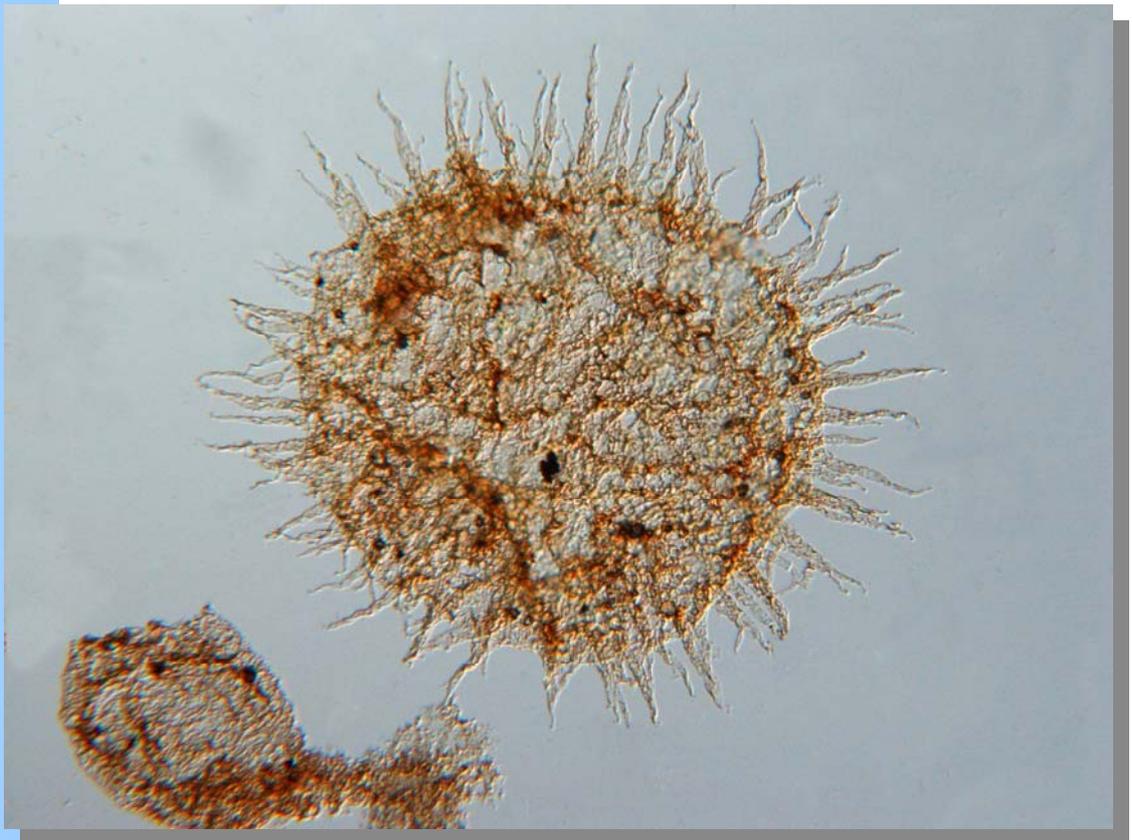


# Acritarch Subcommittee Newsletter



No. 23 March 2008

CIMP Acritarch Subcommittee

Chairperson: Reed Wicander

Secretary: Catherine Duggan



Commission Internationale de la Microflore du Paléozoïque  
<http://www.cimp.ulg.ac.be/index.html>

## TABLE OF CONTENTS

<b>THE CHAIRMAN'S COLUMN</b> .....	3
<b>SECRETARY'S COLUMN</b> .....	4
<b>CIMP LISBON'07</b> .....	4
<b>PHOTOS OF LISBON 2007</b> .....	5
<b>PALAEOZOIC PALYNOLOGY AT THE IPC / IOPC MEETING IN BONN, GERMANY</b> .....	6
<b>UPDATES</b> .....	9
<b>ACRITARCH PUBLICATIONS</b> .....	17
<b>ACRITARCH ABSTRACTS</b> .....	20
<b>GROUP PHOTO OF LISBON 2007</b> .....	22
<b>PALAEOZOIC CLIMATES INTERNATIONAL CONGRESS 2008</b> .....	23

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All listing in the table of contents are hotlinks - click on the text to navigate to section of interest.

All web addresses listed in the text are also hotlinks

**Front Cover:** *Tanarium pluriprotensum* (Ediacaran age) from the Giles 1 drillcore in South Australia (Sebastian Willman)

## THE CHAIRMAN'S COLUMN

Greeting Fellow Acritarch Researchers and Friends of the Acritarcha:

I'm sure you will all agree that we have had yet another successful year in advancing the frontiers of acritarch knowledge as well as publicizing the importance and usefulness of our fossil group to the scientific community and the general public. I have stated repeatedly in my column during the past several years, but it bears repeating yet again, that although we are a small organization, we can take great pride in the fact that we are very active and visible in the palynologic, paleontologic, geologic, and the broader scientific community. And I urge all of you, especially our younger members, to continue your research, publishing, collaborating with other disciplines, and attending as many meetings as possible in order to enhance our already high visibility and reputation among our fellow researchers.

During the past year, a joint meeting of the CIMP Spores/Pollen and Acritarch Subcommissions was held in Lisbon, Portugal, September 24-28, 2007. At the Prague CIMP meeting in 2006, Zélia Pereira offered to host a meeting of the Spores/Pollen Subcommission in Lisbon, Portugal in 2008. After discussing the possibility of the Acritarch Subcommission joining forces with the Spores/Pollen Subcommission, chairwoman Zélia graciously agreed to include our group as joint sponsors of a 2007 CIMP meeting. Along with her committee at the Instituto Nacional de Engenharia, Tecnologia e Inovação (INETI), Zélia organized and hosted an excellent meeting in which 41 palynologists from 14 countries participated in three days of technical and scientific sessions. This was followed by a two-day post conference field trip in southeastern Portugal to examine and sample Silurian, Devonian, and Carboniferous outcrops. I want to personally thank Zélia for allowing us to be part of this first CIMP meeting in Portugal. You can read more about this meeting elsewhere in the Newsletter.

The fourth meeting of the International Geoscience Programme (IGCP) n° 503 project "Ordovician Palaeogeography and Palaeoclimate" was hosted by Jun Li in Nanjing,

China this past June. This project, which follows up on the successful IGCP project no 410 "The Great Ordovician Biodiversification Event," examines "the environmental changes that influenced the biodiversity trends in the Ordovician and Early Silurian. [Its major objective] is thus to attempt to find the possible physical and/or chemical causes (e.g., related to changes in climate, sea level, volcanism, plate movements, extraterrestrial influences, etc.) of the Ordovician biodiversification, the end-Ordovician extinction, and the Silurian radiation." Several of our members attended this meeting and presented the results of their research. For information on this meeting and the final meeting of the project, to be held in Lille, France (August 23-31, 2008), click on <http://sarv.gi.ee/igcp503/index.php>.

The next International Palynologic Congress (IPC XII) meeting will be held in Bonn, Germany (August 30-September 6, 2008). This promises to be an exciting and informative meeting and there will be four symposia specifically dealing with Palaeozoic palynology as well as one on applied palynology. Details of the symposia that will be of interest to our membership can be found in this Newsletter and the website for the IPC XII at <http://www.paleontology.uni-bonn.de/congress08/index.htm>. I hope to see many of you at the meeting as well as participating in the various symposia.

The next general CIMP meeting will be held in Warsaw, Poland in 2010 at the Institute of Geological Sciences of the Polish Academy of Sciences. The organizing committee consists of Monika Masiak, Marzena Oliwkiewicz-Miklasinska, and Marzena Stampień-Salek. A preview of the meeting was made at the Spore/Pollen and Acritarch meeting in Lisbon, and it promises to be an exciting meeting. This being an election year in the United States and elsewhere, I want to remind you now that at the 2010 CIMP meeting, a new Chairman and Secretary of the Acritarch Subcommission must be elected. I have served for two terms as Chairman, and although I have enjoyed the honor and privilege of serving you, it is time for a new Chairman to take over. So, please consider the possibility of running for office.

