

# AASP- THE PALYNOLOGICAL SOCIETY



*Chenopodium*  
by Amen Zwa and Vaughn Bryant



## NEWSLETTER



**March 2009**  
**Volume 42, Number 1**



# A.A.S.P. NEWSLETTER

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Published Quarterly by the AASP - The Palynological Society

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# A.A.S.P.

## The Palynological Society

The American Association of Stratigraphic Palynologists, Inc. - AASP-The Palynological Society - was established in 1967 by a group of 31 founding members to promote the science of palynology. Today AASP has a world-wide membership of about 800 and is run by an executive comprising an elected Board of Directors and subsidiary boards and committees. AASP welcomes new members.

The AASP Foundation publishes the journal *Palynology* (annually), the AASP Newsletter (quarterly), and the AASP Contributions Series (mostly monographs, issued irregularly), as well as several books and miscellaneous items. AASP organises an Annual Meeting which usually includes a field trip, a business luncheon, social events, and technical sessions where research results are presented on all aspects of palynology.

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Professor William R. Evitt (awarded 1982)  
Professor William G. Chaloner (awarded 1984)  
Dr. Lewis E. Stover (awarded 1988)  
Dr. Graham Lee Williams (awarded 1996)  
Dr. Hans Gocht (awarded 1996)  
Professor Svein B. Manum (awarded 2002)  
Professor Barrie Dale (awarded 2004)  
Dr. David Wall (awarded 2004)  
Dr. Robin Helby (awarded 2005)  
Dr. Satish K. Srivastava (awarded 2006)

### AASP Honorary Members

Professor Dr. Alfred Eisenack (elected 1975)  
Dr. William S. Hoffmeister (elected 1975)  
Professor Leonard R. Wilson (elected 1975)  
Professor Knut Faegri (elected 1977)  
Professor Charles Downie (elected 1982)  
Professor William R. Evitt (elected 1989)  
Professor Lucy M. Cranwell (elected 1989)  
Dr. Tamara F. Vozzhennikova (elected 1990)  
Professor Aural T. Cross (elected 1991)  
Dr. Robert T. Clarke (awarded 2002)  
Prof. Vaughn Bryant (awarded 2005)  
Prof. Alfred Traverse (awarded 2005)

### AASP Board of Directors Award recipient

Dr. Robert T. Clarke (awarded 1994)

### Teaching medal recipients

Professor Aural T. Cross (awarded 1999)  
Professor Alfred Traverse (awarded 2001)  
Professor Bill Evitt (awarded 2006)

### AASP Distinguished Service Award recipients

Dr. Robert T. Clarke (awarded 1978)  
Dr. Norman J. Norton (awarded 1978)  
Dr. Jack D. Burgess (awarded 1982)  
Dr. Richard W. Hedlund (awarded 1982)  
Dr. John A. Clendening (awarded 1987)  
Dr. Kenneth M. Piel (awarded 1990)  
Dr. Gordon D. Wood (awarded 1993)  
Dr. Jan Jansonius (awarded 1995)  
Dr. D. Colin McGregor (awarded 1995)  
Professor John H. Wrenn (awarded 1998)  
Professor Vaughn M. Bryant (awarded 1999)  
Dr. Donald W. Engelhardt (awarded 2000)  
Dr. David T. Pocknall (awarded 2005)  
Dr. David K. Goodman (awarded 2005)  
Prof. Owen K. Davis (awarded 2005)



# A.A.S.P. NEWSLETTER

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Sophie Warny, Editor

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## AASP NEWSLETTER EDITOR

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The AASP Newsletter is published four times annually. Members are encouraged to submit articles, "letters to the editor", technical notes, meetings reports, information about "members in the news", new websites and information about job openings in the industry. Every effort will be made to publish all information received from our membership. Contributions which include photographs should be submitted a week before the deadline. Deadline for next issues of the newsletter is **May 15**. All information should be sent by email. If possible, please illustrate your contribution with art, line drawings, eye-catching logos, black & white photos, colour photos, etc. **We DO look forward to contributions from our membership.**

# Keep on Keepin' on

By Fredrick Rich

Since attending the Board of Directors meeting in Bonn, it seems I have been faced at every turn with the question of whether what we are doing, whatever it is, is sustainable. The question is certainly pertinent to AASP, but of course it transcends most aspects of the global economy/society. Our immediate AASP concern deals with sustaining membership numbers, and in finding students who are interested in palynology as a science. In the US, a more pressing and insidious problem is the fact that, any more, so few colleges or universities offer advanced degree training in the science. Buoying the numbers of new palynologists now requires much more than a good letter of recommendation; it requires the knowledge that there is a school out there that is interested in offering what the students seek.

I've just returned from a two-day meeting in Stone Mountain, GA, where 250 people, representing 30 of the 34 University System of Georgia schools, and five private colleges assembled to try to determine how we shall get more students involved in science, technology, engineering, and math disciplines generally. I was the only palynologist, which wasn't surprising, but what we as a Board of Directors have identified as a problem (finding capable new scientists to carry on after we have gone) is an issue that everyone in Stone Mountain was genuinely interested in. The fine plenary presentations and interesting break-out sessions brought nothing new to light that I was aware of, however. We're all worried.

Enter the southern red maple. Lest I get caught up in too much metaphorical reasoning, let me offer an observation that has intrigued me this year, especially. The southern red maple (*Acer rubrum*, but a very different *A. rubrum* from what I grew up with in Wisconsin) normally blooms around January 20, then sets its abundant bright red seeds by about February 20. The trees are truly striking, investing their red color in a springtime seed crop as opposed to an autumnal leaf crop. This year the weather has been fitful, with cold fronts descending with vengeance from Canada. Additionally, the maples, for reasons of their own, began blooming shortly after Christmas. I figured the crop of seeds would simply never develop, but the maples have kept on. Some are blooming even now, showing a real departure from the norm. The nights with temperatures near -16C, and sustained days of nearly equally cold temperatures have not daunted the red maple, though other things haven't fared so well. We must be red maples.

Finally, enter Robert Frost, the famous American poet. His poem, *In a Glass of Cider* provides wisdom we can use as we sort through our problems:

*It seems I was a mite of sediment  
That waited for the bottom to ferment  
So I could catch a bubble in ascent.  
I rode up on one till the bubble burst  
And when that left me to sink back reversed  
I was no worse off than I was at first.  
I'd catch another bubble if I waited.  
The thing was to get now and then elated.*

(copyright Lesley Frost Ballantine)

Hand-wringing and dour outlooks serve no one well. So, we must do as much as possible to see to it that good students are recruited to fill our ranks even if the number is different from what it was 30 years ago. It will be, but that's nothing to cry about. I think our Board has a winning outlook on both the future of our organization as well as the future of the science. Adapt, change, persevere, but never give up.

Fred Rich

# MANAGING EDITOR'S REPORT

All paid-up members should, by now, have received their copy of Volume 32 of *Palynology*. We hope you like the new cover design! The distribution was taken care of by, as ever, our Production Editor Bob Clarke. Volume 33 (2009) of *Palynology* is already looking in good shape. We already have one manuscript typeset, and I have six manuscripts for final editing, four back with the authors for revision, and three with referees. We have decided to place typeset manuscripts awaiting publication on the website, provided that the authors agree. Members will be receiving an email with the username and password details very soon.

I would urge members to buy a copy of the second edition of the book *Palynological Techniques*, originally privately published in 1960 by Clair A. Brown. This was published in August 2008 and was edited by Sophie Warny and myself. It is available at US\$15 plus postage and packing via the website.

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EDITING  
NEWS

## BioOne Launches New Platform

After nearly two years of concerted effort, BioOne launched its new platform ([www.bioone.org](http://www.bioone.org)) on January, featuring a new look and improved content tools and features. BioOne's upgraded platform is serviced by Allen Press and powered by Atypon Systems. BioOne embarked on this project to bring new functionality and a more user-friendly interface to all of its community members: researchers, participating publishers, and subscribing libraries.

Among its many new features designed with our users in mind, BioOne now includes personalized profiles through "My BioOne" allowing for saved searches, favorite journals, and e-alerting preferences, article and title-level tools such as RSS feeds, related article and author searches, and toll-free linking.

The site now offers BioOne participating publishers previously unavailable branding, customization, and promotional opportunities, including dedicated informational pages for each publication and society.

For BioOne subscribing libraries, BioOne is pleased to offer an increase in core access and reporting functionality including easy download of COUNTER statistics and MARC records, Open URL compliance and Shibboleth supported access.

We invite you to log-on to BioOne ([www.bioone.org](http://www.bioone.org)) and see these and other improvements for yourself. We welcome and rely on your feedback to continue to improve the site and better serve our communities. Users at subscribing institutions will be IP-authenticated as in the past. To log-in to "My BioOne" and access your profile, please enter your email address and the password used on the previous BioOne site (for a reminder, please contact [helpdesk@allenpress.com](mailto:helpdesk@allenpress.com)).

On behalf of everyone at BioOne, thank you to all those individuals and partner organizations that made this migration possible, including, but not limited to Allen Press, Atypon Systems, Portico, and Innodata-Isogen. The launch of the new BioOne platform marks the culmination of many months of work for our dedicated team. We hope that you find the end product worthy of our collective efforts and a fitting home for essential bioscience research.

## JSTOR and Ithaka merge, uniting efforts to serve the scholarly community

JSTOR and Ithaka announced the merger of their organizations. This move unites two pioneering entities that are focused on helping the scholarly community take advantage of rapidly advancing information technologies.



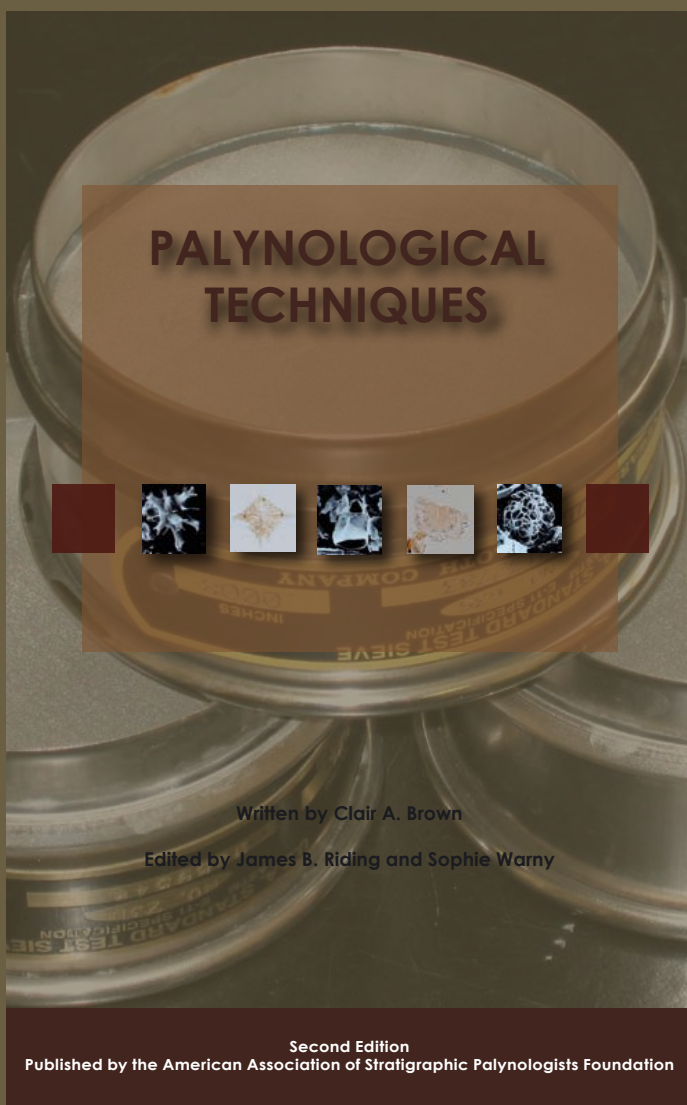
# PALYNOLOGICAL TECHNIQUES

## SECOND EDITION

Written by Clair A. Brown

Edited by James Riding and Sophie Warny

Published by the American Association of Stratigraphic Palynologists Foundation



*I think that the best thing is that the young palynologists clearly continue to value the work done by pioneers like Clair Brown, who first published his 'Palynological Techniques' in 1960 after canvassing workers in labs around the world in order to accurately pass on techniques for getting palynomorphs out of all types of media.*

Francine McCarthy

To order:

Palynological Techniques - BROWN

\$15.00

Palynological Techniques, by Clair A. Brown, Department of Botany, Louisiana State University, Baton Rouge, Louisiana, 70803, U.S.A. SECOND EDITION. Edited by JAMES B. RIDING and SOPHIE WARNY." 146 pages 0.5 x 8.5 inches, laminated soft cover ISBN 978-0-931871-07-8 LCCN: 2008932132. 2008. (\$ 15). (weight 0.75 lbs.)

