

PALYNOS

ISSN 0256-1670

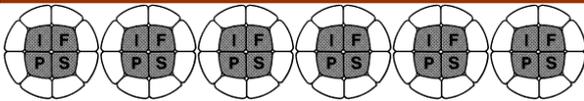
Volume 46 (2) – 2023

NEWSLETTER OF THE INTERNATIONAL FEDERATION OF PALYNOLOGICAL SOCIETIES

<http://palyno-ifps.com/>

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IFPS BUSINESS

XV INTERNATIONAL PALYNOLOGICAL CONGRESS (IPC) / XI INTERNATIONAL ORGANIZATION OF PALAEOBOTANY CONFERENCE (IOPC), PRAGUE, CZECH REPUBLIC, MAY 27–31, 2024

Terms of registration and registration fees

REGULAR REGISTRATION

590 € / 490 € for students: until February 29, 2024.

LATE / ONSITE REGISTRATION

690 € / 590 € for student: March 1 – May 27, 2024.

Deadline for abstract submission is **January 17th, 2024!**

Please follow our conference webpage, for all news: <https://www.prague2020.cz/index.php>

We look forward to seeing you,

The Organizing committee of XVth IPC / XIth IOPC Prague 2024.

IFPS STUDENT FUNDING FOR THE XV IPC, Prague, Czech Republic, May 27–31, 2024

The International Federation of Palynological Societies (IFPS) has agreed to support student participation at the upcoming IPC-XV to be held in Prague, Czech Republic. Funding will be awarded to Master and Ph.D. students presenting palynological results at IPC-XV (oral or poster) and which are members of one of the IFPS affiliated societies in 2024. The IFPS board will review and evaluate all applications according to the quality of the submitted abstracts and the scientific merits of the candidates. Thus, and as for the Salvador-IPC in 2016, IFPS intends to sponsor up to 20 students with a 400 Euro contribution towards the cost of attending the conference. Students wishing to apply should e-mail (preferably as a pdf) a

- *one-page covering letter, a Short-CV (maximum one page), and the submitted talk/poster abstract*

to James B. Riding (IFPS Secretary-Treasurer: jbri@bgs.ac.uk).

The covering letter should briefly explain which IFPS affiliated organisation the student is a current (2024) member of, other sources of funding for conference attendance (secured or being sought), and why the additional funding is necessary. Personal presence at the IPC-XIV is a prerequisite, as awards will be presented at the conference only.

Applications should arrive before **March 30, 2024**.

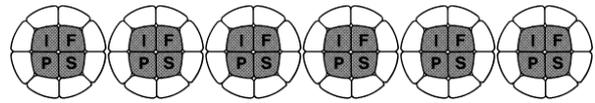
CANADIAN PROPOSAL FOR THE ORGANISATION OF THE XVI INTERNATIONAL PALYNOLOGICAL CONGRESS (IPC) / XII INTERNATIONAL ORGANIZATION OF PALAEOBOTANY CONFERENCE (IOPC) IN CALGARY, ALBERTA, CANADA

On behalf of the committee, leading the Canadian bid to host the 2028 IPC/IOPC joint congress in Calgary (Alberta, Canada), Christopher K. West (Curator of Palaeobotany, Royal Tyrrell Museum of Palaeontology, Alberta) has prepared a preliminary proposal, which you can find in the **Appendix of this PALYNOS issue on pages 9–20**.

This preliminary proposal outlines information about prospective venues, a proposed congress schedule, and potential field trips. Furthermore, the proposal highlights why the City of Calgary will be an ideal and appealing host for the joint congress in 2028.

The full proposal will be presented next year at the upcoming IPC/IOPC joint congress in Prague.

Christopher K. West, PhD
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NEWS FROM MEMBERS

PALEOGENE OCEANOGRAPHY AND CLIMATE OF THE NORTH ATLANTIC

by Dr Jonathan Bujak

PART 1. OCEANOGRAPHY

This first of a two-part story looks at the impact of Greenland's mantle plume on the North Atlantic Paleogene oceanography.

Early Paleocene

The Early Paleocene began with a paratropical ocean in which marine biotas flourished, the calcareous remains of nanoplankton and foraminifera forming extensive Danian chalk deposits of the Ekofisk Sequence similar to those of the latest Cretaceous (Fig. 1).

This benign environment changed dramatically during the Middle and Late Paleocene (Selandian-Thanelian) Maren and Lista Sequences due to uplift of the Greenland mantle plume.



Figure 1. Early Paleocene (Danian) oceanography of the North Atlantic region. Most of western Europe is submerged between tropical islands. Figure from Bujak (2023).

Basalts extruded by the plume form hexagonal columns resembling stepping stones on

Northern Ireland's Giants Causeway and Fingal's Cave on Staffa Island in western Scotland's Inner Hebrides where, according to legend, they were built by the giant Fionn mac Cumhaill who was challenged to a fight by the Scottish giant Benandonner (Fig. 2).



Figure 2. The Giants Causeway. From 'The Azolla Story' (Bujak & Bujak 2020).

It's a colourful legend, but the geological story is much more frightening because of its implications for today's climate change.

The intense volcanic activity resulted in fragmentation of the northern North Atlantic Ocean and runaway climate change (described in our next article). Peak uplift and massive extrusion of flood basalts during the Late Thanetian (Forties, Dornoch and Balder Sequences) separated the North Atlantic region into three marine systems (Fig. 3).

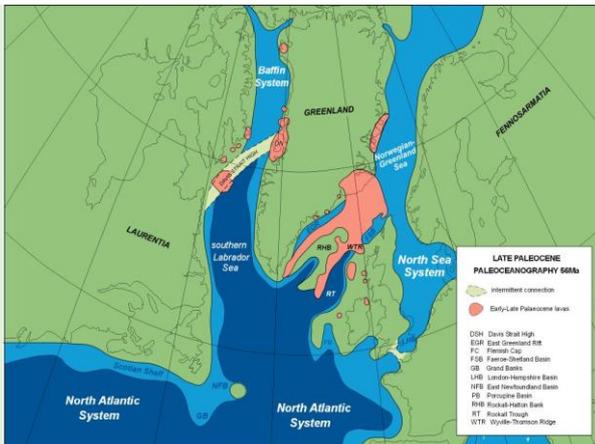


Figure 3. Late Thanetian paleogeography and oceanography of the North Atlantic region. The extent of volcanic rocks (not shown) beneath today's Greenland ice is uncertain. Figure from Bujak (2023).

