to the publication of several papers and abstracts in the past year.

Publications:

WELLMAN, C., STEEMANS, P. & LOPES, G. 2023. Dispersed spore assemblages from the Lower Devonian Rañeces - La Vid groups of Northern Spain: Palaeogeographical implications. Review of Palaeobotany and Palynology 310,

104825.

MENDES, M., DESCAMPS, G.S., FERNANDES, P., LOPES, G., JORGE, R.C.G.S. & PEREIRA, Z. 2023. The upper Hauterivian –Barremian (Lower Cretaceous) Arrifes section (Algarve Basin, Southern Portugal): a palynostratigraphic and palaeoenvironmental approach. Cretaceous Research 144, 105433.

Wellman, C.H., LOPES, G. & Marshall, J.E.A. 2022. A palynological investigation of the Devonian sequence of Northern Spain. In: I.C. Romero, D. Cardenas, K. Cardenas, A. Plata (eds.), 54th Annual Meeting AASP – The Palynological Society, Abstracts, AASP-The Palynological Society, 29.

LOPES, G. 2022. Devonian extinction events: the unknown story told by palynomorphs. In: S. McLoughlin (ed.), 11th European Palaeobotany and Palynology Conference Abstracts, Program and Proceedings, Swedish Museum of Natural History, 137.

LOPES, G., Marshall, J., Bond, D., Hilton, J., Greene, S. & Wellman, C. 2022. Devonian palynomorph assemblages from the Armorican Terrane (Spain): Palaeoclimatic and palaeoenvironmental reconstructions. Linnean Society Palaeobotany and Palynology Specialist Groups Joint Meeting. Linnean Society of London, 1p.

LOPES, G., Marshall, J., Bond, D., Hilton, J., Greene, S. & Wellman, C. 2022. The Devonian Cantabrian Sequence of Northern Spain, a key section for resolving South America to Euramerica time correlations. 1st Devonian Gondwana Symposium at the XXVII Congresso Brasileiro de Paleontologia. Paleodest- Paleontologia em destaque, 37, 23.

KOEHL, J.-B.P., MARSHALL, J.E.A. & LOPES, G. 2022. The timing of the Svalbardian Orogeny in Svalbard: A review. Solid Earth 13, 1353–1370.

MENDES, M., LOPES, G., PEREIRA, Z., RODRIGUES, C., NSUNGANI, P.C., WANDOFUSU, H. & LEMOS DE SOUSA, M.J. 2022. New data on the palynostratigraphy and paleoenvironments of the late Miocene (Tortonian) Quifangondo Formation in the Cabo Ledo section, Kwanza Basin, Angola. Journal of African Earth Sciences 189, 104496.

Jiří Bek
Department of Palaeobiology and Palaeoecology, Institute of Geology
Academy of Sciences of the Czech Republic
Prague, Czech Republic

Publications:

BEKPŠENIČKA, J., ZHOU, W., BOYCE, C.K., VOTOČKOVÁ FROJDOVÁ, J., BEK, J., OPLUŠTIL, S. & WANG, J. 2022. Two new leptosporangiate ferns from in situ volcanic ash of the Whetstone Horizon (Kladno Formation, Pennsylvanian), Pilsen Basin, Czech Republic. Review of Palaeobotany and Palynology 299, 104608.

ZHANG, B., LI, D., WAN, M., ZHOU, W., PŠENIČKA, J., BEK, J. & WANG, J. 2022. A new species of Scolecopteris (Marattiales, Psaroniaceae) from the early Permian Wuda Tuff Flora. Review of Palaeobotany and Palynology 304, 104717.

BEK, J., ŠTORCH, P., TONAROVÁ, P. & LIBERTÍN, M. 2022. Early Silurian (mid-Sheinwoodian) palynomorphs from the Loděnice-Špičatý vrch, Prague Basin, Czech Republic. Bulletin of Geosciences 97(3), 385 -396.

UHLÍŘOVÁ, M., PŠENIČKA, J., SAKAL, J. & BEK, J. 2022. A study of the large Silurian land plant *Tichavekia grandis* Pšenička et al. from the Požáry Formation (Czech Republic). Review of Palaeobotany and Palynology 298, 104587.

BEK, J., OPLUŠTIL, S. & DRÁBKOVÁ, J. 2022. Palynology of Late Pennsylvanian – Asselian strata of the Krkonoše-Piedmont Basin, Czech Republic. International Journal of Coal Geology 263(4), 104118.

BEK, J. & GOSWAMI, H.K. 2022. Heterosporangia in *Isoetes pantii* (Isoetaceae, Pteridophyta): Revealing the beginnings of heterospory of recalling Paleozoic ancestors? Folia Musei rerum naturalium Bohemiae occidentalis. Geologica et Paleobiologica 56(1-2),1-26.

JI,X-K., GUO, X.-W., YANG, N, BEK, J., NIE, T., LU, H.-N. & XU, H.H. 2022. The palynology of the Permian succession in the CSDP-2 Well, South Yellow Sea, China. Palynology.
DOI: 10.1080/01916122.2022.2142860

LIBERTÍN, M., KVAČEK, J., BEK J. & MCLOUGHLIN, S. 2022. The early land plant *Cooksonia bohemica* from the Pridoli, late Silurian, Barrandian area, the Czech Republic, Central Europe. Historical Biology.

DOI: 10.1080/08912963.2022.2144286

JOHN MARSHALL
University of Southampton
Southampton, UK

It's now possible to think that 2022 might have been start of some return to normality. This year has seen changes in that all the other 3 palaeontologists in Southampton left inside 12 months. This means I had to take on all the palaeontology teaching but with the upside that I have dropped doing anything else like meetings or student fieldwork. Importantly we have been recruiting new palaeontologists.

We managed to get two fieldwork sessions on our new NERC grant to study the Devonian palynology of the Cantabrian sections in northern Spain. This is led by Charlie Wellman from Sheffield and includes David Bond (Hull) on the stable isotopes and geochemical indicators of extinction. We visited sections in both Asturias and Leon in September and June. Some of these sections are very well known having been studied by Cramer in the 1960's at the very beginning of palynology. We have been greatly assisted in our sample collection by our local Project Partners Javier Sanz-López and Silvia García-López. We have also taken on Gilda Lopes as a post-doc who will specialise on the acritarchs and chitinozoans.

For a month in July and August of 2022 I was back to East Greenland on a Swedish expedition led by Per Ahlberg from Uppsala and focusing on tetrapods and fish at the D-C boundary. This is funded by the ERC. It was an opportunity to revisit the D-C boundary extinction level on Celsius Bjerg and I took a Shaw backpack drill to acquire shallow cores. The limestones and sandstones drilled brilliantly. The mudstones generally swelled in the core barrel, then exploded. I am busy jigsawing it all back together. Then palynology can start. This should give us the ability to generate lots of additional information on this important boundary and extinction level.

In September I returned to Svalbard with

Chris Berry and Cardiff PhD student Amy Wyatt who is studying Devonian plants. We visited a number of sites, new and old and collected more plant material Equally we were able to collect a higher resolution suite of spore samples through the latest Givetian that is now better exposed.

Noteworthy publications include that by Jon Lakin on the sedimentology and palynology of a D-C boundary sections on the Bolivian Altiplano. This demonstrates a significant downcut that is filled with latest Famennian sediment including clear evidence for part of it being glaciogenic in origin.

We also finally completed the work which we started in 2015 on the Devonian *Archaeopteris* forests of Wyoming. These are remarkable assemblages of *Archaeopteris* microspores, megaspores and plants that accumulated in a freshwater pond on the otherwise monotonous carbonate platforms that formed along the western edge of Laurentia. It appears that equally monotonous *Archaeopteris* forests colonised these areas during lowstands.

Led by Charlie Wellman we published a paper in Nature Plants resulting from our 2018 cruise around the north coast of Spitsbergen. The attraction to going there is that it's at the Devonian equator whereas most of our information is from the higher latitude more arid climate zones occupied by Euramerica. This showed that the Spitsbergen Early Devonian sections had a lower spore diversity than found at higher palaeolatitudes. So, the tropics were not the cradle of Devonian plant diversity.

We also published the Arctic *Ancyrospora* paper. A paper led by Bernard Owens who did a post-doc on Arctic Canadian spores and had many unanswered questions as to *Ancyrospora* from northern Russia. Following collaboration we published a largely taxonomic paper based on the efforts of Bernard.

Finally we completed the review of Arctic Devonian palynoevents, one of a series of circum Arctic palynology reviews in Atlantic Geosciences. They are all open access.

Conference attendance has been virtual including TMS and AASP. Both Ian Troth and Gilda Lopes gave talks at the 1st Gondwana Devonian Symposium in Cuiabá, Mato Grosso, Brazil. Ian managed to attend in person. In June I managed to get to my first real meeting since 2019 which was the 11th European Palaeobotany and Palynology Conference in Stockholm. It was well attended with over 25 Devonian talks and posters. Then in the autumn I was fortunate to be able to attend and present at the Saudi Aramco -CIMP session at the 5th IPC (the other one) in Khon Kaen, Thailand.