In other news, the phytoPal project officially ended last year. For those of you not familiar

with the project, its aims were to “document the diversity of Palaeozoic phytoplankton through the construction of a Sepkoski-type curve. The distribution of the phytoplankton can then be related to the changing patterns in global climate, macrofaunal diversity and the end Ordovician, Late Devonian and Permian-Triassic extinction events.” Abstracts of the papers presented at the five Workshops can be downloaded from the phytoPal website at <http://www.le.ac.uk/geology/glm2/phytopal.html>. In addition, the phytoPal Taxonomic Database and Reference Database can also be downloaded from the website.

Lastly, if you didn't respond to either my request or the initial request from Catherine to send in your contribution, please consider doing so next year. The Newsletter is the main vehicle for staying in touch with what your colleagues are doing, and is as only successful as you make it. We will be having an Acritarch Subcommission business meeting at IPC XII this summer to discuss various issues. I hope to see many of you there and to solicit and hear your opinions on a variety of Acritarch Subcommission issues.

Reed Wicander

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## SECRETARY'S COLUMN

Dear Colleagues and Friends,

First, sincere apologies for the delay in the circulation of this newsletter. Like most people these days, I seem to find time moving more quickly these days than it used to, and, alas, there just never seems to be enough of it.

Turning to more efficient things, I was delighted to see so many familiar faces in the beautiful September sunshine of Lisbon, Portugal. The joint meeting of the Spore/Pollen and Acritarch Subcommissions organised by Zélia Pereira and her colleagues was a very enjoyable and well planned meeting in beautiful surroundings. I am personally very grateful to her and the rest of the organizing committee for all their hard work. However during the technical sessions I found myself distracted more than once by the question 'Why?' I have always believed that one of the very first slides of a scientific presentation should state the fundamental question the study is trying to answer. Aims of a project serve to

place the research in context and make the results more valuable. I consider this a necessary part of any presentation and I would encourage all students (and former students) to ensure that the question of 'Why?' is always addressed.

Speaking of students, I am sorry to report that we had a disappointing number of responses to the Newsletter this year from the next generation of acritarch workers. I trust (optimistically) that this is the result of students being unaware of the newsletter and the call for contributions rather than a diminishing population of new researchers. I would appeal to all supervisors to ensure their students are aware of the Newsletter and Subcommission and how it can be a useful source of information and contacts.

Finally, reminder of upcoming meetings. As I hope you are all aware, the twelfth IPC will be held in Bonn this year and if it is anything like Granada 2004 meeting, you won't want to miss it. Details of the symposia of interest to acritarch workers are found later in the Newsletter. In addition, this is your advance warning of the CIMP meeting to be held in Poland in 2010 where a new Acritarch Subcommission Chairperson and Secretary must be elected – plenty of time to work on your campaign.

I hope to see most of you in Bonn this September, so until then I wish you all the best.

Catherine Duggan

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## CIMP LISBON'07

CIMP Lisbon '07 was held in Lisbon, Portugal from September 24-28, and by all accounts was a most successful meeting. This was a joint meeting of the Spores/Pollen and Acritarch Subcommissions and was ably organized by Zélia Pereira and her committee of Paulo Fernandes, Tomas Oliveira, and Nuno Vaz. The meeting was held at the Instituto Nacional de Engenharia, Tecnologia e Inovação (INETI) in Lisbon, Portugal, which had excellent facilities for such a conference.



← Welcome reception at the Geological Museum, Lisbon

Opening Session of the meeting held in the Portuguese Geological Survey Headquarters →



← Poster session

Geoff Clayton with →  
Marzean Oliwkiewicz-  
Miklasińska



← Illustrated Abstracts (click)

Traditional Fado Dinner →



The program included three days of oral presentations, poster sessions, as well as a short course on cryptospores by Paul Strother, an acritarch short course by Reed Wicander, and a PALYWEB presentation by Philippe Steemans. Following the meeting, there was a two-day field trip to southeast Portugal to examine and sample Silurian, Devonian, and Carboniferous outcrops. In addition to the scientific portion of the meeting, social events included an opening reception at the Geological Museum in Lisbon, and the Conference Fado dinner of traditional Portuguese food, beverage, and entertainment. In addition, lunch was provided each day at the INETI Geoscience building, which added to the camaraderie of the meeting.

Forty-three palynologists from 14 countries participated in CIMP Lisbon'07, including many younger researchers. Although the majority of talks were related to spores, there was one technical session exclusively devoted to acritarchs. In all, a total of seven acritarch or acritarch related papers were presented, as well as an acritarch short course. Several more acritarch abstracts are included in the abstracts volume, but unfortunately the authors of these abstracts were not able to attend. Abstracts of the meeting can be downloaded from the CIMP Lisbon'07 website at: <http://e-geo.ineti.pt/CIMPLisbon07/>.

CIMP Lisbon'07 was a scientifically exciting, interesting, and most worthwhile meeting. The size of the conference and the venue encouraged much interaction between the participants both during the presentations, and the breaks and lunches. Having a joint meeting such as this was very beneficial to all involved and I thank Zélia and her committee for all the hard work they put into making this an excellent meeting.

Two other reviews of the CIMP Lisbon'07 meeting can be found in the Winter 2007 *CIMP Newsletter* (Mike Stephenson) and the December 2007 issue of *Palynos* (Ken Higgs). A summary of the two-day post conference field trip, both written by Ken Higgs, are also in the Winter 2007 *CIMP Newsletter* and the December 2007 issue of *Palynos*.

Reed Wicander

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## **PALAEOZOIC PALYNOLOGY AT THE IPC / IOPC MEETING IN BONN, GERMANY**

30 August – 6 September 2008

The next International Palynological Congress (IPC XII) will be held in Bonn, Germany from August 30 to September 6, 2008. Full details of the conference can be found at <http://www.paleontology.uni-bonn.de/congress08/index.htm>. Of particular interest to acritarch workers are five symposia dealing with Palaeozoic palynology, three of which are CIMP-sponsored. Information on each symposium can be accessed from the Symposia link on the home page of IPC XII. Below is a synopsis of each symposium as it appears on the IPC XII website.

### **General Palaeozoic palynostratigraphy: spores, pollen, acritarchs, chitinozoans**

*Symposium 37: PALEOZOIC PALYNOSTRATIGRAPHY: LOWER PALEOZOIC AND UPPER PALEOZOIC*

*Conveners:*

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**Marco Vecoli**

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This is a traditional CIMP organised symposium to take account of our membership whose interests and indeed employment is within the remit of stratigraphic palynology. We will try and emphasise the high resolution aspects of zonation but the symposium is to showcase what we can do in terms of time correlation. We see this as essential as we have many members from central and eastern Europe who are traditional biostratigraphers. The IPC/IOPC is in Bonn and we expect to have many of these members attending so we need to give them a symposium at which to present. Equally we want them to attend the Palaeozoic Oceans and Climate Change symposium to expose them to leading-edge science. We again envisage several blocks of time that would split the sessions into

Lower and Upper Palaeozoic with any Precambrian temporarily included in the former. We hope to showcase the revision of the CIMP sponsored Carboniferous spore zonal scheme.

**Palaeozoic climates: acritarchs, chitinozoans, spores.**

*Symposium 53: PALEOZOIC OCEANIC AND CLIMATE CHANGE: EVIDENCE FROM THE PALYNOLOGIC RECORD.*

*Conveners:*

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Significant changes in global climate documented throughout the Phanerozoic can be recognized from the palynological, palaeobotanical, and palaeoenvironmental record in marine and terrestrial sedimentary sequences.