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# ELECTION TIME

## AASP Secretary-Treasurer Candidate



### Dr. Thomas D. Demchuk

Some dry humor ([www.lucifer.com](http://www.lucifer.com)) to lighten the usual mood of the election issue. I don't need to tell you more about myself.....you likely know all you need to know about me (or more than you wish). I look forward to carrying on my duties as AASP Secretary-Treasurer for my 12<sup>th</sup> year.

- I assume full responsibility for my actions, except the ones that are someone else's fault.
  - I no longer need to punish, deceive or compromise myself. Unless, I want to stay employed.
  - I honor my personality flaws, for without them I would have no personality at all.
  - I need not suffer in silence while I can still moan, whimper and complain.
  - False hope is nicer than no hope at all.
- 
- As I learn the innermost secrets of the people around me, they reward me in many ways to keep me quiet.
  - When someone hurts me, forgiveness is cheaper than a lawsuit. But not nearly as gratifying.
  - All of me is beautiful and valuable, even the ugly, stupid, and disgusting parts.
  - Today I will gladly share my experience and advice, for there are no sweeter words than "I told you so."
  - A good scapegoat is nearly as welcome as a solution to the problem.
  - Just for today, I will not sit in my living room all day watching TV. Instead I will move my TV into the bedroom.
  - The complete lack of evidence is the surest sign that the conspiracy is working.
  - I am learning that criticism is not nearly as effective as sabotage.
  - Becoming aware of my character defects leads me to the next step - blaming my parents.

And for those of us who have seen their 401K or other retirement accounts drop considerably over the recent past: *"Why should I waste my time reliving the past when I can spend it worrying about the future."*

## Webmaster Candidate

### Dr. Owen Davis

Owen Davis is a Professor of Palynology in the Department of Geosciences at the University of Arizona. He has studied airborne pollen, Quaternary palynology and archaeological palynology for 36 years, and has been a member of AASP since 1974. He began studying "extra palynomorphs" in 1971 at Washington State University under the direction of Rexford Daubenmire and Peter Mehringer. He completed a Ph.D. study of the Quaternary Palynology of the northern Great Basin under Bob Bright, Herb Right, Ed Cushing and Margaret Davis at the University of Minnesota in 1982. At the University of Arizona since 1982, he oversaw the construction of the UA palynology laboratory in 1986, after helping establish the Cranwell Smith Award in palynology.

He has served as AASP Director at Large from 1988-90, Managing Editor from 2001-04, and Webmaster from 2004-present. He was given the AASP Distinguished Service Award in 2005. He served as President of IFPS from 1996-2000, served as IFPS Webmaster from 1992 to present and has served as AASP Councillor to IFPS from 2004-present.

He has authored or edited nine books, fifty-two peer-review publications, ninety-one chapters and miscellaneous publications, one-hundred thirty-four technical reports and one-hundred eleven meeting abstracts.







## Palynology Editor Candidate

### Dr. James B. Riding

JAMES B. RIDING is a palynologist/stratigrapher with the British Geological Survey based in Nottingham, England. Jim was recently awarded Individual Merit status to work on a project entitled 'Global Jurassic dinoflagellate cyst palaeobiology and its applications'. He has over 25 years experience in Mesozoic-Cenozoic palynology. In the 1980s, Jim worked mainly on the Mesozoic palynology of onshore and offshore UK, principally the North Sea. His current interests presently include the palynology of Europe, Australasia, Antarctica, west Africa, the Americas, Russia, and the Middle East, together with palynomorph provincialism, forensic palynology, paleoenvironmental palynology, palynomorph preparation techniques, and the morphology, systematics and taxonomy of dinoflagellate cysts. Jim studied geology at the University of Leicester, before pursuing palynology by studying the famous MSc course at the University of Sheffield. He left Sheffield for BGS, where he received a PhD from the University of Sheffield for a thesis on the Jurassic dinoflagellate cyst floras of northern and eastern England. The British Antarctic Survey have used Jim as a consultant palynologist and he has visited the Antarctic Peninsula for fieldwork tours during the Austral summers of 1989 and 2006. The most recent field season was spent on Seymour Island. He undertook a secondment to Geoscience Australia in Canberra, Australia in 1999-2000, where he worked on the taxonomy of Australian Jurassic dinoflagellate cysts with Robin Helby and Clinton Foster. Jim was awarded a DSc by the University of Leicester in 2003. He served as a Director-at-Large of AASP between 1999 and 2001, was President in 2003, and became Managing Editor in 2004.

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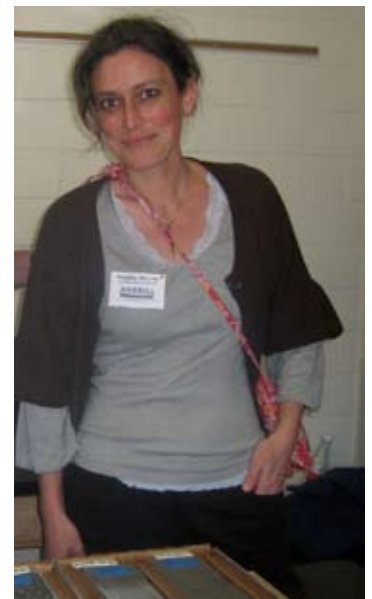
## Newsletter Editor Candidate

### Dr. Sophie Warny

Sophie Warny is an Assistant Professor of Palynology in the department of Geology and Geophysics & at the Museum of Natural Science at Louisiana State University in Baton Rouge. She received her Ph.D. from the Université Catholique de Louvain, in Belgium working with Dr. Jean-Pierre Suc. Her doctoral dissertation focused on the Messinian Salinity Crisis and the use of palynology to deconvolve eustatically versus tectonically-enhanced sea-level changes off the paleocoast of Morocco, Spain, and in the Alboran Sea. She is currently applying the same technique to newly acquired sections of Neogene sediments in Antarctica in the Ross Sea, and off Seymour Island.

The palynology results of this Ross Sea project (ANDRILL SMS) will be an important addition to the Antarctic database, particularly that for biostratigraphy, palaeoceanography and paleoclimate. She is conducting this work in collaboration with Dr. Rosemary Askin (US), Dr. Ian Raine and Dr. Michael Hannah (New Zealand), and Dr. Barbara Mohr (Germany). In addition to her research, she teaches Historical Geology and Micropaleontology, and manages the education and outreach programs for the Museum.

She has been a member of AASP since approximately 1993 and has served as the AASP Newsletter editor since 2006 (AASP NL 39.4).



## President Elect Candidates



### Dr. Paul Strother

Paul Strother did his undergraduate degree with Al Traverse at Penn State University and completed a PhD on Precambrian microfossils with Elso Barghoorn at Harvard University in 1980. Since 1996, he has been a Research Professor in the Department of Geology & Geophysics at

Boston College (Weston Observatory), where he continues basic research on lower Paleozoic Paleobotany

and Palynology. During fall semester of 2008 he was an invited professor at the Université des Sciences et Technologies de Lille, Villeneuve d'Ascq, France. Paul is a generalist in Paleozoic and Precambrian Palynology and has published on spores, cryptospores, and acritarchs. He joined AASP in 1977 and has served on the Awards Committee, the Nominating Committee, as a Director-at-Large and as the second webmaster. He assisted in the organization of the annual meetings in 1997 and in 2005. He presently serves AASP as the liaison to the Geological Society of America and as a member of the technical editorial staff for *Palynology*. In keeping with the new name change, his priorities as president would be to broaden membership in The Palynological Society.



### Dr. Michael Zavada

Born and raised in Bridgeport, Connecticut. He received his B.S. and M.S. degree in Botany / Palynology from Arizona State University, Tempe. He received a B.A. in Slavic Languages, and a Ph.D. in Ecology and Evolutionary Biology (Paleobotany) from the University of Connecticut, Storrs. He spent one year as a Fulbright Scholar in

Skopje, Macedonia at the Geologic Institute, and the Center for Foreign Languages. He did post-doctoral work at Indiana University, Bloomington, and Ohio State University, Columbus. He has served on the faculties of The University of the Witwatersrand, Johannesburg, South Africa, The University of Louisiana-Lafayette, was Professor and Chairman of the Department of Biology at Providence College, Providence, RI, and is currently the Chairman of Biological Sciences at East Tennessee State University and a member of the Center of Excellence in Paleontology. His field research has taken him throughout North America, South America, and Africa, including Madagascar. He has received over \$ 1.5 million in grants including grants from the National Science Foundation, National Institute of Health, NASA, American Philosophical Society, and National Geographic Society. He has published over 75 papers.

His research interests include elucidating the time and place of origin of the angiosperms. Pollen has a number of characteristics for tracking the time, place

and early diversification of a variety of taxonomic groups. He has a broad approach in evaluating the taxonomic significance of these pollen characters and his data base includes ultrastructural studies (light, scanning electron and transmission electron microscopy) of the extant primitive angiosperms (e.g., basal dicots and monocots, Hamamelidae), dispersed fossil pollen of gymnosperm and angiosperm affinity from five of the seven continents, and pollen found in fossilized reproductive structures of various gymnosperm, pteridosperm and angiosperm taxa of the Permian, Mesozoic and Cenozoic. He is also interested in the functional significance of pollen characters. This may provide insight into the selective pressures which brought about angiosperm pollen characters. This area of his research has been more empirical, and has taken him into disciplines such as the physical sciences (engineering and geosciences), pollination and reproductive biology (particularly angiosperm self - incompatibility), plant physiology, and development. Another area of investigation that has grown out of the ultrastructural work is an interest in the floristic development in the fynbos of South Africa, and the flora of Madagascar. He has an ongoing interest in stratigraphic palynology, paleoecology, the application of paleobotany and palynology to archeology, ethnobotany, aerobiology (airborne particles and public health).

In addition to his academic interests, he played baseball at Arizona State University, participates in a variety of sports, and outdoor activities, enjoys travel, and is an instrument rated private pilot.

He has been an AASP member since 1974.

## Directors-at-Large Candidates



**Dr. Lanny H. Fisk**

While in high school in the Late Pleistocene, I was introduced to palynology by the late Dr. Ronald O. Kapp, PhD, who later wrote the book *How to Know Pollen and Spores* (now updated as *Ronald O. Kapp's Pollen and Spores, 2<sup>nd</sup>*

edition). It is all his fault that I still think palynology is fun. At the time, Dr. Kapp was doing pollen analysis of a core from a glacial bog located at the edge of my family's property in central Michigan. I was excited to watch the progress of Dr. Kapp's research and from this early experience gained an appreciation for the value of palynology as a tool to make paleoenvironmental reconstructions. And, thus began my lifelong obsession with palynology.

I have been a member of AASP since 1973 (35+ years?! How time flies when you're having fun!), and my enthusiastic support of AASP has never waned. I attended my first AASP meeting that year in Anaheim, California (the 6<sup>th</sup> Annual Meeting) and have attended about half the annual meetings since, plus several IPCs. I have previously served the organization in limited ways. I was AASP representative to the organizing committee for North American Paleontological Convention IV in 1986 and also served as a judge for Best Student Paper awards at several meetings. I organized a one-day symposium entitled "*Palynology of Tertiary Floras of Western North America*" to honor pioneering paleobotanist and palynologist Dr. Harry D. MacGinitie at the 16<sup>th</sup> Annual Meeting in San Francisco in 1983. And, I am currently organizing a symposium to honor Dr. Kapp at this year's AASP annual meeting (the 42<sup>nd</sup>) in Tennessee (see a call for papers elsewhere in this Newsletter).

I am an alumnus of Central Michigan University, Andrews University, and Michigan State University and received a PhD from Loma Linda University for a dissertation on palynology of the Eocene "Fossil Forest" of Yellowstone National Park. After teaching for six years at Walla Walla University, I returned to Michigan State University to take additional coursework in geology and

do post-doctoral research in paleopalynology, source rock analysis, and coal petrography.

I am currently the CEO and Chief Paleontologist of a successful consulting company I co-founded in 1982. In addition to administration, my primary responsibilities are age and paleoenvironmental reconstructions of palynological assemblages. I am also an adjunct professor teaching both geology and biology part time on the American River College campus of the Los Rios Community College District in Sacramento, California. Los Rios is the largest community college in North America with nearly 70,000 students. I am also currently head of the assessment team reviewing research productivity at King Fahd University in Saudi Arabia. In addition to being a palynologist, I consider myself a paleobiologist, paleoecologist, and geologist and am a licensed Professional Geologist in both California and Oregon.

My palynological interests and experience are broad, crossing the divide between paleopalynology (Mississippian to Quaternary, but with primary emphasis on Paleogene) and actuopalynology (e.g., taphonomy of terrestrial pollen and spores in the marine environment and pollen analysis of bird stomach contents to determine foraging habits of nectar-feeding birds). I have published several peer-reviewed scientific papers and lots of abstracts, and have authored or co-authored a host of unpublished reports, primarily to government agencies.