Publications:

LAKIN, J.A., MARSHALL, J.E.A. & TROTH, I. 2021. An investigation of a Devonian/ Carboniferous Boundary section on the Bolivian Altiplano. - Geological Magazine 158, 2209-2230.

WELLMAN, C.H., BERRY, C.M., DAVIES, N.S., LINDEMANN, F-J., MARSHALL, J.E.A., & WYATT, A. 2022. Low tropical diversity during the adaptive radiation of early land plants. - Nature Plants, https://doi.org/10.1038/s41477-021-01067-w

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KOCHEVA, L., KARMANOV, A., TELNOVA, O., MARSHALL, J.E.A., LUTOEV, V. & POKRYSHKIN, S. 2022. Structural and chemical features of seed fossils from Paleozoic and Mesozoic sedimentary strata. - Organic Geochemistry 164, 104370.

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SMART, M.S., FILIPPELLI, G., GILHOOLY III, W.P., MARSHALL, J.E.A. & WHITESIDE, J.H. 2022. Enhanced terrestrial nutrient release during the Devonian emergence and expansion of forests: Evidence from lacustrine phosphorus and geochemical records. Bulletin Geological Society of America, B36384.1.

TELNOVA, P.P., MARSHALL, J.E.A., KOCHEVA, L.S., & KARMANOV, A.P. 2022. Lignin of ancient plant fossils. Paleontological Journal 56, 81-92.

OWENS, B., MARSHALL, J.E.A., TELNOVA, O.P. & WELLMAN, C.H. 2022. Morphological Relationships of *Ancyrospora* Species from the Givetian and Frasnian Deposits of the Pan-Arctic Region. Paleontological Journal 56, 58-80.

MARSHALL, J.E.A., MANGERUD, G., BRINGUÉ, M. & BUJAK, J. 2022. Devonian palynoevents in the circum-Arctic region. Atlantic Geoscience 58, 307-328.

Maurice Streel
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During the last two years, Maurice Streel (Department of Geology, University of Liège, Belgium) continued the sequence of papers related to the Devonian-Carboniferous Boundary initiated in the Subcommission on Devonian Stratigraphy (SDS) Newsletter 35 (September 2020). Two related papers were published in 2022 in collaboration with Mercedes di Pasquo (Palynostratigraphy and Paleobotany, Entre Rios, Argentina).

Bad news are unfortunately accumulating in the old Liège Palynology group. Muriel Fairon-Demaret and Philippe Steemans wife, Claire Richelot, passed away. They were not Palaeozoic palynologists but were both implied in palynology in some way.

See for instance:

Fairon-Demaret, M., Leponce, I., & Streel, M. (May 2001). Archaeopteris from the Upper Famennian of Belgium:

Heterospory, Nomenclature, and Palaeobiogeography. Review of Palaeobotany and Palynology, 115 (1-2), 79-97.

Streel, M., & Richelot, C. (1994). Wind and water transport and sedimentation of Miospores along two rivers subject to major floods and entering the Mediterranean Sea at Calvi (Corsica, France). In A. Traverse (Ed.), Sedimentation of organic particles (pp. 59-67). Cambridge, United Kingdom: University Press.

Publications:

STREEL, M. & DI PASQUO, M. 2022. Quantitative approach by miospores of the Devonian-Carboniferous transition. SDS documents, Newsletter 37, 23-45.

DI PASQUO, M. & STREEL, M. 2022. When is Retispora lepidophyta a reliable proxy to define the Devonian-carboniferous Boundary (DCB)? A revision of the boundary in South America (SAM). Boletin de la Asociaciôn latinoamericana de Paleobotanica y Palinologia 22, 137-180.

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I have been very busy this year developing my new company Stephenson Geoscience Consulting (https://www.stephensongeoscienceconsultancyltd.com/) which specialises in commercial Late Palaeozoic palynology and energy transition, as well as a long term contract with IUGS. I have had a couple of contracts working on Middle East palynology projects. For much of the year I've been researching a new idea on palynology for understanding the 3D structure of subsurface reservoirs particularly by characterising the palynology of mudstone baffles in complex continental clastic reservoirs that might in the future be used for CCS, geothermal or hydrogen storage. I presented some of these ideas at the EAGE Madrid conference in June 2022. The title of the abstract was 'Palynology and outcrop analogue studies for reducing uncertainty of reservoir heterogeneity in carbon capture and storage'. I also attended the AASP meeting Colombia in August 2022. This was a great meeting involving some excellent trips including to the high Andes Paramo ecology. I presented three talks 'Palynology and outcrop analogue studies and reservoir heterogeneity', 'The Permian of Israel and Jordan and the antiquity of the Dead Sea Fault' and 'Permian palynostratigraphy: a global review'. I also ran a course at the AASP conference on 'Applied Middle East Late Palaeozoic Palynology: solving geological problems'.

As Vice Chair of the Permian Subcommission, I initiated a new working group of the Permian Subcommission. This is the Gondwana to Euramerica correlations Working Group (https://permian.stratigraphy.org/working-groups). The aims of the working group are (1) To work on key sections for correlation where rock successions contain combinations of fossils that are particularly useful for correlating between Gondwana and Euramerica; (2) To work on the taxonomy of some key species for Gondwana to Euramerica correlations, for example so-called 'bridge taxa' that occur between or

throughout different Permian provinces; and (3) Share knowledge through digital means, for example galleries of photographs and taxonomic notes. Much progress has been made in the working group, including the identification of a key section for correlation in the form of a section of the Copacabana Formation in Bolivia. A new gallery has been set up to display palynomorphs from the new Sakmarian GSSP in Usolka (https://permian.stratigraphy.org//Gallery/Usolka). In the Permian, 'bridge' taxa become very important when there are no other ways to correlate, for example in non-marine sequences with no other fossils, or in sequences that have no dateable ash horizons. The problem is that bridge taxa may not be well described, or that conceptions of them in different palaeophytogeographic provinces may be different where different 'schools' of palynology have grown up. Traditional and formal ('legal') documentation in scientific journals - with a description, diagnosis and types can help us understand taxa, but not their full variability, their 'taxonomic distance' from their nearest neighbours or the way that they 'grade' into their taxonomic neighbours. The Usolka gallery of images of palynological specimens from the Sakmarian GSSP at Usolka allows a full appreciation of specimens and taxa found in samples.

I have been very active in Jordanian and Israeli Permian palynology. I visited Jordan with palaeobotanists from the University of Muenster in December 2022, the aim of which was to (1) Build a detailed profile of changing pollen/spore types through various sedimentary unit types and palaeoenvironments; (2) Compare palynology with palaeobotanical profiles through various sedimentary unit types and palaeoenvironments; (3) Identify pollen/spore communities using statistics; (4) Match statistical pollen/spore

Palynologists and palaeobotanists in Jordan Dec 2022 (Credit: Mike Stephenson).

communities with plant communities; and (5) Work on use of pollen/spores to distinguish types of baffles in reservoir rocks.

In addition I finished a couple of papers, one on the Permian Cadeby Formation. The other was on test sites and their importance in the development of subsurface net zero technologies.

Finally I am working on a commission to write another book this time for DGDA/ Dunedin. The book is titled 'Fossils of Arabia: from the earliest life to modern humans'. Expect to see the book in your local book shops in early 2024.

Publications:

STEPHENSON, M.H. & MCLEAN, D. 2023. Lopingian (Late Permian) palynomorphs from the Cadeby Formation, Cadeby Quarry, Yorkshire, UK. Riv. It. Paleontol. Strat. 128(3), 25-44.

STEPHENSON M.H., MANNING D.A.C., SPENCE M.J., STALKER L., SHIPTON Z.K. & MONAGHAN A.A. 2022. Role of Subsurface Geo-Energy Pilot and Demonstration Sites in Delivering Net Zero. Earth Science, Systems and Society 2, https://doi.org/10.3389/esss.2022.10045.

Mercedes di Pasquo
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Between 2018 and 2022, M. di Pasquo developed activities in collaboration with colleagues from Argentina and elsewhere, which allowed the publication of several contributions dealing with Paleozoic floras, mainly from South America, the USA, and India. Other contributions were presented in several Congresses.

Several works concerning Devonian palynofloras are from Argentina and Bolivia (Noetinger et al., 2018; di Pasquo et al., 2019; Quetglas et al., 2019), Brazil (Matsumura et al., 2022, 2023) and the USA (di Pasquo et al., 2019, 2019, 2022, Filipiak et al. 2021; Zatoń et al., 2021; Hu et al., 2021, 2022). Others are referred to the Devonian-Carboniferous Boundary (Streel & di Pasquo, 2022), and from Bolivia (di Pasquo et al., 2019, 2022, di Pasquo and Streel, 2022) and Montana in the USA dealing with palynofloras and conodonts (Rice et al., 2018; di Pasquo et al., 2018, 2021, 2022), also related with two doctoral works finished in 2021 under my supervision (Rice, 2021; Quetglas, 2021).