The phytoplankton record, which primarily includes acritarchs and prasinophytes, shows changes during the Cambrian, Ordovician, Silurian, and Devonian, which may be attributable to fluctuations in temperature, nutrient supply, and other environmental factors. The Carboniferous is an interval with remarkably low phytoplankton diversity, and is followed by increased diversity in the Permian and Triassic. Significant events in long-term phytoplankton diversity, as documented in the phytoPal project for the Palaeozoic, may also be linked to generally wetter or drier episodes. Changes in diversity and abundance in the Mesozoic and Cenozoic phytoplankton record, including dinoflagellate cysts, acritarchs, and prasinophytes, may also be associated with climate change.

The palaeoenvironmental changes during the Palaeozoic can also be documented from variations in abundance and diversity of chitinozoans for the Ordovician to Devonian, spores from the Ordovician, and pollen from the Carboniferous. Furthermore, stomata density

can be used to document changes in CO<sub>2</sub>. Some of these variations seen in the palynologic record may be linked with climate change, including warm and cool intervals, as well as changes associated with glacial intervals during the late Ordovician, Carboniferous, and Permian.

**Proterozoic and Palaeozoic primary producers**

*Symposium 7: PRIMARY PRODUCERS IN PROTEROZOIC TO PALEOZOIC AQUATIC ECOSYSTEMS: PALEOBIOLOGY AND PALEOECOLOGY OF CYANOBACTERIA, ACRITARCHS, PRASINOPHYTES, AND OTHER ORGANIC-WALLED MICROFOSSILS*

*Conveners:*

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Ancient marine to freshwater primary producers differs from those of younger ecosystems. Whereas e.g. dinoflagellates, diatoms, coccolithophores, silicoflagellates and other modern microalgae like various green algae are prevailing since the Mesozoic, Proterozoic to Palaeozoic primary producers are best known through marine acritarchs and prasinophytes. Other organic-walled microfossils like mazuelloids and colonial algae, and particularly non-marine phytoplankton has less frequently been reported from this time slice. However, the ecological role of each group of these organic-walled microfossils and their meaning for complex ecosystems still request profound and with increasing importance integrated studies. Proterozoic to Palaeozoic primary producers of aquatic systems are commonly connected with planktonic life. However, development and preservation of microbial mats represents a specific ecological and taphonomical window into benthic primary producers. Recent studies of this facies has recently provided an unexpected insight into Late Precambrian palaeobiology, e.g. relation between benthic primary producers and their consumers. Microbial mats are relatively well documented in

Precambrian siliciclastic sediments but their presence in Palaeozoic and younger sediments seems to be generally underestimated.

*Symposium 40: PALEOZOIC PALYNOLOGY OF THE ARABIAN PLATE AND ADJACENT AREAS*  
A CIMP-SPONSORED SYMPOSIUM

*Conveners:*

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University of Sheffield, UK

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In recent years there has been a dramatic increase in our understanding of Palaeozoic stratigraphy and palynology of the Saudi Arabian Plate and adjacent areas (i.e. Northern Gondwana). This has come about as a consequence of: (i) increased understanding of biostratigraphical and palaeoenvironmental aspects of Northern Gondwana palynomorphs; (ii) conceptual advances associated with the application of sequence stratigraphy. The former has been facilitated by the realization that Northern Gondwana studies had to move away from traditional schemes established in palaeogeographically distant continents (such as Euramerica). Thus independent biostratigraphical schemes, linked to local stratigraphy, palaeogeography and palaeoenvironment, have increasingly been established. This, of course, has been incorporated into the rapidly developing sequence stratigraphic framework. These aspects of research have been largely pushed forward by palynologists/geologists working for petroleum companies with interests in Northern Gondwana oil/gas exploration. However, this research has also included academic researchers, for example in the long running collaboration between the company Saudi Aramco and members of the IFPS affiliated society "Commission Internationale de Microflore du Paléozoïque" (CIMP). This symposium aims to explore recent advances in our understanding

of the palynology of this region with integrated presentations from both the industrial and academic world. Any palynologist working on the Palaeozoic palynology of this region is invited to submit an abstract.

*Symposium 28: PALEOPALYNOLOGY: APPLICATIONS IN PALEOENVIRONMENTAL ANALYSIS, SEQUENCE STRATIGRAPHY, AND BIOSTRATIGRAPHY.*

*Conveners:*

**Christoph Hartkopf-Fröder**

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**Duncan McLean**

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The purpose of the symposium is to reflect all applied aspects of palaeopalynology, from the discussion of methodologies to the presentation of case studies. Contributions on all aspects of economic palaeopalynology and those demonstrating integration with other disciplines (sedimentology, petrography, geochemistry, etc.) are particularly welcome. Palynology is a powerful tool that is used to resolve a wide array of geological problems. Economic use of palynology started early in the 20th century when spores and pollen were employed to correlate coal beds. In the late 1930s, petroleum exploration companies recognized the great potential of palynomorphs in biostratigraphy. Since then, palynology has developed into a multifaceted discipline with innovative applications in the characterization of depositional environments, sequence stratigraphy, thermal maturation studies, provenance analyses, and mineral ore extraction. Dating and correlation of sedimentary units with the aid of palynomorphs is still the primary application of palynology. Modern hydrocarbon exploration is increasingly targeted at small-scale discoveries, stratigraphical traps and frontier resources. The new exploration plays and concepts require considerable input from biostratigraphy to provide high-resolution stratigraphy and palaeoenvironmental data. Further, palynological information is now applied in "real-time" to provide biosteering decisions to monitoring

drilling increasingly complicated well paths. The integration of palynofacies data with sedimentological and seismic information has had a strong impact on sequence stratigraphy, helping to decipher sequence boundaries and systems tracts. Palynofacies analysis is also an important technique to assess the petroleum potential of source rocks.

Applied palynology has a long history in the coal industry, while it is less well known that the study of particulate organic matter can significantly contribute to an understanding of metallic ore genesis and diagenesis. Palynomorph colour analysis is used as a quick and cheap method to determine the thermal maturity of sedimentary sequences, which is important in coal and hydrocarbon geology, basin evolution studies and in mapping geology. It is widely accepted that the inclusion of palynological data can add detail and prevent misinterpretations in the palaeoenvironmental reconstruction of marine and non-marine successions.

Composition and preservation of particulate sedimentary organic matter reflect the environmental conditions at the site of origin, its transport and post-depositional alterations. Pollen and spores are sensitive indicators of the continental environment and micro-phytoplankton record conditions in the marine realm. Consequently, subtle changes in the marine and terrestrial biosphere are documented by the preserved sedimentary organic material. This is best studied using an integrated, multidisciplinary approach (e.g. palynology, organic petrography, organic and inorganic geochemistry). Even reworked palynomorphs can provide useful data. In sedimentary provenance analyses, they may complement heavy mineral data in fingerprinting source areas.

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## UPDATES

### MUTASAM AL-GHAMMARI

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I began my Ph.D. at the University of Sheffield in October, 2007. It is a project titled "Palynostratigraphy of the Safiq Group, Sahmah, Hasirah and Saih Nihayda Formations: a detailed study of palynomorph occurrences and trends in well sections from central and northern Oman." It is sponsored by Petroleum Development Oman L.L.C. (PDO) and supervised by Drs. Charles Wellman, Stewart Molyneux, and Graham Booth. The research project will study the Lower Palaeozoic acritarchs, chitinozoans, and cryptospores of Gondwana that are found in the middle Ordovician to early Silurian (Llandovery) sediments of Oman, with the acritarchs being the mainstay of the research. This Ph.D. project aims to improve understanding of the palynomorph distribution, and to refine the existing PDO biozonation scheme of the Safiq Group. It is expected that it will also help in investigating the complexity of the transgressions and the possibility of stratigraphic breaks in the succession, as well as examining how the palynological and geological results fit into the regional picture.

