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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)

### PRESIDENT'S LETTER

Greetings CIMP Members,  
I think the new format of having one large Spring (in this case Summer) edition and a shorter Fall edition has been successful, although it is still a challenge to get people to contribute what they are doing or more general articles. The format of this edition follows that of last year, which was well received. We can again thank our General Secretary and Newsletter Editor, Zélia Pereira for her hard work in ensuring another great Newsletter.

As I said, it is challenging to get people to contribute to the Newsletter, so I'd like to thank everyone who responded to our requests for information on your research activities, and the research and activities of your organization or university group.

There are a number of items to share with everyone since my last President's column.

### STUDENT AWARDS

Last year we funded three students 100 € each to attend the CIMP meeting in Bergen, Norway. As I mentioned last year, I would like the funding of students to continue because they are the future of our organization and palynology in general. Students are the future of our science and we should help support them in attending international meetings to present their research results. This benefits them in gaining confidence in making presen-

tations, allows for them to receive positive feedback and constructive criticism of their research, and perhaps most importantly, provides the opportunity to network, meet other professionals early in their career, and become better known in the palynologic community.

### BOARD WILL FUND STUDENT TRAVEL AWARDS

This year, the Board decided to fund up to five student travel awards of 100 € each. The application procedure can be found further down in this Newsletter. For this year, the Awards Committee consists of the four Board members, but I would like to establish a permanent Awards Committee. If you are interested in serving on this committee, please contact me.

I would also like to have a Best Student Presentation and Best Student Poster award at our CIMP meetings. The amount awarded and the committee can be determined later and will consist of three CIMP members who are attending that meeting. The first awards can be made next year at the joint AASP-CIMP-TMS meeting in Nottingham. We will need to come up with criteria on how to judge the presentations and posters, and if you are interested in helping write the criteria, please contact me.

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## MEETINGS

Following last year's successful CIMP meeting in Bergen, Norway (see expanded report on this meeting further down in the Newsletter), Amalia Spina organized a CIMP session held at the International Congress on Palaeozoic Stratigraphy of Gondwana meeting in Perugia, Italy (April 14 – 16, 2016). Her review of the meeting with pictures can also be found further down in the Newsletter.

Later this year, CIMP is sponsoring a symposium at the XIV International Palynological Congress/X International Organisation of Palaeobotany Conference in Salvador-Bahia, Brazil (October 23–28, 2016). The session (SS14) is being organized by John Marshall, Marco Vecoli, and Charles Wellman and is titled "New frontiers and classic studies in Palaeozoic palynology and palynostratigraphy" and includes a special section focusing on the palynology of the Arabian Plate sponsored by Saudi Aramco.

In 2017, there will be a co-sponsored meeting of AASP-CIMP-TMS in Keyworth, Nottingham, England from September 3–7, 2017. This meeting is jointly organized by the three aforementioned societies and the first circular for this meeting can be found on the CIMP, AASP, and TMS websites, all of which will contain updates as organization progresses.

In 2018, CIMP will have a presence at the European Palaeobotany and Palynology Conference, which will be held in University College Dublin, Ireland from August 12–19, 2018. Dr. Geoff Clayton is part of the Organizing Committee for that meeting, and CIMP will have at least one dedicated session as well as holding our business meeting, in which we will elect new officers for the forthcoming four years.

Circulars with additional information regarding the XIV IPC/S IOPC, the AASP-CIMP-TMS, and the TSOP-AASP-ICCP meetings can be found in the Newsletter as well as on the CIMP website at [cimp.weebly.com](http://cimp.weebly.com). It is indeed gratifying to see a CIMP presence at so many international meetings.

## DUES AND MEMBERSHIP

In order for CIMP to remain viable and relevant to the Palaeozoic palynological community, we must have an active and engaged membership. In order to fund student participation at meetings, pay our IFPS dues, as well as help underwrite our own meetings, we need both a reasonable amount of funds in our bank account, as well as a member-

ship that financially supports our organization. We presently have the former, but it would be nice to see more members pay their dues to help increase our funds to support the various initiatives that make our organization a viable and relevant entity in the global palynological community.

Dues are only 10 € a year, and can be paid several years in advance. To make things as easy as possible, they can be paid via PayPal on the CIMP website with a 0.50 € transaction fee. Considering what you get for those dues in terms of underwriting meetings, student awards, and membership in the International Federation of Palynological Societies (IFPS), they are a real bargain!

CIMP needs, not only an active membership that supports our organization, but new members as well, to maintain membership and help us grow. We welcome the new members that have joined us since the last Newsletter, and if you know someone who you think might benefit from becoming a member of CIMP, especially students beginning their careers, encourage them to join CIMP. We all benefit from an enthusiastic, active, and engaged membership.

## FINAL COMMENTS

As I'm sure most of you know, we lost a true icon of palynology last year with the passing of Professor Al Traverse. A wonderful tribute and biography of Al appears in this Newsletter, written by James B. Riding, William G. Chaloner, Martin B. Farley, Fredrick J. Rich, and Paul K. Strother, and reprinted here with the kind permission of Taylor and Francis Group Publishing.

I will end my column on a positive note by extending congratulation to Professor Geoff Clayton, who was awarded the AASP-TPS Medal for Excellence in Education, to be presented at this year's TSOP-AASP-ICCP joint meeting in Houston, Texas. Congratulations Geoff!

As always, your comments, suggestions, and ideas are most welcome, and I wish everyone a great summer and I hope to see many of you at a future CIMP meeting.

Reed Wicander  
President

**Zélia Pereira**

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### GENERAL SECRETARY'S LETTER

Dear Colleagues,

It is with enthusiasm that I present to you the new CIMP newsletter! Unfortunately very few members answer to our calls for participating in the newsletter. Our main objective is to motivate the CIMP members and students to be more active and participative.

In the present newsletter you will find in the following sections, the reports on last meetings (CIMP 2015 Bergen Meeting and CIMP session at the International Congress on Palaeozoic Stratigraphy of Gondwana 2016, which was organized by the University of Perugia, Italy). I'm very grateful to Reed Wicander for the great report of the CIMP 2015 Bergen, as well as, to Amalia Spina regarding the report and photographs on the International Congress on Palaeozoic Stratigraphy of Gondwana 2016.

You will also find the CIMP members activities and research, and also the new palynology publications. Read about the new members and students and the future meetings announcements.

Future meetings are having great program conferences, hope to see many of you at these meetings! We will have the TSOP – AASP – ICCP (Society for Organic Petrology/AASP-The Palynological Society/International Committee for Coal and Organic Petrology) in Houston, Texas, in September, 2016. The XIV IPC/ X IOPC (International Palynological Congress and International Organization of Paleobotany Conference) will be held in Salvador, Brasil in October 2016 and the 50th Annual Meeting of AASP – The Palynological Society/The Golden Anniversary Meeting held jointly with CIMP and the Micropalaeontological Society Palynology Group, to be held in Nottingham, UK in September 2017.

Please see the news and special announcements, the *Student Travel Awards*, this year CIMP will be awarding up to five student travel awards of 100 euros each to be used to attend a professional meeting. Last year, three student travel awards were made for attendance at the CIMP 2015 Bergen, Norway meeting. Congratulations to Alexander Askew, Emma Reeves, and Dmitriy Mamntov.

We would like to express a special felicitations word to Professor Geoff Clayton that will be presented with an important award the Medal for Excellence in Education at the TSOP – AASP – ICCP meeting in September 2016.

Finally, I would like to show my gratitude to all of you who have contributed to the present newsletter and to Filipe Barreira (LNEG's designer) for all his support with the newsletter.

Please keep sending us your information! If you have any comments or suggestions to improve the newsletter please email us.

Please do not forget to pay your fees, there are numerous of student activities dependent on that.

Best wishes,  
Zélia Pereira

### TREASURER NOTE

A quick reminding from the treasurer.

Please continue support CIMP by paying your subscriptions. You can pay your subscription by using PayPal or ask me ([pfernandes@ualg.pt](mailto:pfernandes@ualg.pt)) the details of CIMP bank account for bank transfer.

Paulo Fernandes  
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### WEBMASTER NOTE

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## MEETINGS REPORTS

### Commission Internationale de la Microflore du Paléozoïque (CIMP) Meeting, University of Bergen, September 17–18, 2015, Bergen, Norway

The highly successful 2016 meeting of CIMP was held on September 17 – 18, 2015 in the Department of Earth Sciences at the University of Bergen, Bergen, Norway. The purpose of the meeting was to bring together specialists in Palaeozoic palynology to discuss their current research in a smaller and more specialized venue than that of a large, general conference. The organizing committee consisted of Drs. Gunn Mangerud (co-organizer), Gilda Lopes (co-organizer), Marco Vecoli (past CIMP President), and Reed Wicander (CIMP President).

The meeting was preceded by a pre-conference field trip in the Oslo region, led by Professor Hans Arne Nakrem from the Natural History Museum of Oslo, who guided participants through the Lower Palaeozoic sedimentary rocks of the Oslo area (photo A). Despite the intermittent rain, it was an enjoyable trip with the opportunity to view four outcrops of fossiliferous Palaeozoic rocks.

Following the final stop, participants then flew to Bergen for the welcoming reception and ice-breaker, where old friendships were renewed, and new ones made.

The 2016 CIMP meeting officially began the next day (Thursday, September 17, 2015) with a welcoming address by co-organizer, Dr. Gunn Mangerud. She welcomed the 34 participants from 14 countries to Bergen (photo B), and then turned over the meeting to Prof. Hans Arne Nakrem, who gave a wonderful and beautifully illustrated Keynote talk on the Paleozoic of Norway. Prof. Nakrem's talk was followed by talks by Brian Peder, who gave an overview to the question of whether large spinose acritarchs are crustacean egg cases, and Paul Strother on creating a taxonomy of Cambrian cryptospores.

After the mid-morning coffee break, Reed Wicander chaired the next session in which Nuno Vaz reported on Middle Ordovician chitinozoan assemblages from Portugal, Jacques Verniers (Steehan *et al.*) discussed the chitinozoan biostratigraphy of the Silurian Wenlock-Ludlow boundary succession in Wales, and Gordon Wood presented an overview of the Silurian (Llandovery-Ludlow) palynostratigraphy and palynofacies of the Cincinnati Arch Region, U.S.A., including some strange-looking palynomorphs from an even stranger source.

Because this was a small meeting, the co-organizers were able to arrange for the participants to have a prepared lunch in the university cafeteria, thus providing more opportunity to mingle and exchange ideas and thoughts about the talks in a relaxed, student environment.

The first afternoon session following lunch was chaired by Paul Strother. Talks included an examination of Late Silurian (Pridoli) palynomorphs from Wales by Ken Higgs, a discussion of preliminary chitinozoan data from the Czech Republic as it related to a potential replacement GSSP for the base of the Aeronian Stage (Silurian Llandovery Series) by Anthony Butcher, a palynological analysis of the Middle Devonian of northern Spain by Alexander Askew (with coauthor Charles Wellman), and an overview of a Middle Devonian acritarch assemblage from Michigan, U.S.A. by Reed Wicander.

Following the afternoon coffee break, Ken Higgs chaired the longest session of the meeting consisting of talks by John Marshall (Marshall *et al.*) on a mid-Famennian spore assemblage from Svalbard, Emma Reeves (and team TW-eed) on Tournasian megaspores from England, Wilson Taylor on interradial papillae in Lower Carboniferous micro- and megaspores of Scotland, Gilda Lopes (Lopes *et al.*) on a palynozonation of the Early Carboniferous of the Barents Sea area, and Duncan McLean (McLean *et al.*) on Pennsylvanian palynomorphs from northwest Germany.

The second day of the meeting (Friday, September 18, 2015) began with a Keynote talk by CIMP President Reed Wicander on the future of CIMP, including its present state, possible initiatives, some current bright spots, and some of the challenges facing CIMP going forward. Philippe Steemans then chaired the first morning session in which Amalia Spina (Aria-Basab *et al.*) presented their results on the Carboniferous palynology of the Central Iranian Basin, and Hartmut Jäger discussed the hydrocarbon potential and maturity of Carboniferous shale in the southern North German Basin.

The second morning session, chaired by Gordon Wood, focused on the Permian-Triassic and included talks by Berry Lomax (Lomax *et al.*) on episodic perturbations of the end Permian atmosphere as recorded in plant spore chemistry, Els van Soelen (van Soelen *et al.*) on the Permian-Triassic transition in East Greenland, and Paulo Fernandes (Fernandes *et al.*) on the Permian-

Triassic transition in the Moatize-Minjova Basin, Mozambique.

After lunch, Marco Vecoli chaired the first of the two SAUDI ARAMCO sessions. In the first session, Philippe Steemans (Steemans *et al.*) discussed Middle Ordovician cryptospores and other plant remains from the QSIM-801 well in Saudi Arabia, Alain Le Hérissé (Le Hérissé *et al.*) provided new insights as well as a comprehensive review of Silurian acritarchs and associated freshwater and marine microfloras from Saudi Arabia, Ahmed Al Shawareb (Al Shawareb *et al.*) discussed the biostratigraphic and paleoenvironmental implications of Late Ordovician (Katian) chitinozoans from northwest Saudi Arabia, and Alain Le Hérissé (Le Hérissé *et al.*) talked on some Middle Ordovician acritarchs and problematic forms from the OSIM-801 well, Saudi Arabia. The second SAUDI ARAMCO session, also chaired by Marco Vecoli, featured three talks. John Marshall (Marshall & Breuer) spoke on integrating an Emsian  $\delta^{13}C_{TOC}$  curve with its palynological zonation, Geoff Clayton (Clayton *et al.*) gave a case study from the Carboniferous of northern Saudi Arabia of the Palynomorph Darkness Index, and Paul Strother (Strother & Vecoli) discussed some proposed changes in the suprageneric classification of acritarchs. The final session of the 2015 CIMP meeting was chaired by Geoff Clayton and consisted of one talk by Nareshwar Narain Sinha on some Lower Palaeozoic acritarchs from the Pithoragarh District, Utrakhand, India.

In addition to the two keynote talks and 26 scientific presentations, seven posters were on display during the two days of the conference. The posters were on Ordovician acritarchs from the Tethys Himalaya, India by Nareshwar Narain Sinha and Jacques Verniers; biostratigraphy of some chitinozoans relating to the evolution of the Upper

Ordovician to Silurian Basin of the Condroz Inlier, Belgium by J. Mortier and Jacques Verniers; the palynologic record of paleovegetational changes during the Visean from the Moscow Syncline, Russia by Dmitriy Mamontov; Lower Carboniferous dispersed megaspores from the Penza region of Russia by Olga Orlova *et al.*; Cambrian Series 2-3 acritarchs from the Digermulen Peninsula, northern Norway by Teodoro Palacios *et al.*; Cambrian Series 2-3 acritarch assemblages from the Iberian Peninsula, Spain by Teodoro Palacios; and the palynology and detrital zircons from the Bolivian Altiplano by U. Zimmermann *et al.* The 2015 Bergen CIMP meeting concluded with the conference dinner at Restaurant Fløien, Fløien Mountain, which is reached by a funicular ride. The views of the Bergen region were spectacular from the viewing area and the dinner delicious. A post-conference excursion to the Finse glacier took place on Saturday, September 19, 2015 and was led by Professor Atle Nesje, Department of Earth Science, University of Bergen. Participants took the train from Bergen to Finse and were treated to a guided walk to the Finse glacier by Professor Nesje, where we were able to view and traverse various glacially derived deposits, as well as seeing the effects of glacial activity in the region (photo C).

The meeting was a great success, and credit for its success must go to the co-organizers, Gunn Mangerud and Gilda Lopes, who ran a seemingly flawless meeting with help from members of the Department of Earth Science staff. Thanks must also go to the speakers and poster participants for their excellent presentations, as well as the engaged audience. It should be noted that three students presented the results of their ongoing research (Alexander Askew, Dmitriy Mamontov, and Emma Reeves) and received travel grants of



A. Participants in the pre-conference field trip of Lower Palaeozoic rocks in the Oslo, Norway region led by Professor Hans Arne Nakrem.



B. Participants of the CIMP Meeting, held in Bergen, Norway, September 17–18, 2015.



C. Participants in the post-conference excursion to the Finse glacier, Norway led by Professor Atle Nesje.

100€ each from CIMP to help defray the costs of their attendance.

Gilda Lopes and Gunn Mangerud provided an excellent review on the meeting, along with numerous photos, in the December 2015 CIMP Newsletter 84. This report is an expanded version of my comments in my President's column in the last CIMP Newsletter. A somewhat shorter version of

this report was published in *PALYNOS* (vol. 37 (2)/38 – 2014/2015, pp. 7–9).

The Abstract Volume of the 2015 CIMP meeting in Bergen, Norway is available at the CIMP website: [cimp.weebly.com](http://cimp.weebly.com).

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## ICPSG – INTERNATIONAL CONGRESS ON “PALAEOZOIC STRATIGRAPHY OF GONDWANA” April 14-16, 2016 – Perugia, Italy

Dear Colleagues,

It is my pleasure to report on the very successful CIMP session held at the International Congress on Palaeozoic Stratigraphy of Gondwana, which was organized by the Department of Physics and Geology of the University of Perugia (Italy), and the Arianzamin Pars Geological Center (Teheran, Iran). The meeting was held at the Hotel Giò Jazz and Wine of Perugia from April 14 to 16, 2016. The lovely medieval city of Perugia provided the perfect backdrop to our participants with good weather and a nice stay! More than 100 colleagues from 18 countries participated in this meeting.