Contributions dealing with Carboniferous-Permian palynofloras in Argentina, Bolivia, Brazil, and Uruguay (di Pasquo et al., 2019; Beri et al., 2019; Milana & di Pasquo, 2019; Valdez et al., 2020, 2021, Iannuzzi et al., 2022, 2023, di Pasquo, 2022; Cisterna et al., 2022; Verde et al., 2022; Rischbieter et al., 2022), and India (Srikantamurthy et al., 2018; di Pasquo et al., 2019; Kavali et al., 2021) are published, whereas several are still abstracts presented in Congresses between 2018-2022.

Ongoing doctoral work dealing with Late Carboniferous-Permian palynofloras and floras of the Sauce Grande and Tunas formations, Australes Range, Buenos Aires province, is carried out by Juan Di Nardo (2018-2023, Universidad Nacional del Sur, provincial de Buenos Aires, Argentina), under my supervision and M. Martínez.

They are all available at her scientific websites:

http://www.palino.com.ar

Academia:

http://independent.academia.edu/MercedesDiPasquo,

Research Gate: https://www.researchgate.net/profile/Mercedes_Di_Pasquo/.

A recent multi-author contribution dealing with the Devonian Stratigraphy of the Devonian System of Argentina, which involves geological and paleontological updated information on the stratigraphic and biostratigraphic units, is available at Repository of SEGEMAR https://repositorio.segemar.gov.ar/handle/308849217/4160 and Asociación Geológica Argentina https://geologica.org.ar/devonico/.

She is President of the Latin American Association of Paleobotany and Palynology / Asociación Latinoamericana de Paleobotánica y Palinología ALPP (2009-2024), and Editor of the three last volumes of the ALPP journal. The 2022 volume can be downloaded from:

- volume 2022 (Celebration of 50 years) (2022-12-31) https://palino.com.ar/alpp/BoletinesALPP/Volumen-ALPP-boletin-2022.pdf?v=2

Publications:

CISTERNA, G.A., DI PASQUO, M., HENDERSON, C., KAVALI, P.S., PAGANI, A., SCOMAZZON, A.K., STEPHENSON, M., WELDON, L. & ZHANG, Y. 2022. Subcommission on Permian Stratigraphy Working Group: Gondwana to Euramerica correlations. Subcommssion of Permian Stratigraphy SPS (IUGS). Permophiles 73, 7-13.

DI NARDO, J.E., MARTÍNEZ, M.A. & DI PASQUO, M. 2022. *Lancettopsis harringtonii* sp. nov, a new acritarch and related morphotypes from the Sauce Grande Formation of Pennsylvanian-Cisuralian age, Claromecó Basin, Argentina. Review of Palaeobotany and Palynology 306, 104739.

DI PASQUO, M., HU, M., ZATOŃ, M. & MYROW, P. 2022. Microspores, megaspores, palynofacies, and depositional history of the upper Givetian Maywood Formation, Northern Wyoming, USA. Review of Palaeobotany and Palynology 299, 104604.

DI PASQUO, M. 2022. Palinoestratigrafía de los grupos Machareti y Mandiyutí (Carbonífero), Norte de Argentina y sur de Bolivia. Parte 1: estratigrafía, bioestratigrafía y retrabajo de palinomorfos. Boletín ALPP 22, 252-494. Parte 2: catálogo de especies autóctonas. Boletín ALPP 22, 495-698.

DI PASQUO, M., DI NARDO, J., KAVALI, P., MARTÍNEZ, M., NAVARRETE, R., PARRA NAVARRETE, F., QUETGLAS, M., RICE, B. & SILVESTRI, L. 2022. Can fluorescence be helpful to discriminate between indigenous taxa of Carboniferous age from those reworked of Mid-Upper Devonian rocks? Boletín ALPP 22, 181-251.

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DI PASQUO, M., KAVALI, P.S. & IANNUZZI, R. 2022. Palynotaxonomic catalogue from the Lower Permian (Asselian-?Artinskian) Copacabana Formation of Apillapampa, Cochabamba, Bolivia. Boletín ALPP 22, 699-754.

DI PASQUO, M. & STREEL, M. 2022. A

Revision of the Devonian-Carboniferous Boundary in South America. Boletín ALPP 22, 137-180.

IANNUZZI, R., DI PASQUO, M., VESELY, F., SCHERER, C.M.S., ANDRADE, L.S., MOTTIN, T. & KIFUMBI, C. 2023 (in press). Pennsylvanian Glacial Cycles in Western Gondwana: an overview. In: William DiMichele (Editor), Ice Ages, Climate Dynamics And Biotic Events: The Late Pennsylvanian World. Geological Society of London GSLSpecPub2022-342R1.

IANNUZZI, R., MATSUMURA, W. & DI PASQUO, M. 2022. Mississippian Plants from the Parnaíba. In: Roberto Iannuzzi, Ronny Rößler and Lutz Kunzmann (eds.). Basin Brazilian Paleofloras. From Paleozoic to Holocene, Springer Nature Springer International Publishing, Springer Nature Switzerland AG, ISBN 978-3-030-22525-4.

MATSUMURA, W.M.K., DI PASQUO, M., IANNUZZI, R. & BOSETTI, E. 2023. Plant diversification through the Middle Devonian in Brazil. In: IANNUZZI, R., RÖßLER, R., KUNZMANN, L. (Eds), Brazilian Paleofloras. From Paleozoic to Holocene. Springer Nature Springer International Publishing, Springer Nature Switzerland AG, ISBN 978-3-030-22525-4.

RISCHBIETER, M., NEREGATO, R., IANNUZZI, R., DI PASQUO, M.M., ALVARENGA, R. & FREITAS, J. 2022. A new flora from the Rio Bonito Formation (late Asselian) and its implications for the biostratigraphy of the southern Paraná Basin, Brazil. Journal of South American Earth Sciences 119, 104010.

STREEL, M. & DI PASQUO, M. 2022. Quantitative approach by miospores of the Devonian-Carboniferous transition. Contributions to the Newsletter of the Subcommssion of Devonian Stratigraphy (SDS, IUGS). SDS 37, 23-45.

VERDE, M., GUIMARAES NETTO R., AZURICA D., LAVINA E.L. & DI PASQUO M., 2022. Revisiting the supposed oldest bilaterian trace fossils from Uruguay: Late Paleozoic, not Ediacaran. Palaeogeography, Palaeoclimatology, Palaeoecology 602, 111158.

Abstracts:

- GSA Connects 2022 meeting, Volume 54, number 5:

BOTTJER, R. & DI PASQUO, M. 2022. New palynological data from Mid-Carboniferous Heath and Tyler formations constrain timing of climatic changes and sedimentation, Big Snowy Trough, Central Montana, USA. DOI https://doi.org/10.1130/abs/2022AM-382279

HU, M., MYROW, P.M., FIKE, D.A., DI PASQUO, M., ZATOŃ, M., FISCHER, W.W. & COATES, M. Depositional history of Devonian to Lower Mississippian strata in Northern Wyoming and Southern Montana, USA. DOI https://doi.org/10.1130/abs/2022AM-379983

- XVIII Simposio Argentino de Paleobotánica y Palinología, S.S. Jujuy (Jujuy, Argentina, 27-30 de septiembre). Boletín ALPP, 22:

DI NARDO, J.E., DI PASQUO, M. & MARTÍNEZ, M.A. 2022. Palinoestratigrafía de la Formación Sauce Grande, Cuenca de Claromecó, Buenos Aires, Argentina.

LOPEZ, S., TICONA, X.Y. & DI PASQUO, M. 2022. Palinomorfos del Devónico Medio/Tardío en un afloramiento del sudeste de la ciudad de La Paz, Cordillera Oriental, Bolivia.

- 54° Annual meeting of AASP-The Palynological Society, Manizales,

Colombia:
DI PASQUO M. Can fluorescence be helpful to discriminate between indigenous taxa of Carboniferous age from those reworked of Mid-Upper Devonian rocks?

DI PASQUO, M., NETTO, R.G., VERDE, M., AZURICA, D. & SILVESTRI, L. Palynologic study of trace fossil assemblages from glaciogenic rhythmites at Melo region, northeastern Uruguay: biostratigraphical and paleoenvironmental approaches.

- 27th Brazilian Congress of Paleontology, 1st Gondwana Devonian Symposium:
DI PASQUO, M. & STREEL, M. When is *Retispora lepidophyta* a reliable proxy to define the Devonian-Carboniferous Boundary (DCB)?