The North Sea System comprised a seaway extending northwards from the London-Hampshire Basin and North Sea to the Norwegian-Greenland Sea. West of Greenland, the Baffin System comprised a smaller seaway

bounded to the south by the Davis Strait High. In contrast, most of the North Atlantic System, including the Scotian Shelf, Grand Banks, northeast Newfoundland Shelf and southern Labrador Sea, had open oceanic conditions with biotas that were more diverse than those of the North Sea and Baffin Systems.

The Faroe-Shetland Basin and Rockall Trough formed narrow northeast-southwest seaways of the North Sea and North Atlantic Systems separated by the Wyville-Thomson Ridge, with the Rockall Trough having more diverse assemblages that were similar to those of offshore eastern Canada.

These oceanographic and tectonic changes altered the sedimentation and biotas of the North Sea and Faroe-Shetland Basin. Calcareous nanoplankton and foraminifera that flourished during the Danian were progressively eliminated as clastic sedimentation increased during the Selandian Maren Sequence.

This altered the water chemistry and microfauna from calcareous-rich assemblages to ones dominated by arenaceous benthic foraminifera and siliceous planktonic radiolaria in the Lista Sequence. Carnivorous dinoflagellates, including *Palaeoperidinium*, also became more common, supplementing populations that had been dominated by photosynthetic dinoflagellates in the Danian (Fig. 4), with the ability of dinoflagellates to be photosynthetic, carnivorous or both reflecting their ancient origin and evolution (Bujak & Williams 1981).

The North Sea biotic crisis

As mantle plume uplift reached its peak during deposition of the late Thanetian and early Ypresian Forties, Dornoch and Balder Sequences, the few remaining benthic foraminiferal species were eliminated from most of the North Sea and Faroe-Shetland Basin due to water stratification and bottom-water anoxia during the North Sea biotic crisis (Fig. 4).

Marine plankton became increasingly restricted by the end of the Thanetian when they were dominated by coscinodiscid diatoms

and low-diversity dinoflagellates including carnivorous species of *Apectodinium*, *Cerodinium* and *Deflandrea* that fed on the photosynthetic diatoms.

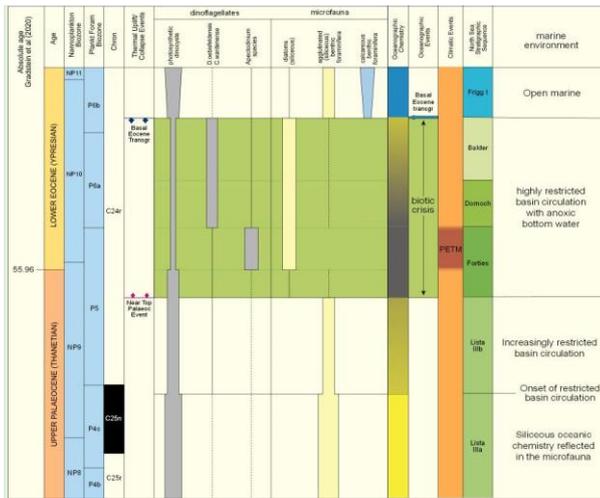


Figure 4. The North Sea biotic crisis. The PETM and *Apectodinium* acme occur within the crisis. See Bujak & Mudge (1994), Mudge & Bujak (1996) and Mudge & Copestake (1992) for discussions of the illustrated North Sea sequences. Figure from Bujak (2023).

This resulted in plankton blooms that caused local oxygen depletion and dead zones, with the plankton remains being deposited as carbon-rich sapropels that have potential as hydrocarbon sources depending on bottom-water anoxia, depth of burial and the local geothermal gradient.

Relatively high temperatures also reduced levels of oxygen in the water during the Paleocene-Eocene Thermal Maximum (PETM) – the largest of several hyperthermal (HT) events, described in the next article, that occurred in the Paleocene and Early Eocene.

The Eocene: mantle plume collapse

The mantle plume collapsed in the earliest Early Eocene (Ypresian), with breaching of the Davis Strait High resulting in marine connection with the northern Labrador Sea and Baffin Bay seaway (Fig. 5).

To the east, widespread (London Clay) transgression opened a restricted Atlantic–North Sea connection initially via the London-Hampshire Basin (LHB), followed by marine connection via the East Greenland Sea in the

late Bartonian – Priabonian as the Greenland-Scotland Ridge subsided (Fig. 6).



Figure 5. Early Eocene oceanography following collapse of the Greenland mantle plume. Connection of Greenland and Scotland was via the Greenland-Scotland Ridge that separated the East Greenland Rift seaway from the Norwegian-Greenland Sea. Figure from Bujak (2023).

Deep-water connection of the Norwegian-Greenland Sea and North Atlantic had a profound effect on oceanic circulation, including North Atlantic Deep Water (NADW), as it moved towards today’s thermohaline circulation in the Early Oligocene.

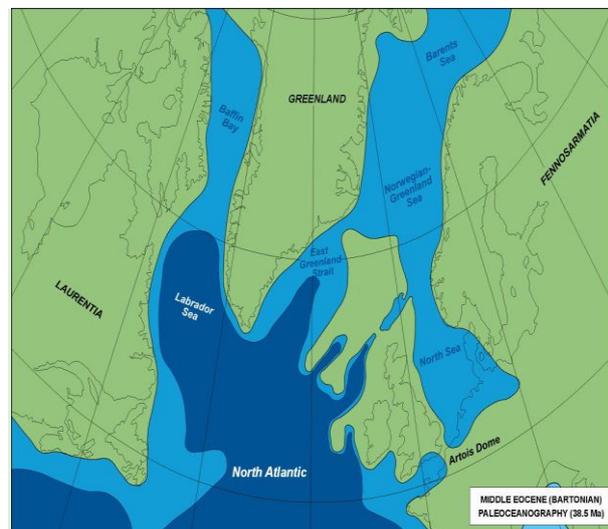


Figure 6. Middle Eocene (Bartonian) oceanography following subsidence of the Greenland-Scotland Ridge. Figure from Bujak (2023).