The CIMP session, which took place on the second day of the conference, consisted of high quality presentations and interesting discussions. Prof. Geoff Clayton (photo A), co-chair with myself (Amalia Spina), welcomed the participants and then turned the meeting over to Prof. Mike Stephenson (photo B), who presented an excellent and well-illustrated keynote talk on the progress and challenges facing Permian palynostratigraphy during the rest of this century.

Prof. Stephenson's keynote address was followed by presentations by Dr. Steemans (Steemans &

Gerrienne) who reviewed Gondwanan Palaeozoic plant spores; by Prof. Hassan Kermadji (Hassan Kermadji & Khelifi Touhami) on miospore assemblages from Přídolí to Early Eifelian sequences of the Oued Saoura Algerian Sahara (photo C); and by myself (Spina *et al.*) on the application of PDI and microspectroscopy to assess thermal maturity and associated changes in the chemistry of palynomorphs from North Africa.

Following the mid-morning coffee break, Dr. Giles Machado (Machado & Vavrdová) described the Late Devonian organic-walled microplankton from Central Portugal and its implications on paleogeography (photo D); Dr. Hossein Sabbaghiyan (Sabbaghiyan & Aria-Nasab) reported on Late Devonian and Early Carboniferous miospores and acritarchs from Central Iran; Dr. Hartmut Jäger proposed new data on the palynology of the Devonian and Carboniferous of NW-Africa; and Dr. Mohammad Aria-Nasab discussed the miospore assemblages from Carboniferous strata in the Central Iran Basin. In the first afternoon session after lunch, Prof. Geoff Clayton (Clayton *et al.*) spoke on the phyto- and palaeogeographic implications of Mississippian miospore assemblages from Saudi Arabia. Prof. Mike Stephenson (Stephenson &



A. Professor Geoff Clayton, co-chair of the CIMP session at the International Congress on Paleozoic Stratigraphy of Gondwana, held in Perugia, Italy.



B. Professor Mike Stephenson presenting the CIMP session keynote talk.

Powell) then followed with a talk on selected spore morphs from the Permian of Jordan and their stratigraphic utility in the Middle East and North Africa. Lastly, Prof. Mike Stephenson (Stephenson & Al-Mashaikie) concluded the CIMP session with a presentation on palynological assemblages across the Hercynian unconformity in Western Iraq.

I think that all of the participants would agree that this meeting was an excellent opportunity to share research results and the progress made to date in Carboniferous palynology, discussing all of the new hot and controversial topics, as well as taking the opportunity to initiate new collaborative projects.

rative projects.

I especially thank Prof. Geoff Clayton, who co-chaired this session, Prof. Mike Stephenson, our invited keynote speaker, and all of the participants who contributed to make this CIMP session such a great success!

*Amalia Spina*

The abstract volume will be soon available at the website: <http://www.icpsg.com>



C. Professor Hassan Kermadji giving his talk on the Prídolían to Early Eifelian miospore assemblages of the Oued Saoura Algerian Sahara.



D. Dr. Gil Machado examining one of the several posters as part of the CIMP session.

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Lower Devonian palynostratigraphy and palaeogeography of the Illisi Basin, South Eastern and Oued Soura Depression Sahara Algeria.

Detailed palynological analysis of Lower Devonian sections in the South Eastern Algerian Sahara borehole Stah 1 and southwestern surface section of Oued Saoura enable precise dating, basal correlation and assist palaeoenvironmental and phytopalaeogeographical studies. Nearly 45% of collected samples proved palyniferous, contain moderately to well preserve crypto-miospores, acritarchs and chitinozoans. The palynomorphs of samples of Stah 1 borehole are much better preserved, although it contains some few barren samples. A Total of 78 crypto-miospore species,

52 acritarch species and 34 chitinozoan species has been identified. 11 crypto-miospore species, 9 acritarch species and 8 chitinozoan species have been left in open nomenclature because of insufficiency or poor preservation of specimens. Six palynological assemblage zones are defined. The age of these rock sections are based mainly on comparison with established miospore biozones. The boundary between Silurian and Devonian is based on presence of well-defined miospore species. Six miospore biozones were identified (*Scylaspora radiata*-*Apiculiretusispora synoria*, *Scylaspora tidikelense-erotilites microbaculatus*, *Dictyotriletes emsiensis-Emphanisporites spinaeformis*, *Apiculiretusispora arenorugosa-Camptozonoitriletes caperatus*, *Dictyotriletes subgranifer - Verrucosisporites polygonalis* and *Emphanisporites annulatus-Camarozonotriletes sextanti*). During Late Silurian relatively shallow water, neritic conditions prevailed throughout the study area. The upper part of Oued Ali Formation and the lower part of Stah 1 succession comprises of shale and marls, thin layers of siltstone and sandstone and rare horizons of calcareous sediments, partially representing shallow water neritic. The Zeimlet Formation and the equivalent strata of Stah 1 borehole embrace alternation of sandstone/siltstone beds and shale/muddy horizons and rare calcareous bands with Coelenterates, gastropods and bivalves, with evidence for a more proximal environment. The Saheb el Dijr Formation and the corresponding successions of Stah 1 embrace very thick claystone, sandstone bands and thin beds of calcareous Orthocires and Trilobites debris, representing shallow water setting. The lower member of Dekhissa Sandstone Formation and the comparable sequence of Stah 1, embrace alternation of mudstone and siltstone/sandstone layers, representing prodeltaic sediment, the middle member of the formation corresponding similar part of Stah 1 succession, consist of layers of siltstone and sandstone representing frontdeltaic sediments, upper member of Dekhissa Formation, has no equivalent strata at Stah 1 sequence, comprising of limestone beds and mudstone layers, both with Orthocires relics, marking shallow marine sequences. The lower and middle members of Dekhissa Formation and their equivalent strata typify the 3 cycles (In Salah Region) of Hassan Kermadji *et al.* 2003b (Pragian age). The lower member of Teferguenit Formation consists of silty limestone to mudstone layers with rare chert nodules. They represent a transgressive sequence followed by erosional period, probably representing the uncompleted cycle (In Salah

Region) of Hassan Kermandji *et al.* 2003c (Emsian age). The organic residues are dominated by mature to highly mature fluvial palynomorphs and marine acritarchs at basal and higher stratas. The new miospore assemblages indicate that the lowermost studied strata at both regions are of similar age of latest Přídolian to lowermost Lochkovian, also point out that the higher deposits are of comparable age and suggest to be Lochkovian to Emsian. Unproductive crucial palynologic samples of upper layers of Oued Ali Formation and equivalent strata of Stah 1 sequences led to contemplate the boundary between Přídoli and Lochkovian strata. Miospore assemblages of Oued Saoura are more mature compared with those of Stah 1, also there are some differences in terms of quality preservation, qualitative/ quantitative composition, it is possible to identify over 78 characteristic miospore taxa to establish six miospore assemblage biozones. The miospore assemblages contain diagnostic elements of Silurian Devonian Algerian succession and those are common with contemporaneous miospore assemblages from Libya, Saudi Arabia implying reasonably impressive correlation between northern Gondwanan regions. Comparison with Euro-American miospore biozones suggests apparent differences in Přídoli to Early and early Late Lochkovian. In the Pragian and the subsequent sequences are less distinct. These observations shed some light on some of the fascinating inquiry they pose, and the phytogeographic implications were discussed.

Palaeogeographically, Late Silurian and Lochkovian show unequivocal Prigondwanan similarity. They contain very few similar miospores comparing with Euro American miospores. Consequently, referring to dissimilarity of Inshore and Marine Influence guide and palynomorphs proportion distribution probably indicates regressive/transgressive events.

#### Antony Butcher

*University of Portsmouth, UK*

August 2015 saw the viva of my first PhD student, Rhian Llewellyn, who undertook a thesis entitled 'Palynology through the Early Wenlock Ireviken Event'. The project was joint-supervised by David Loydell, and incorporated high-resolution chitinozoan and acritarch data from Buttington Brick Pit (Wales, UK) in relation to our published carbon isotope curve for the section (Loydell *et al.* 2014). Rhian is now working for an environmental consultancy in Abu Dhabi, and papers from the thesis are in preparation. Many thanks are

due to Jacques Verniers, who kindly acted as the external examiner.

I have also been working to create links with European partner institutions via the Erasmus programme - the first has been forged with the University of Perugia (Italy), and we currently have an Italian MSc student (Alessandro Cesare Bruno) visiting Portsmouth for three months to work on his thesis. He is working on chitinozoans and acritarchs from Saudi Arabia, and is supervised by Amalia Spina. I would be interested in creating links with other institutions for student exchanges, training, etc., so please contact me to discuss further if interested.

In terms of my own research, I have several projects that are in progress - a study of the chitinozoan biostratigraphy from the Hlásná Třeboň section (Czech Republic), which is proposed as a replacement GSSP section for the base-Aeronian; a study of the well-preserved chitinozoans from the Measley Ridge section (Ohio, USA); work on borehole material for Saudi Aramco, through the CIMP partnership.

We also continue to promote palynology (and micropalaeontology in general) heavily as an applied discipline through our BSc (Hons) Palaeontology degree at Portsmouth, and several of our students each year progress onto the MSc Applied Petroleum Micropalaeontology course at Birmingham (with three then progressing on to funded PhDs this year).

#### Charles Wellman

*University of Sheffield, UK*

This summer I will be undertaking fieldwork studying the Lower Devonian of eastern Canada (Gaspé and New Brunswick), Spitsbergen and, as usual, Scotland. I'm hoping to finish writing up a monograph on the Canadian material--if time permits.

I have a new Ph.D. student, Martha Gibson, commencing her research project at the University of Sheffield in September 2016. The project entails a palynological investigation of the Late Permian Zechstein deposits of northeast England and is based on borehole material drilled during development of a new potash mine.

I'm thoroughly looking forward to IPCXIV/IoPCX in Salvador, Brazil in October that will mark the end of my 4-year tenure as IFPS President. The meeting will host numerous symposia relating

to Palaeozoic palynology, including a CIMP organised symposium 'New frontiers and classic studies in Palaeozoic palynology and palynostratigraphy' (CIMP-sponsored symposium organized by John Marshall, Marco Vecoli, Charles Wellman). Make sure you all attend to maintain a strong Palaeozoic palynology presence.

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MORRIS, J. L., LEAKE, J. R., STEIN, W. E., BERRY, C. M., MARSHALL, J. E. A., **WELLMAN, C. H.**, MILTON, J. A., HILLIER, S., MANNOLINI, F., QUIRK, J. & BEERLING, D. J. 2015. Investigating Devonian trees as geo-engineers of past climates: linking palaeosols to palaeobotany and experimental geobiology. *Palaeontology* 58, 787-801.

PARIS, F., VERNIERS, J., MILLER, M. A., AL-HAJRI, S., MELVIN, J. and **WELLMAN, C. H.** 2015. Late Ordovician – earliest Silurian chitinozoans from the Qusaiba-1 core hole (North Central Saudi Arabia) and their relation to the Hirnantian Glaciation. *Review of Palaeobotany and Palynology* 212, 60-84.

RAEVSKAYA, E., DRONOV, A., SERVAIS, T. & **WELLMAN, C. H.** 2016 Cryptospores from the Katian (Upper Ordovician) of the Tungus basin: the first evidence for early land plants from the Siberian paleocontinent. *Review of Palaeobotany and Palynology* 224, 4-13.

STROTHER, P. K. & **WELLMAN, C. H.** 2016 Paleocology of a billion-year-old non-marine cyanobacterium from the Torridon Group and the Nonesuch Formation. *Palaeontology* 59, 89-108.

WALLACE, S., CHATER, C. C., KAMISUGI, Y., CUMING, A. C., **WELLMAN, C. H.**, BEERLING, D. J. & FLEMING, A. J. 2015. Conservation of *MALE STERILITY 2* function during spore and pollen wall development supports an evolutionary early recruitment of a core component in the sporopollenin biosynthetic pathway. *New Phytologist* 205, 390-401.

**WELLMAN, C. H.** 2015. Spore assemblages from the Lower Devonian 'Lower Old Red Sandstone' deposits of the Northern Highlands of Scotland: the Berriedale Outlier. *Earth and Environmental Science Transactions of the Royal Society of Edinburgh* 105, 227-238.

**WELLMAN, C. H.**, BREUER, P., MILLER, M. A., OWENS, B. & AL-HAJRI, S. 2015. Editorial: Palaeozoic palynostratigraphy of the Arabian plate [a joint project between Saudi Aramco and the Commission Internationale de Microflore du Paleozoique (CIMP)]. *Review of Palaeobotany and Palynology* 212, 1-2

**WELLMAN, C. H.**, STEEMANS, P. & MILLER, M. A. 2015. Spore assemblages from Upper Ordovician and lowermost Silurian sediments recovered from the Qusaiba-1 shallow core hole, Qasim region, central Saudi Arabia. *Review of Palaeobotany and Palynology* 212, 111-126.

**WELLMAN, C. H.** & STROTHER, P. K. 2015. The terrestrial biota prior to the origin of land plants (embryophytes): a review of the evidence. *Palaeontology* 58, 601-627.

### Claudia Rubinstein

Argentina

I am currently leading two research projects dealing with marine and terrestrial palynomorphs (marine phytoplankton, chitinozoans, cryptospores and trilete spores) from the Lower-Middle Palaeozoic of western Argentina, mainly focused on high resolution biostratigraphy, diversity trends, paleobiogeography, palaeoenvironments and palaeoclimates. Susana de la Puente (Ordovician and Silurian chitinozoans), Victoria García Muro (Silurian and Devonian acritarchs and miospores) and Cristian Solano Rodríguez (Ordovician acritarchs and miospores) form part of our Palaeozoic Palynology Team.

### Students:

Cristian Solano Rodríguez is working on his PhD project under my supervision and the co-supervision of S. G. de la Puente. It is focused on Ordovician marine and terrestrial palynomorphs of the Central Andean Basin, northwestern Argentina, its biodiversity and biostratigraphic, palaeobiogeographic and palaeoenvironmental implications.

**RUBINSTEIN, C. V.**, PETUS E. & NIEMEYER, H., 2016. Palynostratigraphy of the Zorritas Formation, Antofagasta region, Chile: Insights on the Devonian/Carboniferous boundary in western Gondwana. *Geoscience Frontiers* (2016), <http://dx.doi.org/10.1016/j.gsf.2016.04.005>.

GARCÍA MURO, V. J., **RUBINSTEIN, C. V.** & MARTÍNEZ, M. A., 2016. Palynology and palynofacies analysis of a Silurian (Llandovery-Wenlock) marine succession

from the Precordillera of western Argentina: palaeobiogeographical and palaeoenvironmental significance. *Marine Micropaleontology*, 126: 50- 64.

### Cristiana Esteves

*Departamento de Geologia, Faculdade de Ciências da Universidade de Lisboa, Portugal*

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I'm an MSc Petroleum Geosciences student starting my thesis on Palynofacies analysis of Brejeira Formation (upper Carboniferous, SW Portugal) under the supervision of Dr. Gil Machado.

During the first semester of 2015 I worked in GeoResources STC (Heidelberg) as an Erasmus+ trainee, supervised by Dr. Hartmut Jäger and Dr. Ana Cristina Azerêdo. My research project was focused on palynofacies analysis in carbonate environments. Results from this work were presented at the 1st IMERP & XIV EJIP congress, Valencia, concerning palynofacies analysis in the limestone-marl alternations within "Kajetanów Limestones" from the upper Permian of Poland.

**ESTEVES, C.J.P. & JÄGER, H.**, 2016. Palynofacies analysis of the "Kajetanów limestones" (Wuchiapingian, Permian), Poland: preliminary results. *1<sup>st</sup> International Meeting of Early-stage Researchers in Palaeontology & XIV Encuentro de Jóvenes Investigadores en Paleontología*, Alpuente (Valencia), 2016, Abstracts, pp. 27.

### Gilda Lopes

*University of Bergen, Norway*

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In the past two years I have been dedicated to the Early Carboniferous of the Barents Sea. The main aim of this project is to establish a palynological zonation for this area. The new results from the Finnmark Platform (Barents Sea) are quite encouraging but a lot of work still needs to be done. At the beginning of this year one paper was already published and another one is on his way. I am really happy with the results so far! The material is great and I am really pleased to work with it. Hope you like it too when you read the paper!

Between microscope, reports, papers and master co-supervision, I have also managed to find time to teach during this last semester. It really takes a lot of time to prepare the classes but the final result was really good!

The main aim of the master's project I am co-supervising with Gunn Mangerud and Geoff Clay-

ton is related to the improvement of the palynofacies methods for kerogen description and evaluation of source rocks potential. By comparing two different methods of estimation of relative proportions of organic particles using both the point count and relative areas measure through image analysis methods, we hope to provide valuable input to this field of expertise.

### Jacques Verniers

*Ghent University, Belgium*

My major occupation in 2015 was mostly in education and department administration, with far reduced chitinozoan research time and only guiding students for their.