DI PASQUO, M., MATSUMURA, W.M.K. & IANNUZZI, R. Palynologic analysis of the Barreirinha Formation (Famennian) bearing Protosalvinia from southern margin of the Amazonas Basin, Brazil.

MATSUMURA, W.M.K., DI PASQUO, M. & IANNUZZI, R. Plant diversification through the Devonian in Brazil.

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GHAVIDEL-SYOOKI, M. 2022. Biostratigraphy and palaeogeographic implications of Ordovician and Silurian chitinozoa from the High Zagros Mountains, Northern Persian Gulf, Iran. Palynology.
DOI: 10.1080/01916122.2022.2149631

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I continue my work on biostratigraphy and paleobiogeography of the late Cambrian and Ordovician organic-walled marine microphytoplankton of northern Iran and elsewhere. This year we published an article about *Virgatasporites* and *Atritasporites*, two enigmatic organic microfossils from the late Cambrian and Early Ordovician that have been considered originally as "spore" but in some research, they have been attributed to acritarchs. The biostratigraphy, paleobiogeography and possible affinity of these *incertae sedis* genera have been published in Botany Letters. Ongoing studies are the taxonomic revision of some Ordovician acritarchs taxa.

Publications:

NAVIDI-IZAD, N., BENACHOUR, H., KROECK, D.M., STEEMANS, P. & SERVAIS, T. 2022. *Virgatasporites* and *Attritasporites*: the oldest land plant derived spores, cryptospores or acritarchs?. Botany Letters 169, 495-509.

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The good news is that I'll be going back to Brisbane for six weeks from February to mid-March. This will afford me the opportunity to finish, with Geoff Playford, the chitinozoan and scolecodont

assemblages from the Lower Devonian Ross Formation, which will compliment our previous study of the organic-walled microplankton assemblages from the same sections.

Needless to say, I'm looking forward to get out of winter in Michigan for six weeks and enjoy the summer in Brisbane. As I write this, we've had 6 inches of snow, blowing winds, and the temperature is 8°F.

My latest physical geology textbook, *Physical Geology: Investigating Earth* was published in May, 2022. On a sad note, my co-author and colleague of 35 years passed away in December, 2021 and unfortunately did not live to see our last book we wrote together published. I am now involved with the production of virtual field trips with a new colleague who supplied most of the photos for our aforementioned physical geology textbook. This is an exciting new endeavor for me and I'm enjoying it.

In other news, I donated my acritarch reprint and slide collections to the Center for Excellence in Palynology (CENEX) at Louisiana State University, Baton Rouge, Louisiana. No, I'm not retiring from acritarch research, but with almost all the literature available online, I thought it would be nice to have print copies of papers that are no longer accessible, available for researchers at CENEX. As their web page states: "CENEX has one of the largest palynological libraries with reprints and books including many rare volumes on taxonomy. The center also hosts collections of over 200,000 slides donated from various companies such as SHELL, AMOCO, and CHEVRON, in addition to CENEX own ongoing research collections. As of 2021, CENEX now offers palynological analyses of bee pellets and honey via its new cost center."

I am looking forward to in-person meetings again, and catching up with colleagues and their research and projects.

Publications:

WICANDER, R. & PLAYFORD, G. 2022. Acritarchs and prasinophytes from the Lower Devonian (Lochkovian) Ross Formation, Tennessee, USA: stratigraphic and paleogeographic distribution. Palynology 46 (2). DOI: https://doi.org/10.1080/01916122.2021.1980917

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I continue to work on chitinozoans and stratigraphy of Paleozoic basins from Argentina, including the Central Andean Basin and Precordillera. I have submitted a publication on Ordovician chitinozoans (under revision). I am working on Silurian chitinozoan results. I have sampled Devonian sequences as well, which I am currently processing. I am also working on projects focusing on palynology and stratigraphy of Patagonia and Tandilia regions, in collaboration with paleontologists and sedimentologist. I have fully advised three undergraduate students during 2022, and started with three new ones. Finally, we created the Doctorate in Geosciences (Doctorado en Geociencias) at the university in which I am closely involved.

IN MEMORIAM...

JOHN RICHARDSON

By Charles Wellman & Jim B. Riding

As promised last year, part of John Richardson's obituary is included in this newsletter. Due to copyrights, for the complete publication visit *Palynology*, volume 46, issue 3.

INTRODUCTION

John Brian Richardson, one of the pioneers of Silurian–Devonian spore research, passed away on the 31st of December 2021 at the age of 85. He was one of the architects of the nomenclaturial and taxonomic system used to describe and classify Silurian and Devonian spores. Together with Colin McGregor, John developed a hugely influential dispersed spore-pollen biostratigraphical scheme for the Silurian and Devonian (Richardson and McGregor 1986). In a sustained collaboration with Dianne Edwards and others, John also added considerably to our understanding of early terrestrial plants by using in situ spores to integrate the early land plant megafossil and dispersed spore fossil records. A full listing of his publications is given in the Supplemental Data of the paper. Please check the online version on *Palynology* (see link above).

EARLY YEARS (1935– 1953)

John was born and raised in Darlington in the northeast of England along with his two sisters. At school he excelled in all academic subjects, especially the sciences, and most sports (particularly rugby). John passed the Eleven-Plus examination at his primary school, thereby gaining entry to Darlington Grammar School. Here he came under the influence of the legendary geography and geology teachers George Chapman and Jack Waltham who inspired in him a profound love of geology. This was a natural progression because John was a very keen rambler who enjoyed investigating the natural history of the British countryside. After passing his A-Levels, it was George Chapman and Jack Waltham who suggested he read geology at the University of Sheffield. John was the first in a long line of geological talent produced by Darlington Grammar School, and also influenced by George and Jack, including Rex Harland, George Hart, Malcolm Hart, Bernard Owens, Jack Pattison and John Varker (Sarjeant 1984; Riding et al. 2020). During this time, he also developed an interest in music, for example playing the cello, and Scottish country dancing. As with most things in his life, John was passionate about all these interests, although nothing could beat his love of geology, the islands around mainland Scotland and walking.

UNDERGRADUATE AND POSTGRADUATE STUDENT LIFE IN SHEFFIELD (1953–1960)

John Richardson arrived at the University of Sheffield in 1953. Upon successful completion of the somewhat generic first year, the students specialised and John found himself among a class of five studying Honours Geology. His four undergraduate colleagues were Michael Atherton, Bernard Knowles, Graham Sylvester and the soon-to-be palynologist William (Bill) Sarjeant. The latter described their rain-sodden second year field excursion to the Isle of Arran, off the west coast of mainland Scotland, where he was

utterly bewildered by John's love for this very cloudy and profoundly wet island (Sarjeant 1984). This enduring affinity was no doubt inspired by John's first encounter with the Devonian Old Red Sandstone successions of Arran.

At this time Professor Leslie R. Moore, who had arrived as Head of Department in 1949, was beginning to establish a school of palynology (Sarjeant 1984; Spinner et al. 2004; Wellman 2005; Hunter 2013). Charles Downie joined Leslie Moore as a Lecturer in Geology in 1952, and was beginning his seminal body of work on aquatic palynomorphs. Early students at Sheffield began researching Carboniferous spores. Herbert Sullivan was soon joined by Leonard Love, and Roger Neves as they returned from compulsory National Service in the military. Thus, John was exposed to palynomorphs, and began to develop an keen interest in their study. John was soon processing samples in the laboratory that he had collected for his final year undergraduate dissertation from the Middle Devonian 'Middle Old Red Sandstone' of the Orcadian Basin of his beloved Scotland. After graduating with his Batchelor's degree in June 1956, Leslie Moore took on John as a PhD student to undertake further research on the spores recovered from these strata.

When John started his PhD investigating Devonian spores, very little research had been undertaken on this topic. Early palaeobotanical work had recovered in situ spores from the sporangia of various Devonian plants (e.g. Clarke 1885; Arnold 1936). In a truly ground-breaking work, Lang (1925) used hydrofluoric acid to recover spores from the bedding planes of Middle Devonian rocks from Scotland and recognised different forms that he labelled as Types A to I. Over time, palynological processing methods, specifically macerating whole rocks using hydrofluoric acid for siliciclastic rocks, and nitric acid for coals were developed (Riding 2021). Sporadic early work described Devonian spore assemblages using either a system of 'types', or the newly developing artificial morphology-based binomial system of spore nomenclature that was being developed within early palynological circles (Thomson 1940, 1952; Eisenack 1944; Naumova 1953; Radford and McGregor 1954).