### AURÉLIEN DELABROYE

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Presently, I am studying the latest Ordovician (Hirnantian) to basal Silurian acritarch microfloras from the Ellis Bay and Becsie formations at Anticosti Island for my Ph.D. at the University of Lille, France. My dissertation is under the supervision of Marco Vecoli and Thomas Servais.

The Ordovician/Silurian palynological assemblages from Anticosti are very diversified and well preserved. In order to compare the Anticosti assemblages with other Hirnantian palynomorphs, I am also examining Ordovician/Silurian boundary strata from Argentina with Claudia Rubinstein (having spent five weeks in Claudia's lab in Mendoza last November), and from Estonia with Jaak Nõlvak and Anneli Uutela (where I spent one week in Tallinn last December). My goal is to precisely

characterize the Hirnantian acritarch microflora and to determine the palaeoecological vs. biostratigraphical importance of this assemblage.

Along with Marco Vecoli, we have just returned from Erlangen, where we met Axel Munnecke, Mickael Joachimski, Paul Copper, and Oliver Lehnert. We compared our biostratigraphic, chemostratigraphic, isotopic, and productivity results of the Anticosti sections with those of high-resolution sampling of two critical Ordovician/Silurian boundary sections we sampled in May 2006. The preliminary results are very interesting and will be presented at the next meeting of the IGCP 503 project in Lille (25-29 August 2008).

I continue to process samples from Anticosti in order to improve my biostratigraphic resolution of the Ellis Bay and Becsie formations. I am currently writing a monograph on the acritarchs from these two formations.

#### **CATHERINE DUGGAN**

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Following almost a year working for the Exploration and Mining Division of the Irish Government, I began working as a geoscientist for Tullow Oil in their Dublin office. I have been very lucky to find a position that allows me to apply much of the skills I developed during my postgraduate study, particularly in relation to thermal maturation and source rocks. Alas, data on acritarch colour is harder to come by but hope springs eternal! I have also, (finally) written up my results which will be published in *GeoArabia* in the next few months. All going to plan, I hope to attend the IPC in Bonn this year which promises to be a great meeting.

#### **MOHAMMAD GHAVIDAL-SOOKI**

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I continue my research with Paleozoic acritarchs from Iran and published two papers in 2007 (see publication list elsewhere in this newsletter).

#### **KATH GREY**

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Visiting scientists continue to make their way to Western Australia and recent visitors interested in acritarchs have included Zhu Chuanming from the Nanjing Institute of Geology and Palaeontology, Emmanuelle Javaux from the University of Liège, Phoebe Cohen from Harvard, Yin Chongyu and colleagues from the Institute of Geology, Chinese Academy of Geological Sciences, Beijing, and others from IGCP 512, who were passing through Perth on their way to examine Kimberley Neoproterozoic

glacial successions. Some visitors spend a week or more in residence, examining either palynological or stromatolite specimens from the Geological Survey of Western Australia Fossil Collection and using the nearby Core Library facilities for sampling. Various manuscripts are in progress as a result of collaborations with visiting colleagues.

Work continues on refining Neoproterozoic correlations using acritarchs and stromatolites, with particular emphasis on the problems of correlating glacial episodes. I co-authored several papers published on the sedimentology of Australian glacial successions and Ediacaran correlation in Australia, on the organic geochemistry of the same succession, and

contributed to posters and conference abstracts on similar topics, as well as a book on the evolution of the earliest animal fossils. Various publications are in press, ready for submission, or are in progress.

My interest in Archean microfossils continues and a paper on Archean microstructures (at least 2.9 Ga old), interpreted as fossils, and including unusual spindle-shaped structures, was published in *Precambrian Research* (see publication list elsewhere in this newsletter). Work continues on these structures and on the broader problems of delimiting criteria for recognizing Precambrian fossils.

### **EMMANUELLE JAVAUX**

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I am looking at patterns of early life evolution through intervals of environmental and biological changes in the Precambrian. To do this, I am trying, in collaboration with Craig Marshall, University of Sydney, Australia, to elucidate the biological affinities of early (and younger) acritarchs by using a combination of microscopic and microchemical techniques on single microfossils, as well as gaining insights from comparative biology and molecular phylogeny.

Other research themes that I am working on include the origin, evolution, paleobiology, and paleoecology of early eukaryotes; the diversification of prokaryotes (in particular cyanobacteria); the preservation of microbial mats and acritarchs in siliciclastics (geobiology); experiments of artificial taphonomy; and the preservation/characterization of biosignatures useful for paleobiology and astrobiology. Various projects with collaborators on Archean through Neoproterozoic acritarchs and cyanobacteria from Australia, Africa, Russia, as

well as Paleozoic and modern protists and prokaryotes are ongoing.

Pavel Medvedev, an "invited professor" from Russia, spent a year in the lab exploring traces of life in the Paleoproterozoic of Karelia, as part of an international intracontinental drilling program in Russia (ICDP Far-Deep). In June, Pavel and I did fieldwork in the Paleoproterozoic of Karelia, and visited Elena Raevskaya and Elena Golubkova at the St Petersburg Precambrian Institute. In July, I worked in Craig Marshall's lab in Sydney, Australia before sampling drill cores in Perth with Kath Grey (and tasting some wine), and visiting Shark Bay stromatolites. Among other things like conferences, meetings, and teaching, I convened in August, a session with Jochen Brocks at the Goldschmidt Conference in Koln, Germany. In February I was invited to participate in the ESF workshop "Archean habitats of early life" and visited the extreme river Rio Tinto in southern Spain.

With colleagues from various scientific disciplines and Belgian institutions, we are also actively developing the field of astrobiology (the study of the origin, evolution, and distribution of life in the universe) at the ULg and in Belgium, by creating a new FNRS contact Group (<http://astrobio.oma.be/>). This is a federal exobiology group, teaching astrobiology in Belgium and France (with the CNRS GDR exobiology), and giving many public conferences.

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Alain Le Hérisse continues his work on Paleozoic acritarchs in several projects. These include the biostratigraphy and environmental control of acritarchs from the Ordovician/Silurian boundary of Saudi Arabia, in co-operation with Stewart Molyneux, Merrell A. Miller, and Mansour H. Al-

Ruwaili. This same material is also being studied by other colleagues for miospores and chitinozoans. The detailed palynological reconstruction of the upper Ordovician pre-glacial and glacial period, and the study of the evolution of assemblages to the Ordovician/Silurian boundary is continuing with sections from Morocco, Algeria, South Libya, and Chad. Efforts are also being developed in the Silurian of Baltica, Tunisia, and Libya, in order to propose biostratigraphic zonations and to discuss relationships of the phytoplankton distribution, as well as the paleoclimatic variations. Systematic and biostratigraphic synthesis of acritarchs and chlorophycean algae are also in preparation, namely for the Middle and Upper Devonian of the Amazon and Parana Basins, following several years of study on the South American material.

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I continue working on Ordovician acritarchs from China. In June 2007, I organized the Yangtze Conference which combined the 10<sup>th</sup> International Symposium on the Ordovician System, the 3<sup>rd</sup> International Symposium on the Silurian System, and the 4<sup>th</sup> Annual Meeting of the IGCP 503 project on "Ordovician Palaeogeography and Palaeoclimate". Approximately 140 scientists (of whom nearly 100 came from 23 countries outside of China) attended the conference that was held in Nanjing. During the three days of the meeting, 66 talks and about 20 posters were presented, focusing on various fields. A pre-conference field trip (June 22-26) to Zhejiang and Jiangxi Provinces in southeast China was attended by about 30 registrants. This field trip concentrated on Ordovician to Lower Silurian sections of slope facies. One of the significant localities visited was the GSSP of the Darriwilian Stage (upper Middle Ordovician) at Huangnitian in the Changshan National Geopark. A half-day mid-conference field excursion to Ordovician and

Silurian outcrops in the Nanjing Hills, east of the host-city, was also held. Seventy registrants participated in the post-conference field trip to the Ordovician-Lower Silurian rocks of the Yangtze Platform, where outcrops near Tongzi County Town in Guizhou Province were examined. In addition, a transect through the Yangtze River Gorges between Wanxian and Yichang was made, as well as an examination of some stratigraphically significant sections in the vicinity of Yichang (Hubei Province). One highlight was the unveiling of a monument to the newly defined GSSP for the base of the Middle Ordovician at Huanghuachang village.