Peng Tang presented at the Annual Meeting of IGCP591 in Quebec City, our results on chitinozoans across the base of the Telychian Stage in the Bajiaomia section, Hubei, China. At the CIMP Meeting in September 2015 in Bergen, Norway, we presented the results of three studies. The results of Thomas Steeman and co-workers on the Chitinozoan biostratigraphy of the Silurian Wenlock-Ludlow boundary succession of the Long Mountain, Powys, Wales (published also in 2015). H.N. Sinha presented our work on Ordovician chitinozoans from Ronkon village of Pithoragarh district, Garhwal-Kumaon Tethys Himalaya, India. I presented part of the results of the PhD of Jan Mortier, which he had defended in September 2014, on the evolution of the Upper Ordovician to Silurian basin in the Condroz Inlier: litho- and biostratigraphy with chitinozoans. The same results were presented for a Belgian audience at the 5th International Geologica Belgica Meeting 2016. "Mother Earth" in Mons, Belgium.

On the 1<sup>st</sup> October 2015, being over 65, I had to retire officially from the Ghent University, but I could stay on, part-time, to continue research and education at the Research Unit Palaeontology of the Department of Geology. As mentioned in last Newsletter I'm taking up the publication of many unfinished projects mostly concerning Ordovician and Silurian stratigraphy and chitinozoans.

PERRIER, V., SIVETER, D.J., WILLIAMS, M., STRUSZ, D.L., STEEMAN, T., VANDENBROUCKE, T.R.A., **VERNIERS, J.** (2015). Myodocope ostracods from the Silurian of Australia. *Journal of Systematic Palaeontology*. 13.9 (2015): 727-739. <http://dx.doi.org/10.1080/14772019.2014.948506>

PARIS, F., **VERNIERS, J.**, MILLER, M., AL-HAJRI, S., MELVIN, J., WELLMAN, C.H. (2015). Late Ordovician-

earliest Silurian chitinozoans from the Qusaiba-1 core hole, (North Central Saudi Arabia) and their relation to the Hirnantian glaciation. *Review of Palaeobotany and Palynology*, 212 (2015) 60–84. <http://dx.doi.org/10.1016/j.revpalbo.2014.10.005>.

SINHA, H.N., **VERNIERS, J.**, (2015). Discovery of the chitinozoans *Belonechitina capitata* from the Shiala Formation of northeastern Garhwal-Kumaon Tethys Himalaya, Pithoragarh District, Uttarakhand, India. *Geoscience Frontiers* (2015) 6pp. <http://dx.doi.org/10.1016/j.gsf.2015.07.005>

BREUER, P., AL HAJRI, S., PARIS, F., **VERNIERS, J.**, STEEMANS, P. & LE HÉRISSE, A. (submitted in 2015). A distinctive marginal marine palynological assemblage from the Pridoli of northwestern Saudi Arabia. Submitted to *Aramco/CIMP* volume 5 (2015 or 2016).

STEEMAN, T., VANDENBROUCKE, T.R.A., WILLIAMS, M., **VERNIERS, J.**, PERRIER, V., SIVETER, D.J., WILKINSON, J., ZALASIEWISZ, J., EMSBO, P. (2016). Chitinozoan biostratigraphy of the Silurian Wenlock – Ludlow boundary succession of the Long Mountain, Powys, Wales. *Geological Magazine*, 153 (1), 95-109.

SCHRÖER, L., VANDENBROUCKE, T.R.A., HINTS, O., STEEMAN, T., **VERNIERS, J.**, BRETT, C., CRAMER, B. & MCLAUGHLIN, P.I. (2016). Late Ordovician age for the Whirlpool and Power Glen formations, New York. *Canadian Journal of Earth Sciences* - 53: 1–9 (2016) [dx.doi.org/10.1139/cjes-2015-0226](http://dx.doi.org/10.1139/cjes-2015-0226)

### John Marshall

*Southampton*

Been busy - I seem to be in charge of vertebrate palaeontology for the year! However, we have achieved some things. We have a new Palynology Lab- this was part of a rolling replacement of fume cupboards in the National Oceanography Centre. Jon Lakin has completed his PhD on Devonian-Carboniferous boundary glacial sediments in Bolivia. Dave Carpenter who is doing a long Silurian to Carboniferous time series on charcoal nears completion of his PhD. The TW:eed tetrapod project in the Tournaisian continues and Emma Reeves has completed her quantitative counts of the palynology from the Norham Borehole. I am doing a parallel study on the Burnmouth coast section with its 500m of section. The long continuing work on the Falkland Islands was completed with a paper in the forthcoming Geological Society of London Special Publication. Printing in the autumn but available online. Our Devonian lycopod forest paper also came out in *Geology* and received good press cov-

erage. You can watch The Cosmos News robot talking through a bizarre commentary in a YouTube animation here:

<https://www.youtube.com/watch?v=N-STb75zE2k>

MORRIS, J.L., LEAKE, J.R., STEIN, W.E., BERRY, C.M., **MARSHALL, J.E.A.**, WELLMAN, C.H., MILTON, J.A., HILLIER, S., MANNOLINI, F., QUIRK, J. & BEERLING, D.J. 2015. Investigating Devonian trees as geo-engineers of past climates: linking palaeosols to palaeobotany and experimental geobiology. *Palaeontology*, 58, 787-801.

BERRY, C.M. & **MARSHALL, J.E.A.** 2015. Lycopod forests in the early Late Devonian paleoequatorial zone of Svalbard. *Geology*, 43, 1043-1046.

KEARSEY, T.I., BENNETT, C.E., MILLWARD, D., DAVIES, S.J., GOWING, C.J.B., SIMON J. KEMP, S.J., LENG, M.J., **MARSHALL, J.E.A.**, BROWNE, M.A.E. 2016. The terrestrial landscapes of tetrapod evolution in earliest Carboniferous seasonal wetlands of SE Scotland *Palaeo*, 457, 52-69

**MARSHALL J.E.A.** 2016. Palynological calibration of Devonian events at near-polar palaeolatitudes in the Falkland Islands, South Atlantic. From: Becker, R. T., Königshof, P. & Brett, C. E. (eds) Devonian Climate, Sea Level and Evolutionary Events. *Geological Society, London, Special Publications*, 423, <http://doi.org/10.1144/SP423.13>.

LAKIN, J.A., **MARSHALL, J.E.A.**, TROTH, I., & HARDING, I.C. 2016. Greenhouse to icehouse: a biostratigraphic review of latest Devonian–Mississippian glaciations and their global effects. From: Becker, R. T., Königshof, P. & Brett, C. E. (eds) Devonian Climate, Sea Level and Evolutionary Events. *Geological Society, London, Special Publications*, 423, <http://doi.org/10.1144/SP423.12>.

WHITESIDE, D.I., DUFFIN, C.J., GILL, P.G., **MARSHALL, J.E.A.**, AND BENTON, M.J. 2016. The Late Triassic and Early Jurassic fissure faunas from Bristol and South Wales: Stratigraphy and setting. *Palaeontologia Polonica* 67, 257–287.

### Mike Stephenson

*British Geological Survey*

Here is a list of papers in palynology published in the last few years (2014-to date). I continue to be active working on sequences in Jordan, Iraq and Australia. In addition I recently completed a review paper on Permian palynostratigraphy to be published in a forthcoming Special Publication of the Geological Society of London.

Outside palynology I published the best-selling book 'Shale Gas and Fracking: the Science behind the Controversy' on 1 March 2015. The book won an 'honourable mention' at the Association of American Publishers PROSE awards in Washington DC on 4th February.

#### Papers published in palynology and stratigraphy

IRFAN U. JAN,, SHAHID IQBAL, SARAH J. DAVIES, JAN A. ZALASIEWICZ, MICHAEL H., **STEPHENSON, MICHAEL** WAGREICH, MUHAMMAD HANEEF, MUHAMMAD HANIF, SAJJAD AHMAD. **2016**. Periglacial palaeoenvironment in the Upper Carboniferous- Lower Permian Tobra Formation of the Salt Range, Pakistan. *Acta Geologica Sinica*, published online

GAIA CRIPPA, L. ANGIOLINI, C. BOTTINI, E. ERBA, F. FELLETTI, C. FRIGERIO, J.A.I. HENNISSSEN, M.J. LENG, M.R. PETRIZZO, I. RAFFI, G. RAINERI, **M.H. STEPHENSON** **2016**. Seasonality fluctuations recorded in fossil bivalves during the early Pleistocene: Implications for climate change. *Palaeogeography, Palaeoclimatology, Palaeoecology* 446, 234–251

IRFAN U. JAN, AZEEM SHAH, **MICHAEL H. STEPHENSON**, SHAHID IQBAL, MUHAMMAD HANIF, MICHAEL WAGREICH & HAFIZ SHAHID HUSSAIN **2016**. The sedimentology of the Lower Permian Dandot Formation: a component of the Gondwana deglaciation sequence of the Salt Range, Pakistan. *Rivista Italiana di Paleontologia e Stratigrafia*, 122, 75-90.

KÖNITZER, SVEN F., **MICHAEL H. STEPHENSON**, SARAH J. DAVIES, CHRISTOPHER H. VANE, MELANIE J. LENG **2016**. Significance of sedimentary organic matter input for shale gas generation potential of Mississippian Mudstones, Widmerpool Gulf. *Review of Palaeobotany and Palynology*, 224, 146-168

**STEPHENSON, M. H.** 2015. Bisaccate pollen from the Early Permian OSPZ3a Sub-Biozone of the Lower Ghaf Member, Oman. *Review of Palaeobotany and Palynology*, 212, 214-225

YANG, S, HORSFIELD, B, MAHLSTEDT, N., **STEPHENSON, M. H.**, KOENITZER, S. **2015**. On the primary and secondary petroleum generating characteristics of the Bowland Shale, northern England. *Journal of the Geological Society*; online doi:10.1144/jgs2015-056

CRIPPA G., L. ANGIOLINI, VAN WAVEREN M.J. CROW, F. HASIBUAN, **M.H. STEPHENSON**, K. UENO. **2014**. Brachiopods, fusulines and palynomorphs of the Mengkarang Formation (Early Permian, Sumatra) and their palaeobiogeographical significance. *Journal of*

*Asian Earth Sciences* 79, 206–223.

KÖNITZER SVEN F., SARAH J. DAVIES, **MICHAEL H. STEPHENSON**, AND MELANIE J. LENG. **2014**. Depositional controls on mudstone lithofacies in a basinal setting: implications for the delivery of sedimentary organic matter *Journal of Sedimentary Research*, 84: 198-214; doi:10.2110/jsr.2014.18

**STEPHENSON MICHAEL H. AND POWELL JOHN H.** 2014. Selected spores and pollen from the Permian Umm Irna Formation, Jordan, and their stratigraphic utility in the Middle East and North Africa. *Rivista Italiana di Paleontologia e Stratigrafia*, 120, 145-156.

**STEPHENSON, M. H.** 2015. Five Unconventional Fuels: Geology and Environment, in *Unconventional Fossil Fuels: The Next Hydrocarbon Revolution?* (Abu Dhabi: Emirates Center for Strategic Studies and Research, 2014), pp. 13–34

**STEPHENSON, M. H.** 2015. Shale gas in North America and Europe. *Energy Science and Engineering*, 4, 4–13. doi: 10.1002/ese3.96

ANGIOLINI, L. BERRA, F. **STEPHENSON M.H.** AND VACHARD D. 2014. Chapter 6. The Khuff foreshoal of Interior Oman, in: *Permo-Triassic Sequence of the Arabian Plate* Edited by M.C. Pöppelreiter; ISBN : 978-90-73834-42-2; Publisher: EAGE Publications bv, p. 127-145.

#### Peng Tang

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In the past year, I keep working on chitinozoans of Late Ordovician and Silurian in China. I have worked on two GSSP candidate sections, i.e. the base of the Wenlock Series in the Ziyang area, Shaanxi Province, and the base of the Telychian Stage in the Shenlongjia area, Hubei Province. Some conodonts together with graptolites, chitinozoans, melanosclerites, et al. have been recovered in the Telychian-Sheinwoodian transitional interval in the Wuxiahe Formation, Shaanxi Province.

Yan LIANG, who was supervised by Renbin Zhan and me, finished her PhD thesis "Early-Middle Ordovician Chitinozoans of the Upper Yangtze Region ---Systematics, Biostratigraphy and Biodiversity".

#### Publication list

1. TANG, P., WANG, J., WANG, C.Y., WU, R.C., YAN, K.,

LIANG, Y., WANG, X. 2015. Microfossils across the Llandovery–Wenlock boundary in Ziyang–Langao region, Shaanxi, NW China. *Palaeoworld*, 24, 221–230.

2. TANG, P., VERNIERS, J. 2015. Chitinozoans across the base of the Telychian Stage at the Bajiaomiao section, Hubei Province, China. Abstract of the IGCP & ISSS (2015) Quebec Meeting. In: Melchin, M.J. & Jin, J. (eds.) 2015. 5th International Symposium on the Silurian System and the 5th Annual Meeting of the IGCP591-The Lower to Middle Paleozoic Revolution, Quebec City, July 8-11, 2015, Abstracts, p. 51-52. Institut national de la recherche scientifique, Quebec City.

### Philippe Steemans

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Quartier Agora  
Allée du 6 Août, 14, Bât. B-18,  
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1. BONJEAN, D., VANBRABANT, Y., ABRAMS, G., PIRSON, S., BURLET, C., DI MODICA, K., OTTE, M., VANDER AUWERA, J., GOLITKO, M., MCMILLAN, R., **STEEMANS, P.** & GOEMARE, E. (2015). Nouvelles données sur un pigment noir d'origine cambrienne, utilisé au Paléolithique moyen et découvert dans la grotte Scladina (Andenne, Belgique). *Notae Praehistoricae*, 35, 121-146.

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- BREUER, P., LESZCZYNSKI, S., MILLER, M. A., & **STEEMANS, P.** (2015). Climate-controlled palynofacies and miospore biostratigraphy of the Early Devonian Jauf Formation, northern Saudi Arabia. *Review of Palaeobotany and Palynology*, 212, 187-213. <http://hdl.handle.net/2268/117852>

- BROCKE, R., BUSSERT, R., LEBENIE, D., & **STEEMANS, P.** (2016, April 15). First record of cryptospores in post-Hirnantian (latest Ordovician-early Silurian) sediments from Ethiopia. Paper presented at ICPSC - International congress on Palaeopaleozoic stratigraphy of Gondwana, Perugia, Italy. <http://hdl.handle.net/2268/195297>;

- CASCALES-MIÑANA, B., GERRIENNE, P., MORENO-DOMÍNGUEZ, R., XUE, J., VALENZUELA-RIOS, J., DIEZ, J., RIAL, G., & **STEEMANS, P.** (2015). A new highly diverse palynoflora from the Lower Devonian Noguerras Formation of the Iberian Peninsula. *Historical Biology*. <http://hdl.handle.net/2268/186725>

- CASCALES-MIÑANA, B., **STEEMANS, P.**, & GERRIENNE, P. (2015, October 23). An interesting Lower Devonian flora from the Iberian Peninsula. Paper presented at *Miscellanea Geologica 2015*, Liège, Belgique. <http://hdl.handle.net/2268/187063>

- LE HÉRISSE, A., **STEEMANS, P.**, BREUER, P., VECOLI, M., & AL-HAJRI, S. (2015, September). Silurian acritarchs and associated freshwater and marine microfloras from Saudi Arabia: comprehensive review and new insights. Paper presented at CIMP meeting 2015, Bergen, Norway. <http://hdl.handle.net/2268/186101>

- LICOUR, L., DUPONT, N., SWENNEN, R., **STEEMANS, P.**, BOULVAIN, F., PETITCLERC, E., HENNEBERT, M., BAELE, J.-M., RORIVE, A., & GODERNIAUX, P. (2016, January). Reappraisal of the deep Devonian strata under the Mons Basin. Paper presented at 5th Int. *Geologica Belgica Meeting*, Mons, Mons, Belgique, <http://hdl.handle.net/2268/192600>

- MEHLQVIST, K., VAJDA, V., & **STEEMANS, P.** (2015). First evidence of Devonian strata in Sweden? - a palynological investigation of Övedskloster drill-cores 1 and 2, Skåne, Sweden. *Geological Magazine*, 221, 144-159. <http://hdl.handle.net/2268/182515>

- PRESTIANNI, C., RUSTAN, J. J., BALSEIRO, D., VACCARI, E., STERREN, A. F., **STEEMANS, P.**, RUBINSTEIN, C. V., & ASTINI, R. A. (2015). Early seed plants from Western Gondwana: Paleobiogeographical and ecological implications based on Tournaisian (Lower Carboniferous) records from Argentina. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 417, 210-219. <http://hdl.handle.net/2268/175336>.