It was in these fledgling days of palynological research generally, and Devonian spore studies in particular, that Leslie Moore allocated the Devonian Period to John as he sought to build a school covering all aspects of the exciting new science of palynology (Sarjeant 1984; Spinner 1986; Spinner et al. 2004; Wellman 2005). In 1960, John successfully defended his PhD thesis, which was entitled A study of the microflora of the Middle Old Red Sandstone, Orcadian Basin (Richardson 1960a), and very quickly published his principal findings in three classic papers (Richardson 1960b, 1962, 1965). At around the same time the other pioneers of Devonian spore research began to publish their results. These were Colin McGregor in Canada (McGregor 1960); Bill Chaloner in the UK and Canada (Chaloner 1963); Maurice Streel in Belgium (Streel 1964); Keith Allen in Spitsbergen (Allen 1965); and Arlette Moreau-Benoit in France (Moreau-Benoit 1966) (Figure 1).

It is little known that, during his younger days, John was a keen active sportsman. Whilst at university, he represented the local rugby union club Sheffield Tigers. Unfortunately, his playing career was

abruptly halted by a foot injury sustained whilst on fieldwork in Orkney, an archipelago of islands off northeast mainland Scotland. However John always maintained a keen interest in both cricket and rugby, and the foot injury never dimmed his passion for walking.

KING'S COLLEGE LONDON PART I (1960–1965)

After completing his PhD, John was appointed as a lecturer in the Department of Geology of King's College London. He relocated south from Sheffield to London with his wife Monica, whom he had met and married in Sheffield in 1959, and soon a young family began to grow as their first son was born. During this busy period, settling into a new job and taking on family responsibilities, John continued his work on the Scottish Devonian but also began to investigate the Upper Silurian and Lower Devonian successions of the Anglo-Welsh Basin (Richardson 1967). At this time, John and Monica went on to have two more boys. Family life became busier and all his children could not fail to be inspired with John's infectious love of the natural world.

The post-World War II development of palynology coincided with the emergence of the Cold War as political relationships between the eastern and western blocs markedly deteriorated. Thus palynology began to evolve, virtually independently,

Figure 1. The British Devonian palaeobotany and palynology team in 1969 comprising, from left to right, John Richardson (minus his trademark beard!), Dianne Edwards, Keith Allen and Bill Chaloner (photograph courtesy of Dianne Edwards).

within the two regions. Specifically, almost entirely separate taxonomic approaches began to develop. John was aware of the early work in Russia by, for example, Naumova (1953), and was keen that the political situation did not impede the development of the science. Thus he began, as best he could given the circumstances, to collaborate with the Russian scientists working on Devonian spores. John visited Russia on many occasions during this difficult time, usually in conjunction with CIMP (Commission Internationale de la Microflore du Paléozoique) Working Groups. Indeed John made an effort to take lessons and learn the Russian language. His reprint collection of early Russian manuscripts on Palaeozoic palynology, including translations, is one of the most complete in the world.

A YEAR IN THE USA, 1965

A fantastic opportunity arose in 1965 when John was a recipient of a sabbatical award to work in the laboratory of Harlan P. Banks (1913–1998) at Cornell University in Ithaca, New York State. Thus, John and his family embarked on the Royal Mail Ship Queen Mary and sailed to New York City. During his time in New York State, John developed a lifelong fascination with the Catskill Mountains and the Devonian geology of this region. By coincidence, a young palaeobotanist, Dianne Edwards, who had just commenced her PhD working on Devonian plant megafossils at the University of Cambridge, was working at Cornell during John's sabbatical (Figure 1). Subsequently, John was able to collaborate with Dianne on the nature of the in situ spores she recovered from her plant megafossils (Edwards 1968). This was the beginning of a lifelong collaboration integrating palaeobotanical and palynological analyses of early land plants.

KING'S COLLEGE LONDON PART II (1965–1978)

Much enthused, John returned from the USA to King's College London. However, his research emphasis shifted slightly as he began to work further back in geological time on Silurian plant spores from the Welsh Borderland. This was of interest because it was here that Lang (1937) had recovered the then earliest known land plant megafossils (Cooksonia) from the uppermost Silurian (Pridoli). At this time, extremely little research had been undertaken on Silurian spores, largely because Lang's Pridoli plants were believed to represent a benchmark for the origin of land plants. In a classic monograph, Richardson and Lister (1969) showed that diverse assemblages of trilete spores extended back to the Early Silurian. A few years later, a similar succession of Silurian spores was documented from Libya on the Gondwana palaeocontinent by Richardson and Ioannides (1973).

Research students supervised by John at this time at King's College London were Jancis Ford on the Upper Silurian–Lower Devonian of Scotland (Ford 1971), Sarfraz Ahmed on the Devonian of New York State (Ahmed 1978), Thamer Al-Ameri on the Silurian of Libya (Al-Ameri 1980) and Adnan Hassan on the Lower Devonian Senni Beds of South Wales (Hassan 1982). John also jointly supervised the palynological work of a number of other non-Silurian–Devonian spore PhD students in association with other London universities.

During this time, John's activities on behalf

of volunteer-run societies centred around CIMP and the British Micropalaeontological Society (BMS) (latterly The Micropalaeontological Society - TMS). John worked on a number of CIMP Working Groups, and was the first Secretary of the Palynology Group of BMS. He was a lover of fine wines, particularly those cultivated on Devonian outcrops! At the annual BMS/TMS meetings he began the tradition of a wine reception and these soon developed legendary status for the quality of the wines on offer.

In 1967 John and Monica went on to have two more children, when twin girls were born. Professional and family life became a delicate balance in such a busy household. However, John continued to inspire in all his children a love of geology, hill walking, music and plants. Although none of them went on to carry the geological mantle, they were all inspired by his drive and commitment to his profession. Charming, eloquent and funny, he made family life fun and at the same time, as with everything in John's life, set high expectations.

THE NATURAL HISTORY MUSEUM, LONDON (1978–1996)

In the late-1970s, John took the decision to move from King's College London to become a researcher in the Department of Palaeontology of the Natural History Museum (NHM) in London. In hindsight, this was a prudent move because the Department of Geology at King's College London was subsequently closed following the infamous Oxburgh Report (Hunter 2013). John established the first palynology laboratory at the NHM, and continued his research without the burden of undergraduate teaching. That said, he consistently found the Civil Service bureaucracy at the NHM profoundly frustrating!

During his time at the NHM, John's magnum opus was published in collaboration with Colin McGregor (Richardson and McGregor 1986). This monumental work established the first dispersed spore biozonation scheme for the entire Silurian–Devonian interval. Based on three decades of accumulated knowledge from both authors, and summarising the research of all other workers, it is perhaps unsurprising that this classic work is still widely utilised today both in academia and industry.

On joining the NHM, John began to co-supervise a series of PhD students with Dianne Edwards of Cardiff University. These interdisciplinary projects on in situ spores combined Dianne's expertise on plant megafossils with John's knowledge of dispersed spores. This succession of students initially comprised Una Fanning (Fanning 1984), Neil Burgess (Burgess 1987) and Charles Wellman (Wellman 1991). A fortuitous discovery in 1986 was to prove groundbreaking for the science (Edwards et al. 1986). On sieving a sample collected by John from the Lower Devonian (Lochkovian) of the Anglo-Welsh Basin, the presence of minute plant fragments was noted. Una Fanning returned these to Cardiff where Scanning Electron Microscope examination by herself and Dianne Edwards revealed that they were plant axes with intact sporangia, preserved in three dimensions, with all of their cellular detail perfectly preserved. Subsequently, it was shown that they had been exceptionally preserved by charcoalification during a wildfire event. Thus was discovered the unique North Brown Clee Hills Lagerstätte (NBCH). Work

on this Lagerstätte has revolutionised early land plant studies, and continues today.

During this time, in addition to CIMP and BMS/TMS duties, John also served as External Examiner to the MSc course in Palynology run by the Department of Geology at the University of Sheffield. John had always maintained his affiliation with Sheffield, and in particular palynology, and was only too pleased to take on this role. He was someone who took commitment and loyalty very seriously, and expected others to do so. In the early 1990s when the MSc course in Palynology at Sheffield was threatened with closure, John campaigned vigorously for its survival. He rallied high profile scientists from the NHM and used his worldwide links to aid the cause, and no doubt helped considerably in ensuring its survival at that precarious time (Wellman 2005).

Whilst at the NHM, John also engaged in social activities associated with the Department of Palaeontology. His colleague Lorraine Cornish recalls that John was heavily involved in the organisation and planning of the highly successful Sports and Social wine tastings that took place in the museum. Working with a small team of staff including Lorraine Cornish, Paul Henderson and Alison Longbottom, these tastings proved very popular with museum staff and tickets always sold out. John's role as Treasurer also ensured that the finances were well managed and the team were able to book excellent speakers from the wine profession as well as some in-house experts like ex-Keeper of Palaeontology Bill Ball who had a strong interest in vintage champagnes. The format was tasting eight to 12 wines with an expert who would not only inform the audience about the wines, but provide some amusing anecdotes. Sometimes the team were even able to include some Earth Science background. All who attended the Geology of Italian Wines 'Red's under the Beds' event by Dr Peigi Wallace were very enthusiastic to find out more, even if they felt slightly fragile the next day. One of us (CHW) recalls that John had a bespoke, locked cabinet fitted in the Palynology Laboratory to ensure the safe storage of the wines. John was also a long-standing member of the NHM Rifle Club.