Multiple lines of evidence indicate the age of these events as 39-40 Ma with a cluster around 38.5 Ma (Bartonian) for the development of North Component Water (NCW), an early version of NADW (Pillot et al. 2022), as we

moved into a very different world from that of the Cretaceous and Early Paleocene.

But this is only half the story. These events also affected the global climate as it shifted from greenhouse to icehouse in the Paleogene, eventually culminating in today's bipolar glaciation that is now in danger of moving back to greenhouse in just a few decades – reversing processes that took millions of years.

DR JONATHAN BUJAK, Bujak Research Ltd: <http://bujakresearch.com>

Dr Jonathan Bujak was a research scientist with the Geological Survey of Canada in the 1970s and early 1980s, publishing the definitive biostratigraphic zonal schemes and stratigraphy of more than 100 key wells in offshore eastern Canada with Graham Williams.

He then worked with Petro-Canada International Aid Corporation (PCIAC), training geologists in Colombia, Jamaica and Venezuela, and leading paleontological expeditions into the interior of South America, before founding Bujak Research International in 1985.

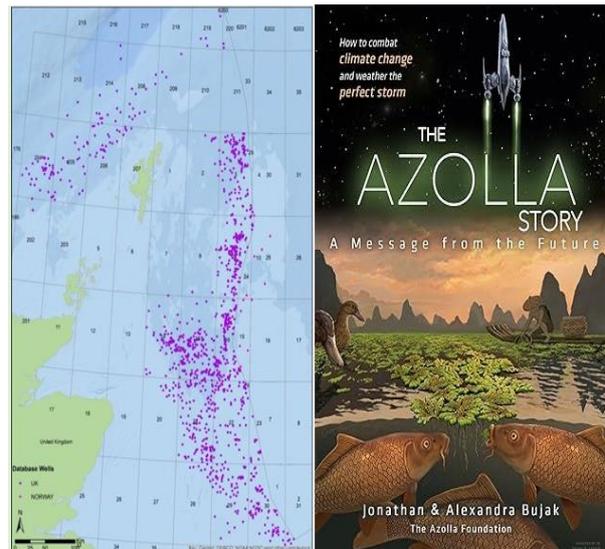
Jonathan returned to the UK in 1990 and published the bio- litho- and sequence stratigraphy of the North Sea and Faroe-Shetland Basin with [David Mudge](#) who sadly passed away in 2020.

Jonathan was involved with the only two geological expeditions to the North Pole: [the Lomonosov Ridge Experiment \(LOREX\)](#) in 1979 and the [Arctic Coring Expedition \(ACEX\)](#) that discovered the [Arctic Azolla Event](#) in 2004, through his collaboration with [Henk Brinkhuis](#) and colleagues at Utrecht University's [Department of Marine Palynology and Paleoecology](#).

Jonathan set up the non-profit Azolla Foundation in 2012 with his environmental scientist daughter, Alexandra, with whom he published '[The Azolla Story](#)' as an e-book and paperback in 2020, available from [Amazon](#). The book has been translated into French, Spanish and Vietnamese where the Azolla Foundation and Minh Pham Gia promote the

use of azolla biofertiliser to double the yield of paddy rice.

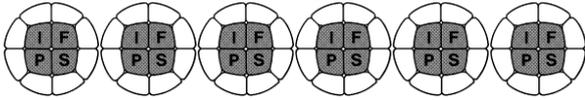
Jonathan's [non-exclusive well database](#) documents the Paleogene stratigraphy and absolute ages in 1155 offshore UK and Norwegian wells, including the oceanographic and climatic changes described in these articles. Contact Jonathan Bujak or Helen Bone for details: jonathanbujak@outlook.com / helen_bone@merlinenergy.co.uk



Left: Map of the offshore well database, as shown on [Merlin's website](#). Right: Front cover of the Azolla Story. Graphic design by [Victor Leshyk](#).

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FUTURE MEETINGS

2024

2024 XV IPC / XI IOPC MEETING, PRAGUE, CZECH REPUBLIC, MAY 27– 31, 2024

The organizing committee of XVth IPC/XIth IOPC Prague 2024, May 27-31st has recently published the 4th conference circular.

Apart from the conference, with more than 35 symposia and workshops covering all aspects of palaeo-, and actuopalynology, as well as palaeobotany., several field-trips will take place to see Paleozoic to Quaternary strata.

Deadline for abstract submission is January 17th, 2024!

Please see also pages 1–2 of this PALYNOS issue, or follow our conference webpage, for all news:

<https://www.prague2020.cz/index.php>

2024 56TH ANNUAL MEETING AASP- THE PALYNOLOGICAL SOCIETY, MONTPELLIER, FRANCE, JUNE 24–28, 2024

Registration site (abstract submission, etc.) is open at <https://palynology.org/56th-annual-meeting-aasp-the-palynological-society/>

Conference at a glance

Monday June 24th: Pre-conference field trip (one short day) and Ice breaker in the evening.

Tuesday, Wednesday, Thursday June 25th-27th:

A three-day conference programme. Conference dinner on Wednesday evening.

Friday June 28th: Post-conference field trip (one long day)

Technical programme

Tuesday - Thursday June 25th-27th will be in the historic Botanical Institute of Montpellier. Conference lectures and poster presentations will be in the “Amphitheatre Charles Flahaut” of the former University of Montpellier’s Botanical Institute which is listed as a Historical Monument of France. This building houses the Montpellier Herbarium, which will be accessible during the event. It is also adjacent to the Jardins des Plantes.