My current research includes high-resolution palynostratigraphy of the K-T boundary and PETM and recognition and dating of minor marine incursions recorded in Late Tertiary and Quaternary sediments of the Central Valley of California representing sea-level fluctuations related to climate change. One of these days, I am going to slow down and start publishing the results of my research, but not now; I am still having too much fun doing the research!

I am honored to be nominated as one of the candidates for AASP Director-at-Large. After more than 35+ years of associating and participating in many of the AASP's activities and events, I feel that it is time to give something back to the Society that has given so much to me. And, I finally have the time and company financial support to do so. I have been inspired by the dedication to AASP shown by numerous officers and Board members who have served this organization in the past and would like the opportunity to emulate their dedication. Like them, I will work tirelessly to ensure the continuing success of AASP -- The Palynological Society.





### Dr. Ian Harding

Ian Harding is a palynologist/palaeoceanographer at the School of Ocean & Earth Science in the National Oceanography Centre, Southampton, England. He has 30 years experience in Mesozoic-

Cenozoic palynology, and has worked on both onshore and offshore Mesozoic material, but now concentrates on palaeoceanographic studies of mid and high northern latitude Cenozoic palynology. His research focuses on developing dinocysts as palaeoceanographic proxies by integrating them

with palaeotemperature indicators, sedimentology & palaeomagnetism.

Ian was awarded his BSc in Geology at the University of Nottingham, little knowing he would be following another of that university's number (the late Bill Sargeant) into the field of palynology. After some three years staring at Early Cretaceous dinocysts from N.W. Europe via an SEM monitor, Ian was granted his PhD from the University of Cambridge, studying under the late Norman Hughes. Appointed to a lectureship at Southampton in 1989, he helped to develop the marine palynological component of a new Masters degree in Micropalaeontology, and has also supervised PhD students in subjects as diverse as Jurassic acritarchs of NW Europe, the PETM in the North Sea Basin, and the Eocene of the Norwegian-Greenland Sea. A Senior Lecturer in Palaeontology at Southampton since 2001, Ian is also a Visiting Professor at Jilin University, Changchun, China, and has been Chair of the Palynology Group of The Micropalaeontological Society in the UK since 2005, and in this capacity he is beginning his second stint, also representing that Society on the IFPS.



### Dr. Jennifer O'Keefe

Jen O'Keefe, Assistant Professor at Morehead State University, is an active member of several professional societies, including AASP – the Palynology Society, the Society for Organic Petrology (TSOP), and the International

Committee for Coal and Organic Petrography (ICCP). She has served on several standing and ad-hoc committees with both AASP and TSOP.

Jen received her M.S. in Geology from Texas A&M University and a Ph.D. in Geology from The University of Kentucky; both studies examined the paleoecology of Paleogene peat-forming systems. These studies led to her current interests in fungi as agents of coal formation and in processing techniques for palynology.

Jen teaches traditional face-to-face and online, asynchronous courses in the science education and geology programs at Morehead State University. She is committed to the geosciences and coal education and is involved in increasing the environmental and geological awareness of science teachers in Eastern Kentucky. As part of her commitment to education, Jen is active in geological outreach to middle and secondary school students and recruiting efforts. She will be bringing these educational and outreach skills to the fore in service of AASP at the 2009 pre-meeting short-course.

As a director-at-large of AASP, Jen will work with the Board to continue our transition into the 21<sup>st</sup> century. Part of this transition should be a return to our roots as palynologic educators through short-courses and workshops for colleagues in complementary and supplementary fields, as well as for the teachers guiding the next generation of palynologists. Another part of this transition needs to be increased on-line visibility. The new website and improved online Palynology indexing are steps in the right direction. However, we have opportunities through streaming video and virtual worlds to be even more visible and play active roles in recruiting and training the next generation of palynologists.



### Dr. Martin Young

Marty Young is a Project Leader in the Timeframes of Basin Evolution group at CSIRO Petroleum in North Ryde, Sydney, where he set up and now manages the group's palynology laboratory. His work there also involves the application of strontium isotope stratigraphy as a high-resolution dating tool for Tertiary marine carbonates. Currently, Marty is researching the extraction of palynomorphs from oils (and coals) in order to help determine the source and migration of hydrocarbons. As of December 2008, he has been serving as the ANZIC (Australia-NZ IODP Consortium) representative on the IODP Scientific Technology Panel.

Marty received his PhD from the Australian National University in 2006 after researching the Modern distribution of calcareous- and organic-walled dinocysts from 100+ coretops across eastern Indonesia-NW Australia. This area features the Indo-Pacific Warm Pool, the highest sea-surface water on the planet with temperatures annually greater than 28°C. This investigation of recent calcareous dinocysts was the first extensive study of such organisms in the Southern Hemisphere. Dinocyst proxies were also studied from two marine cores in order to determine palaeoenvironmental changes across the region over the past 30ka, in

particular the timing of the LGM and the onset of the monsoonal winds.

Marty completed his Honours in New Zealand at Victoria University of Wellington in 1999, in which he used organic-dinocysts to help date marine reptile fossils from the Cretaceous Maungataniwha Sandstone. He moved to Australia in 2000 and worked at Geoscience Australia (then AGSO) for a year prior to starting his PhD, looking into the distribution of dinocysts from deep marine holes in the Great Australian Bight.

Outside of work, he is the founder and President of one of Australia's largest fiction writing organisations, with more than 200 paying members.

**ALL MEMBERS WILL BE ASKED TO VOTE SOON!**

# Palynological and Related Publications

compiled by Sarah de la Rue  
University of Idaho, Dept. of Geological Sciences  
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*Please email me your citations for book reviews, books, and in press and/or published articles. Thanks!*

## New Book Release!

Nichols, Douglas.J., and Johnson, Kirk R., 2009. *Plants and the K-T Boundary*. Cambridge University Press. Hardback, 292 pages. List Price \$130.00. Order from [www.cambridge.org/us/9780521835756](http://www.cambridge.org/us/9780521835756), 1-800-872-7423.

## Special Journal Issues

*Paleoworld* vol. 17 (3-4) December 2008. Biodiversity, Anatomy and Evolution of the Mesozoic Plants. Topics range from Ge Sun, Dilcher, and Zheng's article on early angiosperms in China, to Prakash's article on Early Cretaceous flora of India.

*Quaternary International* 194 (1-2) February 2009. Holocene Climate Variability in Arid Asia: Nature and Mechanisms.

*Quaternary Science Reviews* 27 (27-28) December 2008. Ice Age Refugia and Quaternary Extinctions: An Issue of Quaternary Population Dynamics and Evolutionary Palaeoecology. Includes migration of steppe-tundra biota, pollen, cave deposits, etc.

## Topics

### Dinoflagellates:

Dale, B., 2009. Eutrophication signals in the sedimentary record of dinoflagellate cysts in coastal waters. *Journal of Sea Research* 61 (1-2): 103-113.

Heisler, J., Glibert, P.M., Burkholder, J.M., Anderson, D.M., Cochlan, W., Dennison, W.C., Dortch, Q., Gobler, C.J., Heil, C.A., Humphries, E., Lewitus, A., Magnien, R., Marshall, H.G., Sellner, K., Stockwell, D.K., and Suddleson, M., 2008. Eutrophication and harmful algal blooms: A scientific consensus. *Harmful Algae* 8 (1): 3-13.

Masure, E., and Vrielynck, B., 2009. Late Albian dinoflagellate cyst palaeobiogeography as indicator of asymmetric sea surface temperature gradient on both hemispheres with southern high latitudes warmer than northern ones. *Marine Micropaleontology* 70 (3-4): 120-133.

Mertens, K.N., Ribeiro, S., Bouimtarhan, I., Caner, H., Combourieu Nebot, N., Dale, B., de Vernal, A., Ellegaard, M., Filipova, M., Godhe, A., Goubert, E., Grosfeld, K., Holzworth, U., Kotthoff, U., Leroy, S.A.G., Londeix, L., Marret, F., Matsuoka, K., Mudie, P.J., Naudts, L., Pena-Manjarrez, J.L., Persson, A., Popescu, S.-M., Pospelova, V., Sangiorgi, F., van der Meer, M.T.J., Vink, A., Zonneveld, K.A.F., Vercauteren, D., Vlassenbroeck, J., and Louwye, S., 2009. Process length variation in cysts of dinoflagellate, *Lingulodinium machaerophorum*, in surface sediments: Investigating its potential as salinity proxy. *Marine Micropaleontology* 70 (1-2): 54-69.

Streng, M., Banasova, M., Rehakova, D., and Willems, H., 2009. An exceptional flora of calcareous dinoflagellates from the middle Miocene of the Vienna Basin, SW Slovakia. *Review of Palaeobotany and Palynology* 153 (3-4): 225-244.

### Paleobotany:

Banerjee, M., Mitra, S., and Dutta, S., 2009. On the occurrence of three species of *Annularia* Sternberg in the Early Permian *Glossopteris* flora of peninsular India. Bozukov, V., Utescher, T., and Ivanov, D., 2009. Late Eocene to early Miocene climate and vegetation of Bulgaria. *Review of Palaeobotany and Palynology* 153 (3-4): 394-407.

Bozukov, V., Utescher, T., and Ivanov, D., 2009. Late Eocene to early Miocene climate and vegetation of Bulgaria. *Review of Palaeobotany and Palynology* 153 (3-4): 360-374.

Collinson, M.E., Barke, J., van der Burgh, J., and van Konijnenburg-van Cittert, J.H.A., *in press*. A new species of the fresh-water fern *Azolla* (Azollaceae) from the Eocene Arctic Ocean. *Review of Palaeobotany and Palynology*.

Erdei, B., Dolezych, M., and Hably, L., *in press*. The buried Miocene forest at Bukkabrany, Hungary. *Review of Palaeobotany and Palynology*.



- Kunzmann, L., Kvacek, Z., Hans Mai, D., and Walther, H., 2009. The genus *Taxodium* (Cupressaceae) in the Palaeogene and Neogene of Central Europe. *Review of Palaeobotany and Palynology* 153 (1-2): 153-183. (includes pollen)
- Nelson, E.C., 2009. *Erica scoparia* and *Erica spiculifolia* (formerly *Bruckenthalia spiculifolia*) in interglacial floras in Ireland and Britain: confused nomenclature leading to misidentification of fossilized seeds. *Quaternary Science Reviews* 28 (5-6): 381-383.
- Oakley, D., and Falcon-Lang, H.J., 2009. Morphometric analysis of Cretaceous (Cenomanian) angiosperm woods from the Czech Republic. Bozukov, V., Utescher, T., and Ivanov, D., 2009. Late Eocene to early Miocene climate and vegetation of Bulgaria. *Review of Palaeobotany and Palynology* 153 (3-4): 375-385.
- Popa, M.E., and McElwain, J.C., 2009. Bipinnate *Ptilozamites nilssonii* from Jameson Land and new considerations on the genera *Ptilozamites* Nathorst 1878 and *Ctenozamites* Nathorst 1886. Bozukov, V., Utescher, T., and Ivanov, D., 2009. Late Eocene to early Miocene climate and vegetation of Bulgaria. *Review of Palaeobotany and Palynology* 153 (3-4): 386-393.
- Taggart, R.E., and Cross, A.T., 2009. Global greenhouse to icehouse and back again: The origin and future of the Boreal Forest biome. *Global and Planetary Change* 65 (3-4): 115-121.
- Tamas, J., and Hably, L., 2009. Unidirectional shift in leaf morphology of coexisting species – a possible indicator of palaeoclimatic differences. *Palaeogeography, Palaeoclimatology, Palaeoecology* 271 (3-4): 185-195.
- Van der Putten, N., Ochrya, R., Spassov, S., de Beaulieu, J.-L., de Dapper, M., Hus, J., and Thouveny, N., 2009. Peat bank growth, Holocene palaeoecology and climate history of South Georgia (sub-Antarctica), based on a botanical macrofossil record. *Quaternary Science Reviews* 28 (1-2): 65-79.
- Xu, H.-H., and Wang, Q., 2009. Reconsideration of a specimen attributed to *Leclercquia complexa* (Lycopsida) from the Lower Devonian of Sichuan, South China. *Review of Palaeobotany and Palynology* 153 (3-4): 331-335.