- STEEMANS, P.**, & GERRIENNE, P. (EDS.). (2015). *Miscellanea palaeontologica 2015*. Liège, Belgique: Université de Liège. <http://hdl.handle.net/2268/187087>

- STEEMANS, P.** & GERRIENNE, P. (2016, April 15). Gondwanan Palaeozoic plant spores: A review. Paper presented at ICPSC - International congress on Palaeopaleozoic stratigraphy of Gondwana, Perugia, Italy. <http://hdl.handle.net/2268/195298>

- STEEMANS, P.**, WELLMAN, C. H., GERRIENNE, P., LE HÉRISSE, A., & VECOLI, M. (2015, September). Middle Ordovician cryptospores and other plant remains from the Saq-Hanadir Transitional beds in the QSIM-801 Well, Saudi Arabia. Paper presented at CIMP meeting 2015, Bergen, Norway. <http://hdl.handle.net/2268/186104>

- WELLMAN, C. H., **STEEMANS, P.**, & MILLER, M. A. (2015). Spore assemblages from Upper Ordovician and Lowermost Silurian sediments recovered from the Qusaiba-1 shallow core hole, Qasim region, central Saudi Arabia. *Review of Palaeobotany and Palynology*, 212, 111-126. <http://hdl.handle.net/2268/117842>

WELLMAN, C., STEEMANS, P., BREUER, P., & VECOLI, M. (2016, October). A review of Silurian dispersed spore assemblages from the Arabian Plate: biostratigraphy and palaeogeography. Paper presented at XIV International Palynological Congress, Salvador de Bahia, Brazil. <http://hdl.handle.net/2268/196082>

#### Reed Wicander

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wicandr@cmich.edu*

Although I retired in August, 2016 from Central Michigan University after teaching there for 39 years, I am still active in Paleozoic palynology.

My research interests continue to involve mostly Ordovician and Devonian organic-walled microphytoplankton. After an extremely long gestation period, Clinton Foster and I finished our study on an Early Ordovician acritarch assemblage from the Nambet Formation, Canning Basin, Western Australia which was published in *Palynology*.

Earlier this year I spent two months with Geoff Playford at the University of Queensland, Brisbane, Australia where we finished a manuscript on acritarchs and prasinophytes from the Middle Devonian Arkona, Hungry Hollow, and Widder formations of Ontario, Canada. This manuscript was recently submitted to the *Journal of Systematic Palaeontology*.

Along with Merrell Miller (chief editor), Thomas Servais, and myself (guest editors), work continues on the Gordon Wood Memorial Volume which will be published as a Special Issue of *Palynology* next year. This volume, which will have approximately 20 papers, will commemorate Gordon's contributions to palynology.

At the CIMP meeting in Bergen, Norway, last year, I presented a Keynote Address on the future of CIMP, and a talk on a Middle Devonian organic-walled microphytoplankton assemblage from the Gravel Point Formation, Michigan, U.S.A. And lastly, I continue as President of CIMP.

FOSTER, C. & WICANDER, R. 2015. An Early Ordovician organic-walled microphytoplankton assemblage from the Nambet Formation, Canning Basin, Australia: biostratigraphic and paleogeographic significance. *Palynology*, DOI: 10.1080/01916122.2015.1076748.

#### STEWART MOLYNEUX

*British Geological Survey*

I am still actively working in palynology, although I retired just over two years ago from the British Geological Survey (where I still have an Honorary Research position).

My palynological research interests include ongoing research into aspects of Lower Palaeozoic palynology and palynostratigraphy in the Middle East; quantifying the biogeographical distribution of Lower Palaeozoic acritarchs, building on work published in 2013 (Molyneux, Delabroye, Wicander and Servais, 2013, *Geological Society, London, Memoirs*, Vol. 38, 365–397) and investigating the use of multivariate ordination techniques and species response curves; and work with Richard Bevins (National Museum of Wales) and Rob Ixer, using palynology to investigate the provenance of some of the sedimentary lithologies at Stonehenge. Papers published in 2015/2016 are:

NOWAK, H., SERVAIS, T., MONNET, C., MOLYNEUX, S.G., VANDENBROUCKE, T.R.A. 2015. Phytoplankton dynamics from the Cambrian Explosion to the onset of the Great Ordovician Biodiversification Event: A review of Cambrian acritarch diversity. *Earth-Science Reviews*, Vol. 151, 117–131.

DAVIES, J.R., WATERS, R.A., MOLYNEUX, S.G., WILLIAMS, M., ZALASIEWICZ, J.A., VANDENBROUCKE, T.R.A. 2016. Gauging the impact of glacioeustasy on a mid-latitude early Silurian basin margin, mid Wales, UK. *Earth-Science Reviews*, Vol. 156, 82–107.

#### Thomas Servais

*Lille University, France*

Thomas Servais continues acritarch studies as a CNRS researcher at Lille University, France.

Last year, Hendrik Nowak finished his PhD on the palynology of Cambrian-Ordovician Lagerstätten. Some papers already got published, and more are to come. Luckily Hendrik continues in palynology, with a post-doc at Bozen (Bolzano), Italy, on Permian-Triassic sections. In 2015, together with Hendrik, we published the discovery of the Early Ordovician *messaoudensis-trifidum* assemblage in Morocco, and an analysis of the diversity of the Cambrian phytoplankton (*Earth Science Reviews*). A new PhD student will start in October 2016, David Kröck. He will analyse the diversity and disparity of Palaeozoic phytoplankton, and thus extend Hendrik's work. Other papers last

year (2015) include the revision of *Dactylofusa velifera* (by Wang Wenhui and others).

For 2016, several papers are already available, some included in special issues of *Rev Palaeobot Palyn* concerning the terrestrialisation. One paper concerns the debate about the 'phytoplankton blackout' in the Late Palaeozoic. Other papers are about the palynology in the Fezouata Lagerstätte of the Moroccan Ordovician, or the revision of the Chinese Silurian acritarchs (by Yan Kui and others).

#### Victoria J. García Muro

*CCT CONICET, Mendoza  
Argentina*

I have finished my PhD thesis during 2014, under the supervision of Claudia Rubinstein, dealing with marine and terrestrial palynomorphs (marine phytoplankton, cryptospores and trilete spores) from the Silurian of western Argentina. We are currently working to publish the last paper related to the thesis.

A new paper has just been published, focused on Lower Silurian marine and terrestrial palynomorphs diversity trends, paleobiogeography, and palaeoenvironmental interpretation through palynofacies analysis. It is available on line for free up to August 8<sup>th</sup>, 2016! <http://authors.elsevier.com/a/1TEWalLwIm25Us>

During October we will assist to the XIV International Palynological Congress (IPC) and the X International Organisation of Palaeobotany Conference (IOPC) at Salvador de Bahia, Brazil.

Next year I will lead a research projects found by FONCyT concerning the Late Silurian-Early Devonian from western Argentina and south Bolivia. This project also counts with the collaboration of PLUSPETROL S.A.

#### Walter Riegel

*Walter.riegel@t-online.de  
walter.riegel@senckenberg.de*

This is to inform you, that my e-mail account at the university will be deleted as of July 14. Please, send future e-mails to my address at home (Walter.riegel@t-online.de) or at Senckenberg (walter.riegel@senckenberg.de) which I can open at home as well. In the near future I will also have to clear my desk at the university after 18 years of retirement, but continue to work at home and at the Forschungsinstitut Senckenberg, Frankfurt .

#### Wang Wenhui

*School of Earth Sciences and Engineering  
Nanjing University*

*No.163 Xianlin Avenue, Qixia District, Nanjing  
P.R. China*

[wwhever@126.com](mailto:wwhever@126.com)

Wenhui Wang is an assistant researcher at the School of Earth Sciences and Engineering in Nanjing University, China since 2013. Most of her research activities in 2015 had been involved in Ordovician-Silurian boundary projects and is mainly about graptolitic biostratigraphy. One paper was recently published about the earliest Silurian graptolites from a formation in Tarim which was uncertainly considered to represent the early Silurian. Another study, on the early Tremadocian '*Dictyonema Shale*' in Belgium, contributed to the regional biostratigraphy. Her activities in 2016 is composed of two parts. One is about a long-term study on the graptolitic biostratigraphy of early Silurian black shales from the Yangtze Platform in South China with Dr. X. Chen. Previous studies have proved that the intervals with higher quality of reservoirs are corresponding to certain graptolite biozonations. Study on graptolitic biostratigraphy could help to mark the favorable lithologic target zones for oil-gas exploration. Graptolites from the objective unit, the Lungmachi Formation, will be studied systematically. Another part of her research interest is on studies of Ordovician palynology. One is about the study on middle Ordovician chitinozoans from Qinghai Province in northwestern China. She also tries to use statistical methods in the classification of certain acritarch taxa.

#### WENHUI WANG, LUCY A. MUIR, XU CHEN AND PENG

TANG. 2015. Earliest Silurian Graptolites From Kalpin, Western Tarim, Xinjiang, China. *Bulletin of Geosciences*, 2015, 90(3), 519-542.

#### WENHUI WANG, THOMAS SERVAIS. 2015. A re-

investigation of the *Rhabdinopora flabelliformis* fauna from the early Tremadocian '*Dictyonema Shale*' in Belgium. *Geologica Belgica*, 2015, 18(1), 66-77.

#### Yan Liang

*China*

From this June, a project focused on the Early and Middle Ordovician chitinozoan biostratigraphy and biodiversity of South China is started and I take charge of it mainly. In addition, I joined the Innovation Group Project supported by the NSFC, which is fo-

cused on the Early Palaeozoic significant events and the mechanisms.

For some personal reasons, I asked for a leave in the first half of the year and it is a pity that I have missed some wonderful meetings.

This year, two articles have been published in Chinese, which are listed below:

**LIANG, Y, TANG, P., 2016A.** Early–Middle Ordovician Chitinozoan Biostratigraphy of the Upper Yangtze Region, South China. *Journal of Stratigraphy* 40, 136–150. (in Chinese, with English Abstr.)

**LIANG, Y, TANG, P., 2016B.** Early Ordovician to early Late Ordovician Chitinozoan biodiversity of the Upper Yangtze Region, South China. *Scientia Sinica Terrae* 46, 809–823.(in Chinese)

#### **Zélia Pereira**

*LNEG (Portuguese Geological Survey), Portugal*

[zelia.pereira@lneg.pt](mailto:zelia.pereira@lneg.pt)

I continue to work on long term projects on the Devonian and Carboniferous palynostratigraphy of the Iberian Pyrite Belt and South Portuguese Zone. I am developing a new challenging project with Paulo Fernandes in high resolution palynostratigraphy of the Permian Karoo of Mozambique, Africa.

**CORREIA, V., RIDING, J. B., FERNANDES, P., DUARTE, L. V., PEREIRA, Z., 2016** (In press). The palynology of

the Lower and Middle Toarcian (Lower Jurassic) in the northern Lusitanian Basin, Western Portugal. *Review of Palaeobotany and Palynology*.

**FERNANDES, P., LOPES, G., MACHADO, G., PEREIRA, Z., RODRIGUES, B. (2016).** Superimposed thermal histories in the southern limit of the Ossa Morena Zone, Portugal. *Geol. Mag., 1-18*. DOI 10.1017/S0016756816000248

**MATOS, J.X., BATISTA, M.J., REPRESAS, P., PEREIRA, Z. (2015).** Soil geochemistry and gravity inversion modelling of the Caveira massive sulphide deposit, Iberian Pyrite Belt. *Cong. Ibérico Geoquímica/XVIII Semana Geoquímica, LNEG, ISBN 978-989-675-039-8, p. 108-111.*

**PEREIRA, Z., FERNANDES, P., LOPES, G., MARQUES, J., VASCONCELOS, L., 2016.** The Permian-Triassic transition in the Moatize-Minjova Basin, Karoo Supergroup, Mozambique: a Palynological Perspective. *Review of Palaeobotany and Palynology, 226, 1-19.*

**SOLÁ, A.R., SALGUEIRO, R., PEREIRA, Z., MATOS, J.X., ROSA, C., ARAÚJO, V., NETO, R., LAINS, J.A., 2015.** Time span of the volcanic setting of the Neves Corvo VHMS deposit. *Cong. Ibérico Geoquímica/XVIII Semana Geoquímica, LNEG, ISBN 978-989-675-039-8, p. 120-123.*

### NEWS

#### STUDENT TRAVEL AWARDS

This year, CIMP will be awarding up to five student travel awards of 100 euros each to be used to attend a professional meeting. Last year, three student travel awards were made for attendance at the CIMP Bergen, Norway meeting. Those students were: Alexander Askew (talk), Emma Reeves (talk), and Dmitriy Mamntov (poster).

The Awards Committee this year will consist of myself (chair), Zélia Pereira, Paulo Fernandes, and Christian Cesari.

The award can be used for travel, registration fee, or accomodations.

To apply for a student travel grant, send the following:

- A **one paragraph** description of the research to be presented (include the abstract submitted for the presentation – if available);
- A brief outline of the requested amount and how the funds will be used;
- Applicant's email and postal address (university affiliation).

The above application materials should be sent by email to the Chair of the CIMP Awards Committee:

**Reed Wicander**  
wicandr@cmich.edu

**Deadline** for submitting application: **AUGUST 10, 2016.**

Student's will be notified of the committee's decision by August 20, 2016.

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#### CIMP FEES

Please don't forget to pay your annual CIMP subscription. Information on methods of payment can be found at <http://cimp.weebly.com/membership.html>.

It is easy, but why pay? Simple - you may help CIMP members (mainly students) to participate in meetings and congresses. You also may help in offsetting the costs of organizing social events during meetings. You may also 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!*

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#### OBITUARIES

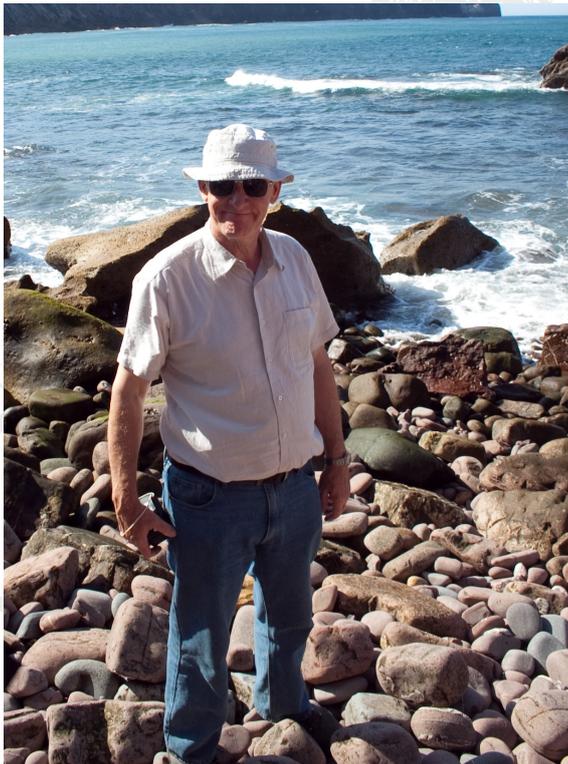
Dr. **Alfred Traverse** passed away in 2015 and a Memoriam of him can be found in the latest AASP - The Palynological Society Newsletter, December 2015, Volume 48, Number 4, pages 10-11.

A biography and obituary for Dr. Traverse can be found at the end of the Newsletter.

**AASP-TPS MEDAL FOR EXCELLENCE IN EDUCATION  
AWARDED TO PROF. GEOFFREY CLAYTON**

Professor (Emeritus Fellow) Geoffrey Clayton, Trinity College, Dublin will receive the AASP-TPS Medal for Excellence in Education at this year's TSOP – AASP – ICCP joint meeting in Houston, Texas (see meeting circular). This medal recognizes leaders in palynological instruction. Recipients have had considerable experience and accomplishment in academic education involving palynology, and especially the training of new scientists for this field.

This medal has only been awarded four times, most recently in 2013.



Professor Clayton has been a long-standing member of CIMP, including President from 1991-1999. He is very deserving of this honor, and I know all members of CIMP join me in congratulating Geoff Clayton as the latest recipient of this prestigious award. Geoff will be presented the Medal for Excellence in Education at the TSOP – AASP – ICCP meeting this fall.

*Reed Wicander*

## UPCOMING MEETINGS

**THE 50TH ANNUAL MEETING OF  
AASP – THE PALYNOLOGICAL SOCIETY  
~THE GOLDEN ANNIVERSARY MEETING~  
HELD JOINTLY WITH CIMP AND THE MICROPALAEONTOLOGICAL  
SOCIETY PALYNOLOGY GROUP  
NOTTINGHAM, UK – 3rd–7th SEPTEMBER 2017**

**Convenors:**

James B. Riding (BGS)  
Jan A.I. Hennissen (BGS)  
Maria Wilson (BGS)  
Matthew J. Pound (Northumbria University, representing TMS)  
Reed Wicander (CMU, Mount Pleasant, USA, representing CIMP)



AASP-THE PALYNOLOGICAL SOCIETY

50th ANNUAL MEETING

Nottingham 2017

**THE 50TH ANNUAL MEETING OF  
AASP – THE PALYNOLOGICAL SOCIETY  
THE GOLDEN ANNIVERSARY MEETING  
HELD JOINTLY WITH CIMP AND THE MICROPALAE-  
ONTOLOGICAL SOCIETY PALYNOLOGY GROUP**

**NOTTINGHAM, UK  
3RD–7TH SEPTEMBER 2017**

Find the first circular and subsequent circulars at  
<http://cimp.weebly.com> after 'NOTTINGHAM, UK  
– 3<sup>RD</sup>-7<sup>TH</sup> SEPTEMBER 2017

**Convenors:**

James B. Riding (BGS)  
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Matthew J. Pound (Northumbria University,  
representing TMS)  
Reed Wicander (CMU, Mount Pleasant, USA,  
representing CIMP)

**First Circular**

The 50th annual meeting of AASP – The Palynological Society will be held at the British Geological Survey (BGS), Keyworth, Nottingham NG12 5GG between the 3rd and 7th of September 2017. This will be the seventh time our yearly meeting has been held in Europe, and only the third occasion it has been in the UK.