Sessions proposed so far include, but are not restricted to:

- *From palynological data to climate reconstructions and model simulations*
- *Human-environmental interactions and vegetation change*
- *Vegetation dynamics beyond the Quaternary as a source of information about mountain uplift, plate tectonics, sea-level fluctuations etc.*
- *A Herb Sullivan-dedicated session “The top 20 palynomorphs for stratigraphy or environment”*
- *A Rob Fensome-dedicated session focusing on dinoflagellate research.*

Registration

\$350 (full cost for members), \$400 (full cost for non-members), \$250 (full cost for student-members), \$285 (full cost for students who are not members). **Abstract submission deadline: March 31st, 2024, Registration deadline: May 1st, 2024.**

2024 WORLD AEROBIOLOGY 2024: 8TH EUROPEAN SYMPOSIUM ON AEROBIOLOGY / 12TH INTERNATIONAL CONGRESS ON AEROBIOLOGY / 5TH INTERNATIONAL RAGWEED CONFER- ENCE, VILNIUS, LITHUANIA, JULY 1–5, 2024

The World Aerobiology 2024 Conference will take place in Vilnius, Lithuania, and will be organized by Prof. Ingrida Sauliene and the Lithuanian Aerobiology Team from July 1st to July 5th, 2024. Practical information on the registration procedure and deadlines available at: <https://www.aerobiology2024.com/>

Abstract submission deadline: February 15, 2024.

2024 INTERNATIONAL BOTANICAL CONGRESS, MADRID, SPAIN, JULY 21–27, 2024

Earlier this year it was announced that due to the pandemic the next International Botanical Congress will be delayed one year and held in Madrid, Spain in July 2024. The dates for the rescheduled Botanical Congress are as follows:

- Nomenclature Section, July 15-19, 2024
- Congress, July 21-27, 2024

The officers of the IBC Organizing Committee are Gonzalo Nieto Feliner (President), Juan Carlos Moreno (Vice-President) and Marcial Escudero (General Secretary). The organizing team has been working hard to form the necessary planning committees, hire the conference venue and conference management team, and prepare a website to provide details on the upcoming Congress. The Congress website is now live and additional details about the Congress will be added as they become available: <https://ibcmadrid2024.com/>

Also, the list of approved symposia as well as the confirmed speakers have been already published on the website. Call for abstracts for symposia talks is closed. **Call for abstracts for posters is open until February 1st, 2024.**

The organizers look forward to welcoming everyone to Madrid in July, 2024!

2024 THE 37TH INTERNATIONAL GEOLOGICAL CONGRESS (IGC), BUSAN, REPUBLIC OF KOREA, AUGUST 25–31, 2024

The 37th International Geological Congress will take place at, Busan, Republic of Korea, from August 25–31, 2024, at the Busan Exhibition & Convention Center (BEXCO). Details can be found at:

<http://www.igc2024korea.org>

Abstract submission deadline: February 16, 2024.

2025

2025 20TH CONFERENCE OF THE INTERNATIONAL WORK GROUP FOR PALAEOETHNOBOTANY (IWGP), GRONINGEN, THE NETHERLANDS, JUNE 1–7, 2025

The next IWGP conference will be organised by Sonja Filatova, Otto Brinkkemper, Mans Schepers, Ana Smuk, Arnoud Maurer, Merit Hondelink at the Groningen Institute of Archaeology (University of Groningen), likely from June 1–7, 2025. More information available in due times at: <https://archaeobotany.org/>

2026

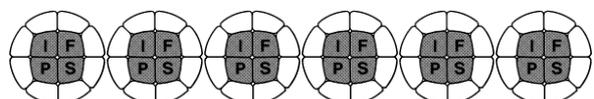
2026 12TH EUROPEAN PALAEOBOTANY AND PALYNOLOGY CONFERENCE (EPPC), 2026, MÜNSTER, GERMANY

The next EPPC Conference will take place in Münster, Germany, in 2026, co-hosted by the Palaeobotany Group (University of Münster) and the LWL-Museum of Natural History in Münster, Westphalia, Germany. More information will be available here in due times.

2027

2027 XXII INQUA CONGRESS IN LUCKNOW, INDIA, FEBRUARY 2027

The next INQUA Congress will take place Lucknow's Birbal Sahni Institute of Palaeosciences in February, 2027. More information will be available at <https://www.bsip.res.in/> in due times.



CURRENT IFPS AFFILIATED SOCIETIES AND COUNCILLORS

The current list of the IFPS officers and IFPS councillors is provided below. The IFPS president (Jean Nicolas Haas), IFPS secretary-treasurer (James B. Riding), IFPS editor of *PALYNOS* (Encarni Montoya), and the IFPS Web-Master should be informed of any errors or necessary changes. Please inform the IFPS Officers of possible website or email address changes.