#### **Paleoflora, vegetational changes, and paleoenvironments:**

- Brewer, S., Guiot, J., Sanchez-Goni, M.F., and Klotz, S., 2008. The climate in Europe during the Eemian: a multi-method approach using pollen data. *Quaternary Science Reviews* 27 (25-26): 2303-2315. (isotopes, macerals, pollen)
- Cook, E.J., 2009. A record of late Quaternary environments at lunette-lakes Bolac and Turangmorohe, Western Victoria, Australia, based on pollen and a range of non-pollen palynomorphs. *Review of Palaeobotany and Palynology* 153 (3-4): 185-224.
- Djamali, M., de Beaulieu, J.-L., Campagne, P., Andrieu-Ponel, V., Ponel, P., Leroy, S.A.G., and Akhiani, H., 2009. Modern pollen rain-vegetation relationships along a forest-steppe transect in the Golestan National Park, NE Iran. *Review of Palaeobotany and Palynology* 153 (3-4): 272-281.
- Gosling, W.D., Mayle, F.E., Tate, N.J., and Killeen, T.J., 2009. Differentiation between Neotropical rainforest, dry forest, and savannah ecosystems by their modern pollen spectra and implications for the fossil pollen record. *Review of Palaeobotany and Palynology* 153 (1-2): 70-85.
- Hellman, S., Gaillard, M.-J., Bunting, J.M., and Mazier, F., 2009. Estimating the Relevant Source Area of Pollen in the past cultural landscapes of southern Sweden – A forward modelling approach. *Review of Palaeobotany and Palynology* 153 (3-4): 259-271.
- Holdgate, G.R., McGowran, B., Fromhold, T., Wagstaff, B.E., Gallagher, S.J., Wallace, M.W., Sluiter, I.R.K., and White-law, M., 2009. Eocene-Miocene carbon-isotope and floral record from brown coal seams in the Gippsland Basin of southeast Australia. *Global and Planetary Change* 65 (1-2): 89-103.
- Jia, G., Dungait, J., Bingham, E.M., Valiranta, M., Atte Korhola, and Evershed, R.P., 2009. Neutral monosaccharides as biomarker proxies for bog-forming plants for application to palaeovegetation reconstruction in ombrotrophic peat deposits. *Organic Geochemistry* 39 (1-2): 1790-1799.
- Joannin, S., Ciaranfi, N., and Stefanelli, S., 2008. Vegetation changes during the late Early Pleistocene at Montalbano Jonico (Province of Matera, southern Italy) based on pollen analysis. *Palaeogeography, Palaeoclimatology, Palaeoecology* 270 (1-2): 92-101.
- Jolley, D.W., Bell, B.R., Williamson, I.T., and Prince, I., 2009. Syn-eruption vegetation dynamics, paleosurfaces and structural controls on lava field vegetation: An example from the Palaeogene Staffa Formation, Mull Lava Field, Scotland. *Review of Palaeobotany and Palynology* 153 (1-2): 19-33.
- Kangur, M., 2009. Spatio-temporal distribution of pollen in Lake Vaeke-Juusa (South Estonia) sediments. *Review of Palaeobotany and Palynology* 153 (3-4): 354-359.

- Kitaba, I., Iwabe, C., Hyodo, M., Katoh, S., and Matsushita, M., 2009. High-resolution climate stratigraphy across the Matuyama-Brunhes transition from palynological data of Osaka Bay sediments in southwestern Japan. *Palaeogeography, Palaeoclimatology, Palaeoecology* 272 (1-2): 115-123.
- Kouli, K., Triantaphyllou, M., Pavlopoulos, K., Tsurou, T., Karkanis, P., and Dermitzakis, M.D., 2009. Palynological investigation of Holocene palaeoenvironmental changes in the coastal plain of Marathon (Attica, Greece). *Geobios* 42 (1): 43-51. (includes dinoflagellates and other palynomorphs)
- Lopez-Saez, J.A., Lopez-Merino, L., Mateo, M.A., Serrano, O., Perez-Diaz, S., and Serrano, L., 2009. Palaeoecological potential of the marine organic deposits of *Posidonia oceanica*: A case study in the NE Iberian Peninsula. *Palaeogeography, Palaeoclimatology, Palaeoecology* 271 (3-4): 215-224. (pollen from peat deposit)
- Louderback, L.A., and Rhode, D.E., 2009. 15,000 years of vegetation change in the Bonneville basin: the Blue Lake pollen record. *Quaternary Science Reviews* 28 (3-4): 308-326.
- Luo, C., Zheng, Z., Tarasov, P., Pan, A., Huang, K., Beaudouin, C., and An, F., 2009. Characteristics of the modern pollen distribution and their relationship to vegetation in the Xinjiang region, northwestern China. *Review of Palaeobotany and Palynology* 153 (3-4): 282-295.
- Massafero, J.I., Moreno, P.I., Denton, G.H., Vandergoes, M., and Dieffenbacher-Krall, A., 2009. Chironomid and pollen evidence for climate fluctuations during the Last Glacial Termination in NW Patagonia. *Quaternary Science Reviews* 28 (5-6): 517-525.
- Mehdi, D., Cirilli, S., Buratti, N., Kamoun, F., and Trigui, A., 2009. Palynological characterization of the Lower Carnian of the KEA5 borehole (Koudiat El Halfa Dome; Central Atlas, Tunisia). *Geobios* 42 (1): 63-71.
- Norstrom, E., Scott, L., Partridge, T.C., Risberg, J., and Holmgren, K., 2009. Reconstruction of environmental and climate changes at Braamhoek wetland, eastern escarpment South Africa, during the last 16,000 years with emphasis on the Pleistocene-Holocene transition. *Palaeogeography, Palaeoclimatology, Palaeoecology* 271 (3-4): 240-258.
- Plunkett, G., Whitehouse, N.J., Hall, V.A., Charman, D.J., Blaauw, M., Kelly, E., and Mulhall, I., 2008. A multi-proxy palaeoenvironmental investigation of the findspot of an Iron Age bog body from Oldcroghan, Co. Offaly, Ireland. *Journal of Archaeological Science* 36 (2): 265-277.
- Rudaya, N., Tarasov, P., Dorofeyuk, N., Solovieva, N., Kalugin, I., Andreev, A., Daryin, A., Diekmann, B., Riedel, F., Tserendash, N., and Wagner, M., 2009. Holocene environments and climate in the Mongolian Altai reconstructed from the Hoton-Nur pollen and diatom records: a step towards better understanding climate dynamics in Central Asia. *Quaternary Science Reviews* 28 (5-6): 540-554.
- Shunk, A.J., Driese, S.G., Farlow, J.O., **Zavada, M.S.**, and Zobaa, M.K., *in press*. Late Neogene paleoclimate and paleoenvironment reconstructions from the Pipe Creek Sinkhole, Indiana, USA. *Palaeogeography, Palaeoclimatology, Palaeoecology*.
- Soepboer, W., and Lotter, A.F., 2009. Estimating past vegetation openness using pollen-vegetation relationships: A modeling approach. *Review of Palaeobotany and Palynology* 153 (1-2): 102-107.
- Urquhart, G.R., 2009. Paleocological record of hurricane disturbance and forest regeneration in Nicaragua. *Quaternary International* 195 (1-2): 88-97.
- Van der Putten, N., Hebrard, J.-P., Verbruggen, C., Van de Vijver, B., Disnar, J.-R., Spassov, S., de Beaulieu, J.-L., de Dapper, M., Keravis, D., Hus, J., THouveny, N., and Frenot, Y., 2008. An integrated palaeoenvironmental investigation of a 6200 year old peat sequence from Ile de la Possession, Iles Crozet, sub-Antarctica. *Palaeogeography, Palaeoclimatology, Palaeoecology* 270 (1-2): 179-195.
- Volkheimer, W.**, Gallego, O.F., Cabaleri, N.G., Armella, C., Narvaez, P.L., Silva Nieto, D.G., and Paez, M.A., 2008. Stratigraphy, palynology, and conchostracans of a Lower Cretaceous sequence at the Canadon Calcareo locality, Extra-Andean central Patagonia: age and palaeoenvironmental significance. *Cretaceous Research* 30 (1): 270-282.
- Ward, L.G., Zaprowski, B.J., Trainer, K.D., and Davis, P.T., 2008. Stratigraphy, pollen history and geochronology of tidal marshes in a Gulf of Maine estuarine system: Climatic and relative sea level impacts. *Marine Geology* 256 (1-4): 1-17.

### Palynology and Geochemistry:

- Fu, X., Wang, J., Zeng, Y., Li, Z., and Wang, Z., *in press*. Geochemical and palynological investigation of the Shengli River marine oil shale (China): Implications for paleoenvironment and paleoclimate. *International Journal of Coal Geology*.
- Speelman, E.N., Reichart, G.-J., de Leeuw, J.W., Rijpstra, W.I.C., and Sinninghe Damste, J.S., *in press*. Biomarker lipids of the freshwater fern *Azolla* and its fossil counterpart from the Eocene Arctic Ocean. *Organic Geochemistry*.

### Palynology: Impact craters, the Dodo, phytoliths, chitinozoans, archeological charcoal, forensics

- Chen, X., Paris, F., Wang, X., and Zhang, M., 2009. Early and Middle Ordovician chitinozoans from the Dapingian type sections, Yichang area, China. *Review of Palaeobotany and Palynology* 153 (3-4): 310-330.
- Conedera, M., Tinner, W., Neff, C., Meurer, M., Dickens, A.F., and Krebs, P., 2009. Reconstructing past fire regimes: methods, applications, and relevance to fire management and conservation. *Quaternary Science Reviews* 28 (5-6): 555-576. (charcoal)
- Diaz-Palma, P.A., Alucema, A., Hayashida, G., and Maidana, N.I., 2009. Development and standardization of a microalgae test for determining deaths by drowning. *Harmful Algae* 184 (1-3): 37-41.. (dinoflagellates)
- Frayse, F., Pokrovsky, O.S., Schott, J., and Meunier, J.-D., 2009. Surface chemistry and reactivity of plant phytoliths in aqueous solution. *Chemical Geology* 258 (3-4): 197-206.
- Kaiser, K., Lai, Z., Schneider, B., Reudenbach, C., Miehe, G., and Bruckner, H., 2009. Stratigraphy and palaeoenvironmental implications of Pleistocene and Holocene Aeolian sediments in the Lhasa area, southern Tibet (China). *Palaeogeography, Palaeoclimatology, Palaeoecology* 271 (3-4): 329-342. (archeological charcoal)
- Masud Alam, A.K.M., Xie, S., and Wallis, L.A., 2009. Reconstructing late Holocene palaeoenvironments in Bangladesh: phytolith analysis of archaeological soils from Somapura Mahavihara site in the Paharpur area, Badalgacchi Upazila, Naogaon District, Bangladesh. *Journal of Archaeological Science* 36 (2): 504-512.
- Rijsdijk, *et al.*, 2009. Mid-Holocene vertebrate bone Concentration-Lagerstatte on oceanic island Mauritius provides a window into the ecosystem of the dodo (*Raphus cucullatus*). *Quaternary Science Reviews* 28 (1-2): 14-24. (botany, pollen)
- Varricchio, D.J., Raven, R.F., Wolbach, W.S., **Elsik, W.C.**, and Witzke, B.J., 2009. Soot and palynologic analysis of Manson impact-related strata (Upper Cretaceous) of Iowa and South Dakota, USA. *Cretaceous Research* 30 (1): 127-134.

### Palynomorph Systematics:

- Geeraerts, A., Raeymaekers, J.A.M., Vinckier, S., Pletsers, A., Smets, E., and Huysmans, S., 2009. Systematic palynology in Ebenaceae with focus on Ebenoideae: Morphological diversity and character evolution. *Review of Palaeobotany and Palynology* 153 (3-4): 336-353.
- Taylor, W.A., and **Strother, P.K.**, 2009. Ultrastructure, morphology, and topology of Cambrian palynomorphs from the Lone Rock Formation, Wisconsin, USA. *Review of Palaeobotany and Palynology* 153 (3-4): 296-309.

# Job market!

## POSITIONS AVAILABLE

### AASP ENDOWED CHAIR IN PALEOPALYNOLOGY:

We seek an individual that will develop a program in stratigraphic paleopalynology, particularly chronostratigraphy and/or paleoecology. The successful candidate will serve as Director of the American Association of Stratigraphic Palynologists (AASP) Center for Excellence in Palynology within the Department of Geology & Geophysics at Louisiana State University.

Candidates with significant academic and/or petroleum industry experience, along with administrative leadership skills commensurate with building and directing a research center are encouraged to apply.

Required Qualifications: Ph.D. in geological sciences or other relevant disciplines; a strong record of published research; demonstrated ability to attract funding. Responsibilities: supervises graduate student research; publishes in highly ranked journals; teaches undergraduate and graduate courses in his or her area of specialization. Chair appointments would normally be made at the rank of Full Professor. However, exceptional candidates at the Associate Professor level will be considered.

The Department of Geology and Geophysics consists of 15 tenured and tenure-track faculty members having a wide range of expertise and offers B.S., M.S., and Ph.D. degrees in geology. The Department has a strong record in research and graduate training, ongoing federal and industry funded research and teaching programs, and a large and active alumni base. Two interrelated focus areas: <sup>3</sup>Evolution of Sedimentary Systems<sup>2</sup> and <sup>3</sup>Earth Materials and Solid Earth Processes<sup>2</sup> have been developed within the LSU Department of Geology and Geophysics to enhance existing strengths of the Department and allow the Department to interface synergistically with other academic units at LSU. See [www.geol.lsu.edu](http://www.geol.lsu.edu) for more information regarding these focus areas, faculty, facilities, and research programs.

An offer of employment is contingent on a satisfactory pre-employment background check.