RETIREMENT (1996–2021)

Due to Civil Services rules at the time, John had to retire on reaching the age of 60 during 1996. John had no intention of curtailing his research activities, and was granted emeritus status by the NHM with continued access to a laboratory, office and other facilities. Initially, he concentrated on a Natural Environment Research Council (NERC) research grant working with Rosa Rodriguez on the Silurian–Devonian boundary successions of northern Spain (Richardson et al. 2001). At this time John's collaboration with Dianne Edwards on the Upper Silurian and Lower Devonian strata of the Anglo-Welsh Basin, that included the NBCH Lagerstätte, was particularly productive, producing many papers on the in situ spores. This partnership was bolstered by a PhD studentship on sedimentology with Gareth Jenkins (Jenkins 1998), and their final joint palaeobotanical/palynological PhD studentship undertaken by Jenny Morris (Morris 2009).

John had always been a meticulous researcher and was a brilliant microscopist. His monographical work took time to mature as he carefully examined the spores, and prepared

detailed descriptions and plates. John could be very critical of those who were not so rigorous in their scientific work. It also meant that when John started a project, it often took many years to complete it, commensurate with his exacting standards. When other workers sometimes 'encroached on his territory', that he had been carefully working up for so long, he found it extremely frustrating and this lead to a number of conflicts with other researchers. This, and John's sustained frustration with bureaucracy, led to an outward perception among those that did not know him well that he could be somewhat irascible. This curtness was merely a veneer and, underneath the somewhat brusque façade, he was extremely charming. However, if anyone published a poorly circumscribed new Devonian spore species, or published a report based on a cursory examination of a spot sample from one of his long-term study areas, that mask could slip!

Finally, age crept up on John and he realized he was never going to fully complete documenting the dispersed spore assemblages from the Upper Silurian –Lower Devonian 'Lower Old Red Sandstone' succession of the Anglo-Welsh Basin. However, John embarked on his final PhD project, a joint collaboration with his alma mater the University of Sheffield, and PhD student Alex Ball began work on the project. Sadly, John died on the 31st of December 2021 whilst Alex was writing up during the final year of his PhD.

Harold Smith

By Duncan McLean

I have been informed that Dr Harold Smith died earlier this year. Harold was a pioneer in Carboniferous palynology, coal petrology and thermal maturation studies. He spent his career at the Sheffield Coal Survey Laboratories at Wath-upon-Dearne (under various iterations of the National Coal Board, British Coal, etc.) where he employed palynology and coal petrology as tools for coal seam correlation. Over his career he looked at material from all of the British coalfields including, latterly, the unexploited buried coalfields of Oxfordshire and Berkshire. His early publications, demonstrating how the distributions of miospores and macerals in coals can be used to interpret the palaeoecological and palaeohydrological development of coal mires were of singular importance, while his subsequent work in coal-seam correlation and Carboniferous miospore biostratigraphy remains relevant today. The 1967 monograph 'Miospores in the Coal Seams of the Carboniferous of Great Britain' written with Mavis Butterworth is still a standard taxonomic reference in Palaeozoic palynology. Harold was active in CIMP since its inception in 1958 and was a key member of several Working Groups. In 1993 Harold was awarded honorary membership of the International Committee for Coal Petrology (now the International Committee for Coal and Organic Petrology) in recognition of his contributions to coal geology. He later integrated biostratigraphy and vitrinite reflectance work to provenance coal material found at archaeological sites, such as in roman villas and on shipwrecks (notably the infamous HMS Bounty). In

retirement Harold devoted his time to ornithology and contributed greatly to bird monitoring and conservation work in South Yorkshire.

RPP SPECIAL VOLUME

Wuda Tuff Flora: A Permian peat-forming T0 fossil plant assemblage from Wuda Coalfield, Inner Mongolia

By Jiří Bek

International journal Review of Palaeobotany and Palynology in 2021 published fifteen papers as a special volume (264), dedicated to long-termed international collaboration of groups of Czech and Chinese palynologists and palaeobotanists at famous Early Permian Wuda coalfield, Inner Mongolia, China. Wet tropical forest was buried in situ immediately by volcanic eruption 300 Myr ago. All plants are preserved in their original positions, including long branches, complete fronds of ferns and often three-dimensionally preserved reproductive organs with in situ spores. The locality was studied by different methods by palynologists, palaeobotanists and stratigraphic geologists. New types of in situ spores and affinities of their parent plants can be useful for Paleozoic palynologists for reconstructions of spore and plant assemblages.

This is the list of contents:

WANG, J., PFEFFERKORN, H.W., OPLUŠTIL, S. & KERP, H. 2021. Permian "vegetational Pompeii": A peat-forming in situ preserved forest from the Wuda Coalfield, Inner Mongolia, China – Introduction to a volume of detailed studies.

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LIBERTÍN, M., BEK, J., WANG, J., OPLUŠTIL, S., PŠENIČKA, J. & VOTOČKOVÁ-FROJDOVÁ, J. 2021. New data about three sphenophylls and their spores from the volcanic tuff of Wuda, Taiyuan Formation, earliest Permian, China.

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WANG, S.J., WANG, J. & HILTON, J. 2021. Stem diversity of the marattialean tree fern family Psaroniaceae from the earliest Permian Wuda Tuff Flora.

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UPDATE ON THE CIMP-ARAMCO SPECIAL PROJECT: PALAEOZOIC PALYNOLOGY OF THE ARABIAN PLATE AND ADJACENT AREAS

By Charles Wellman and Marco Vecoli

The CIMP-Aramco Special Project has now been running for more than 30 years. Herein we provide a brief history of the project and its major accomplishments along with an update concerning forthcoming plans and activities.

In the mid-1980s discussion began between the Commission Internationale de Microflore du Paléozoïque (CIMP) and Saudi Aramco regarding the establishment of a formal scientific collaboration. Initial discussions were led largely by the then CIMP President Bernard Owens. In November 1990 a formal agreement was drafted and signed. The plan was to make available to CIMP scientists the exceptionally well-preserved Palaeozoic palynological preparations Saudi Aramco were producing from the Arabian Plate.

The (largely academic) scientists of CIMP were permitted to work on this material, collaborating with the palynologists employed by Saudi Aramco, to deliver their results at special symposia/sessions organized at international scientific conferences and publishing their findings in the open scientific literature. In doing so, they began to establish a rigid taxonomy for the Palaeozoic palynomorphs of the Arabian Plate (acritarchs, chitinozoans, spores, pollen etc.), develop biostratigraphical schemes and work on other aspects such as palaeoenvironment interpretation (palynofacies).

The success of this early work ensured continuation of the project through to the present day, and beyond. Five special volumes dedicated to the project have been completed (details below) and numerous other individual papers published including in the journal *Science*. At nearly every major palynological conference since 1990 special symposia/ sessions have been organized to facilitate CIMP scientists and Saudi Aramco employees to present their work to the scientific community and discuss their findings. Numerous workshops have also been organized where shared microscope work has enabled the establishment of a rigid and coherent taxonomy. The most recent sessions were at the 'European Palaeobotany and Palynology Conference' (EPPC) in Dublin, Ireland in 2018, 'The Annual Meeting of the Palynological Society-AASP' in Ghent, Belgium in 2019 and at the 'International Palaeontological Congress' in Thailand in 2022 (a separate report about this recent meeting is included in this Newsletter).

The project was initially managed on behalf of CIMP by Bernard Owens. Following Bernard's retirement, management of the project was passed over to Charles Wellman. Team membership has varied considerably over the years due to project needs, incoming of new employees, and retirements.

The Special Project team are currently working on a 6th publication that will serve as a review of the work completed to date. Symposia are planned for the '4th International Congress on Stratigraphy – strati 2023' to be held in Lille, France in July 2023 and the 'International Palynological Congress/International Organisation of Palaeobotany Conference' to be held in Prague, Czech Republic in May 2024. The latter symposia (delayed from 2020 due to the Covid pandemic) will be in honour of Bernard Owens, one of the architects of the project, who sadly passed away in 2019.