IFPS Officers	Affiliation	Email
IFPS President Jean Nicolas Haas	University of Innsbruck, Austria	Jean-Nicolas.Haas@uibk.ac.at
IFPS Past President Charles Wellman	University of Sheffield, UK	C.Wellman@sheffield.ac.uk
IFPS Secretary-Treasurer & President-Elect (2024-2028) James B. Riding	British Geological Survey, UK	jbri@bgs.ac.uk
IFPS Editor of <i>PALYNOS</i> Encarni Montoya	Institute of Geosciences Barcelona, Spain	encarnacionmontoya@gmail.com
IFPS Web-Master Benjamin Dietre	University of Innsbruck, Austria	benjamin.dietre@outlook.com
IFPS affiliated Societies	Acronym & Website	Councillors
American Association of Stratigraphic Palynologists – The Palynological Society	AASP – TPS http://www.palynology.org	Fabienne Marret-Davies
Arbeitskreis für Paläobotanik und Palynologie	APP https://www.palaeontologische-gesellschaft.de/ueberuns/arbeitskreise/ak-palaeobotanik-palynologie/	Martina Stebich
Arbeitskreis für Vegetationsgeschichte der Reinhold-Tüxen-Gesellschaft	AVRTG http://www.reinhold-tuexen-gesellschaft.de/	Hermann Behling
Asociación Latinoamericana de Paleobotánica y Palinología	ALPP http://www.ufrgs.br/alpp	Mercedes di Pasquo
Asociación de Palinólogos de Lengua Española	APLE https://aple.csic.es/	Pilar S. Testillano
Association des Palynologues de Langue Française	APLF https://assoaplf.wixsite.com/website	Marie-Pierre Ledru
Canadian Association of Palynologists	CAP https://capacp.wordpress.com/	Terri Lacourse
Collegium Palynologicum Scandinavicum	CPS www.palynology.info	Heikki Seppä
Commission Internationale de Microflore du Paléozoïque	CIMP http://cimp.weebly.com/	Jiří Bek
Gruppo di Palinologia della Società Botanica Italiana	GPSBI http://www.societabotanicaitaliana.it/gruppi/gruppo-palinologia-e-paleobotanica-gpp-sbi/21	Laura Sadori
International Association for Aerobiology	IAA https://iaerobiology.wordpress.com/	Dorota Myszkowska
Linnean Society Palynology Specialist Group	LSPSG http://www.linnean.org/	Barry Lomax
Organisation of Czech and Slovak Palynologists	OCSP http://www.ocsp.eu/	Marianna Kováčová
Palynological Association of Nigeria	PAN https://www.facebook.com/Palynological-Association-of-Nigeria-168093586579093/	Emuobosa Orijemie
Palynological Society of China	PSC http://www.chinapsc.cn/zyfh/bfxh/en/about	Wei-Ming Wang
Palynological Society of Japan	PSJ http://www.psj3.org/	Hikaru Takahara
Palynological Society of Poland	PSP	Milena Obremaska
Palynologische Kring (The Netherlands)	PK http://www.palynologischeskring.nl	William Gosling
Palynologists and Plant Micropalaeontologists of Belgium	PPMB https://ininet.org/palynologists-and-plant-micropalaeontologists-of-belgium.html	Philippe Steemans
Russian Palynological Commission	RPC	Elena Novenko
Society for the Promotion of Palynological Research in Austria	AUTPAL http://www.autpal.at	Reinhard Zetter
The Micropalaeontological Society Palynology Group	TMS https://www.tmsoc.org	Luke Mander
The Palaeobotanical Society India	PBS http://palaeobotanicalsociety.org	Rama S. Singh
Turkish Committee for Palynology	TCP	Zühtü Bati
Affiliation/Membership of the IFPS at the:		
<i>International Union of Geological Societies</i>	<i>IUGS</i>	Lucy Edwards
<i>International Union of Biological Societies</i>	<i>IUBS</i>	Jean Nicolas Haas (ad interim)
Former Societies of the IFPS:		
International Association for African Palynology	AIPA/IAAP	
Palynological and Palaeobotanical Association of Australia	PPAA	
Philippine Palynological Society	PPS	

Appendix: Canadian proposal for XVI IPC/XII IOPC 2028



The International Palynological Congress and International Organisation of Palaeobotany Congress (IPC XVI/IOPC XII) 2028

Calgary Land Acknowledgment

Tourism Calgary would like to take this opportunity to acknowledge the Calgary area where the Bow and Elbow rivers meet is a place of confluence where the sharing of ideas and opportunities naturally come together. Indigenous peoples have their own names for this area that have been in use long before Scottish settlers named this place Calgary. The Métis call the Calgary area Otos-kwunee. In the Blackfoot language, they call this place, Moh-kins-tsis. The Stoney Nakoda Nation refer to the Calgary area as Wíchíspa Oyade and the people of the Tsuut'ina nation call this area Guts-ists-i. We would like to acknowledge that we are located on the traditional territories of the people of the Treaty 7 Region in Southern Alberta. This includes: the Siksika, Piikani, and Kainai collectively known as the Blackfoot Confederacy; the Îethka Nakoda Wícastabi First Nations, comprised of the Chiniki, Bearspaw, and Wesley First Nations; and the Tsuut'ina First Nation. The City of Calgary is also homeland to the historic Northwest Métis and to Métis Nation of Alberta, Region 3. We acknowledge all Indigenous urban Calgarians, First Nations, Inuit, and Métis, who have made Calgary their home.

tourism
calgary



IPC XVI / IOPC XII 2028

Alberta, Canada proudly hosted the 6th International Palynological Congress in Calgary and the 2nd International Organisation of Palaeobotany Congress in Edmonton back in 1984. We are excited about the prospect of hosting IPC XVI/IOPC XII in 2028, inviting delegates to return to Calgary, Alberta, more than four decades later.

Palaeobotany in Canada has a rich history, with a legacy stretching back before Canada became a nation. The discipline was shaped by the scientific endeavors of pioneering scientists such as J.W. Dawson, G.M. Dawson, and D.P. Penhallow. The fossil record of plants in Canada, spanning the Phanerozoic, is rich and extensive, with discoveries made all across the country. Alberta is no exception to this rich and extensive fossil record. Although famous for its dinosaur fossils, the province also boasts an abundance of well-preserved fossil floras and palynofloras from the Late Devonian, Early Cretaceous, Late Cretaceous, the K-Pg boundary, and Paleocene.



The Appeal of Calgary

Calgary offers captivating scenery, vibrant culture, and fascinating fossils and geology. The rolling hills and river valleys, dotted by conspicuous boulders, reflect a glacial past. Below that are Paleocene strata that preserve plant fossils in abundance. Exposures of these fossiliferous rocks are observable along the banks of the Bow and Elbow Rivers that meander their way through the city.

Sitting where the mountains meet the prairies, Calgary is a gateway to many of Alberta's most significant sites and landmarks. Calgary is within a two-and-a-half-hour drive of the Royal Tyrrell Museum of Palaeontology, Dinosaur Provincial Park (UNESCO World Heritage Site), Banff National Park (UNESCO World Heritage Site), many Late Cretaceous and Paleocene fossil plant sites, and rocks that record the K-Pg extinction event. This makes Calgary an ideal spot from which to launch exciting conference field trips.



Tourism Calgary 2

Organizing Committee Members



Christopher West, PhD
Committee Chair
Royal Tyrrell Museum of
Palaeontology



Jennifer Galloway, PhD
Geological Survey of Canada



Jim Basinger, PhD
University of Saskatchewan



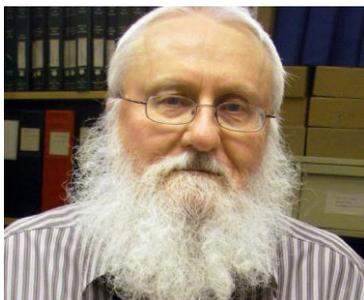
Az Klymiuk, PhD
University of Manitoba



Thomas Demchuk, PhD
PetroStrat Inc.