This conference is to be held jointly with CIMP and The Micropalaeontological Society (TMS)

Palynology Group. The team of convenors look forward to welcoming you to the headquarters of BGS for this three-day meeting with the opportunity to participate in two one-day field trips to widely geologically contrasting areas of the East Midlands of England. We hope to make this annual meeting extra special because it is the 50th such event! This announcement is the first one, and the convenors will begin planning in earnest during early 2016.

The basic plan is detailed below; the fine details will be fleshed out during the months to come. We intend to offer participants a designated conference hotel in central Nottingham. Other accommodation, of course, will be in plentiful supply. BGS HQ is located at Keyworth which is ca. 7 km south of downtown so we will run a return bus service each day so that delegates can travel easily between the conference hotel and the BGS office. Other public transport solutions are also available! Morning tea, lunch and afternoon coffee will be all included in the registration package.

Delegates have the opportunity of going on a one-day pre-conference field excursion to the stunning Peak District of Derbyshire to examine Carboniferous carbonate and siliciclastic sedimentary rocks on Sunday 3rd September.

The icebreaker will be held on that evening. We intend to hold the now-traditional AASP-TPS

business evening at a suitable venue in central Nottingham on Monday 4th September. The conference dinner will be on Tuesday 5th September, and we hope to book the Long Room at the legendary Trent Bridge cricket ground immediately

south of downtown Nottingham. Trent Bridge is widely held to be the most beautiful of all our cricket stadia, and has witnessed many famous tussles between England and our distinguished pantheon of cricketing adversaries from around the world.

No specific social event is (at this stage) planned for the evening of Wednesday 6th September, which is when the conference proper closes. There will be a post-conference field trip to Bradgate Park in Leicestershire on Thursday 7th September where you will have the opportunity to hunt for (but not collect!) Ediacaran fossils. You will see the site where the very first representative of this world famous biota was discovered in the early 1960s.

## JOINT MEETING TSOP - AASP-ICCP

September 18 – 23, 2016  
Houston, Texas USA

The Society for Organic Petrology, AASP-The Palynological Society and the International Committee for Coal and Organic Petrology

## Final Circular

<http://palynology.org/home-page-2016-joint-meeting-tsop-aasp-iccp/>

We are pleased to present the final circular regarding this first historic joint meeting of these three related geological, geochemical and biological scientific societies. We have finalized our schedules of technical sessions including the Symposia and Theme Sessions, and further finalized the pre-meeting Short Course, and the two fieldtrips. The purpose of this joint meeting is to bring together a diverse group of scientists to discuss the close relationships between organic petrology and palynology, to foster thoughtful discussion and address issues that may be of benefit to furthering the respective sciences. Key themes to be addressed during joint activities include source rock/source-rock reservoir resource assessment, microscope methods of characterizing microporosity, coal characterization, and palynofacies/kerogen.

The venue for this meeting will be the historic Magnolia Hotel in downtown Houston. The Magnolia was built in 1926 as the former Post-Dispatch Building. It was re-purposed in 2003 as The Magnolia Hotel, and further underwent a significant upgrade in 2009. The hotel is centrally located in downtown within walking distance of excellent restaurants and pubs. Over



## JOINT MEETING TSOP - AASP - ICCP

The Society for Organic Petrology, AASP-The Palynological Society  
And the International Committee for Coal and Organic Petrology

September 18 – 23, 2016  
Houston, Texas USA  
FOURTH CIRCULAR

<http://palynology.org/home-page-2016-joint-meeting-tsop-aasp-iccp/>



the past several years downtown Houston has undergone a major revitalization with many new office buildings, exciting arts and entertainment venues, and several world-class restaurants. We believe the downtown will provide exciting possibilities for every need and want.

### REGISTRATION FEES

The following registration fees have been finalized for the meeting:

#### Professionals:

##### Full 5-day Registration:

Early Bird (before Aug. 1 <sup>st</sup> )	US\$300
After Aug 1 <sup>st</sup>	US\$350

##### 3-day Registration:

Early Bird	US\$225
After Aug 1 <sup>st</sup>	US\$275

##### 1-day Registration:

Early Bird	US\$100
After Aug 1 <sup>st</sup>	US\$150

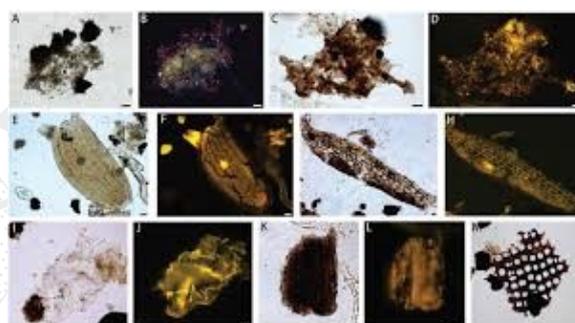
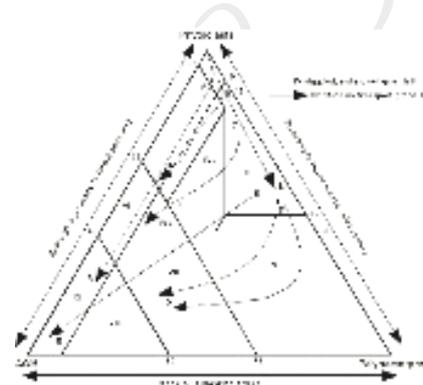
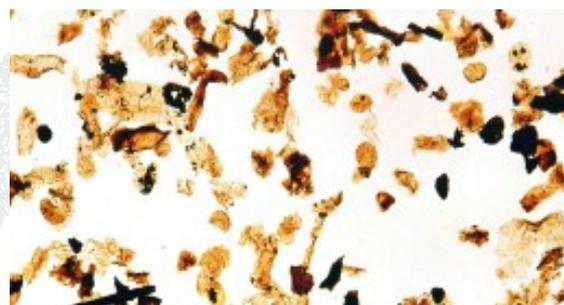
#### Student Registration:

Full 5-day Registration:	US\$250
3-day Registration:	US\$175
1-day Registration:	US\$75

### SHORT COURSE

**Saturday All-day Short Course:** It is the pleasure of the Organizing Committee to present an all-day pre-meeting short course entitled, "*Integration of microscopy and geochemistry in petroleum source rock evaluation*". The course will be taught by Dr. Richard Tyson (Getech, UK). The course will be presented in a classroom setting, and will emphasize the integration of microscopy and geochemistry to better understand and characterize source rocks in both conventional and unconventional exploration. The interpretation of both palynofacies and organic petrological data will be discussed. Additional details of the short course are being finalized and will be published in upcoming announcements.

The costs for this full-day Short Course will be **US\$250** for professionals, and **US\$200** for students. This will include all class materials, lunch and coffee breaks through the day. At this time the class is limited to 40 people and a percentage of attendance will be reserved for students. Attendance will be based on a first-come, first-served basis.



### SYMPOSIA/THEME SESSIONS

After considerable discussion, a number of integrated Symposia and Theme Sessions have been finalized. These will include:

**Special Session in Honor of Jack Burgess**  
(TSOP Theme Session: Monday AM)

**Microscope Methodologies in Recognizing and Characterizing Organic Microporosity**  
(Joint TSOP/ICCP Theme Session: Monday PM)

**Palynofacies and Kerogen**  
(Joint TSOP/ICCP/AASP Theme Session: Tuesday PM)

**Multi-modal Characterization of Source Rocks, including Source-Rock Reservoirs**  
(Joint TSOP/ICCP/AASP Symposium: Wednesday All-Day)

**Palynofloral Contributions to Source Rocks**  
(AASP/TSOP/ICCP Theme Session: Thursday AM)

Additional AASP-sponsored sessions will include:

**Alfred Traverse Symposium** (Thursday PM Guest Lecture on **Forensic Palynology** to open the Friday AM general session.

The list of Keynote Speakers has been finalized. For many of the proposed joint sessions, at least one organic petrography/geochemistry and one palynology Keynote Speaker will be present. All interested scientists will be strongly encouraged to contact us and propose to submit their abstract(s) for one or more of these Sessions and the all-day Wednesday Symposium.

### ABSTRACT SUBMISSIONS

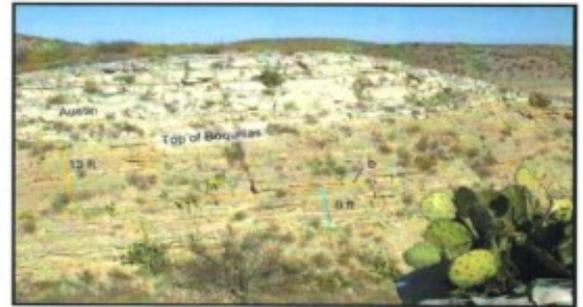
All scientists of organic petrography and palynology are strongly encouraged to submit their abstract(s) to one or more of the Symposia, Theme and General Sessions. **Abstract submissions opened on Sunday, May 1<sup>st</sup>, and the closing date for submissions will be Sunday, August 1<sup>st</sup>.** Please see the Meeting web Homepage for Abstract submission guidelines.

### FIELD TRIPS

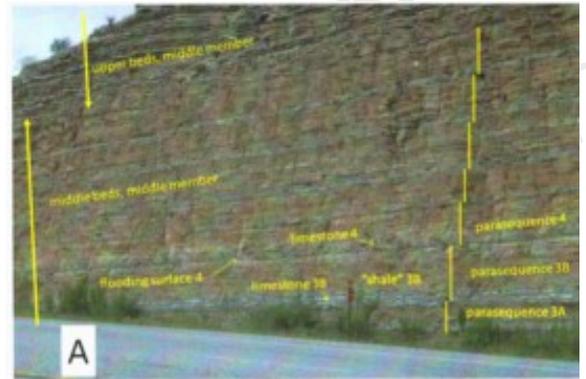
**Friday-Sunday Pre-Meeting Field Trip:** This 2+ day field trip will visit Eagle Ford Formation outcrops in west Texas, and will be led by Barry Wakwak (Manager of Reservoir Geology, Core Laboratories Houston). The field trip will depart on the afternoon of the Friday prior to the meeting, and return by Sunday late afternoon or early evening. The Eagle Ford Formation is a world-class source-rock reservoir resource in the subsurface of south Texas, and the accompanying strata have been researched extensively in stratigraphic, geochemical and biostratigraphic studies.

The cost for this fieldtrip will be **US\$550** and will include the field guide, transportation by vans, two nights of accommodation, and two lunches. Dinners for the two evenings will be at the expense of the individual. The fieldtrip is not strenuous as most outcrops are along the highway, or a short distance from well-kept roads. Hiking boots and proper field equipment will be required. Safety equipment (hard hats, safety vests) will be provided.

**Saturday Post-Meeting Field Trip:** This will be a one-day excursion to Cretaceous through Eocene strata of east-central Texas. These strata are equivalent to the important Wilcox Formation that forms major reservoirs in the subsurface of the deepwater Gulf of Mexico. The field trip will



Top contact of Boquillas (Eagle Ford), conformably overlain by the Alco Chalk of the Austin Group. Unit B is a bentonite. This is an outcrop in the old road cut, Osman Canyon (taken from Lock et al. 2010).



Parasequences seen in a road cut outcrop of the Boquillas (Eagle Ford) Formation (taken from Lock et al. 2010).



leave early Saturday morning from the Hotel, and return early evening back to Houston.



The cost for this fieldtrip is **US\$80** and will include the field guide, transportation by vans, and lunch. The fieldtrip is not strenuous as most outcrops are a short distance from well-kept roads. Hiking boots and proper field equipment will be required. Safety equipment (hard hats, safety vests) will be provided. Photos from Dickey and Yancey (2010).

### SOCIAL EVENTS

Multiple social activities of interest to all participants have been finalized and will take place at the hotel and nearby off-site venues.

**Monday PM Icebreaker:** The Monday evening Icebreaker will take place on the rooftop patio of The Magnolia Hotel (weather permitting). The patio offers a great view of the Houston downtown skyline and sunset.

**Tuesday PM Happy Hour (TSOP/ICCP):** On the Tuesday late afternoon, a Happy Hour will accompany an opportunity to view the posters that will be part of the technical aspect of the meeting. Drinks and finger food will be served and there will be sufficient opportunity to chat with authors about their poster displays.

### Conference Dinner:

A conference dinner has been finalized at the nearby Sambuca Café, a couple blocks walk from



Conference Dinner: Sambuca Cafe

The Magnolia Hotel, in the historic Rice Hotel. The Sambuca Café is well-known for its vibrant music scene and excellent food. The evening will include two free drinks, appetizers, and a three-course meal in a designer atmosphere, with live music for your listening enjoyment. Our special events area will allow access to an outdoor patio to allow for quiet conversation. The conference dinner will be **US\$75** per person.

**Thursday PM Happy Hour (AASP/ICCP):** A Thursday late afternoon Happy Hour will allow folks to enjoy the AASP poster sessions as part of the technical aspect of the meeting. Drinks and finger food will be served and folks will be encouraged to mingle with the authors and discuss their poster displays.

In addition to all these events, attendees will have sufficient opportunity to enjoy the Houston downtown with its numerous world-class restaurants, and abundant drinking establishments.

#### SOCIETY BOARD MEETINGS

Along with the technical and social activities, the respective Societies will have their necessary Board of Directors meetings, and Business Lunches. The current schedule includes:

**ICCP Council Meeting:**  
Sunday, September 18<sup>th</sup> 16:00-21:00

**TSOP Council Meeting:**  
Sunday, September 18<sup>th</sup> 17:30-21:00

**TSOP/ICCP Business Luncheon:**  
Tuesday, September 20<sup>th</sup> 12:00-14:00

**TSOP Council Meeting:**  
Tuesday, September 20<sup>th</sup> 19:00-21:00

**AASP-TPS Outgoing Board Meeting:**  
Tuesday, September 20<sup>th</sup> 19:00-22:00

**ICCP Council Meeting:**  
Thursday, September 22<sup>nd</sup> 18:00-21:00

**AASP-TPS Business Luncheon:**  
Friday, September 23<sup>rd</sup> 11:30-13:30

**AASP-TPS Incoming Board Meeting:**  
Friday, September 23<sup>rd</sup> 17:00-18:30

#### TRANSPORTATION AND ACCOMMODATIONS

Houston is a significant transportation hub and the Intercontinental Airport (IAH) is serviced by all major airlines from Europe and Asia. Both airports (IAH and HOU) are serviced by the major US-based airlines: IAH is a major hub for United Airlines, and HOU is a major hub for Southwest Airlines. All the major American airlines (e.g. Delta and American) fly into IAH numerous times through the day. All major European, Asian and Middle East airlines (e.g. KLM, British Airways, Air France, Lufthansa, Singapore, Korean Air, JAL, Emirates, and Qatar Airways) fly once a day in and out of IAH. Transportation to and from the downtown area from both airports is available via taxi, shuttle, and MetroBus. A special meeting rate has been negotiated for meeting attendees with Houston Super Shuttle to provide van or Towncar transportation from either airport to The Magnolia Hotel (and return to the airport). Please visit the Meeting website and see the Transportation tab for further information on these services.

**The Magnolia Hotel:** Our current negotiated room rate at The Magnolia hotel is US\$179/night (single occupancy). Double- and triple- occupancy will be priced accordingly. This room-rate includes:

- FREE in-hotel/in-room Wifi
- Complimentary hot breakfast
- Late afternoon happy hour (complimentary beer/wine)
- Complimentary evening cookie buffet
- Reduced valet parking fees



garding the Hotel may be found at:

<http://magnoliahotels.com/houston/magnolia-hotel-houston.php>

**Alternative Accommodation:** A listing of alternative hotels in the downtown area will be made available upon request.

Reservations may be made directly with The Magnolia Hotel at the website:

[https://resweb.passkey.com/Resweb.do?mode=welcome\\_ei\\_new&eventID=13814522](https://resweb.passkey.com/Resweb.do?mode=welcome_ei_new&eventID=13814522).

This website is also available through the Meetings website homepage. Additional details re-

### ORGANIZING COMMITTEE

The local Organizing Committee consists of Thomas Demchuk (RPS), Jen O'Keefe (Morehead State U.), Thomas Gentzis (Core Laboratories) and Joe Curiale (Independent). We look forward to a great joint meeting in September. If you should have any questions regarding the meeting, you may send an e-mail to [tdemchuk@swbell.net](mailto:tdemchuk@swbell.net)



**XIV IPC  
X IOPC**  
*Palaeobotany and Palynology  
towards new frontiers*

*XIV International Palynological Congress  
X International Organisation of Palaeobotany Conference*

SALVADOR - BAHIA - BRAZIL

OCTOBER | 23 - 28 | 2016

FIRST CIRCULAR

Every four years the world community of palynologists and palaeobotanists are gathered to discuss the latest advances in their researches, and exchange technical developments. Hence, the meeting of these two communities will take place in Salvador de Bahia, Brazil. This will be the first time that both the XIV International Palynological Congress (IPC) and the X International Organisation of Palaeobotany Conference (IOPC) will gather together in a joint congress in the southern hemisphere. The joint event will be on 23-28 October 2016. It will be an excellent opportunity for Brazil, a country rich in plant fossil sites and boasts a highly diverse flora in the world, to host the leading experts in various disciplines and promote scientific innovations.