The application will remain **open until suitable candidates are selected**. Nominations or inquiries should be directed to Endowed Chair Search Committee, at 225-578-3353 or [geology@lsu.edu](mailto:geology@lsu.edu). Applicants should send a copy of their curriculum vitae (including e-mail address), a statement of their research and teaching interests, and the names, addresses, phone numbers, and e-mail addresses of at least three references to:

Endowed Chair Search Committee  
Department of Geology and Geophysics  
Louisiana State University  
Ref: Log #2013  
Baton Rouge, LA 70803



# Job market!

## POSTDOCTORAL RESEARCH ASSOCIATE POSITION AVAILABLE IN FORENSIC PALYNOLOGY

A postdoctoral position is available in the Palynology Research Laboratory, Department of Anthropology, at Texas A&M University to investigate pollen data as it relates directly to techniques in forensic palynology. The position will begin as soon as a qualified applicant is found and the position is available for a period of one year, with some possibility of it being extended.

**Qualifications:** applicants must have a Ph.D. in plant ecology, botany, biology, plant science, or a closely related field; must have significant knowledge and experience in plant ecology and/or plant geography, and training in modern or Quaternary palynology. The individual must be an American citizen and want to train for a future career in forensic palynology. Most of the current tasks related to forensic palynology carried out by our palynology facility, and future research related to this postdoctoral position is sponsored by various federal agencies. Applicants are expected to have excellent organizational skills, strong data analysis abilities, and good writing skills. The individual selected for this position will have access to LM, SEM, TEM, and Confocal equipment and will be expected to use these techniques when needed. Preference will be given to applicants who have prior experience with some or all of these types of microscopes, but in house training at the Texas A&M Imaging Center would be available if needed. An ideal candidate for this position would also have experience with digital mapping systems such as GIS. Alternatively the individual chosen for this position should be willing to learn such systems

**To Apply:** Send curriculum vitae, statement of interest and qualifications, names and contact information for three references, and up to three relevant publications either in hard copy or pdf files to:

Dr. Vaughn M. Bryant,  
Director, Palynology Research Laboratory  
Department of Anthropology  
Texas A&M University  
4352 – TAMU  
College Station  
Texas 77843-4352.

**Applications will continue to be received and reviewed until a suitable applicant is found and appointed.** Texas A&M University is an equal opportunity, affirmative action employer committed to diversity.



# Job market!

**PaleoResource Consultants**  
**F & F GeoResource Associates, Inc.**  
550 High Street, Suite 108, Auburn, CA 95603  
Phone: (530) 885-9696 ~ Fax: (530) 887-2274  
[Info@PaleoResource.com](mailto:Info@PaleoResource.com)



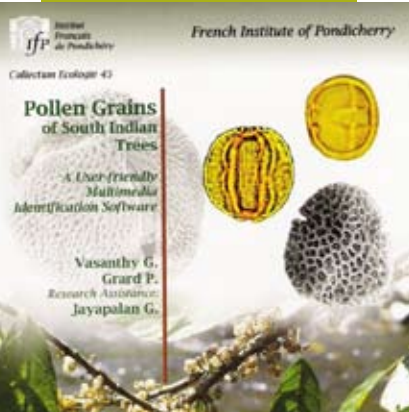
## JOB POSTING

**PaleoResource Consultants is currently looking to hire someone with the following skills.**

- Job Title:** Senior Paleobotanist/Palynologist
- Duties:** Professionally represent PaleoResource Consultants to existing and potential clients. Identify and write professional scientific reports on fossil floras (paleobotanical and palynological). Conduct relevant library and museum research as necessary. Maintain adherence to budgets and oversee/manage other paleontologists who may work under your supervision. Maintain accurate digital and paper files according to guidelines. Field questions from Project Managers and co-workers; arrive at sound conclusions/resolutions. Some travel (air, ground, and/or rental/personal vehicle) may be involved during the course of work, all expenses paid.
- Physical Requirements:** Must be in good physical condition. Position may require walking, bending, squatting, reaching, and sitting. May require occasional lifting up to 50 pounds.
- Environment:** Typical office/laboratory environment. However, potential for some work in and around large construction sites, excavations, dirt and dust, and sometimes in very hot or cold weather. Locations may be remote. The job could require proximity to potential danger from heavy equipment, excavations, and other hazardous circumstances. The position may require the use of personal safety equipment (such as hard hat, safety vest, safety glasses, hard-toed boots, gloves, etc.).

**Please send resume and cover letter with salary requirements to**  
**[Info@PaleoResource.com](mailto:Info@PaleoResource.com).**





## Pollen Grains of South Indian Trees: A User-friendly Multimedia Identification Software.

By G. Vasanthy, P. Grard, and G. Jayapalan.

The first question most of you might ask is, "why do I need a copy of this CD?" The answer to that is multifaceted. First, where else can you get a pollen atlas containing a full page illustration of each pollen taxon containing multi images of a single pollen type with an accompanying printed page full of information about the origin and herbarium accession number of the pollen used for the study, the ecology and taxonomy of the tree, a full pollen description of the grain, and finally the plant's world-wide distribution? Second where else can you get all of this information for 153 tree species from tropical regions of India for the price of 11 Euros? Third, anyone doing serious pollen work in any tropical region of the world could benefit from the pollen key included in this CD which allows you to instantly enter the characteristics of an unknown pollen grain and then have all 153 taxa ranked into a single category expressing the percentage of likelihood that your unknown matches one or more of the taxa. Fourth, if you are like I am, you want to have the availability of a wide variety of pollen atlases and pollen keys at your fingertips when you are working on some project, which might include unknown types relevant to some new specific region of the world in which you have not yet worked. This, for example, is essential for those of us working in forensics! And finally, I found this CD to be a great training tool for students in helping them learn how to identify morphological characteristics and then how to apply that information to using a pollen key.

The average number of views or images for each of the 153 pollen taxa is about 12-15 and each view shows the pollen grain is a slightly different orientation, including polar views, equatorial views, oblique views, surface views, exine wall structure views, etc. The photographic images of most taxa are good but I believe a few of the taxa could have included better images. Nevertheless, one can print a single image of any pollen taxon, or a page of all the images of a single taxon, or print the pages of data for each taxon, or even print the guides for using the pollen key. Because I like to have atlases in a hardback format, which I can keep open on my desk next to the microscope, the first thing I did when I purchased this CD was to print out all of the pages in color and then spiral bind them into a book form. The humorous part of this is that the ink for printing these pages cost me much more than the price of the CD!

Should you rush off and order a copy of this CD? My advice would be to do so at once. Where else can you get this much pollen information complete with mostly very good images of more than 150 pollen taxa and pay only 11 Euros? If you hesitate because you think you might never need to do pollen work in an area where these taxa might be found, think again. Several decades ago I would not have wanted or needed to purchase such a guide to Indian tree taxa. However, since then I have been asked to read manuscripts and assess the merits of dissertations on pollen studies from that region of the world. During the past decade, my forensic work has required me to work in areas where many of these pollen taxa form important parts of the tropical ecology, and most recently, I have been asked to help identify the pollen taxa in a variety of honey samples from regions of Asia as part of the worldwide problems related to the identification of "bogus" honey that is transshipped from one nation to another before being exported as "domestic" blends from the shipping country.

Think about it, a decade or two from now you too might need the information in this CD. If you don't buy it now, it might not be available in the future. If you are concerned about the price think again; most of us can barely get a full meal at McDonalds and a cup of coffee for the price of this CD!

**Reviewed by Vaughn M. Bryant**  
**Texas A&M University**

*Pollen Grains of South Indian Trees: A User-friendly Multimedia Identification Software.*

G. Vasanthy,  
P. Grard, and  
G. Jayapalan.

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Douglas J. Nichols and Kirk R. Johnson

# Plants and the K-T Boundary

The "Plants and the K-T Boundary" book review is provided by:

David M. Jarzen and Steven R. Manchester

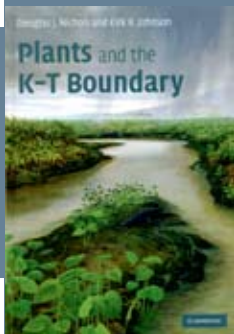
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Florida Museum of Natural History



CAMBRIDGE





# Plants and the K-T Boundary

By Douglas J. Nichols and Kirk R. Johnson

It has been nearly 30 years since the now-famous Alvarez Hypothesis was first proposed, stating that the mass extinctions observed at the close of the Cretaceous were the result of an extraterrestrial impact on the surface of the earth. Since the publication of that theory (Alvarez *et al.* 1980), scientists from many disciplines and from all parts of the globe began searching for evidence to either support or negate the hypothesis. Palynologists and paleobotanists were no exception, and scores of papers were published in the 1980's in which terrestrial floras were described and discussed in relation to the extraterrestrial impact theory. The literature was replete with conflicting data, time estimates for extinctions, and extinctions vs new appearances in support of a positive or negative view on the theory. Confusion often replaced logic in these discussions, and the reader was left with a plethora of information that was difficult if not impossible to compare and understand.

Nichols and Johnson have collected the literature of more than 500 references on the topic of latest Cretaceous events on the nature of terrestrial plants, and through a careful analysis and reinterpretation of the conclusions drawn from these studies have produced what is in our opinion a sound, clearly written and well-documented book covering the topic from the early days following the Alvarez Hypothesis to today.

The book is divided into three parts including a general background designed to orient the reader to the problems associated with the K-T boundary studies, the nature of palynofloras and plant macrofloras, and the problems of accurate time resolution. The second part covers regional case studies in which details of specific floras are discussed and interpreted in relation to the K-T boundary events. In the final section on interpretations the authors use the information they have assembled to define their views on the boundary event and evaluate several scenarios that have been proposed to explain the nature of the terrestrial plant cover before and after the boundary event.

Nichols and Johnson use, when possible, both palynology and megafossil paleobotany to assess the K-T boundary event. They note, however, that a limiting factor in these studies is the paucity of latest Cretaceous floras globally, and point out that little is known of the palynoflora and megaf flora from Australia, Africa, most of South America and most of Eurasia. Fortunately they are able to draw from personal experience and field work on the excellent localities of both palynofloras and megafloras from the Rocky Mountain trend from the Arctic to New Mexico, as well as from selected localities in Russia and China.

The authors place special emphasis on the issue of scale of resolution as applied to questions of the K-T boundary. "Stage-level" resolution, with precision on the order of millions of years, has been applied widely around the globe in attempting to separate Maastrichtian and Danian stages from each other and from preceding and later stages. Stage level was the best that could be attained prior to the Alvarez discovery. At the subchron level of resolution, the K-T boundary is resolved to a geologically short interval of 570 to 833 thousand years (depending on the calibration scale for paleomagnetic subchron C29r). The subchron level of resolution may bring recognition of paleontological events to the outcrop scale on the order of tens to hundreds of meters of section. The ultimate fine scale or "impactite-level" resolution is obtained when events can be resolved at the centimeter or millimeter scale through the recognition of isotopic excursions, shocked mineral grains, and biotic changes documented by the palynoflora. The authors explain their methodology of seeking and confirming the actual boundary layer in terrestrial rocks (something like finding a needle in a mile-high haystack) with successive rounds of fieldwork which may begin with large-scale studies involving various tools, including geochronology, magnetostratigraphy, paleobotany and palynology at the stage level, and

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successively fine-tuning the sampling until the interval of impact stratigraphy is recovered. Such studies have been most successful in areas with abundant outcrops representing late Cretaceous and early Cenozoic strata especially in North America. Other areas of the world appear promising for eventual recognition of the precise boundary, but the actual impact layer has, in most cases, eluded detection.

Of real value to the reader/researcher is Table 2.1 found in Part 1 on pages 20-25, in which all published K-T boundary sections discovered in terrestrial deposits are listed by major geographic areas. This listing evaluates (via a point system) each locality on a scale of 1 to 20 (most complete), with points awarded for each of the twelve features that the authors have identified, which indicate the "quality" of each section. In this way the more features found at a particular site --features as having a palynoflora record across the boundary, a fern spike, an iridium anomaly present, isotopic age available, etc.--the more valuable the site becomes as providing information relative to events surrounding the changes in terrestrial plant cover across the K-T boundary. Forty-one sections are identified with a point value of 10 or more, making these sites important for study in events across the K-T boundary. The Morgan Creek site in Saskatchewan, Canada, for example, earns a score of 15, thus flagging it as a relatively important study locality (Nichols *et al.* 1986).

In the early 1980's the reports of a fern-spore spike, occurring just after the K-T boundary event, was considered evidence of the pioneer status of ferns, becoming the dominate vegetation cover after the extinction of much of the Maastrichtian palynoflora (Tschudy *et al.*, 1984). This nearly complete fern cover, similar to the fern recovery after the explosion of the volcanic island of Krakatau in 1883 (see Fleming and Nichols, 1990), is artistically reconstructed on the cover of the book. The significance and details of the fern-spore spike is covered well in chapter 5, pages 60-66.