Kimberley Bell, PhD
PetroStrat Canada Ltd.



Dennis Braman, PhD
Royal Tyrrell Museum of
Palaeontology



Executive Summary & Proposed Schedule

Calgary, Alberta is a dynamic city. With both picturesque prairie landscapes and a vibrant urban Centre, Calgary's energy is a reflection of its entrepreneurial history, cowboy spirit, and cosmopolitan attitude.

On the edge of the majestic Rocky Mountains and the vast expanse of the Canadian prairies, Calgary's energy exhilarates, invigorates, and motivates. With a population of almost 1.5 million, Calgary is a place of big ideas, big skies, and welcoming, friendly people. There is always something to do whether trying a new restaurant or attending one of the many festivals or attractions. Calgary is gaining global recognition for its architecture, young and energized population, and celebrated arts and culinary scenes.

Named the most livable city in North America by The Economist for two years in a row, Calgary has the highest concentration of corporate head offices per capita in Canada. The city's growing tech sector speaks to the innovative spirit that has made Calgary one of North America's most exciting and progressive cities.

Attendees will enjoy everything they would expect from Canada's third largest city: a diverse culinary scene, incredible theatre, world-class attractions, and great shopping. They will also enjoy a few things they might not expect such as a great food scene, plenty of cultural attractions, and more days of sunshine to spend in more green spaces than any other Canadian city.

Proposed Schedule								
	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8
8:30 - 10:30	Pre-Conference Field Trip	Oral Presentation	Oral Presentation	Field Trips	Oral Presentation	Oral Presentation	Oral Presentation	Post-Conference Field Trips
10:30 - 11:30		Coffee Break	Coffee Break		Coffee Break	Coffee Break		
11:00 - 13:00	Oral Presentation	Oral Presentation	Oral Presentation		Oral Presentation			
13:00 - 14:30	Registration 10:00 - 18:00	Lunch	Lunch		Lunch	Lunch		
14:30 - 16:30	Oral Presentation	Oral Presentation	Oral Presentation		Oral Presentation			
16:30 - 17:00	Ice Breaker Social Event 18:00 - 24:00	Coffee Break	Coffee Break		Coffee Break	Coffee Break		
17:00 - 19:00		Oral and Poster Presentation	Oral and Poster Presentation		Oral and Poster Presentation	Oral and Poster Presentation		

Please Note: there will be a congress banquet planned for one evening mid-week, from 19:00 to 24:00. This event will have limited ticket availability.



Potential Field Trips



Royal Tyrrell Museum of Palaeontology and Dinosaur Provincial Park, Alberta

The field trip will feature a visit to the Royal Tyrrell Museum of Palaeontology and fossil sites from the surrounding area in the Late Cretaceous Horseshoe Canyon Formation, as well as a tour of the town of Drumheller. Following a night spent in Drumheller, the trip will continue to the UNESCO World Heritage Site, Dinosaur Provincial Park, to explore both classic and recent fossil localities known for plants, pollen, and vertebrate animals from the Dinosaur Park Formation. Potential duration: two- to four-day field trip. Potential to include a one-day visit to the Royal Tyrrell Museum as a mid-conference trip.

Approximate Distance: 142 km/ 88.3 mi



K-Pg Boundary Visit & Dry Island Buffalo Jump Provincial Park, Alberta

The field trip will feature a visit to the K-Pg boundary near the town of Trochu, Alberta, and to sections in Dry Island Buffalo Jump Provincial Park, where participants can learn about the stratigraphy, palynoflora, and the iridium layer preserved in the Ardley Coal Zone of the Scollard Formation. Additionally, the trip will include opportunities to stop at other classic fossil localities, including plant and vertebrate sites near Tolman, Alberta. Potential duration: One- to two-day field trip.

Approximate Distance: 177 km/ 109 mi



Potential Field Trips- Continued



Paleocene Fossil Plant Localities Red Deer, Alberta

The field trip will focus on visiting Paleocene plant localities from the Paskapoo Formation known in the Red Deer area. Dependent upon access, potential site visits may include Joffre Bridge, Blindman River, Blackfalds, and Munce's Hill. The trip may include visits to classic Paleocene sites west of Edmonton, such as Genesee. Potential duration: One- to two-day field trip.

Approximate Distance: 149 km/ 92.5 mi



Late Cretaceous Fossil Sites of Southwest Alberta

The field trip will visit fossil localities from the Late Cretaceous St. Mary River Formation near Cardston, Alberta. There is also the opportunity to visit classic vertebrate fossil localities, or for tours of ammonite mines near Lethbridge, Alberta, and explore the deposits of the Bearpaw Formation from the Western Interior Seaway. Potential duration: Two- to three-day field trip.

Approximate Distance: 235 km/146 mi



Early Cretaceous Plants and Dinosaur Trackway, Grande Cache, Alberta

The field trip will feature a visit to fossil plant localities from the Early Cretaceous Gates Formation near Grande Cache, Alberta. Additionally, the trip may include a tour of the coal mining operations in the area, as well as a visit to the nearby Grande Cache Dinosaur Tracksite, the only large-scale dinosaur trackway known in Canada. Potential duration: Two- to three-day field trip.

Approximate Distance: 6.5 hour drive

Additional Field Trip Opportunities:

Trips may be arranged that focus on visits to other important palaeontological, historical, or cultural sites in Alberta, and may include visits to the following destinations:

- Writing-on-Stone Provincial Park
- Banff National Park, Lake Louise, and Victoria Glacier
- Jasper National Park
- Burgess Shale & Field, British Columbia



About Calgary



Calgary was ranked amongst the top 10 **most livable city in North America** by The Economist in 2023.



Calgary has the highest concentration of corporate head offices per capita in the country. The city has historically been home to major oil and gas producers but the list of companies headquartered here extends well beyond energy.