## VENUE

Founded in 1549 by Portuguese navigators, Salvador is now the third largest city in Brazil, famous for its Carnival and its afro-Brazilian culture. Salvador is also the biggest black city out of Africa. It is rich in historical sites, which includes it to the UNESCO World Heritage List, especially the "Baía de Todos os Santos".

The Elevator Lacerda was the first urban elevator in the world. It was built to connect two cities that existed (and exist) within the city of Salvador: the Lower Town and the Upper Town. Its choice is a reference to the theme of the event "Palaeobotany and Palynology: towards new frontiers" that is allusive to the role of Paleobotany and Palynology at the interface with new areas of knowledge. In addition, it is also a way to mark the presence of the two events together in a new land: Salvador, which has the Elevator Lacerda one of its main symbols.

The venue is situated in the beautiful beach of Salvador, and offers exceptional transport links by bus, which takes you to the city centre in just 15 minutes.

The congress sessions will be held in:

**Bahia Othon Palace**

Av. Oceânica, 2294 - Ondina | Salvador - BA, 40170-010.

Phone: + 55 71 2103-7100



## SYMPOSIA

A great diversity of palaeobotanical and palynological topics will be presented in symposia and poster sessions at the congress. The Organizing committee will accept symposium proposal (up to 31 October 2015), and after evaluation of Scientific Committee, the selected symposia will be presented for subscriptions. Fill in the form attached for proposing a symposium. Besides symposia, some general sections will be scheduled on many areas of Palaeobotany and Palynology (Morphology, Technique, Taxonomy, Applied Subjects and others).



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FIRST CIRCULAR

## PROPOSED SCHEDULE

Timetable	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
08:30 to 10:30	Pre-Congress Courses	Registrations	Symposia and general presentations				
10:30 to 11:00			Coffee Break				
11:00 to 13:00			Symposia and general presentations				
13:00 to 14:30	Lunch	Registrations	Lunch	Lunch	Lunch	Lunch	Lunch
14:30 to 16:30	Pre-Congress Courses	Registrations	Symposia and general presentations				
16:30 to 17:00			Coffee Break				
17:00 to 19:00			XIV IPC XIOPC Opening Ceremony	Oral and poster presentations			
19:00 to 21:00			Cultural activities	Cultural activities	Cultural activities	Cultural activities	

## FIELD TRIPS (POST CONGRESS):

- Baía de Todos os Santos (Bahia State) – one day
- Chapada Diamantina (Bahia State) – four days
- Chapada do Araripe (Bahia State) - five days
- Natural Monument of the fossilized Tocantins trees (Bielândia / Filadélfia, Tocantins State) – five days





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FIRST CIRCULAR

## REGISTRATION FEES

The registration fee includes:

- Access to all congress sessions and the exhibition areas.
- Ice Breaker (Welcome reception).
- Congress documentation and abstracts volume.

Periods	Professional	Student*
Up to DEC.2015	R\$ 600,00	R\$ 450,00
JAN-MAR.2016	R\$ 800,00	R\$ 550,00
APR-SEP.2016	R\$ 1.000,00	R\$ 650,00
OCT.2016	R\$ 1.200,00	R\$ 750,00
Course fee – R\$ 100,00		

\*Students must be enrolled in an educational (or scientific) institution (Please send an official proof of student status by email: [inscricoes@gt5.com.br](mailto:inscricoes@gt5.com.br))

The Congress fee is mandatory for all attendees including speakers, presenters (oral and poster) and those chairing or attending a session.

There will be grants from IFPS and IOP for those professionals and student who will attend the congress. As soon as possible rules and directions will be released.

## COMMITTEES

### ORGANIZING COMMITTEE

- Francisco de Assis Ribeiro dos Santos, UEFS, President
- Cláudia Elena Carneiro, UEFS
- Francisco Hilder Magalhães e Silva, UNEB
- Jailson Santos de Novais, UFSB
- Luciene Cristina Lima e Lima, UNEB
- Marileide Dias Saba, UNEB
- Paulino Pereira Oliveira, UEFS
- Ricardo Landim Bormann de Borges, UNEB
- Rita de Cássia Matos dos Santos Araújo, UNEB

### SCIENTIFIC COMMITTEE

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- Paulo Eduardo de Oliveira, USP
- Roberto Ianuzzi, UFRGS
- Tânia Lindner Dutra, UNISINOS
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### ORGANIZERS



### CO-ORGANIZERS



### EXECUTIVE SECRETARY

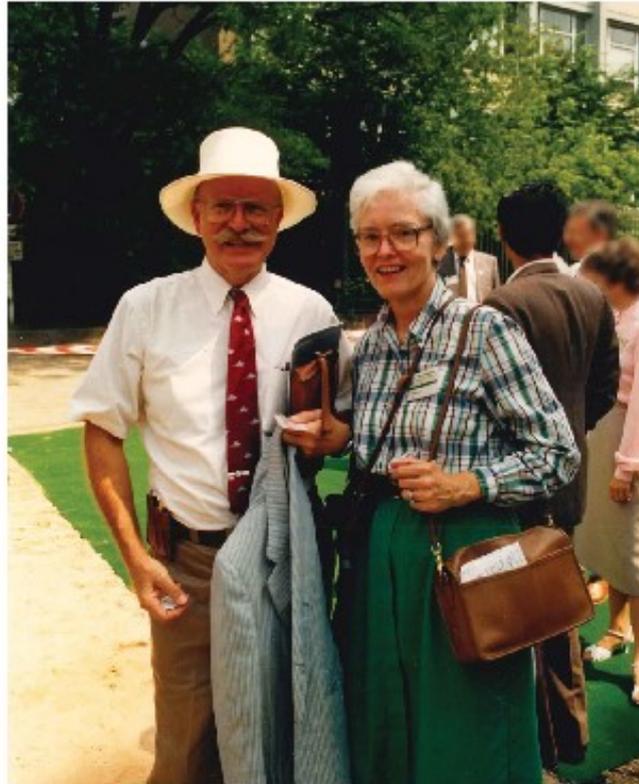


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### A biography and obituary of Alfred Traverse (1925–2015)



Al and Betty Traverse in the *Botanischer Garten*, Berlin, Germany in August 1987.

#### 1. Introduction

Professor Alfred ('Al') Traverse passed away following a long illness at 90 years of age on September 15<sup>th</sup> 2015 at Juniper Village, State College, Pennsylvania, USA. With his death, the twin sciences of palaeobotany and palynology have lost one of their most influential and productive of practitioners and teachers. He had a stellar student career, was a coal petrologist, an industrial palynologist and held parallel positions in the Episcopal (Anglican) church. However he is principally defined by his 30-year tenure as a professor at The Pennsylvania State University (Penn State) from 1966

to his full retirement in 1996. Al was an incredibly diverse scientist; the topics of his numerous research papers are highly eclectic. He demonstrated a truly polymathic approach to palaeobotany and palynology. Most notably, he published two editions of the only single-author textbook ever published in English on pre-Quaternary palynology. This short article seeks to celebrate and document Al's fascinating, fulfilling, long and productive life, hence it is designated as both a biography and an obituary. The authors have drawn on their collective memories, Al's publications, online information and other obituaries such as Anonymous (2015) and Rich & Strother (2015).

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## 2. Childhood and schooling (1925–1943)

Alfred Traverse was born on the 7<sup>th</sup> of September (Labor Day) 1925 at St. James Anglican rectory in Port Hill, Prince Edward Island, Canada. He was always known as Al to everyone, and was the son of the Reverend A. Freeman Traverse, a priest in the Episcopal church. His mother was Pearle Akerley Traverse, who was a dietician and schoolteacher. In 1926 the Traverse family moved to Lucknow in southern Ontario, and then to Allegan, Michigan, USA in 1928. Al never moved back to Canada, and he became a naturalised United States citizen in 1934. He went to primary and secondary public schools in St. Joseph, Michigan, graduating from high school in 1943 as the valedictorian (highest-ranking student) of his class. Al was clearly an outstanding student; he was editor of the school newspaper, president of the local chapter of the National Honor Society and he won the Bausch and Lomb Science Award.

## 3. Al Traverse the university student (1943–1951)

Al's stellar school record was rewarded with a freshman scholarship at Harvard University, commencing in June 1943. He majored in biology, and graduated with a bachelor's degree *magna cum laude* (with great honour) in 1946. Al was elected to Phi Beta Kappa (the oldest academic society in the USA). His bachelor's honours thesis, directed by Professor Paul C. Mangelsdorf, concerned a problem in corn genetics. It was clear at the outset that Al exhibited a definite penchant for botany. Al was as active at university as he had been at school; he sat on several student council committees and was a member of the Speakers Club.

Upon graduation, Al won a Lady Julia Henry Fellowship to undertake scientific research in England. These awards are given by Harvard and Yale universities to unmarried US citizens in order to allow them to undertake one year of study at either Cambridge or Oxford universities in the UK. Al spent the academic year 1946–1947 working on palaeobotany under the legendary figures of Sir Harry Godwin and Hugh Hamshaw Thomas at the School of Botany of the University of Cambridge. He was affiliated to King's College Cambridge, and was awarded a Certificate in Botany in 1947.

Al returned to Harvard in August 1947 to become a graduate student, and held an Anna C. Ames scholarship. He continued his work on palaeobotany, and also began his research in palynology. Al was awarded a Master's degree by Harvard in 1948, and elected to Sigma Xi, at the age of 23. Somewhat inevitably, Al elected to undertake research towards a PhD. Additionally, he was a dormitory proctor, freshman advisor and teaching fellow at Harvard. His supervisor, Elso S. Barghoorn, advised Al to undertake research on the palynology of the Early Miocene Brandon Lignite of Brandon,

Vermont. Al was Elso Barghoorn's second PhD student. Barghoorn's first graduate student, William ('Bill') Spackman, was researching the fossil wood from the Brandon Lignite at around the same time (Barghoorn & Spackman 1949; 1950). Later, during the 1970s, Bruce Tiffney worked on the fruits and seeds from the Brandon Lignite (e.g. Tiffney & Barghoorn 1976; Tiffney 1994).

The field locality in Vermont was relatively remote, and Al always contended that the only travel funds he ever received from Elso Barghoorn was a \$10 bus ticket to Vermont (Rich & Strother 2015). Fieldwork at the small field site was challenging; the immediate area was profoundly waterlogged, and an old gas-fired pump was needed to prevent the locality from flooding. Al was awarded his PhD by Harvard in June 1951 at the age of 26 for a dissertation entitled *The pollen and spores of the Brandon Lignite: a coal in Vermont of lower Tertiary age*. This thesis was the first ever in North America on pre-Quaternary palynology. Al published a seminal paper on his PhD research four years later (Traverse 1955). During June 1951, he married Elizabeth Jane ('Betty') Insley, who was also trained in botany, graduating from Wellesley College, Massachusetts, in June 1951. Betty and Al first met in the biology laboratories at Harvard University in 1949.

## 4. Government service and the oil industry (1951–1962)

The year of 1951 was truly a landmark one for Al, who was hired as a coal technologist by the United States Bureau of Mines (USBM) Lignite Research Laboratory at Grand Forks, North Dakota. His mission was to work on the palynology and petrography of the Paleocene lignites of that state. Al went on to be appointed head of the Fuels Microscopy Laboratory. While at Grand Forks, Al was also Assistant Research Professor of Geology at the University of North Dakota. Paul and Martha, the eldest two of Al and Betty's children, were born in North Dakota. During his sojourn at Grand Forks, Al travelled to Ann Arbor, Michigan, in the autumn of 1953, to meet Chester A. Arnold, who was one of the leading palaeobotanists of that time. One of the authors (WGC) was working with Arnold on Pennsylvanian megaspores at that time, and the three took a collecting trip to a very productive Pennsylvanian quarry near Ann Arbor. That meeting started a friendship between Al and WGC that lasted some sixty years.

In early 1956, the USBM transferred Al to their office at the Federal Center in Denver, Colorado, to become the head of the coal microscopy laboratory. However only several months after arriving in Denver, he accepted an offer from the Shell Development Company to establish a palynology laboratory at their Bellaire Research Facility in Houston, Texas, during September 1956. One of the several reasons for this change in career path was that the USBM had

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indicated that they would like Al to undertake sample collecting in underground mines. He was rather claustrophobic and this clearly was a significant factor in Al joining Shell. The Shell job was Al's first primary position as a palynologist, at a time when stratigraphical palynology was expanding almost exponentially in the US oil industry and elsewhere (Hoffmeister et al. 1955; Woods 1955). This new job led to Al travelling to the international headquarters of Shell in The Hague, The Netherlands, where he spent four months undertaking corporate orientation and studying their in-house palynological techniques. Upon his return, the Traverse family settled in Houston where Al worked for Shell until 1962. His research at Shell was not biostratigraphical, but comprised studying the sedimentation and transport of pollen and spores in seawater and modern sediments off the Bahamas and in the Trinity River system, Texas. The Trinity River was chosen by Al because, at that time, it was not dammed upstream so the waters should represent all the hinterland flora. Al was given a free hand to conduct this basic research as he saw fit because it was clearly deemed to be of strategic value to the company. Another major project for Al was the compilation of a modern pollen reference collection. The far-sighted approach of Shell was also adopted by the Carter Oil Company in Tulsa, Oklahoma, under William S. ('Bill') Hoffmeister at this time (Riding & Lucas-Clark 2016). Later, Al was able to publish some of this research (e.g. Traverse & Ginsburg 1966; 1967; Traverse 1990; 1992; 1994a). He successfully applied this type of taphonomic work on pollen and spores to the study of pre-Quaternary kerogen macerals and palynomorphs, and this work culminated in Traverse (1994b). John and Celia, the two youngest children of the Traverse family, were born in Houston.

##### 5. A man of the cloth for 30 years (1951–1981)

Much to the considerable surprise of contemporary palynologists, Al resigned from full time work with Shell in 1962 and enrolled in the Episcopal Theological Seminary of the Southwest in Austin, Texas. He had been brought up as a churchgoer, and his father was an Episcopal priest. However, he also continued with Shell as a consultant between 1962 and 1965. Al graduated with a Master of Divinity degree in June 1965 as the top ranked student. He was soon ordained deacon in the Episcopal church, and became an assistant clergyman at a local branch. Al combined his ecclesiastical duties of a curate at St. Matthew's Episcopal Church, Austin, with being an Assistant Professor of Geology at the University of Texas for the academic year 1965–1966. It was at the University of Texas where Al first presented his introduction to palynology course.

During Al's tenure at Penn State (section 6), he held positions as priest and vicar in several Episcopal churches in Pennsylvania. One of these was being assistant rector at St. Paul's Episcopal Church in Philipsburg until May 1975. He later moved to St. John's Episcopal Church in Huntingdon, from November 1975 to July 1980 where he worked as a part-time priest-in-charge.

While in Zürich in 1980–1981 (section 9), Al became an assistant priest at the *Christuskirche* (the Old Catholic Church), which had a close affiliation with the Anglican/Episcopal Church. Al's affiliation with the *Christuskirche* was his last formal connection with organised religion. Following a great deal of, no doubt, agonising self-deliberation upon his return to Penn State in 1981, Al realised that he was better categorised as a secular humanist. He felt that the Episcopal Church was too ecclesiastically liberal for his liking. For example Al deplored the fact that some bishops had been through multiple divorces; he was also against the ordination of women. Clearly his secular humanist stance made more sense to him of his present life, and he referred to himself being a 'religion of one'. Following this watershed, he remained very positive about his religious past and did not reject it. Al made no public disavowal of his long formal association with the church. Despite this major life decision, Al continued to occasionally serve in a religious role at minor local functions.

##### 6. The defining professional appointment: The Pennsylvania State University (1966–1996)

In June 1966, the month after being ordained as a priest, Al returned to full-time palynology, accepting the position of Associate Professor of Geology and Biology at Penn State in State College, Pennsylvania at the age of 40. Interestingly Al's great friend Bill Chaloner was the first choice for this job, but Bill decided to pursue his primarily palaeobotanical interests in the UK instead. Al was promoted to full Professor of Geology and Botany (later Palynology) in May 1970, and held this position for the rest of his career. Al was among the first ever Professors of Palynology in the world. At Penn State, Al established a modern palynology processing laboratory and taught palynology to both undergraduate and graduate students. Al was an extremely talented teacher, and his *magnam opus Paleopalynology* (Traverse 1988a; 2007) is largely based on the content of his courses.