Part 2 of the book covers in detail, with good illustrations and palynofloral and megafloral lists, the nature of the K-T transition at several localities around the world. First and foremost in coverage as a case study are the many sections examined within the Williston Basin from North Dakota and eastern Montana. This section provides, through the several localities covered, the prime source of evidence for the determination of the position of the K-T boundary in the Western Interior of North America. The stratigraphic range charts of the identified angiosperm palynomorphs illustrate the precision with which the boundary may be identified. The font used in the charts, however, makes reading of the taxa and their exact stratigraphic location difficult. Other North American, K-T localities covered in the second part include the Raton Basin of Colorado and New Mexico, the Denver Basin, Colorado, the Powder River Basin in Wyoming, the Wasatch Plateau, Utah, several localities in Saskatchewan and Alberta, Canada and localities from the Northwest Territories in Canada, Alaska and the High Arctic. These latter more northern localities, however, have provided meager data, often less well-studied than localities at lower latitudes in North America.

Nichols and Johnson continue their examination of the nature of the plant life above and below the K-T boundary event from several localities in Europe, Japan, China, the Russian Far East, South America, Africa, India, Antarctica and New Zealand. In New Zealand, the K-T boundary is well defined at two localities, the Moody Creek coal mine, and the near-shore marine site along the Waipara River, both on the South Island. The accompanying photograph shows the K-T boundary clay at the mid-Waipara section along Woodside Creek on the South Island.

For each region, Nichols and Johnson review and critique available literature, and provide their own assessment, which does not always agree with those previously published. Referring to the extensive Cretaceous and Paleocene megafloral record of the Russian Far East, they note that recent publications by several colleagues including Golovneva, Herman and Spicer, Krassilov and Akhmetiev, all argue against catastrophic megafloral extinction and have hypothesized climatic or environmental changes as causal factors. However they respond that "It is our opinion that these conclusions are somewhat premature because the K-T boundary itself has not been independently located at any site in the Russian Far East. Thus many of the arguments for floral change across the boundary appear to be somewhat circular." p. 192.

In the final section of the book the authors remind the reader that the great majority of all K-T boundary sections are from North America. They note that "...without the North American record, we would be hard pressed to argue for major floral change at the K-T boundary." However, due to the recognition of the fern-spore spike, and its interpretation at the New Zealand sections, the world-wide effects of the bolide impact are supported, and the authors encourage continued systematic attention to the recovery of reliable impact layer stratigraphy

from other parts of the world. The final few pages of text present an evaluation of alternate scenarios which have been proposed for the extinctions at the K-T boundary. Among the major alternative proposals are climate change, regression of seaways, and volcanism. The authors clearly demonstrate how each of these proposals fall short in providing convincing data to support the abrupt extinctions of plant life across the K-T event.

The authors, a palynologist and paleobotanist, have done a great service to the scientific community in bringing together the many lines of evidence, both from the micro-world of palynology and the resolving power of macrofossil data, to provide a clear and detailed picture of the nature of the plant life at the close of the Cretaceous and the beginning of the Paleogene. Their work should convince even the strongest opponents of the Alvarez Hypothesis that a study of the plants at this time is necessary to an understanding of the changes which occurred on the planet 65 million years ago. We recommend this book to all who take an interest in the geologic history of our Earth.

Alvarez, L.W., Alvarez, W., Asaro, F. and Michel, H.V. 1980. Extraterrestrial cause for the Cretaceous-Tertiary extinction. *Science* 208: 1095-1108.

Fleming, R.F., and Nichols, D.J. 1990. The fern-spore abundance anomaly at the Cretaceous-Tertiary boundary – a regional bioevent in western North America. In *Extinction Events in Earth History*, ed. E.G. Kauffman and O.H. Walliser. *Lecture Notes in Earth Sciences* 30, 347-349.

Nichols, D.J., Jarzen, D.M., Orth, C.J., and Oliver, P.Q. 1986. Palynological and iridium anomalies at the Cretaceous-Tertiary Boundary, south-central Saskatchewan. *Science* 231: 714-717.

Tschudy, R.H., Pilmore, C.L., Orth, C.J., Gilmore, J.S., and Knight, J.D. 1984. Disruption of the terrestrial plant ecosystem at the Cretaceous-Tertiary boundary, Western Interior. *Science* 225: 1030-1032.



Percy Strong at the K-T boundary at the mid-Waipara section, along Woodside Creek, South Island, New Zealand.

The holes are drill cores for paleomagnetic studies by Dale Russell in a pre-Alvarez expedition.

Photograph by D.M. Jarzen 1976.



## NOTÍCIAS

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Órgão oficial de divulgação da  
Asociación Latinoamericana de Paleobotánica y Palinología

## ALPP NEWS

### Latinoamerican Association of Paleobotany and Palynology

The ALPP (Asociación Latinoamericana de Paleobotánica y Palinología) invite you to visit the web site of the Institution ([www.ufrgs.br/alpp](http://www.ufrgs.br/alpp)).

In it you'll find information about this institution, the history, the electronic magazine of the ALPP ("NOTÍCIAS"), and future events.

Also you'll find the abstracts of the XII Brazilian Symposium of Paleobotany and Palynology (Florianópolis, SC, November, 2008) with 231 contributions.

The information is in Spanish and Portuguese.

Submitted by Mirta Quattrocchio.



# Climatic and Biotic Events of the Paleogene

12–15 January 2009, Wellington, New Zealand

## CONFERENCE REVIEW BY DAVID POCKNALL, BP AMERICA, HOUSTON

The CBEP conference was held in Te Papa, New Zealand's bold and innovative national museum and a recognized world leader in interactive and visitor-focused museum experiences. Visit [www.tepapa.govt.nz](http://www.tepapa.govt.nz) for more information on this wonderful facility. CBEP 2009 was hosted by GNS Geoscience (New Zealand government owned science organization) through their Global Change through Time R&D project and attracted 130 participants from 20 countries. It was the latest meeting of this research group studying Paleogene climate and biota: previous meetings of CBEP had been held in 2001 (Powell, Wyoming), 2003 (Leuven, Belgium), 2004 (Cairo, Egypt), and 2006 (Bilbao, Spain). Most of the attendees came from government departments or academia; there were only three of us from the oil industry.

The goal of this conference was to showcase the latest advances in our understanding of the causes and consequences of extreme climatic and catastrophic biotic events in the greenhouse world of the early Cenozoic: from the K/T boundary mass extinction to the Paleocene-Eocene thermal maximum and the Eocene-Oligocene greenhouse-icehouse climate transition. As a fitting culmination to the 2008 International Year of Planet Earth the conference drew together participants from all branches of earth sciences for the common purpose of utilizing the geological record of past global change as a predictor of future change in a warming (greenhouse) world. A feature of the conference was the "Greenhouse Earth Symposium" held on the 3<sup>rd</sup> day of the 4 day conference. Researchers were given the opportunity to explain how their studies of ancient greenhouse climates have advanced understanding of modern climate change. Speakers explored the role of greenhouse gases in driving Paleogene episodes of extreme global warming (Zachos, Sluijs, Norris, Barrett) and the consequences of global warming for biological systems (Fordyce, Wing, Smith, Brinkhuis, Jaramillo, Hollis, and others). The effectiveness of climate models in simulating greenhouse climate states were discussed in earlier papers by Huber, Beerling, Abbott, and Snell. More information on the program can be obtained from [www.gns.cri.nz/cbep2009](http://www.gns.cri.nz/cbep2009) Following the Greenhouse Earth Symposium a public lecture was given by Jim Zachos (UCSC, Santa Cruz) on "Rapid Global Warming and Ocean Acidification 55 million years ago: Lesson for the Future".

The conference attracted media interest in a country where climate change is a hot topic and where glaciers are retreating at rapid pace. On one of the field trips to the South Island a TV news team visited one of the outcrops and interviewed several of the participants. Conference organizer Chris Hollis said there was growing evidence that temperatures in high latitude places like New Zealand have been far higher than previously thought.

In a paper on global temperature over the past 100 million years, Professor Peter Barrett, of Victoria University, Wellington, said the "greenhouse world" was 6 to 7°C warmer than today with only small ice sheets in the interior of Antarctica. Antarctic ice core records from relatively recent times showed a close association between atmospheric carbon dioxide levels and temperature over the past 800,000 years. "It seems that from a geological perspective, without concerted intervention now, there is a credible risk of Earth's climate, by the end of the century, reverting to greenhouse world temperatures, but with 'residual' polar ice sheets," Barrett said.

Palynology and paleobotany papers were presented by many authors and were interspersed with papers on diatoms, foraminifera, insects, whales, and chemostratigraphy, among other topics. The topical papers were those presented by Henk Brinkhuis on the *Azolla* event in the Early Eocene of the Arctic (see *Nature* Volume 441: 606-609, 2009), Appy Sluijs on Paleogene hypothermals from marginal marine environments, Ian Harding on the PETM of the high Arctic, and Carlos Jaramillo on how global warming affects tropical rainforests.

There were several social functions including a barbeque at GNS and a conference dinner held at the Museum. The barbeque allowed me to catch up with several former colleagues including AASP member Graeme Wilson who retired from GNS 2 years ago. GNS has a strong contingent of paleontologists including palynologists Ian



Raine, Dallas Mildenhall, Erica Crouch, Poul Schioler, and Lucia Roncaglia. Following the conference I went on the Southeast North Island 2-day field trip. We visited the Upper Cretaceous-Eocene Tawanui section in southern Hawkes Bay, which is the first on land record of the PETM and also the first record of the associated *Apectodinium* acme. This site was studied by Erica Crouch for her PhD. We also visited Te Uri Stream, the type section for New Zealand's early Cenozoic stages (Teurian to Porangan). A highlight of the trip was the night we spent on the local marae (Maori meeting house) hosted by the Porangahau Maori community. After being welcomed onto the marae in the traditional Maori way, which included touching noses, we were treated to a wonderful meal. Following the meal the local Maori shared with us their knowledge of the area and some of the party shared with them why we were visiting their district and looking at rocks. The Maori people's perspective dates back about 1100 years when they were first thought to arrive in New Zealand; they could not fathom why we would want to look at rocks that were 50 or so millions years old. They commented that when anyone spoke on the marae they had to follow it up with a song. The sight of Henk Brinkhuis having the entire gathering singing some Dutch song will be hard to erase! Scott Wing also spoke and at least sang a song that most of us knew – "Home on the Range" – with reference to his work in the Big Horn basin of Wyoming.

This was the first of these conferences that I have attended. My goal in attending was to get up to speed with the latest in climate research and modeling, understand the range of stratigraphic tools now available, and to learn more about the specific fossil groups that are being used to understand past climates. The inter-relationships of climate, sea level, and sedimentation are key in the oil and gas business as they relate to the distribution of source rock, reservoirs, and seals. The present day concerns about climate change often invoke comments about the oil and gas industry and our burning of fossil fuels are said to account for the greenhouse gases in the atmosphere today. There is no doubt greenhouse gases are a modern day phenomenon but they were times in our geologic past when they were also significant as evidenced by present research and summarized in some of the papers given at CBEP. This lends credence to our studying the climates of the past as proxies to the climate of the future. There are many who would consider the climate change argument as a "band wagon" issue (popularized by the likes of Al Gore and others) but I would urge all of us to consider the research and what we know as palynologists and scientists to consider all the data. In some circles it is felt that climate change is due to earth's natural climate variation; others feel it is part natural, and part man-made; while others feel it is entirely caused by man. Palynologists have a profound role in the future in helping to understand our role in the climate change debate. Plants are the most sensitive indicators of climate change and future research will need to continue to focus on this important relationship.



Henk Brinkhuis, Graeme Wilson, Appy Sluijs, and Poul Schioler enjoying a beverage at the GNS Barbeque.



Ian Harding, Carlos Jaramillo, and David Pocknall at the poster session of CPEB.



## NEWS FROM SOUTHERN SWEDEN LUND UNIVERSITY GEOCENTRUM II

The group called \*TERRA\*: Terrestrial Ecosystems in deep time – mass-extinctions and climate change lead by Prof. Vivi Vajda at Lund University now also include a marine palynologist/dinoflagellate cyst worker Dr. Pi Willumsen.

Dr. Pi Willumsen's contribution to the \*TERRA\* is carrying out correlations of marine and terrestrial palynomorph assemblages recovered in near shore shelf deposits and thereby introduce marine palynology into the Geology Department at Lund University. The Danish Carlsberg Foundation and Lund University has funded Pi to do high-resolution studies of several uppermost Cretaceous to Paleocene marine sections from the Southern Hemisphere. Pi has palynological expertise from working with late Cretaceous to Neogene strata from Southern Hemisphere, New Zealand, tropical West Africa (Angola, Nigeria and the Ivory Coast) and Northern Hemisphere, Denmark.