In August I visited Lille, France to work with Thomas Servais and Marco Vecoli, and while there I participated in the Zaragoza meeting and the CIMP Lisbon meeting.

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Work in this year was mostly dedicated to the Ediacaran and Cambrian microbiotas and questions on the affinities of some acritarchs, their application to biostratigraphy and zonation, and global correlation. Research on cyanobacteria from the late Ediacaran continues and raises some new insights on the end-Ediacaran extinction of the biota (both micro- and multicellular, including the metazoans), which swept away almost all taxa. Interestingly, only planktic sphaeromorphic acritarchs and some benthic cyanobacteria survived, and probably constituted the populations and genetic stock of the photosynthesizing microbiota, which rapidly diversified at the beginning of the Cambrian as part of the Cambrian explosion. The causes of the end-Ediacaran extinction followed by the Cambrian radiations are not clearly understood, but they may be due to the anoxia event and ensuing increased oxygenation of the ocean, change of water chemistry, global transgression and change of shallow marine ecosystems, and some other genetically induced processes.

Another research interest involving Cambrian acritarchs is their use in global correlation and their involvement in the work of the International Subcommittee on Cambrian Stratigraphy, Working Group on the Cambrian Subdivision. This group aims to establish the global standard stratotypes (GSSP) for Series and Stage boundaries of the Cambrian System.

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I have recently moved from the academic world to work for Fugro-Robertson Limited, a geological consultancy based in North Wales. However, I still find some time to continue with the research projects I started with my colleagues under the auspices of the PhytoPal project, which examined the diversity fluctuations of the Palaeozoic phytoplankton. The main results of this project have yet to make it to press and this will be my main concern during the coming year.

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My research in 2007 is a continued synthesis on the palynology and palynostratigraphy of the metamorphic pre-Paleozoic and Lower Paleozoic formations from the East Carpathians of Romania. I also worked in the Paleozoic from the Moldavian Platform of Romania.

During 2008, I plan to publish a paper with all of my palynological contributions (metamorphic and sedimentary formations) from 1963 to 2007. I have also begun, and I hope to finish, the difficult monography about the palynology and palynostratigraphy of the pre-Paleozoic and

Lower Paleozoic metamorphic formations from the East Carpathians of Romania.

I am currently the supervisor for five Ph.D. students who are studying the various large palynological and palynostratigraphic problems of the Tertiary organic matter and diagenesis, as well as the palynofacies from various sedimentary formations of Moldavian Platform, Romania.

I was the official scientific reviewer for three Ph.D. thesis with diverse palynological themes and with environmentally protected problems in the geological reservation and mine areas from Romania, a symposium of which will be held in February, 2008 at the University "Babes-Bolyai," Cluj-Napoca, Romania.

I was the President of Organization Committee of the VI<sup>th</sup> National Paleontological Symposium which was organized by the Department of Geology, University "Al. I. Cuza," Iasi, and the Romanian Society of Paleontologists, in September 21-23, 2007. I was also re-elected the President of the Society at the General Meeting).

And lastly, on October 28, 2007 (the University Day), I received the Honorary Title "Professor Emeritus" of the University "Al. I. Cuza" Iasi, Romania, for all of the didactic and scientific activities I have been engaged in during my career.

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Since late June 2007, Geoffrey Playford has been working at the Petrobras Research Center (Cenpes) in Rio de Janeiro on his fourth extended Brazilian visit, and is scheduled to return to the University of Queensland in late February 2008. With Jose Henrique Goncalves de Melo, he is engaged in the systematics and biostratigraphy of palynofloras from the extensively cored Mississippian subsurface succession of the Amazonas Basin, augmenting

previous studies (most recently, that of Melo and Loboziak, 2003, *Review of Palaeobotany and Palynology*, vol. 124, p. 131-202). As expected, the palynofloras are overwhelmingly dominated by diverse suites of Tournaisian and late Viséan miospores. However, and hitherto unreported, acritarchs and prasinophyte phycmata are persistently represented ... and not just by recycled forms like *Umbellasphaeridium* and *Maranhites* from the subjacent Upper Devonian strata. The clearly *in situ* Mississippian components are mainly small, morphologically simple acanthomorphs, including such genera as *Veryhachium*, *Michrhystridium*, and *Gorgonisphaeridium*; these, along with the miospores, are being documented per LM and SEM and will likely warrant a publication separate from the two planned that are based on the miospores. At this stage, the significance of the microphytoplankton appears to be mainly palaeoenvironmental, indicating a persistent, and not previously understood, marine influence during much, if not all, of the Mississippian deposition in the Amazonas Basin.

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I do a little acritarch work these days and most recently I have used acritarchs and prasinophytes as environmental indicators in Strunian deposits of New York and Pennsylvania, U.S.A. This is in collaboration with sedimentologist Don Woodrow and palynologist Violeta Avkhimovich, and is mainly concerned with correlation and interpretation of the Strunian diamictite deposits in eastern U.S.A.

My work on the Anglo-Welsh Lower Old Red Sandstone involves tracing the origin and reworking history of acritarchs from Lower Palaeozoic strata of northern Wales and the Welsh Borders, briefly mentioned in my 2007 Prague publication (see publication list elsewhere in this newsletter).

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I'm actively working on Palaeozoic (Ordovician to Devonian) marine and terrestrial palynomorphs from western Argentina, Brazil, and Bolivia (biostratigraphy, biodiversification, paleobiogeography, and paleoenvironments). In the framework of scientific cooperation between France and Argentina (ECOS-SECYT), Thomas Servais, Florentin Paris, and Marco Vecoli from France, and myself are currently working on the Ordovician palynomorphs of the Gondwana margin, including biofacies, paleogeography, and paleoclimate.

My plans for future research include continuing the same projects for the next several years. Some of the collaborative manuscripts sent in for review in 2007 deal with acritarchs from the Darriwillian, and from the Ordovician/Silurian boundary of the Sierras Subandinas (north-west Argentina).

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Thomas continues working on Lower Palaeozoic acritarchs, but also on general questions of Ordovician palaeobiogeography and palaeoclimate. He is co-supervisor of the theses of Aurélien Delabroye (Ordovician-Silurian boundary interval acritarchs) and Vincent Lefebvre (CO<sub>2</sub> modeling of the Late Ordovician extinction). Research projects include collaboration with Claudia Rubinstein (Mendoza, Argentina), Li Jun (Nanjing, China), and Olle Hints and Jaak Nolvak (Tallin, Estonia), comparing diversity trends of Ordovician acritarchs from different palaeocontinents. A

series of papers covering a variety of topics such as biostratigraphy, the impact of acritarch diversity on Ordovician biodiversification, megaspores, and even trilobites (why not?), were published in 2007 (see publication list elsewhere in this newsletter). Although more papers are in press for 2008, Catherine does not want to include them here, which is a wise decision, because that means you have something new to read next year!

The future holds the closing meeting of IGCP 503 "Ordovician Palaeogeography and Palaeoclimate" at Lille in August 2008, just before the IPC in Bonn, and other administrative fun activities, such as responsibilities of being head of department, president of various associations (the French palynologists, L'APLF, the French palaeontologists, APF, and others), and Titular (voting) Member of the Ordovician Subcommission (Stratigraphy).