The Volunteer Capital of Canada

Largely born out of the 1988 Winter Olympics and perpetuated with the annual Calgary Stampede, from World Cups to Golf Championships, volunteer wait-lists are not uncommon in Calgary.



Young & Affluent

Calgary has the youngest population among Canada's major cities, third highest level of educational attainment, and the highest median household income.



Calgary is home to 240 different ethnic origins, ranking **third in Canada** in the proportion of visible minorities.



Calgary is good for your **bottom line**. Alberta is the only province in Canada without a provincial sales tax (PST).



Calgary is easily **accessible worldwide**, just one stop away from most major global cities.

Climate

Summer

Calgary is a mountain city with a dry climate directly related to our northern latitude. It also means Calgary summer days are longer. Temperatures are mild – the highest on average in July is at around 23.2°C (73.8°F).

Winter

During the winter, the mountains to the west of Calgary receive abundant snowfall (perfect for skiing). The city itself usually has moderate snowfall. Winter often brings warm, westerly winds called Chinooks that can raise the temperature by as much as 15°C. The average daily temperature in the winter is -7.5°C (18.5°F).



Sunshine per year: 2,400 hours
The sunniest major city in Canada!



Rainfall per year: 326 mm (12 inches)



Snowfall per year: 128 cm (50 inches)



Calgary Venues



Calgary TELUS Convention Centre

The BMO Centre at Stampede Park is located on the South East corner of downtown in the heart of Calgary's emerging cultural and entertainment district. The BMO Centre is a part of the Calgary Stampede, a not-for-profit community organization that preserves and celebrates our western heritage, cultures and community spirit. Each year for more than a century, Stampede Park hosts the Calgary Stampede, the Greatest Outdoor Show on Earth, welcoming over four millions guests and hosting over 1,200 events.

Currently, the BMO Centre offers 250,000 square feet (sq. ft.) of exhibit space and 20,000 sq. ft. of meeting space. However, an expansion is currently underway and will be opening in 2024. Once completed, the BMO Centre at Stampede Park will be Western Canada's largest Convention Centre, offering Calgary's largest ballroom at 50,000 sq. ft. and 80,000 sq. ft. of meeting space - including a 20,000 sq. ft. junior ballroom, and 350,000 sq. ft. of contiguous exhibit space.

The Calgary TELUS Convention Centre (CTCC) is much more than just a venue. It is a space of community and inspiration, where ideas are shared, and meaningful connections are made. They have over 122,000 sq. ft. of flexible space, 47,000 sq. ft. of exhibit space, five pre-function areas and 36 meeting rooms. They bring people together locally and from around the world for a variety of events, meetings, special occasions, and conferences, always with the safety and wellbeing of their clients and guests as a top priority.

Located on the iconic Stephen Avenue at the centre of Downtown Calgary, the CTCC is connected to the Calgary Marriott Downtown Hotel, Fairmont Palliser and Hyatt Regency. The convention neighbourhood has a diverse collection of restaurants, retail shops, live theaters, concert halls, convention facilities, museums, art galleries, and Calgary's business towers.



On-site Hotel Development
(Opening TBC)



20 km | 12.4 mi | 22 min.

Current: 270,000 sq. ft.
Floor Plans and Capacity Charts
360 Virtual Tour



Effective June 2024: 500,000 sq. ft.
Click here to learn more



3 connected hotels (Calgary Marriott Downtown Hotel, Hyatt Regency Calgary, Fairmont Palliser)



19 km | 11.8 mi | 20 min.

122,000 sq. ft.



Floor Plans and Capacity Charts
360 Virtual Tour





Calgary Cuisine

Calgary is world-renowned for innovative, creative and unique cuisine. With a variety of internationally acclaimed local chefs, the food scene here is vibrant and constantly growing - in the downtown core alone there are over 200 restaurants. From exquisite fine dining to casual cowboy fare, Calgary's cuisine is sure to tantalize every palate.

Wilder Institute/Calgary Zoo

A central fixture in the city, the Wilder Institute/Calgary Zoo is located downtown, occupying St. Georges Island on the Bow River. The Zoo offers captivating animal experiences and exhibits, including the new polar bears experience! The Zoo is also one of Canada's leaders in conservation efforts.

Heritage Park Historical Village

See and feel the past as it comes to life in front of your eyes. This unique Park's attractions and exhibits span Western Canadian history from the 1860s to 1950s. With over 180 exhibits on 127 acres of land, Heritage Park is Canada's largest living history museum.

Studio Bell

Studio Bell, home of the National Music Centre, is a world-renowned architectural wonder and an international hub of music and technology. The National Music Centre features a 2,000+ piece collection of artifacts, instruments and music technology, 22,000 sq. ft. of exhibitions, a 300-seat performance space, and recording studios, including the Rolling Stones Mobile Recording Studio.



Pre & Post Event Getaways

Calgary's location makes it the perfect basecamp for adventure. In fact, the province of Alberta is home to six UNESCO World Heritage Sites, four of them within a 3 hour drive from Calgary.



Drumheller & The Badlands

East of Calgary, the endless golden prairies suddenly drop away into a strange moonscape of striped hills and otherworldly rock formations - The Badlands. Hike through the impressive Horseshoe Canyon, explore the hoodoos, or visit Drumheller, the Dinosaur Capital of the World, and the Royal Tyrrell Museum of Paleontology. Approximate Distance: 138 km/85.6 mi

Head-Smashed-In Buffalo Jump

Head-Smashed-In Buffalo Jump, south of Calgary, is where Blackfoot hunted buffalo for 6,000 years. Experience diverse programming, and vast landscapes to learn about the region and its cultural significance. Approximate Distance: 184 km/ 114 mi

Waterton Lakes National Park

Take a drive south of Calgary and watch the rugged, windswept mountains rise abruptly out of gentle prairie grassland in spectacular Waterton Lakes National Park. Here, several different ecological regions meet and interact in a landscape shaped by wind, fire, flooding, and abundant plants and wildlife. Approximate Distance: 271 km/166 mi

The Rockies: Banff & Lake Louise

Just west of the city are the majestic Canadian Rocky Mountains. Stunningly beautiful, Banff and Lake Louise offer adventure and first-class amenities - from unparalleled skiing and hiking opportunities to delectable dining and Nordic spas. Distance: 127 km/79.2 mi



Airlift, Transportation & Hotels

Calgary's International Airport

The Calgary International Airport (YYC) is Canada's fourth busiest airport and is consistently ranked as one of the best airports in North America for overall passenger convenience. In 2019, YYC boasted more than 1,400 weekly departures and operates 24 hours a day, seven days a week, serving over 18 million passengers a year.