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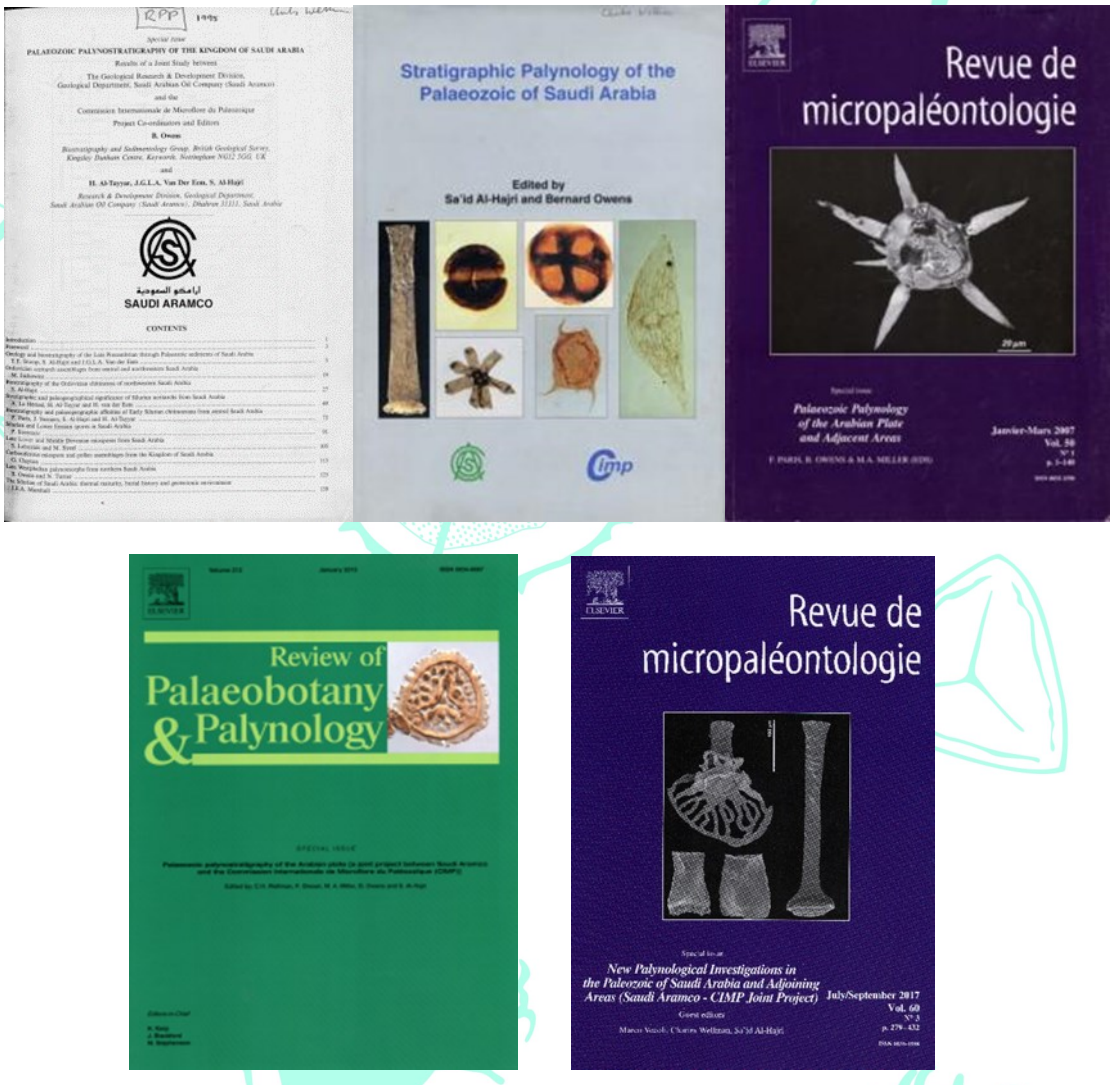

The five special volumes dedicated to the outputs of the CIMP-Aramco Special Project

MEETINGS REPORTS

11TH EUROPEAN PALAEOBOTANY AND PALYNOLOGY CONFERENCE, STOCKHOLM, SWEDEN (JUNE 19 – 22ND, 2022)

By Willy Taylor (with thanks to Stephen McLoughlin)

The Swedish Museum of Natural History and Stockholm University jointly hosted the 11th European Palaeobotany and Palynology Conference in Stockholm on June 19-22, 2022. Initially scheduled to be a virtual event due to the pandemic, the organizers made the bold decision to hold the meeting in-person. With a palpable sense of relief, 231 delegates from 33 countries on six continents made the trek to Stockholm and were not disappointed.

Given the highly efficient mass transit system, many delegates chose to stay in central Stockholm, taking advantage of the world-class services and stunningly scenic islands that make up that area. Despite the forest of construction cranes that were engaged in a massive multi-year project to extend the central plaza further into the lake, Stockholm still lived up to its well-deserved reputation as one of the most beautiful cities in the world.

The delegates were treated like royalty – literally! The conference reception was held on Monday night in the City Hall (Stadshuset) where the annual Nobel Banquet is held every December with the Swedish Royal Family in attendance. The Royal Family did not attend our reception, but the Mayor of Stockholm did! It was quite a thrill to stand in the same space as that occupied by Nobel laureates every year. This reception was preceded by an icebreaker and barbeque buffet with live music in the courtyard of the Natural History Museum on Sunday evening. The meeting also included four field trips and two workshops.

Stockholm City Hall reception.

In terms of the formal program, plenary sessions on Sunday preceded the three conference days where 180 talks (organized as symposia) in three concurrent sessions and 66 posters were presented.

Symposia of interest to CIMP members included: Devonian and pre-Devonian floras; Late Palaeozoic floras; Wenner-Gren Extinction-watch symposium: Paleozoic and Mesozoic plant extinctions, hyperthermals and anoxia events; Palaeozoic-Mesozoic palynostratigraphy and palaeoenvironments; Reproductive organs of fossil plants and their spores and pollen; Mass-extinctions and misfits: Teratologies through time; Emerging techniques in palaeobotany and palynology; Automated identification and monitoring of pollen and spores; Stratigraphic and environmental applications of acritarchs, dinoflagellates and dinocysts.

But perhaps the pinnacle event of the meeting was the conference dinner which was held in the Vasa Museum. This museum, which is built around a restored warship – the Vasa – which was the largest

warship in the Baltic that sank just moments after its maiden voyage in 1628, provided a setting for a truly once-in-a-lifetime experience.

Some of the attendees (members of CIMP in good standing) even went out dancing after the dinner at one of the all-night clubs.

Conference dinner at the Vasa Museum.

It was wonderful to return to interacting with colleagues face-to-face. The cost was that a number of people contracted the very contagious Omicron variant despite precautions. Luckily, thanks to effective vaccines and the natural course of viral evolution (to less virulence), everyone recovered.

54TH AASP-TPS ANNUAL MEETING, MANIZALES, COLOMBIA (AUGUST 7 – 11TH, 2022)

By Alex C. Ball

The Universidad de Caldas held an excellent meeting in Manizales, Colombia, in August 2022, which was a welcome return to in person meetings. Talks and posters were delivered by researchers from across the world, providing ample opportunity for excellent palynology, catch-ups and new friendships.

In the first fieldtrip, a group of us ascended to *c.*5000m above sea level to the shoulders of Nevado del Ruiz. We zig-zagged through the rich rainforests patched and fragmented by agriculture, which gave way to shrubby, lichen covered vegetation and then to the weird, mist shrouded Páramo forests. The eerie nature of the final localities was compounded by the dizzying effects of altitude, but while some careful footwork was required these effects did not prevent a thorough investigation of the diverse plant, lichen and fungal life to be found about the feet of the 'frailejons'.

Returning to less dizzying altitudes, the following three days were a blur of exciting talks. Niall Paterson opened the proceedings, which ranged from palynological investigations of new localities, melisopalynology, advances in machine learning and possible future roles for industrial palynology, including CCS. The first day was the focus for Paleozoic talks. Initiated by Hernando Deuñas, we were given an overview of the Neoproterozoic and Palaeozoic of Colombia. Paul Strother then pitched his thoughts on the possible Protonematal origins to plant tissues. Alex Ball outlined changes in the diversity and disparity of Silurian and Devonian spores from the UK, and Charles Wellman delivered some results of his ongoing work on the middle Devonian of Spain. Palaeozoic posters were given by Alex Ball, outlining a new biozonation for the Siluro-Devonian boundary in the UK, and Emily Ellefson, who introduced her work on the Ordovician to Devonian Palynology of Alaska. Emily has just started her PhD on this subject at Stanford University, and the project is one to watch.

Coffee breaks and poster sessions provided opportunities to discuss the presentations, while sampling local cuisine. 'Happy hours' followed the afternoon poster sessions, with more drinks and snacks, and in the first we were treated to a string quintet and an exhibition of palynological photography from AASP members. An early Career Session followed the second day, where students were taken to one of the nicest rooftops in Manizales, with panoramic evening views over the city and mountains. Here, we were treated to fine food and jugs of dry-ice garnished Sangria as the sun set. A selection of us went on to sample the local rums and Aguadiente, which naturally led to the formation of some great international friendships. The final day hosted an early career mentoring session with several industrial and academic partners answering questions and discussing the pros and cons of career choices. That evening, awards were delivered to Early Career researchers from Aberdeen, Sheffield and Stanford, and to senior researchers. Finally, delegates were treated to traditional Colombian dances over more food and drinks.