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During 2007 I have been investigating the Cambrian to Silurian acritarch (and chitinozoan) stratigraphy and diversity dynamics in several areas. These include:

1. The Cambrian of Algeria. In collaboration with Dr. Florentin Paris and his postdoctoral student Dr. Blaise Videt (Rennes, France), I have been studying the palynology of pre-Ordovician (previously undated) strata in borehole AMG-1 in western Algeria. These sediments yielded well-preserved and diversified acritarchs which permitted the dating of the sequence to the Middle and Late Cambrian. The Middle Cambrian acritarch assemblage of borehole AMG-1 is so far the oldest recorded in the subsurface of the Sahara Platform. Occurring with well-known Cambrian acritarchs, are various enigmatic palynomorphs that could represent freshwater algae. A study of these palynomorphs is currently in progress and the first results were presented at the EGU General

Assembly 2007 in Vienna, and at the 2007 Palaeontological Association Meeting in Uppsala, Sweden.

2. The Cambrian to Silurian of Iran. This work, in collaboration with Dr. Ghavidel-syooki of the Iranian National Oil Company, aims at a high-resolution palynostratigraphic dating of the Lower Palaeozoic rock formations in Iran and the establishment of a palynozonation that will serve as a reference for future deep drilling oil exploration programs. This research concerns acritarchs as well as chitinozoans. One paper has already been published (see publication list elsewhere in this newsletter) and another one on Cambro-Ordovician acritarchs of the High Zagros Mountains of southern Iran is under review.

3. The Ordovician acritarchs from Argentina and comparison with coeval assemblages of North Africa. This project is conducted in collaboration with Dr. Claudia Rubinstein (Mendoza, Argentina) in the framework of a bilateral French-Argentinian funding programme (ECOS-*Sud*; project leader for the French side, Dr. Thomas Servais). We have been studying Middle to Late Ordovician (Hirnantian) acritarch assemblages from the Central Andean Basin (Capillas and Zapla formations of Rubinstein et al., 2007), and we are now preparing several papers describing the assemblages and comparing them with coeval assemblages from other parts of Gondwana.

4. An analysis of acritarch biostratigraphy and biodynamics across the Ordovician-Silurian boundary at Anticosti Island, Québec, Canada. This research is related to the Ph.D. project of Aurélien Delabroye which I am supervising (more details provided in the report by Aurélien Delabroye).

5. An integrated acritarch, miospore, and chitinozoan zonation of the terminal Ordovician to earliest Devonian strata in Libya, Tunisia, and Algeria's subsurface. This project aims not only to the refinement of existing palynozonations, but also to a detailed palaeoenvironmental analysis involving the use of carbon isotopes, biomarkers, and palynofacies data. The first results of this project have been presented at the EGU General Assembly 2007 in Vienna, and one paper is in press, with another one currently

under revision. I am also supervising a Master's degree project (Mr. Christian Cesari, University of Lille1) dealing with integrated chitinozoan palynozonation of Ordovician-Silurian boundary beds in the subsurface of southern Tunisia.

6. I recently started a new project in collaboration with the palynology team of the Institute of Geology at Tallin University of Technology (Drs. Olle Hints and Jaak Nolvak) involving the analysis of middle Ordovician acritarchs from the Pakri section, Estonia.

7. Other smaller projects include the analysis of Cambrian rocks from southern Europe (the Italian Alps and the Montagne Noire in France), and the Ordovician of Turkey.

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I am continuing my work on Ordovician and Devonian acritarchs from various locations. I did not have any papers published during 2007, but I did have the acritarch short course that I presented at the Lisbon CIMP meeting published as part of the meeting publications. I have one paper in press and another that has been accepted with revisions, as well as several in various stages of completion. Stay tuned for those coming out in next year's newsletter. My two presentations last year were both at the Lisbon CIMP meeting and were the acritarch short course, and a paper coauthored with Thamer Al-Ameri.

Just as I mentioned last year at this time, I am serving my second and final term as your chairman. I have enjoyed this honor of serving you, but we need to be thinking of my successor, which will be elected at the next CIMP meeting in 2010 in Poland.

#### **SEBASTIAN WILLMAN**

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Suddenly I am about to finish my studies and will have to join the real world! With fingers crossed, and if everything goes according to plan, I will complete my Ph.D. before the summer of 2008. During the last year I have continued my research documenting the Ediacaran acritarch record in the Officer Basin in Australia, as well as trying to make sense of their affinities using transmission electron microscopy. The TEM-work was published in *Lethaia* earlier in 2007 (see publication list elsewhere in this newsletter) and the more taxonomic approach is in press in *Precambrian Research*, both co-written with my supervisor Dr. Malgorzata Moczydlowska. Kath Grey and I have also submitted a paper on taphonomy of acritarchs and I have a few more loose ends to tie together before finishing.

Completely unrelated to my acritarch studies, I published a paper in the *Journal of Shellfish Research* (say that five times in a row).

I spent three weeks in Svalbard this past summer broadening my horizons (so they say) by taking a course in sequence stratigraphy. It was pretty cold at times but I guess that is why they have polar bears there.

I gave a talk at the CIMP meeting in Lisbon, Portugal in the autumn. Thank you to the organizers for doing an excellent job. Speaking of meetings, I was also part of the team organizing the 51<sup>st</sup> PalAss-meeting that took place in Uppsala just before Christmas. Thank you for those of you who came to that meeting.

And finally, I hope for all of you a great 2008.

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I have finished my Ph.D. thesis *Ordovician acritarchs in South China: biodiversity and paleobiogeography* and received my degree in July of this year. Following my Ph.D. oral defense, I attended the 10th International Symposium on the Ordovician System, the 3rd International Symposium on the Silurian System, and the 4th annual meeting of the IGCP 503 Project in Nanjing this past June. This was followed by the post-conference field trip in Tongzi and Yichang in South China. I also became an assistant researcher at the Nanjing Institute of Geology and Palaeontology in August. In October 27-28, 2007, I participated in an evaluation meeting and also give a talk. In December, I will go to Yunnan for a field trip and the collection of sample for acritarchs.

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I will continue my research of the Precambrian, especially the Late Neoproterozoic (Ediacaran) acritarchs during the coming year. I have been invited by Prof. J.W. Schopf, and Dr. Xiao Shuhai, respectively, to participate in the "World Summit on Ancient Microscopic Fossils," to be held at the IGPP Center for the Study of Evolution and the Origin of Life at the University of California, Los Angeles, July 27 through August, 2, 2008, and the "Swedish Workshop on Ediacaran Acritarch Taxonomy," that will be held at Uppsala University, Sweden, August 18-21, 2008.

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**CIMP Lisbon 2007**  
**Group Photo**  
Joint meeting of Spore/Pollen and Acritarch Subcommissions

## Palaeozoic Climates

*International Congress*

**August 23-31, 2008, Lille, France**

## SECOND CIRCULAR

*Call for papers*

### Purpose of the conference

**Climate change** is currently one of the most debated and discussed scientific topics. Ancient climate changes are extremely useful to understand the global changes that we live today. The scientific meeting on **Palaeozoic Climates** is focused not only on ancient climate and sea-level changes (Ordovician glaciation, end-Devonian extinction, Late Palaeozoic glaciation ; greenhouse-icehouse transitions), but also on their modelling, their understanding and their **impact on the biodiversity**.

The Congress will serve as Closing Meeting of the **International Geoscience Programme (IGCP) n° 503 'Ordovician Palaeogeography and Palaeoclimate'** and is also related to the IGCP n° 497 '*The Rheic Ocean : its Origin, Evolution and Correlatives*', and IGCP n° 499 '*Devonian land-sea interaction : evolution of ecosystems and climate*'.



During the **pre-conference excursion** outcrops and sections of the Cambrian to Silurian sections of Belgium will be visited. The **post-conference excursion** will allow the participants to visit some of the famous sections of the Belgian Upper Palaeozoic, including those from localities such as Givet, Frasnes, Famenne, Tournai, Namur, Dinant, and others, including outcrops in the classical section of the Meuse Valley.