Al's most long-running and successful course was the famous Geosciences/Biology 423 module. This course in basic palynology was run at Penn State from 1966 until 1996. He also taught several other courses including evolution, historical geology, advanced palynology, palaeobotany, philosophy and religion. Incidentally, Al appeared for his lectures on evolution, philosophy and religion in full clerical garb including

the priest's collar! Geosciences/Biology 423 was always well-enrolled, and it was this enduring popularity which ensured its remarkable longevity. It was not simply the famous Traverse charisma which made Geosciences/Biology 423 so popular. This was not just another survey (textbook-based) course because Al adopted an inquiry-led approach which was significantly ahead of its time. After a suitable interval of classroom teaching and practicals, each student was provided with an unknown (to them) rock or sediment sample. Their task was to process, analyse and interpret the geological age to stage level. At the time at Penn State, no other undergraduate course offered the opportunity to acquire hands-on experience of what real practitioners do. Unsurprisingly, this innovative method of teaching enthused many of Al's students, and some of these went on to become professional palynologists of significant stature. When the Traverse children had grown up, Betty became Al's volunteer research assistant and sample processor, as well as demonstrating in the laboratory on the Geosciences/Biology 423 course.

Al supervised many graduate students at Penn State. His 12 PhD students were: John W. Bebout (1977); Dale C. Beeson (1992); Lynn Brant (1980); Bruce Cornet (1977); Duck Kuen Choi (1983); Robert E. Dunay (1972); Volkan S. Eidiger (1986); Martin B. Farley (1987); Ronald J. Litwin (1986); Douglas J. Nichols (1970); Eleanora I. Robbins (1982); and David J. Rue (1986). His eight Masters students were: Said Al-Hajri (1991); Deborah Delfel (1979); Norma G. Johnson (1984); Ronald J. Litwin (1983); Frederick K. May (1972); Andrew Schuyler (1987); Jamison B. Warg (1972); and Harvey S. Zeiss (1976). He also, of course, advised many individuals who were graduate students of other professors. Amongst these PhD students were: Arthur D. Cohen (1968); Thomas D. Davies (1980); Sarah J. Fowell (1994); Carmen Moy (1982); Fredrick J. Rich (1979) and Francis T. Ting (1967). Furthermore, Al advised many future palynologists in their undergraduate days at Penn State; these include Nan Crystal Arens, Paul K. Strother, Debra A. Willard and Pierre A. Zippi. He could be rather formal with students, and would ask them to address him as Dr or Professor Traverse, or perhaps Alfred (certainly not Al).

## 7. Publications

In all, Al published 120 scientific contributions between 1950 and 2015, and these are listed chronologically in the online supplementary information. The diversity of his science has already been alluded to. Al's research papers range from Lower Palaeozoic acritarchs to modern pollen and spores, together with contributions on a wide variety of topics such as archaeology, coal petrography, evolution, fungal spores, nomenclature/

taxonomy/systematics, palaeobotany, palaeoecology and palynological techniques. Without doubt, his most important publication was his great textbook, *Paleopalynology*, of which the second edition was published nine years ago (Traverse 1988a; 2007). Al had diverse research interests, but he developed several major research themes which he explored over many years. These include the palynological study of red beds (e.g. Dunay & Traverse 1971; Litwin et al. 1991). Reddened, oxidised strata are normally very low in organic content. But Al proved that, with persistence, one can frequently find beds of non-oxidised sedimentary rock in what appears to be unpromising brown-red coloured successions. Al undertook analyses of the Franciscan Complex of California, a metamorphic unit, on the recommendation of his erstwhile colleague from his Shell days, Ken J. Hsü. The Franciscan Complex palynomorphs are very poorly-preserved so Al termed this work 'marginal palynology' (Traverse 1972). Other examples from the early part of his career include the palynology and petrography of coals, and the taphonomy of modern pollen grains in water bodies (e.g. Traverse 1954; Traverse & Ginsburg 1966; 1967). Al maintained a keen interest in all aspects of the nomenclature, systematics and taxonomy of pollen and spores throughout his life; his first publication on this topic was Traverse (1956). Similarly, he was profoundly interested in all aspects of techniques in palynology (e.g. Traverse 1965; Litwin & Traverse 1989).

Al was one of the authors of the well-known 'Catalog of Fossil Spores and Pollen' (CFSP) which was initiated in 1957. The CFSP is a comprehensive systematic compendium of the original descriptions and illustrations of pre-Quaternary pollen and spore taxa. This major series was instigated in 1956 by Gerhard O.W. Kremp (1913–1994), while he was at Penn State working with Bill Spackman on the palynology of the coals of South Dakota. The first editors were Herbert Tate Ames, Hilda Grebe, Gerhard Kremp and Bill Spackman (Traverse et al. 1970). Al joined this team, was a member of the Editorial Board between 1957 and 1966 and served as editor-in-chief in 1966–1967. He co-authored volumes 26 to 40 between 1967 and 1976 (see the supplementary online information). The series was discontinued in the 1980s; the final volume, number 44, was published in 1985 (Traverse 2007, p. 35).

Unlike many other palynologists Al was a relatively late convert to biostratigraphy. His first biostratigraphical paper was Dunay & Traverse (1971), which was published when Al was in his mid-40s. Very many other contributions on palynostratigraphy followed, over a wide range of ages from Ordovician to Neogene (e.g. Pazzaglia et al. 1997; Strother et al. 2015). Later he turned his attention to topics such as archaeology,

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fungal spores, and global floral dynamics and evolution (e.g. Traverse 1982; 1988b; Traverse & Ash 1994; Dunning et al. 1998).

Without any doubt, the pinnacle of AI's publication record is his textbook *Paleopalynology*. This is the only single-author textbook in English on pre-Quaternary palynology, and it ran to two editions (Traverse 1988a; 2007). Tschudy & Scott (1969) is a relatively old text, overwhelmingly focussed on terrestrially-derived palynomorphs, comprising 18 chapters written by different specialists. Evitt (1985) is entirely on dinoflagellate cysts, and Jansonius & McGregor (1996) is a three-volume set with 32 chapters written by many different authors including AI (Traverse 1996). *Paleopalynology* formed the core of AI's popular undergraduate course Geosciences/Biology 423 that he ran at Penn State, and undoubtedly played a similar role in the hands of many other teachers of pre-Quaternary palynology the world over. AI said about *Paleopalynology* that 'it offered most of the information necessary to teach a good course in palynology, and as a handy, one-volume reference to palynological subjects.' Its utility is significantly enhanced by a comprehensive bibliography, glossary and index.

*Paleopalynology* is a remarkable book; it is superbly-written, and phrased in an extremely personable style such that it is almost like reading a novel. The first edition, which was 600 pages, has 18 chapters which are very logically set out. Pre-Quaternary palynology was defined, and its limitations were discussed in the first two chapters. The biology and morphology chapters (4 and 5 respectively) were all on pollen and spores; marine palynomorphs were only discussed as appropriate in the chapters on stratigraphical palynology (6–16). The stratigraphical chapters are comprehensive, consummately-researched and well-illustrated with very many quite small photomicrographs. It would be a very useful book to take if one was dispatched on a remote biostratigraphy mission and had limited luggage space. One of the joys of the book is that AI discussed and illustrated important figures in both historical and contemporary palynology. Giving photographs of eminent palynologists such as Charles Downie, Robert Potonié, and David Wall really brought the book to life (Traverse 1988a, p. 13, 123, 244).

In the intervening two decades AI revised the book, and the second edition was issued nineteen years later (Traverse 2007). It had the same basic structure, but was significantly larger at 813 pages and the front cover proudly sports a fabulous montage of palynomorphs compiled by Rodolfo Dino together with four notable palynomorphs selected by AI. He did a superb job in updating this work and consulted widely. All the present authors, and many others, helped AI; for example he illustrated some of the Australian Jurassic dinoflagellate cysts formalised by JBR in 2001 (Traverse 2007, p. 382–383). More photographs of prominent

palynologists were included this time, including David J. Batten, William G. Chaloner, Alfred Eisenack, William C. Elsik, Sir Harry Godwin, Jan Jansonius and Sofiya N. Naumova (Traverse 2007, p. 197, 218, 231, 331, 408, 475, 561). Betty Traverse significantly helped AI with information technology and secretarial support for both issues of the book, and each edition was reviewed by Hughes (1989) and Gajewski (2008) respectively. The first edition of *Paleopalynology* was followed by another major text edited by AI, entitled *Sedimentation of organic particles* (Traverse 1994b). This is a book comprising 23 chapters, totalling 544 pages, arranged into four sections based on geological age and authored by 35 experts on kerogen macerals ('palynodebris') and palynomorph taphonomy, two of AI's major research interests. Many of the authors presented papers on this topic at the International Palynological Congress in Brisbane, Australia in 1988 at a symposium organised by AI. Some of the presentations in Brisbane were published in volume 64 of *Review of Palaeobotany and Palynology* in 1990. However Traverse (1994b) was inspired by the Brisbane symposium, but is a far broader treatment of the subject than what was presented in Australia. The emphasis throughout is on the qualitative and quantitative aspects of the sedimentation of all types of organic particles, and the text explores their relevance in palaeoecology and sequence stratigraphy. Traverse (1994b) is one of the major works on palynofacies, and the chapters describe studies on a wide variety of geological ages and localities. Again Betty helped AI out greatly with all aspects of this book, which was reviewed by Hooghiemstra (1995).

#### 8. AI Traverse and committees

AI's contribution to palynology extended significantly beyond his research and teaching. He was an active and enthusiastic member of several international and national organisations associated with geology and palaeontology. In particular he was one of the 32 founder members of the American Association of Stratigraphic Palynologists (AASP), now AASP – the Palynological Society, in 1967. AI was also one of the members of the inaugural board of directors, serving as the first Secretary-Treasurer of AASP, between 1967 and 1970. He was subsequently President/Past-President in 1970–1972, and was the archivist of the association from 1984 onwards. The society honoured AI with their Medal for Excellence in Education in 2001, and made him an Honorary Life Member in 2005 (Demchuk & Riding 2008). AI published two contributions on the early history of AASP (Traverse & Sullivan 1983; Traverse 2008). In 1967, when the founder members of AASP were deciding on a name for the association, AI suggested 'The Society of North American Palynologists (SNAP)'. Many years later in 2007, he proposed a change from AASP to The Palynological

Society, which was accepted by the membership as AASP – the Palynological Society (McCarthy 2007; Demchuk & Riding 2008; Traverse 2008). When the board of AASP were searching for a base for their Center of Excellence in Palynology (CENEX) during the late 1980s, Al offered up Penn State. The eventual decision on the location of CENEX was that it was to be established at Louisiana State University (LSU) in Baton Rouge. Al was understandably very dismayed by this and unfortunately the decision had a significantly adverse effect on Al's relationship with the association for many years.

Al was also the first President of the International Commission for Palynology (ICP) between 1977 and 1980; he was in this post for the 5<sup>th</sup> International Palynological Conference in Cambridge, UK during the summer of 1980. The ICP became the International Federation of Palynological Societies (IFPS) in 1984 (Canright 1984). Al also served IFPS as a Councillor, and was the archivist for many years.

Al was a botanist just as much as he was a palynologist, and he exhibited the classic botanical penchant for nomenclature and taxonomy. He was Secretary of the International Association for Plant Taxonomy (IAPT) Committee for Fossil Plants from 1969 to 1994, and continued to serve as a committee member. During 1950, Al joined the Botanical Society of America. He became active in the Palaeobotanical Section, serving twice as Chairman (1958 and 1960–1961) and Secretary-Treasurer (1957–1960). Al was an accomplished editor, and served on the editorial board of *Palaeontographica Abteilung B* from 1992 onwards. From 1950, he was also a Fellow of the American Association for the Advancement of Science (AAAS) and the Geological Society of America (GSA). Al was also a member of many other scientific organisations such as the American Quaternary Association and the International Organisation of Palaeobotany.

#### 9. Scientific highlights in Al's career

One of the high points in Al's career was being invited to be an on-board scientist (palynologist) on Leg 42B, a cruise of the Glomar Challenger in the Black Sea during May and June 1975, with the then Deep Sea Drilling Project (now the International Ocean Discovery Program). Later in his life, he always enjoyed conjuring up some of the results of that expedition to support his argument in whatever controversy he was engaged in. As a direct result of this position, Al was appointed as a Visiting Professor at the Geology Department of the Swiss Federal Institute of Technology (ETH) in Zürich, Switzerland between 1980 and 1981 during a sabbatical. Betty accompanied Al, and he presented a course on Cenozoic palynology while at ETH. His sponsor in Zürich was Professor Ken J. Hsü, who had

been the chief scientist on the DSDP Black Sea cruise, and who had previously worked with Al at Shell.

Al was appointed Adjunct Professor of Geobiology by Juniata College, Huntingdon, Pennsylvania, between 1977 and 1982, where he presented occasional lectures. Some years later, in April 1989, Al was an invited speaker at the International Union of Geological Sciences (IUGS) Symposium on Global Change held at Interlaken in Switzerland (Ricklefs et al. 1990). Following this, he was frequently asked to present keynote talks, an example being an address to the *Asociación de Palinólogos de Lengua Española* (APLE) at their 10<sup>th</sup> Symposium in Valencia, Spain during September 1994.

In 1991–1992, Al and Betty returned to Europe, when Al took up a Fulbright Professorship at the Senckenberg Research Institute and Natural History Museum in Frankfurt am Main, Germany at the invitation of the director, Willi Ziegler. Al worked in the Palaeobotanical Section which was led at the time by Friedemann Schaarschmidt. At this time, he finalised editing Traverse (1994b). As a result of this working visit, Al was elected a Corresponding Member of the *Senckenbergische Naturforschende Gesellschaft* (Senckenberg Nature Research Society) in 1992. This is a scholarly society for the natural sciences founded by Johann Wolfgang von Goethe in 1817, and named for the pioneer German academic Johann Christian Senckenberg (1707–1772). Al joined a very select group as there are only around 30 members worldwide.

During his time in Frankfurt am Main, Al visited the Birbal Sahni Institute of Palaeobotany (BSIP) in Lucknow, Uttar Pradesh, India in November 1991. This visit coincided with the Birbal Sahni Centennial celebrations and he was awarded the Biennial International Medal for 1991–1992 by the Palaeobotanical Society of India for 'outstanding contributions to palynology.' Like most overseas visitors to the BSIP, Al worked for a short time there and presented several invited lectures to the staff.

#### 10. Nomenclature and taxonomy (WGC)

Al was always very open about changing his mind – a process he was driven to several times in his life-long involvement with fossil plant nomenclature and taxonomy. As a member of the IAPT Fossil Plant Committee for many years, Al always enjoyed debating the often extremely convoluted issues associated with fossil plant nomenclature – both verbally at congresses, and in a number of publications.

One of the several areas of nomenclatural controversy to which Al made a significant contribution was the use of modern generic names for Palaeogene/Neogene angiosperm pollen. This arose at an early stage in his career from his attributing several of the pollen types in the Brandon Lignite, to extant genera such as

*Nyssa* (Traverse 1955). But as he wrote many years later: 'For years I felt that, where the generic reference is absolutely clear, there is no reason at all to avoid the extant generic name. However, after decades of thinking about the matter, I have now changed my mind and now feel that pre-Pleistocene sporomorphs should be referred to morphotaxa (morphogenera, morphospecies) such as *Nyssapollenites*, not *Nyssa*, even though, for example, association with other organs makes it clear that *Nyssa* pollen in the Brandon Lignite described by me (Traverse 1955) was produced by plants that probably were congeneric with the extant genus *Nyssa*' (Traverse 2007, p. 413). So although he withdrew from his original stance, he characteristically clearly communicated that he felt that the basis for it had been perfectly valid!

Another related debate that Al enjoyed involved the term 'morphotaxon'. That designation, applicable to fossil taxa in the Vienna Code, was taken out of the International Code of Nomenclature for algae, fungi and plants (previously the International Code of Botanical Nomenclature, or ICBN), following the Melbourne International Botanical Congress of July 2011. Writing as a member of the Fossil Plant Committee, commenting on the proposal that led to its removal he wrote: 'The elimination of morphotaxon ... seems to me questionable. At least, the subject needs more thinking about various ramifications. Let's take paleopalynology as an example. *Aquilapollenites* is a generic name for a kind of (mostly) Cretaceous angiosperm pollen grains. In no way could such a generic name (and there are several thousand of them) be applied to anything other than dispersed pollen grains. If they are found in the anthers of a megafossil flower, called say *Stupidoflora*, they would be the "pollen of *Stupidoflora*" with a note that the pollen, if found dispersed, would be *Aquilapollenites*. The latter is a morphotaxon name by definition of the ICBN and could not become the name of a flower or of a plant' (personal communication to WGC, 2010). But, despite Al's plea, the term morphotaxon has vanished from the present Code.

#### 11. Various anecdotes

Some of Al's contemporaries have suggested that he took life rather too seriously, and was lacking in a well-tuned sense of humour. The present authors never felt this, but rather that we were tuned to the same wavelength. Once while Al and WGC were driving to a Silurian palynological collecting site in Pennsylvania, Al needed some guidance on finding the location. He cheerfully reached for a road map in the back of the car in those happy, pre-satellite navigation days. He placed it across his lap below the steering wheel and began to peruse the map while driving, occasionally glancing up at the traffic. After some minutes of this,

and several near misses, WGC snatched the map from Al's lap and said 'I'll read the map, you drive!' Al took this in good humour and roared with laughter, explaining that he often did this. He went on to say that while 'on open interstates with little traffic I also peel bananas and oranges while simultaneously studying language cards.' Al added that Betty's reaction to his map-reading had been similar to WGC's, but she had never actually snatched the map away.