Several workshops were also held throughout the conference, covering quantitative stratigraphic analyses in R with SDAR, studies of palynostratigraphy and Applied Middle East Late Palaeozoic Palynology.

The first half of the post conference field trip visited Pliocene rock sections along rivers in the otherwise densely vegetated rainforest, before a scenic ride on Willy's jeeps to the Tio de Conejo ('Uncle Rabbit') Coffee farm, where some elected to ride on the mildly precarious tailgates. Following a generous lunch, groups ascended the steep hills and learned much about sustainable coffee farming, the pains of handpicking coffee grains, and just how fat one Labrador can get on a diet of coffee beans, avocados and bananas (answer: very). Our guides were knowledgeable and passionate, and we were shown a traditional coffee farm with a sliding roof for drying beans, and the tiny nests of 'little angel bees'. Following another thrill ride on the Willys jeeps, we were deposited in Manizales and returned to eat, drink and pack in preparation for our journeys home, carrying slightly more baggage than we had arrived with.

Saudi Aramco – CIMP Project meeting and scientific session at the 6th International Palaeontological Congress, Khon Kaen, Thailand (7-11th November, 2022)

By Marco Vecoli

The 6th International Palaeontological Congress took place in Khon Kaen, Thailand, November 7-11, 2022. It was a very successful, enjoyable and well-organized event featuring 34 scientific sessions/symposia covering all aspects of palaeontology, and was attended by more than 600 delegates. The International Palaeontological Congress is traditionally dominated by macro-palaeontologists, and this year was no exception, with many symposia dedicated to vertebrates and dinosaurs. Palynology took its share of the stage of the IPC in 2022, with a dedicated session organized by Paul Strother and Clinton Foster: *The origin and rise of a land flora: from Laurentia to Gondwana and back again* (Session 22). A block of presentations was dedicated to contributions from the Saudi Aramco-CIMP Joint Studies project, on Palaeozoic Palynology of the Arabian Plate, as follows:

- Palaeozoic Palynostratigraphy of the

Arabian Plate: an example of successful collaboration between industry and academia – Said Al-Hajri, Marco Vecoli, Christian Cesari

- Palaeophytogeography of Early Devonian plants as evidenced by integrated analysis of plant megafossils and dispersed spores – Charles Wellman, Philippe Steemans, Pierre Breuer

- Paleoecology and Phylogenetics of an Hirnantian Freshwater Palynological Assemblage from the Arabian Plate – Marco Vecoli, Christian Cesari, Paul Strother, Charles Wellman

- The significance of *Rhabdosporites minutus* in Early Devonian biostratigraphy – John Marshall, Pierre Breuer

- The presence and importance of *Quadrisporites* in the Tawil Formation, Lochkovian, Saudi Arabia – Philippe Steemans, Charles Wellman, Pierre Breuer

- Palynomorph Darkness Index ('PDI') of acritarchs from the early Silurian Qusaiba Member of the Qalibah Formation and correlation to thermal maturity - Geoff Clayton, Marco Vecoli, Robbie Goodhue, Pan Luo (poster presentation).

This meeting also presented an opportunity for the Saudi Aramco-CIMP working group to discuss the achievements of the project with particular emphasis on future developments. The group is now focused on producing a palynostratigraphic synthesis of the Paleozoic of the Arabian Plate which will serve as a basis for further developments. The next presentations and business meeting of the Saudi Aramco-CIMP Joint Studies project will take place in conjunction with the 4th International

A group photo of Saudi Aramco-CIMP presenters, and organizers of Session 22 at 6th IPC in Thailand. From left to right: Pitaksit Ditbanjong, John Marshall, Willy Taylor, Marco Vecoli, Paul Strother, Said Al-Hajri, Charles Wellman, Wang Yi, Christian Cesari.

Congress on Stratigraphy (STRATI-2023) in Lille, France, 11-13 July 2023, and we hope this will be equally successful.

XVII Argentinian Paleobotany and Palynology Symposium (September 28-30TH)

By Mercedes di Pasquo

In the framework of the XVII Argentinian Paleobotany and Palynology Symposium (Simposio Argentino de Paleobotánica y Palinología), hosted at the National University of Jujuy in San Salvador de Jujuy (Jujuy province, Argentina, in person, September 28th - 30th), the Asociación Latinoamericana de Paleobotánica y Palinología (ALPP) celebrated its "50 years" sharing a nice dinner with the attendants, and as always, five members were awarded for their presentations.

For more information see at:

http://alpaleobotanicapalinologia.blogspot.com/search/label/Anuncios

http://www.sapp2022.com.ar/

https://drive.google.com/file/d/1FziQaG1TdQHrr8YEBN39tak2KG3ogazt/view

http://www.palino.com.ar/alpp/alpp_dipasquo/alpp_dipasquo.htm

https://drive.google.com/file/d/1huqsNlxt9w8V2IMWZaoT7ykxtQdJbS2a/view?usp=sharing

1st Gondwana Devonian Symposium (May 5th)

By Mercedes di Pasquo

The 1st Gondwana Devonian Symposium focused on "Calibrating the Devonian in South America" hosted by the 27th Brazilian Congress of Paleontology 2022, which was held in the city of Cuiabá, Brazil (https://www.even3.com.br/cbp2022/).

Short contributions and lectures (some of them virtually), with different kind of fossiliferous news from Bolivia, Brazil, South Africa and Australia in Gondwana were compared with those from Europe. Fruitful discussions occurred at the end in a round table between all the attendants (virtually and in person). This symposium was partially transmitted on YouTube via the channel: https://youtube.com/channel/UCyGW_e-UGkhbhGnmOrkyG1Q. Hope you like it!

Volume of abstracts can be downloaded from:
https://sbpbrasil.org/publications/index.php/paleodest/issue/view/127/72

UPCOMING MEETINGS AND COURSES

55TH ANNUAL MEETING OF AASP-TPS JOINT WITH THE COMMISSION INTERNATIONALE MICROFLORE PALÉOZOIQUE (CIMP)
KENTUCKY, USA
6-10 JUNE 2023

We are pleased to announce that our next annual meeting will take place at the University of Kentucky, organised by Cortland Eble and Jen O'Keefe.

Location: UNIVERSITY OF KENTUCKY CAMPUS
Meeting Format: HYBRID
Meeting Registration: opening 27th February 2023

Important dates:

Deadline to propose sessions: April 1st, 2023
Abstracts submission: Up to May 15th, 2023
Registration: from February 27th to May 20th, 2023
On-site registration will be possible, please contact organisers (aaspmeetings@gmail.com).

For more information go the meeting website:
https://palynology.org/events/#!event/2023/6/6/55th-annual-meeting-of-aasp-tps-joint-with-the-commission-internationale-microflore-pal-233-ozoique-cimp

4TH INTERNATIONAL CONGRESS ON STRATIGRAPHY - STRATI 2023
LILLE, FRANCE
11 - 13 JULY 2023

Following the 1st congress in Lisbon (Portugal) in 2013, and additional congresses organized in Graz (Austria) in 2015 and Milan (Italy) in 2019, the 4th International Congress on Stratigraphy STRATI 2023 will be held in Lille, France, 11th-13th July 2023.

The indoor sessions with keynote talks and regular lectures (partly scheduled online) will take place in the new Congress Centre of Lille University 'Lilliad' on the Campus of the Cité Scientifique (Science Campus) at Villeneuve d'Ascq (15 minutes by metro from Lille city centre). They are scheduled from Tuesday, July 11th to Thursday, July 13th 2023. Plenary and parallel sessions will take place, with numerous workshops

and business meetings in smaller rooms available to all subcommissions of the ICS.

General scientific themes will be mostly organized as plenary sessions, but parallel sessions will also be scheduled, as well as poster sessions. The following scientific sessions have been proposed covering a wide range of stratigraphic topics. For more detailed information visit the congress website: https://strati2023.sciencesconf.org.

XV International Palynological Congress & XI International Organization of Palaeobotany Conference

Prague, Czech Republic

May 25th–31st, 2024

Dear colleagues,

The organizing committee of XVIth IPC/XIth IOPC Prague 2024, May 27-31st has some news for you. You may know that the Conference had to be postponed from 2020 to May 2024 due to the global Covid pandemic. The place will be the same – the Clarion Conference Hotel in Prague: Clarion Congress Hotel Prague. One of the largest and most modern congress hotels in the Czech Republic.

We have prepared ten field-trips to see Paleozoic to Quartenary strata. Fifty symposia and four workshops will cover all aspects of palaeo- and actuopalynology and palaeobotany.

The conference fee will be announced in the Spring 2023 and students will have a reduced fee as in 2020. A call for symposia will made during Spring 2023 and participants will be able to pay conference fees and send abstracts at the end of 2023. Please follow our conference webpage, for all news: https://www.prague2020.cz/index.php

We look forward to seeing you,

The Organizing committee of XVth IPC/XIth IOPC Prague 2024