Members of the "TERRA" group work with a multidisciplinary- multistratigraphic approach investigating processes that have affected terrestrial biotas through deep time. Main focus is the major radiation- and extinction events that punctuated the evolution of terrestrial communities. The consequences of these changes and their impact on the CO<sub>2</sub> balance in the atmosphere and the subsequent climate changes that followed these vents.

Autumn 2008 a large multidisciplinary project devoted to study the carbon cycle and how it interacts with climate system got funded for 10 years by a Linnaeus grant from the Swedish Research Council. The nick-

name of the project is “LUCCI” which is a shorting of “Lund Centre for studies of Carbon Cycle and Climate Interactions”. The Linnaeus grant provides a firm ground for the centre and its research which involves a broad range of disciplines such as: geology, physical geography, climatology, atmospheric physics and chemistry, ecology, plant physiology, soil science and microbiology. The “TERRA” group is mainly involved in work package WP4, working title: From a greenhouse to icehouse world - The climate evolution during the past 70 million years.

For further information about “LUCCI” web-page: [www.lucci.lu.se/](http://www.lucci.lu.se/)

TERRA \* Group members \* at Lund University, Geocentrum II, Geological Department, Sölvegatan 12, 223 62 Lund, Sweden

Group leader: Prof. Vivi Vajda (right, picture p. 28)

Prof. Emeritus Embaie Ferrow

Researcher Dr. Pi Suhr Willumsen (left, picture p. 28)

Researcher Dr. Jane Wigforss-Lange

PhD student Linda Larsson-Lindgren

Msc. student Christina Mehlquist (pictured at SEM)

Former Msc. student Ida-Maria Jansson currently doing a PhD study at Toronto University, Canada

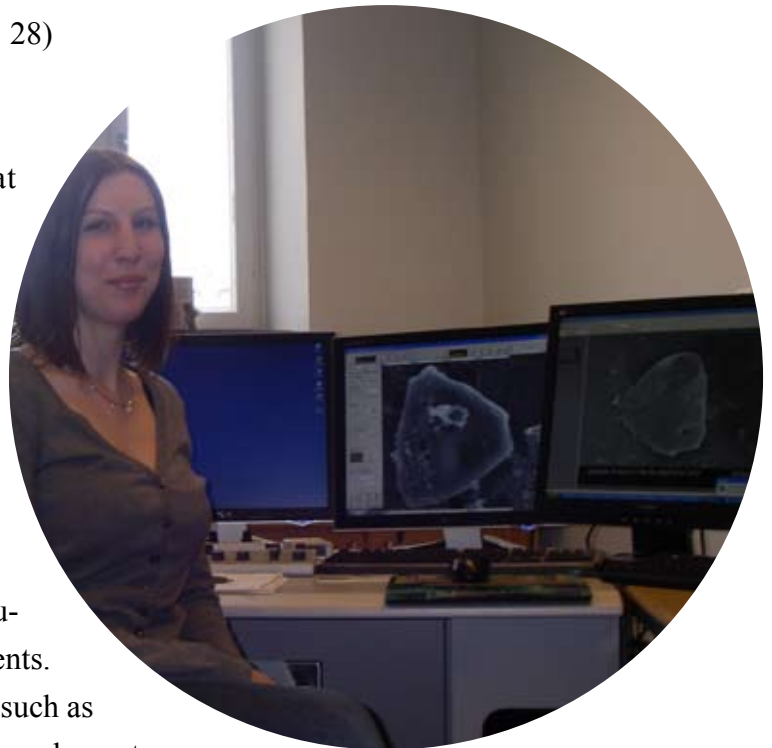
*Researcher Dr. Jane Wigforss-Lange*

My research is based on sedimentology and geochemistry. This combination has shown to be a useful and strong tool in terms of identifying irregularities in both atmospheric and aquatic environments.

The geochemical approach comprises parameters such as the carbon and oxygen isotopes and major and trace elements (including rare earth elements, REEs).

The sedimentological research includes the distinguishing and interpretation of anomalous episodes in the sedimentary successions, when compared to the normal background sedimentation.

I am currently working with sediments from the Jurassic-Cretaceous boundary in southern Sweden. These sediments are, primary, deposited in a continental setting. Of special interest is a short marine sequence where analyzed data implies that this sequence is the result of a tsunami event. A recent tsunami deposits in Thailand are therefore being studied for modern analogue.



The Silurian is an interesting period since the flora and fauna started to colonize the terrestrial environments for the first time. The scope of this project is to describe these floras, which took over the desolated terrestrial landscapes of Skåne at c. 440 Ma. I am mainly focusing on spores from these early land plants. The Late Silurian sediments from Southern Sweden were deposited in a near shore/ intertidal environment and marine palynomorphs, such as acritarchs are also present. Currently, I am counting the terrestrial assemblages and the ratio of spores versus acritarchs. These results will subsequently be correlated with other biostratigraphical results from other fossils groups such as conodonts.



Group photo below: from left to right: PhD student Linda Larsson, Dr. Jane Wigforss-Lange, Group leader Prof. Vivi Vajda, Dr. Pi Suhr Willumsen

**For further information about "LUCCI": [www.lucci.lu.se/](http://www.lucci.lu.se/)**



### **Dr. Roseline Weiss**

Mrs. Dr. Roseline Huguette Weiss was born April 25, 1937, in Galati, Romania.

After being qualified as a geologist (B.Eng.), she studied at a Technical University in Bucharest, receiving her diploma (M. Eng) as a mining-engineer in 1962.

1975, she joined the University of Cologne, worked as scientific assistant with the Geological Institute and graduated (Dr. rer. nat.) in 1981, with a dissertation on Oligocene Marine Ostracoda.

Dr. Weiss researched in the fields of micropaleontology, sedimentology and palynology. Her activity was concretized in more than 25 publications appeared between 1983 and 2001.

As editor, she published two voluminous books containing valuable contributions of scientists from around the globe. She participated active at countless geological congresses and collaborated intensively with colleagues world-wide.

Dr. Roseline H. Weiss died on December 8, 2008, in Düsseldorf, and is survived by her husband Aby Weiss, which she married 1964.



# ADVANCED COURSE in Jurassic – Cretaceous – Cenozoic ORGANIC-WALLED DINOFLAGELLATE CYSTS

Morphology, Paleoecology & Stratigraphy

URBINO, ITALY, JULY 17-21, 2009

presented by

Henk Brinkhuis (Utrecht University NL)  
Martin J. Head (Brock University, Canada)  
Jörg Pross (Frankfurt University, Germany)  
James B. Riding (BGS UK)

Special guest appearance by Appy Sluijs

With contributions by

Rob Fensholt, Graham L. Williams (GSC Atlantic, Halifax, Canada),  
Martin A. Pearce (Statolith, Bergen, Norway)  
and Roel Verreussel (TNO Utrecht NL)

Local coordinator:  
Simone Galeotti  
simone.galeotti@unurb.it

Venue address

Istituto di Geologia  
Università di Urbino "Carlo Bo"  
Campus Scientifico - Località Crocicchia  
61029 Urbino, Italy

A general course on aspects of Jurassic, Cretaceous and Cenozoic organic-walled dinoflagellate cyst morphology, paleoecology and stratigraphy will be held at the premises of the University of Urbino Carlo Bo, Italy, July 17-21, 2009. Detailed information on the morphology, taxonomy and stratigraphic ranges of index species will be provided, in addition to applications in paleoenvironmental analysis. Participants will be provided with a detailed manual and a CD-ROM with illustrations of key taxa. A mid-course excursion is planned to stunning outcrops e.g., along the Contessa valley (Jurassic-Cenozoic)

Fees include the course manual, CD-ROM, ice-breaker, coffee/tea breaks, on-campus lunches, excursion, transportation, field guide, and the grand social dinner.  
Students: € 450.-, Senior Professional/Industry Staff: € 1250.-

Information and Registration

[http://www.bio.uu.nl/~palaeo/Congressen/Dino2009/Intro\\_Dino2009.htm](http://www.bio.uu.nl/~palaeo/Congressen/Dino2009/Intro_Dino2009.htm)

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Alternative contact: Mrs. Marjolien Mullen, LPP secretary, at M.Mullen@uu.nl

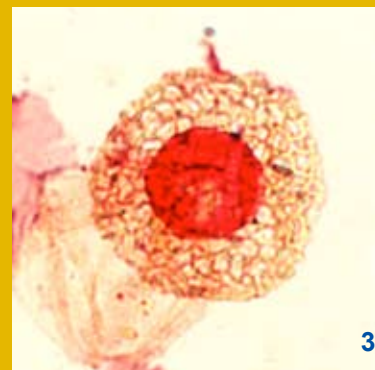
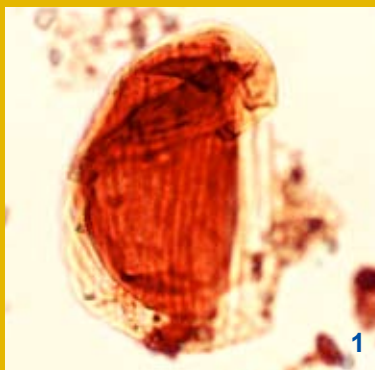


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Universiteit Utrecht





## Applied Palynological Studies on the Cretaceous Succession of the GPTSW-7 Well, Abu Sennan Concession, Western Desert, Egypt

This research abstract is submitted by graduate student:

**Haytham Sid-Ahmed El Atfy**

Geology Department, Faculty of Science, Mansoura University, Mansoura 35516, Egypt

I really appreciate the support of the Geology Department, Mansoura University and many of its members during my palynological research which I pursued for partial fulfillment of the M.Sc. under Professor Salah El Beialy. I would like to share with the International Palynological Society some of the results of my research as they appear in my dissertation dated June, 2008.

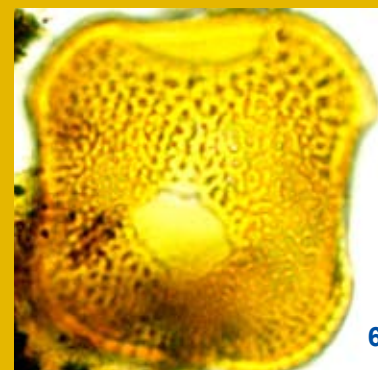
The subsurface Cretaceous deposits of the north Western Desert, Egypt have been the subject of several palynological studies that have primarily concentrated on taxonomy, palynostratigraphy and palaeoenvironmental interpretations but few palynological attempts have been made to study the organic thermal maturity and source rock potentiality. This study was conducted within the Upper Cretaceous Bahariya and Abu Roash formations in the GPTSW-7 well, drilled by the General Petroleum Company (GPC) in 1994 in the vicinity of the Qattara Depression, Abu Sennan Concession, north Western Desert, Egypt, in an attempt to redress this imbalance as there are many oil and gas discoveries from the Cretaceous basins of Egypt. The studied samples are investigated for palynological examination in order to: 1) focus on the palynofacies and palynomorphs distribution, 2) establish a palynostratigraphic framework for the Coniacian/Santonian-Cenomanian sequence, 3) compare the palynomorph assemblages with their counterparts in NE Africa, Tethyan realm and worldwide, 4) age assignment of the studied sequence and 5) construct a detailed geochemical analysis, which combines Rock-Eval pyrolysis and TOC measurements. These data are supplemented by vitrinite reflectance ( $R_o$ ) and visual assessment of palynomorph colors, to determine the thermal maturation levels of the organic matter contained in the Upper Cretaceous deposits in GPTSW-7 well.

The palynological, palynofacies and organic geochemical analyses of seventy-one subsurface cuttings samples and three sidewall core samples, collected from the Upper Cretaceous Bahariya and Abu Roash formations, encountered in the GPTSW-7 well, have yielded the following conclusions:

A. The recognition of 140 species of spores, pollen, dinoflagellates, acritarchs and other associated palynomorphs. These allowed the establishment of five biozones and three subzones, which can be described in descending stratigraphic order as follows:

1. *Droseridites senonicus* Total Range Zone (Coniacian-Santonian).
2. *Dinogymnium vozzhennikovae* Interval Zone (middle-late Turonian).
3. *Ephedripites ambiguus* (Picture 1)-*Ephedripites multicostatus*-*Foveotricolpites giganteus*-*F. gigantoreticulatus* Assemblage Zone (early Turonian).





4. *Classopollis brasiliensis* (Picture 2) Interval Zone (middle to late Cenomanian).

5. *Afropollis jardinus* (Picture 3) Interval Zone (early Cenomanian).

5.I. *Afropollis kahramanensis* (Picture 4) Interval Subzone

5.II. *Elaterosporites klaszii* (Picture 5) Interval Subzone

5.III. *Cretacaeiporites densimurus* (Picture 6) Total Range Subzone. The established palynozones are also correlated with the most relevant Cenomanian-Santonian palynozonations schemes from NE Africa and worldwide.

B. Only one new miospore taxon belonging to the genus *Cooksonites* was described from the early Cenomanian Bahariya Formation.