The conference topics are designed to address various subjects related to **Palaeozoic Palaeogeography, Palaeoclimate and Palaeoecology**, including all geological systems from the Cambrian to the Permian. The major aim of the congress is to analyze and understand the factors driving **diversifications, extinctions and radiations of Palaeozoic faunas and floras**.

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The congress is an event of the **International Year of Planet Earth**, aiming at contributing to the scientific topic : *Earth & Life – the Origins of Diversity and Climate Change*.

### Venue

The meeting, organized by the CNRS research unit **UMR 8157 Géosystèmes** will take place in the city centre of Lille, scientific sessions will be organized at the **Catholic University of Lille (UCL)** in the **Institut Supérieur d'Agriculture (ISA)** buildings. Some events will take place on the campus of the **Université des Sciences et Technologies (USTL)**, close to Lille, at Villeneuve d'Ascq.

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**Lille**, in northern France, can easily be reached from London (90 minutes), Paris (60 minutes) and Brussels (40 minutes) by high speed trains (Eurostar, TGV, Thalys).



## Important dates

**December 2007** : Distribution of the Second Circular, Call for Papers, Registration starts.

**May 1<sup>st</sup> 2008** : Deadline for abstracts, registration and payment of regular fee.

**June 20<sup>st</sup> 2008** : Third circular, travel information, distribution of the scientific programme.

+ + +

**August 23-24** : Pre-conference excursion (**Excursion A**) : Lower Palaeozoic of Belgium and northern France (Brabant, Condroz)

**August 25-26** : Early Palaeozoic Climates, Sea-Levels and Biodiversity (including Closing Session IGCP 503).

**August 27** : **Plenary Session** : Palaeozoic Climates and Biodiversity

**August 28-29** : Late Palaeozoic Climates, Sea-Levels and Biodiversity

**August 30-31**: Post-conference excursion (**Excursion B**) : Upper Palaeozoic of Belgium and northern France (Avesnois, Meuse Valley, Ardenne)

## Organizers

**Alain Blicek** (USTL, CNRS, Lille)  
**Benoît Hubert** (UCL, Lille)  
**Bruno Mistiaen** (UCL, Lille)  
**Nicolas Tribouvillard** (USTL, Lille)  
**Marco Vecoli** (USTL, CNRS, Lille)  
**Jacques Verniers** (Univ. Gent, Belgium)

**Björn Kröger** (USTL, Lille), **secretary**  
**Thomas Servais** (USTL, CNRS, Lille), **chair**

## Scientific committee

**Michael Bassett**, Cardiff  
(*The Palaeontological Association*)  
**Taniel Danelian**, Paris  
(*Association Paléontologique Française, APF*)  
**David T. Harper**, Copenhagen  
(*Subcommission Ordovician Stratigraphy*)  
**Alain-Yves Huc**, Paris  
(*Fédération Française de Géologie, FFG*)  
**John Marshall**, Southampton  
(*Subcommission Devonian Stratigraphy*)  
**Shanchi Peng**, Nanjing  
(*Subcommission Cambrian Stratigraphy*)  
**Christian Ravenne**, Paris  
(*Société Géologique de France, SGF*)  
**Francis Robaszynski**, Mons  
(*Société Géologique du Nord, SGN*)  
**Michael J. Melchin**, Antigonish  
(*Subcommission Silurian Stratigraphy*)  
**Denis Vaslet**, Orléans  
(*Comité National Français pour l'Année Internationale de la Planète Terre*)

## Organizing institutions

UMR 8157 Géosystèmes du CNRS

Université des Sciences et Technologies de Lille (USTL)

Université Catholique de Lille (UCL)

Centre National de la Recherche Scientifique (CNRS)

Conseil Régional du Nord, Lille

The Palaeontological Association

Association Paléontologique Française

Société Géologique de France

Société Géologique du Nord



## Keynote speakers

The following speakers accepted to present a keynote talk. Other keynote speakers will be added to this list.

- Robin Cocks** (The Natural History Museum, London) : *Lower Palaeozoic palaeogeography*  
**Yves Godd ris** (Univ. Toulouse, France) : *Global biogeochemical cycles*  
**Michael Joachimski** (Univ. Erlangen, Germany) : *Upper Palaeozoic carbon and oxygen isotopes*  
**Arnold I. Miller** (Univ. Cincinnati, Ohio, USA) : *Palaeoenvironmental impact on diversity over time*  
**Christian Klug** (Univ. Z rich, Switzerland) : *Evolution of the marine food web in the Devonian*  
**Alexander N tzel** (Bayerische Staatssammlung, M nchen, Germany) : *Evolution of planktotrophy*  
**Alberto P rez-Huerta** (Univ. Glasgow, UK) : *Palaeoclimatic impact on Late Carboniferous marine ecosystems*  
**Kevin J. Peterson** (Dartmouth College, Hanover, NH, USA) : *Molecular palaeobiology*  
**Matthew R. Saltzmann** (Univ. Columbus, Ohio, USA) : *Lower Palaeozoic carbon and oxygen isotopes*  
**J rg Schneider** (Univ. Freiberg, Germany) : *Upper Palaeozoic ecosystems*  
**Charles Wellman** (Univ. Sheffield, UK) : *Land plant evolution and terrestrialization*

## Conference proceedings

We are currently discussing with several editors (*Geological Society London, Special Publications ; Palaeogeography, Palaeoclimatology, Palaeoecology*) the possibility of producing thematic sets based on papers presented at the meeting. Further information will be available in the third circular .

## Talks and posters

**Talks** will be included during the five days of the conference and each will last **20 minutes** (including five minutes of discussion). Talks on Lower Palaeozoic topics will be concentrated on the sessions of Monday and Tuesday, August 25th and 26th. Talks on Upper Palaeozoic topics will be concentrated on the sessions of Thursday and Friday, August 28th and 29th. Parallel sessions will be avoided. Talks of general interest will be placed in the general session of Wednesday, August 27th.

**Posters** should be of standard DIN A0 size, portrait.

## Abstracts

**Talks and posters** on any area of the conference topics are invited, including palaeogeography, palaeoclimatology, palaeoecology, and related disciplines.

**Abstracts**, not exceeding one A4 page, should be sent to the address below by May 1st, 2008. State whether the abstract is for an oral or poster presentation. In case of multi-authored talks, please, indicate the speaker.

Please, use 12pt serif font (such as Times New Roman), with 2.5 cm margins. The title should be in capitals. Provide authors' names in full, with affiliations and e-mail addresses of all contributors.

Abstracts should be written in correct English. The organizing Committee reserves the right to accept or refuse any submission.

Please, note that abstracts are only accepted for print and included in the programme if the registration fee is paid before the registration deadline (May 1st 2008).

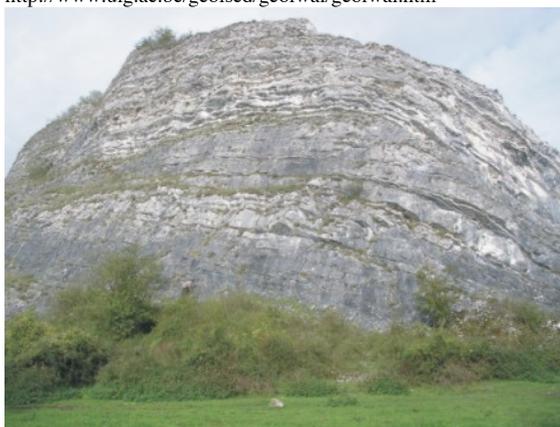
Abstracts should preferably be submitted as an e-mail message or attachment to **Bjorn.Kroger@univ-lille1.fr**.

## Excursions

Two geological field trips will be organized. Both excursions will take place, independent from the number of participants.