More than 200 daily non-stop flights connect Calgary to the world through this modern, easy to navigate airport and Calgary is no more than one stop away from any major city in the world. YYC is just 20 minutes from downtown Calgary and is easily accessible from anywhere in the city. For further information, including airline details, visit yyc.com.

Taxis & Ride Sharing

Ride sharing is a convenient mode of transportation with Uber offering the service in Calgary. Taxis charge a base rate of \$3.80 and an additional surcharge at the airport. Most services have online and mobile booking apps. Stands are located at YYC and at most downtown hotels.

Explore Calgary on Foot, by Bike or Scooter

Calgary has the most extensive urban pathway and cycle network in North America, with approximately 850 km of regional pathways and 95 km of trails. The popular e-bike and e-scooter sharing programs, Bird and Neuron, are also available. Calgary also has the world's largest elevated, climate-controlled pedestrian pathway - the +15 Skywalk System.

Public Transit

The backbone of Calgary's transit system is the C-Train, a light-rail train system that runs NW to SE and SW to NE. The downtown core is a Free Fare Zone, allowing passengers to travel between hotels, restaurants and events free of charge. Calgary also boasts an extensive busing system. Bus and C-Train tickets are purchased at YYC or paid by cash on the bus or at the station.

Hotels

Discover the perfect accommodation for your conference in vibrant Calgary! Immerse yourself in a diverse selection of hotels, from luxurious four-star properties to budget-friendly options tailored to student rates. With over 4,730 guestrooms nestled in the heart of our downtown core, you're spoiled for choices.

Airline Offers for Group Travel



Air Canada's Meetings and Events Program is available for 10 or more people travelling from multiple points of origin to the same destination. They simplify the booking process for you and your clients and you can take advantage of their reduced rates and other valuable benefits when planning trips within their extensive North American and international network.



WestJet's Groups and Conventions Program would be able to support your event by providing discounts for your attendees through their ever-expanding global network. For conventions with 25 or more delegates travelling from different locations to one destination, discounts would be available off their published fares, guaranteeing the lowest fare, as well as other great benefits.



Visiting Canada

Entering Canada

Visitors to Canada must have valid travel documentation, such as a passport. In certain cases, a visa or Electronic Travel Authorization (eTA) may also be required. Visitors must present this documentation upon arrival at a port of entry. For more information on visas, eTAs, visiting Canada for business, and travelling with minors, please visit the [Government of Canada](https://www.canada.ca/government) website.

Like most countries, Canada has restrictions on certain goods you can bring into the country, this includes items such as firearms, animals and plants. You must declare all goods when you first arrive at your port of entry. For more information, visit the [Canada Border Services Agency](https://www.cbsa.gc.ca).

Currency

The monetary system in Canada is comprised of Canadian dollars and cents. Although many businesses accept American currency, visitors are advised to exchange their traveller's cheques or homeland currency for Canadian currency. The best exchange rates can be found at chartered banks, credit unions, caisse populaires, and airport and border crossing exchange booths. Each financial institution sets its own exchange rate. Please note, some banks may charge a fee to cash travellers cheques.

Tourism Levy & Fees

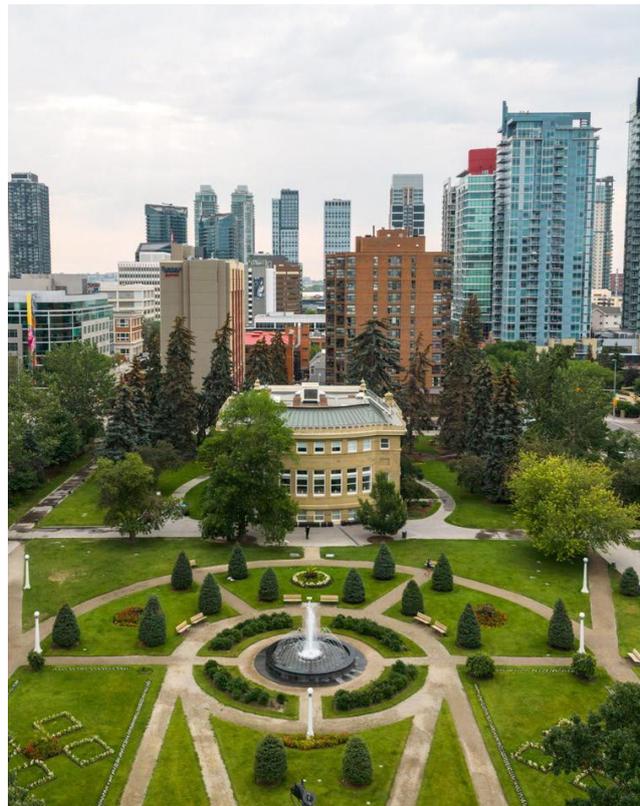
Alberta has a four per cent (4%) levy and a three per cent (3%) Destination Marketing Fee on hotel rooms.

Goods and Services Tax

The five per cent (5%) federal goods and services tax (GST) is a value-added tax that applies to most goods and services. Similar systems of taxation are used in at least 48 other countries.

GST Rebate for Foreign Conventions

The Canada Revenue Agency may be able to support your convention with a rebate of the GST paid on a convention facility and a related convention supply. To learn more about GST rebates and eligibility, visit the [Canada Revenue Agency](https://www.cra.gc.ca).



Key Information

HOST CITY	CALGARY, ALBERTA, CANADA
PROPOSED VENUE	BMO CENTRE AT STAMPEDE PARK OR CALGARY TELUS CONVENTION CENTRE
PROPOSED DATE	LATE JUNE or EARLY AUGUST 2028

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We welcome news items, reports on society activities, reviews etc. and members should forward these to the newsletter editor:

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