A more recent illustration of his cheery acceptance of the results of surviving into one's late eighties was his aside in the course of an email to WGC in 2012. It reads: 'I am now 'four score and seven years' as in the Gettysburg address. That made me think of the fact that from Lincoln's assassination in April 1865 to the birth of our son, Paul, was exactly 87 years – man that is a LONG time and I must be OLD.' He went on to remark that 'since 70 years ago I have been a skilled touch typist – no more. I hit 30% wrong keys. I am doing this with one finger.'

Al cheerfully embraced new ideas and technology. One example of this is his delight in using the relatively new online encyclopaedias. JBR recalls being told that, in the severe Pennsylvanian winters, he and Betty would enthusiastically use pages torn from their complete and venerable set of the *Encyclopaedia Britannica* to light their log-burning stoves!

There is one final anecdote which Al never knew about. Early in the career of JBR, a colleague (Ronald Woollam) asked if Jim was going to the morning coffee break. JBR was deep in microscope work at that instant and replied that he would indeed attend, but only when he had 'finished his current Alfred.' Woollam questioned this, and was told that an Alfred is rhyming slang for a traverse (of the microscope slide). Non-UK-based readers should refer to Ayto (2002).

#### 12. Retirement (1995–2015)

During 1995, Al formally retired from Penn State, becoming Professor Emeritus in perpetuity, although he presented his beloved Geosciences/Biology 423 course for the final time in 1996. After Al's retirement, he and Betty could enjoy their country estate close to Penn State to the full. This was appropriately named Alphabet Arboretum, because it was largely wooded land with a relatively high arboreal diversity. For example, Al was delighted to find that some mature, flowering American chestnut trees (*Castanea dentata* (Marsh) Borkh.) were growing on his land, despite the ravages of the introduced chestnut blight which was brought to North America early in the twentieth century (Rich & Strother 2015). Clearly, the name Alphabet Arboretum appealed to him because it combined his and Betty's names – a point Al always liked to make. Because Al was always at heart a botanist, and one who enjoyed

x

J. B. Riding et al.

rural life, he greatly enjoyed country activities such as felling timber and cutting logs for fuel.

Despite being retired, Al just could not keep away from science and he affirmed a tangible commitment to botany by becoming the Adjunct Curator of the Penn State Herbarium from 2007 until 2015. This had great historical significance for Penn State. The herbarium was initiated by its first President, the agricultural chemist Dr Evan Pugh (1828–1864), who acquired much of the original botanical material in Germany, from around Göttingen where he lived at the time and elsewhere (<https://www.libraries.psu.edu/psu/digital/pshistory/presidents/pugh.html>). Significantly, Evan Pugh believed that the herbarium was an important base for research and teaching in what had been the 'Farmers High School' and renamed by him, the 'Pennsylvania College of Agriculture'. When he retired, Al added the ~5000 specimens from his personal herbarium to the Penn State Herbarium. Al was honoured to continue Evan Pugh's legacy, who correctly believed that a herbarium was essential for an institution which researched and taught agriculture. During his retirement years, Al rearranged and updated the herbarium, and incorporated much more material. Consequently, the number of specimens rose from 95,000 to 107,000 under Al's tenure; a truly phenomenal retirement project!

### 13. Conclusions

Al Traverse was a hugely important figure in palaeobotany and palynology. He was a consummate advisor/mentor, teacher and researcher, and he achieved some significant 'firsts'. Al wrote the first pre-Quaternary PhD dissertation in North America, and was one of the first ever professors of palynology. During his early years he excelled at school to postgraduate level. He decided upon his botanical/palaeobotanical vocation very early, as an undergraduate in fact. Al spent 15 years variously in government service, in the oil industry and as a priest before settling down at Penn State. Here he taught the massively popular and far-sighted undergraduate course Geosciences/Biology 423 for 30 years. Al single-handedly trained a prodigious number of palynologists. He published widely on a very diverse range of topics, and his highlights were two major textbooks and co-authorship of the 'Catalog of Fossil Spores and Pollen' between 1967 and 1976. Al worked hard for a number of scientific societies, notably AASP – the Palynological Society. Al loved to travel, and undertook significant research visits to Germany, India and Switzerland. Typically he would study the language of a country he was visiting or was about to visit. After retiring from Penn State in 1996, Al became Adjunct Curator of the Penn State Herbarium between 2007 and 2015. He was also a very cultured individual. He creatively used a palaeobotanically-

relevant extract from *The Lost World* by Michael Crichton to introduce the second edition of *Paleopalynology* (Traverse 2007, p. vii). There is no doubt that Al could be both charming and pleasant but he also had a somewhat steely side, particularly in the professional arena.

Al Traverse is survived by his wife Betty, their four children, John Insley, Celia Elizabeth, Paul Whitney and Martha Jane, seven grandchildren, two step-grandchildren, one great-grandchild, and two step-great-grandchildren. Both his family, and the world of palaeobotany and palynology, will miss him greatly.

### Supplemental data

Supplemental data for this article can be accessed here.

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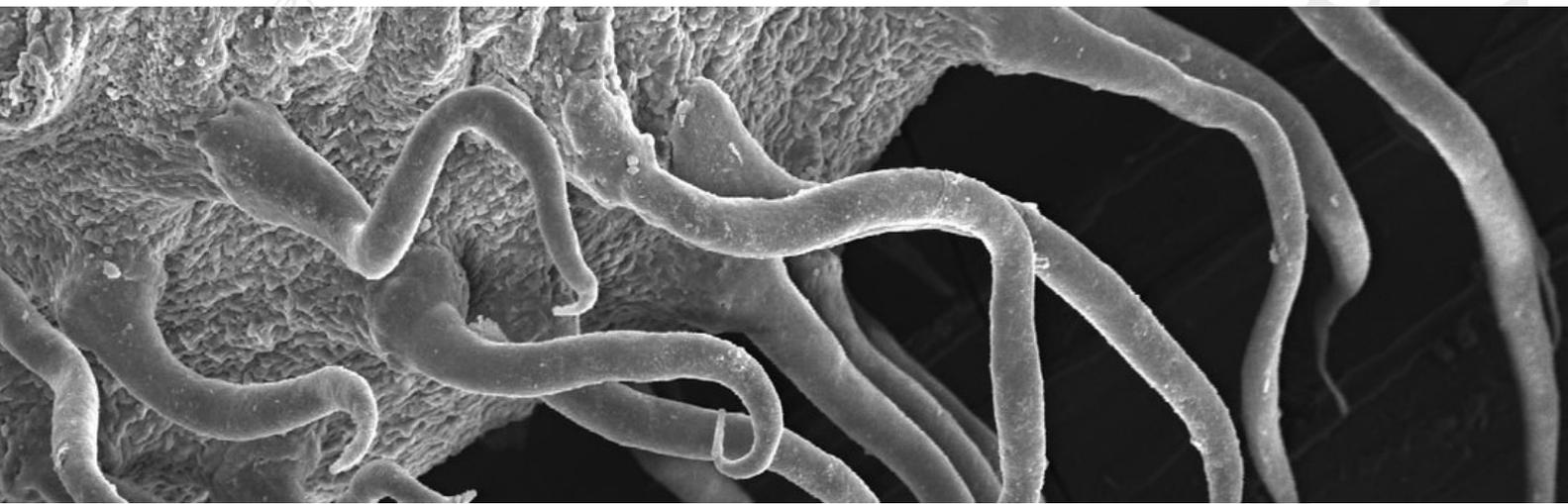
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## COMMISSION INTERNATIONALE DE MICROFLORE DU PALÉOZOÏQUE

### SUBCOMMISSION ON SPORES AND POLLEN

Thanks to all members who contributed to this newsletter!

Cover photo: Detailed of a megaspore ornamentation  
Credit: F. de Ville de Goyet

#### PRESIDENT'S LETTER

Summer 2016 has finally arrived in central Europe also and the first half of this year is already done. I hope it was a fruitful and stimulating first half, bringing forward new research and ideas on our beloved Palaeozoic pollen and spores. Each time when we think all is said and done, we only have to dig a little bit deeper to realize all the questions, problems and unknown issues questioning our recent models and understanding. So, happy digging for all of you, who want to find new interesting challenges...

In April this year the *International Congress on Palaeozoic Stratigraphy of Gondwana* took place in Perugia, including the first CIMP session for this year, organized by Amalia Spina. The small group of CIMP folks was able to set up an almost full-day of talks covering a wide range from early to late Palaeozoic, with a majority of spore-pollen centered presentations from Northern Africa, Arabia to Iran. A strong focus was given on all aspects of the Palaeozoic development of Iran, eliminating one more blank spot from my personal geological map. The next highlights are already on the horizon. In September the Joint Meeting of TSOP-AASP-ICCP will take place in Houston. It will bring together palynology, organic petrology and coal petrology, to foster thoughtful discussion and address new issues for research in the wide range of organic matter studies, particularly focused on application of palynology / palynofacies in resource focused research of coal and hydrocarbon systems. It is followed by the XIV.

International Palynological Congress in Bahia, Brazil, in October, including an official CIMP sponsored symposium - New frontiers and classic studies in Palaeozoic palynology and palynostratigraphy. It will bring together the classic aspects of palynological research in the entire Paleozoic, but also looks for new applications of our research. Whatever you choose, both are good possibilities to catch up new ideas and challenges for future research and will hopefully promote the internal communication within our community.

Finally I want to take the chance to renew the call for your original descriptions and photos of new pollen and spore species. I still want to do a compilation of newly published spore and pollen species, which will be send out to you once a year, **but it needs your support**. Please send in your newly described, modified and emended species of the last five years, including the original descriptions and photo(s) of the type specimen to me ([jaeger@georesources.de](mailto:jaeger@georesources.de)) or Gilda ([GildaLopes@geo.uib.no](mailto:GildaLopes@geo.uib.no)).

Hopefully I can send out the first compilation at the end of this year.

I wish you all a nice and restful summer break and a successful come back for the second half of this year.

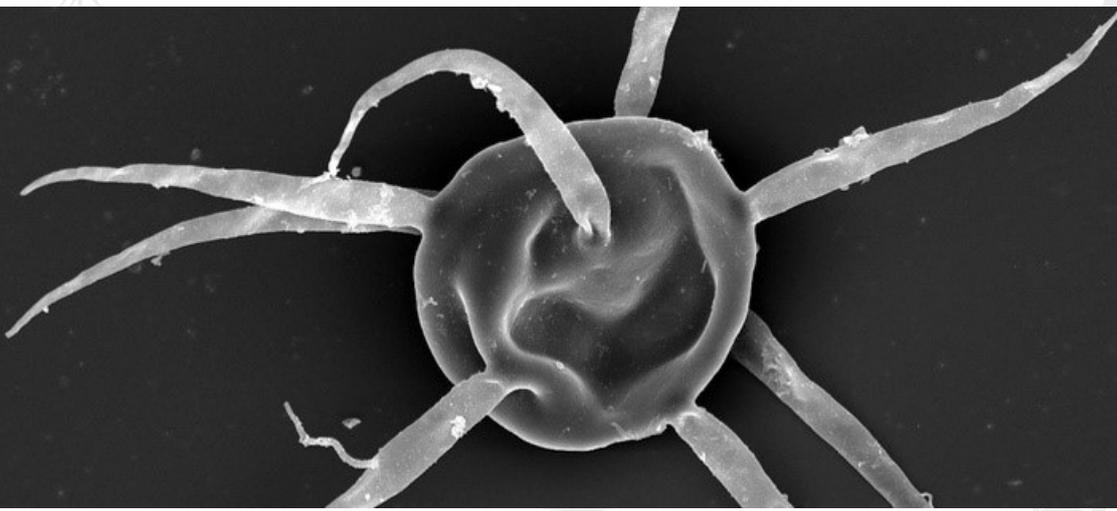
Best wishes  
*Hartmut Jäger*



**President**  
Hartmut Jäger



**Secretary**  
Gilda Lopes



## COMMISSION INTERNATIONALE DE MICROFLORE DU PALÉOZOÏQUE SUBCOMMISSION ON ARCRITARCHS

Thanks to all members who contributed to this newsletter!

Cover photo: Baltisphaeridium perclarum Loeblich & Tappan, 1978  
Credit: Reed Wicander (CIMP website)

### PRESIDENT'S LETTER

Reed Wicander (CIMP President) reminded me to write a few words as President of the Acritarch Subcommittee. And as usual, I do this the last day. We have some time now, it is July 14th, French National Day.

What to write since the last President's Letter (December 2015) that I just checked (in order to not repeat the same things)? What's new?

I just looked to the ISI Web of Science and asked for papers with « acritarch » in the title. Not much coming out. Only 6 papers published in 2015. Is that all we did? This cannot be! I am happy to see that there is at least one « good old » monograph published, by Teodoro Palacios, on the Cambrian of Spain. And there is more to come from the Spanish Cambrian (look out for Geol. Mag. volumes in 2016). Last year, I visited another Cambrian acritarch worker, Zbigniew Szczepanik, in Kielce, Poland. He is also doing excellent work, that does not necessarily appear on the « higher impact » radar. So, there is surely much more than we can see on the in-

ternational databases. And this is why our newsletter is important..

High impact publications, this is maybe the problem of our discipline. In the beginning of the 21st century, everything must be high impact. Very good monographs do not get the points that they need. We are leaving systematics and taxonomy, that are so urgently needed (I remember that acritarchs are a rather young group, compared to trilobites, ammonites, etc., and that we have larger regions totally unstudied!) in order to put our microfossils in expensive mass spectrometers so that they provide « important results. »

Well, we are now preparing a special issue in the journal Palynology in honor of Gordon Wood. And this volume is going to include a couple of interesting acritarch papers. Thus, although diminished in number, the acritarch workers are still there, and still provide good, basic work. Thanks for that!

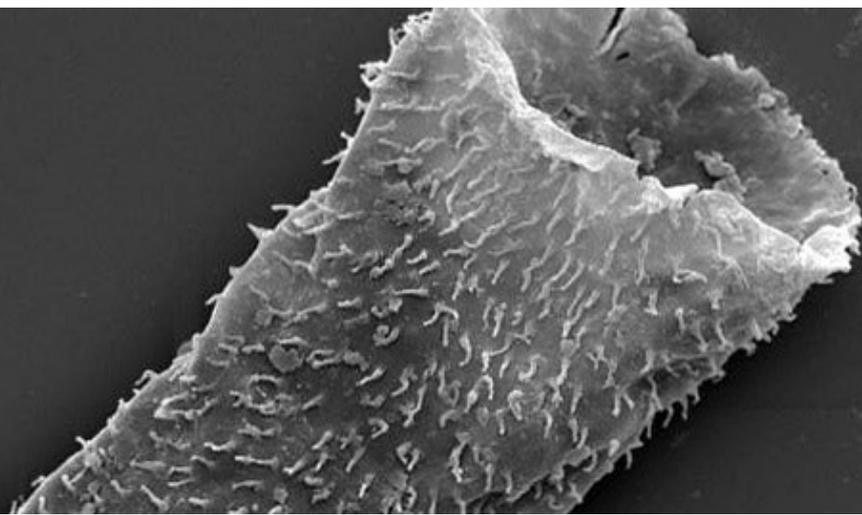
*Thomas Servais, July 14th 2016*



**President**  
Thomas Servais



**Secretary**  
Gil Machado



## COMMISSION INTERNATIONALE DE MICROFLORE DU PALÉOZOÏQUE SUBCOMMISSION ON CHITINOZOANS

Thanks to all members who contributed to this newsletter!

Cover photo: Baltisphaeridium perclarum Loeblich & Tappan, 1978  
Credit: Reed Wicander (CIMP website)

### PRESIDENT'S LETTER

Dear Chitinozoa researchers,

Welcome from the president.

As we all know we are a small group of scientists studying chitinozoans, and our community showed that our microfossil group can be very well used for detailed biostratigraphical work. In Ordovician and Silurian, our group nowadays is considered as the third standard group for its standard biozonation. It is the fossil group that can span the bridge between the biozonation with conodonts in carbonate rocks and the biozonation with graptolites in siliciclastic rocks.

Many of the colleagues are involved besides the biostratigraphic work with study of proxies and this again is well appreciated at conferences. However from the limited response we receive

from the members I should propose to evaluate the value and significance of our subcommission to all the members. What do you expect from the Subcommission: taxonomic discussion? a functional website for chitinozoan workers? a database with all publications in pdf form? easy determination tools?

Thijs Vandenbroucke organizes in Ghent, Belgium, between 5 and 9 July 2016, the International Geoscience Programme Project 591 - Closing Meeting, "A combined data-model approach to understand the early to middle Palaeozoic revolution", mainly centered on Palaeoclimatology and modeling. However there is also a session where colleagues will present talks or posters on Chitinozoa. I wish to discuss these matters with the members present at the meeting.

*Jacques Verniers*



**President**  
Jacques Verniers



**Secretary**  
Wenhui Wang