All pictures in this circular are from  
<http://www.ulg.ac.be/geolsed/geolwal/geolwal.htm>



### **Excursion A :**

**August 23-24** : Pre-conference excursion: Lower Palaeozoic of Belgium (Brabant, Condroz, Ardennes).

**Field guides** : J. Verniers (Gent), T. Servais (Lille), T. Vandembroucke (Gent) and others.

The excursion will leave from Lille on Saturday, August 23, in the morning and visit Cambrian to Silurian outcrops from the Brabant Massif and the Condroz Inlier, Belgium. Outcrops to be visited include Cambrian deposits with ichnofossils, Upper Ordovician volcanics and graptolitic shales, and several highly fossiliferous horizons of the Ashgill, as well as several Silurian sequences. **Touristic stops** include localities at Waterloo (Napoleon's Battlefield), Villers-la-Ville (Cistercian Order Abbey, 12<sup>th</sup> century), and the city of Namur.

**Fee : 200 Euros.** The excursion fee includes participation in the welcoming party (evening before departure, August 22), accommodation in Namur (1 night), all meals (two lunches, one dinner, one breakfast), transport, field-guides and field-guide booklet.

### **Excursion B :**

**August 30-31**: Post-conference excursion: Upper Palaeozoic of Belgium and northern France (Avesnois, Meuse Valley).

**Field guides** : B. Hubert, B. Mistiaen, T. Servais (Lille) and others.

The excursion will leave from Lille on Saturday, August 30, in the morning and visit Devonian and Carboniferous outcrops from the northern France and Belgium. The field trip includes localities to be visited such as **Givet** (historical type-locality of the Givetian),

**Frasnes-lez-Couvin** (historical type-locality of the Frasnian), other localities in the **Famenne** region (historical type-locality of the Famennian), **Namur** (historical type-locality of the Namurian) and **Dinant** (historical type-locality of the Dinantian), including **touristic stops** at Dinant and Namur.

**Fee : 200 Euros.** The excursion fee includes accommodation in Givet (1 night), all meals (two lunches, one dinner, one breakfast), transport, field-guides and field-guide booklet.

## **Accommodation**

**Accommodation is not organized and should be arranged individually.** There is a wide range of hotels in and around Lille (some of them in the historical city centre 'Vieux Lille'). You can book a hotel in the city centre of Lille from which you can easily walk to the campus site of the *Université Catholique de Lille*. Rooms (standard rooms with single and double occupancy usually range from 40 to 70 Euro). Further information will be available in the Third Circular

## **Meals**

During the excursions, all meals are organized. During the conference, lunches are organized (five lunches for a total of 45 Euro), but evening dinners are not arranged. There is a wide range of restaurants available in town.

A gala dinner is organized on the evening of Wednesday, August 27 in the historical city centre of Tournai, type locality of the Tournaisian limestone of the Lower Carboniferous. The evening includes transport to Tournai, a guided tour through the historical part of the town, and a French style gala dinner (50 Euro).

## **Social events**

Friday, August 22 : welcoming party for all participants of Excursion A.

Sunday, August 24 : Icebreaker party  
Wednesday, August 27 : Gala Dinner in Tournai.

Friday, August 29<sup>st</sup> : closing party and information session for Excursion B.

## **Arrival information**

Lille is about 1 hour from Paris, 90 minutes from London and 40 minutes from Brussels by high speed trains (TGV, Thalys, Eurostar).

The campus site of the *Université Catholique de Lille* in the city of Lille can be reached easily. It is in walking distance (10 minutes from the historical part of the city and 20 minutes from the railway stations of Lille Flandres and Lille Europe).

Precise arrival information will be provided in the Third Circular.

## **Grant aid to attend the Congress**

Grant aid is available from both the organizing committee and IGCP 503.

IGCP 503 supports members from developing countries and students to assist the congress at Lille.

In addition, the organizing committee is providing support, that will preferably be given to (young) scientists travelling from outside the European Union.

Awards are limited to those making an oral or poster presentation.

Applications for grant aid should be made to Thomas Servais ([Thomas.Servais@univ-lille1.fr](mailto:Thomas.Servais@univ-lille1.fr)).

**Please, contact also your national IGCP committee, that might be able to support your attendance at the Lille Congress.**

## **Conference and excursions Fees**

CONFERENCE: (5 days)

### **Registration Fee:**

120 Euro (before May 1st, 2008)

150 Euro (after May 1st, 2008)

### **Student Registration Fee :**

60 Euro (before May 1st, 2008)

75 Euro (after May 1st, 2008)

The registration fee includes attendance to all scientific sessions from Monday, August 25, to Friday, August 29, coffee and tea-breaks, ice-breaker party, and conference wallet with abstract volume and tourist information.

## EXCURSIONS

### **Pre-conference excursion (Excursion A):**

2 days, Lower Palaeozoic of Belgium: 200 Euro

### **Post-conference excursion (Excursion B):**

2 days, Upper Palaeozoic of Belgium and northern France: 200 Euro

## MEALS

### **Lunches**

45 Euro for 5 lunches from Monday to Friday, August 25 to 29

### **Gala Dinner**

50 Euro, including transport to Tournai, by bus, guided tour, and French style dinner.

## **Web page of the congress**

The following web-page will be continuously updated : <http://www.univ-lille1.fr/geosciences/>

All information will also be available at and can be downloaded from : <http://sarv.gi.ee/igcp503/>

## REGISTRATION

**Please send your registration before May 1st 2008 preferably by e-mail to:**

Thomas Servais , USTL - Sciences de la Terre  
UMR 8157 Géosystèmes, Cité Scientifique SN5  
F-59655 Villeneuve d'Ascq cedex (FRANCE)  
Fax: (+33) (0)3 20 43 69 00

e-mail: [Thomas.Servais@univ-lille1.fr](mailto:Thomas.Servais@univ-lille1.fr)

**Abstracts should be submitted before May 1st 2008 preferably by e-mail to:**

Björn Kröger, USTL - Sciences de la Terre  
UMR 8157 Géosystèmes, Cité Scientifique SN5  
F-59655 Villeneuve d'Ascq cedex (FRANCE)  
Fax: (+33) (0)3 20 43 69 00

e-mail: [Bjorn.Kroger@univ-lille1.fr](mailto:Bjorn.Kroger@univ-lille1.fr)

## PAYMENTS

**Payments** must arrive before Mai 1st 2008 by **international bank transfer** on the following bank account. Cheques are not accepted (except for French participants). Credit card payment is not possible. Transfer costs must be covered by the participants.

**Bank** : La Poste (France)

**Bank Address** : La Banque Postale – Centre de Lille, 599000 Lille Cedex 9 France

**Bank account holder** : Société Géologique du Nord

**Account number** : 20041 / 01005 / 0005247Y026 70

**IBAN (international account code)** : FR89 2004 1010 0500 0524 7Y02 670

**BIC (International Bank Code)** : PSSTFRPPLIL

We confirm the arrival of your payment and abstract by e-mail, as soon as it arrived.

## REGISTRATION FORM

NAME : .....

ADDRESS : .....

Phone: .....

Fax: .....

E-mail: .....

I would like to present a paper/poster with the following title :

.....

**Please book the following :**

**Registration Fee:**

(before May 1st, 2008) 120 Euro

(after May 1st, 2008) 150 Euro

**Student Registration Fee** (provide student status, please)

(before May 1st, 2008) 60 Euro

(after May 1st, 2008) 75 Euro

**Pre-conference excursion** (Lower Palaeozoic) 200 Euro

**Post-conference excursion** (Upper Palaeozoic) 200 Euro

**Lunches** for August 25th – 29th: 45 Euro

**Gala dinner**, August 27th: 50 Euro

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TOTAL :

**Please return this form by May 1st 2008,**  
With abstract and payment, to the organizers