C. Combined optical (Spore coloration, palynofacies and  $R_o$ ) and chemical (TOC and Rock-Eval pyrolysis) studies showed that:

1. The Abu Roash and Bahariya formations, are primarily of kerogen III type (gas-prone).
2. The Abu Roash F Member contains a high proportion of AOM, high TOC and low OI values, indicating a highly oil-prone facies. This contrasts with earlier studies, which suggest a gas-prone nature. This may be attributed to the presence of an organic-rich black shale layer, considered to be the sedimentary expression of a short-term global Oceanic Anoxic Event (OAE2), known as the Bonarelli event.

D. Quantitative and qualitative analyses of both the palynoflora and palynofacies show that:

1. The Abu Roash A and C members, both of Coniacian-Santonian age, represent an oxic proximal and distal shelf environment.
- 2- The Abu Roash D and E members, dated as Turonian, represent an oxic proximal shelf, while the Abu Roash F Member of Cenomanian age, was deposited in a distal suboxic-anoxic basin.
- 3- The Abu Roash G Member and the Bahariya Formation, both of Cenomanian age, were deposited in a shallow marine and shallow marine to fluvio-deltaic environment, respectively.

E. The Albian-Cenomanian Elaterates Province as well as the Senonian Palmae Province are identified in the GPTSW-7 well, based on the presence of many characteristic palynofloral taxa. An arid to semi-arid and warm climate prevailed during the deposition of the Cenomanian age, whereas a warm-humid climate was prevalent during the Turonian-Santonian age.

Any comments, suggestions, or questions would be appreciated and can be directed to me at:

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# Membership Updates

## New Members

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<p>GORIN, GEORGES E. DEPT. OF GEOLOGY/PALEON- TOLOGY 13 RUE DE MARAICHERS 1211 GENEVA SWITZERLAND TEL. (41) 22 379 66 07 FAX. (41) 22 379 32 10 <a href="mailto:georges.gorin@unige.ch">georges.gorin@unige.ch</a></p>	<p>MEJIA, PAULA 706 SW 16TH AVE APT. 215 GAINSEVILLE, FL 32601 TEL. (352) 378-8897 <a href="mailto:pmejia@flmnh.ufl.edu">pmejia@flmnh.ufl.edu</a></p>	<p>VERSTEEGH, GERARD J.M. ORGANIC GEOCHEMISTRY UNIT AND PALAEONTOLOGY AND HIS- TORICAL GEOLOGY UNIT FACULTY OF EARTH SCIENCES BREMEN UNIVERSITY P.O. BOX 330440 D-28334 BREMEN GERMANY TEL. +49 421 218 4313 FAX. +49 421 218 4451 <a href="mailto:versteegh@uni-bremen.de">versteegh@uni-bremen.de</a></p>
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## **42<sup>nd</sup> Annual Meeting of the AASP-The Palynological Society Meadowview Convention Center, Kingsport TN**

The 42<sup>nd</sup> Annual Meeting of the AASP-The Palynological Society is being held in the Appalachian Mountains of east Tennessee, bordering Virginia, and North Carolina. Start making plans to attend now! Plans for a pre-conference workshop and post conference field trips are being made. In addition, thematic sessions on forensic palynology and in honor of Ronald Kapp are underway. Three general lectures are planned, featuring David Pocknall: Palynology and Petroleum: Supplying Americas Energy Needs, Vaughn Bryant: Pollen, Much More than a Sneeze, and Owen Davis: Climate Change in Arid Regions, and will be open to the public.

I also want to remind every member and non-member, whether attending the meeting or not, that you are welcome to submit your best artistic photographs that depict any aspect of palynology (including industry, organic petrology, ultra-structure, etc.) for a display that will be presented at the Natural History Museum and Gray Fossil Site. The exhibit opens on the night of the ice breaker September 27, 2009 and will run about 2 months. We will also take suggestions for the name of the exhibit. Send an electronic version of the photograph(s) or a high quality photograph on paper to Michael S. Zavada, Department of Biological Sciences, Box 70703, Johnson City, TN 37614 or electronically to [zavadam@etsu.edu](mailto:zavadam@etsu.edu). The museum will mount and label the photographs, and will be returned at the end of the public display. Immediately following the meeting is the International Storytelling Festival in nearby Jonesborough, TN. This festival annually attracts tens of thousands for down-home fun, and includes crafts, music, and showcases the rich folklore and oral traditions of the Appalachian and international peoples.

The 42<sup>nd</sup> Annual Meeting will be held at Meadowview Resort (<http://www.bookmarriott.com/329/index.html>) at the foot of Bay's Mountain, in the Tri Cities (Bristol-Kingsport-Johnson City), which offers a stunning setting with swimming, golf (18 holes only \$45 with cart) and local tourist attractions (including Barter Theatre, and all that Ashville, N.C., Pigeon Forge and Gatlinburg have to offer less than 90 minutes away). It is especially fun for children. The airport is located just a few miles from the resort (<http://www.triflight.com/>). In addition, the cost of the meeting is all inclusive. This means the prices include the entire meeting package, i.e., meeting registration, resort hotel accommodations, food (outstanding Breakfast, Lunch & Dinner buffets), Icebreaker with music by The Bearded (<http://www.thebearded.org/mnuHome.htm>), Tuesday Evening Banquet with music by the ETSU Music Department Jazz Ensemble, transportation to and from events, the Wednesday business luncheon, and workshop (if applicable). Field trip or attendance at the International Story Telling Festival is separate. The costs are very reasonable for students and for international attendees.



## Meeting Schedule

Friday	September 25	Check-in if attending workshop
Saturday	September 26	Workshop "Understanding Pollen and its Application to Forensic Palynology"
Sunday	September 27	Check-in & Meeting Registration, Icebreaker at Museum of Natural History and Gray Fossil Site
Monday	September 28	Sessions, Public Lecture
Tuesday	September 29	Sessions, Public Lecture, Evening Banquet
Wednesday	September 30	Sessions, Business Luncheon, Public Lecture
Thursday	October 1	Field trip
Friday	October 2	Field trip, Storytelling Festival
Saturday	October 3	Field trips return to Meadowview, International Storytelling Festival
Sunday	October 4	Check-out, Last day of Storytelling Festival

## Registration

In January a website will go active for registration and submission of your abstract. A Non-Refundable deposit of \$250 is required at Registration although you can submit the entire amount at the time of registration. Abstracts are due by August 10, 2009. The prices below are all inclusive.

All prices are "per person" rates

### Meeting Only

Option 1 – Sunday Check-in to Wednesday Check-out

Single	Double	Triple	Quad
\$875	\$775	\$650	\$625

Option 2 – Saturday Check-in to Wednesday Check-out

Single	Double	Triple	Quad
\$1000	\$825	\$775	\$725

Option 3 - Sunday Check-in to Thursday Check-out

Single	Double	Triple	Quad
\$1000	\$825	\$775	\$725

Option 4 – Saturday Check-in to Thursday Check-out

Single	Double	Triple	Quad
\$1125	\$950	\$900	\$850

### Workshop + Meeting

Includes cost of the workshop (Transportation will be provided to and from Meadowview and ETSU)

Option 1 – Friday Check-in to Wednesday Check-out

Single	Double	Triple	Quad
\$1150	\$1025	\$925	\$875

Option 2 – Friday Check-in to Thursday Check-out

Single	Double	Triple	Quad
\$1275	\$1100	\$1050	\$1000

## Meeting + Field Trip

Add the approximate cost of the field trip or event to Options 3 or 4 for "Meeting Only"

Appalachian Habitats: Flora, Bears, and Birds, Organizer: Fred Alsop (add approximately \$450). Includes food, transportation, accommodation, guides, and materials. Minimum 10 participants

Tennessee Ball Clays, Collecting the Clairborne, Organizers: Liu and Zavada (add approximately \$450). Includes transportation, accommodation, light breakfast, a visit to the Courthouse and Museum in Dayton, TN, the site of the Scopes Monkey Trial (<http://www.law.umkc.edu/faculty/projects/FTrials/scopes/scopes.htm> or <http://www.bryan.edu/1990.html>), and fossil collecting near Paris, TN. Does Not include lunch and dinner Thursday-Saturday. Minimum 10 participants

International Storytelling Festival, Jonesborough, TN (\$120 each additional night at Meadowview (all inclusive) + the cost of the ISF Tickets see <http://www.storytellingcenter.net/festival/about-fest.htm>). Meeting participants can continue their stay at Meadowview for this international event that begins on Friday October 2 and ends Sunday October 4 in the oldest town in Tennessee, Jonesborough. Attend one, two, or all three days of the festival.

## Workshop + Meeting + Field Trip

For the best value, add the approximate cost of your chosen field trip to the following choices if you want to participate in the Workshop and attend the entire meeting. Those attending the ISF should add \$120 for each additional night at Meadowview and the cost of the ISF tickets. NOTE: During the International Story Telling Festival local Motels double their prices and most are booked well in advance.

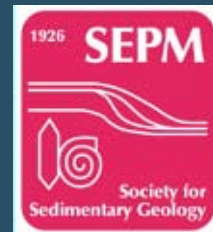
Friday Check-in to Thursday Check-Out

Single	Double	Triple	Quad
\$1275	\$1100	\$1050	\$1000

Looking forward to seeing you at the meeting!

Michael Zavada,  
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Department of Biological Sciences, Box 70703, Johnson City, TN 37614 USA  
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## GEOLOGIC PROBLEM SOLVING WITH MICROFOSSILS II MARCH 15-18, 2009 UNIVERSITY OF HOUSTON, HOUSTON, TEXAS, USA

**Conference Web Site:** <http://sepm.org/activities/researchconferences/microll/microllhome.htm>

The North American Micropaleontology Section (NAMS) of SEPM invites you to attend the 2nd international conference on Geologic Problem Solving with Microfossils.

"Microfossils II" builds on the success of the March 2005, Microfossils I and will again bring together a diverse range of geoscientists to showcase the problem-solving power of microfossils across a broad variety of geologic settings, and will stimulate the "cross-fertilization" of ideas that result when a diverse group of scientists gather in a common venue.



## 2010 AASP-CAP-CPC joint meeting, Halifax Nova Scotia September 29-October 1<sup>st</sup>, 2010

Please mark your calendars and plan to attend the joint AASP-CAP-CPC meeting in Halifax, Nova Scotia, September 29-October 1<sup>st</sup>. The meeting will be held at the Harbourview Holiday Inn, just minutes from the ferry terminal and with spectacular views of the Halifax Harbour.

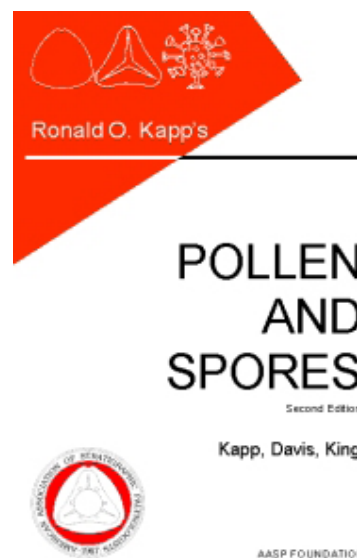
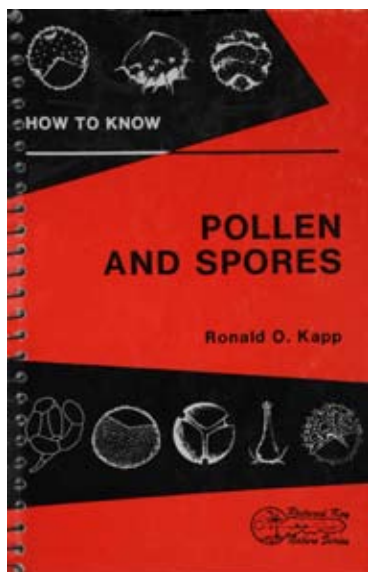
Rob Fensome, Peta Mudie and Graham Williams are the Local Organizing Committee.

We are planning exciting field trips, including one to Joggins World Heritage site where you can see some of the most spectacular fossil tree trunks and the world's earliest reptiles. Other field trips will possibly include locations such as the Paleoindian site in Debert, the Cobequid-Chedabucto fault, the North Mountain Basalt, Arisaig, and the unique Windsor gypsum cliffs at St Croix. Impressive drumlin fields and glacial deposits are found throughout Nova Scotia, especially around Old Town Lunenburg, a UNESCO World Heritage Site. And let's not forget that the Bay of Fundy has the largest tides in the world!



# How to Know Pollen and Spores

## A Symposium Honoring Dr. Ronald O. Kapp, PhD



## CALL FOR PAPERS

The 42nd annual meeting of the AASP – The Palynological Society (note: new name) will be held 27-30 September 2009 at the Marriott Meadowview Conference Resort and Convention Center near Kingsport, Tennessee. At this meeting we are planning a symposium to honor the late Dr. Ronald O. Kapp, PhD, the author of that old standby reference work *How to Know Pollen and Spores*, now updated as *Ronald O. Kapp's Pollen and Spores*, 2<sup>nd</sup> edition. In line with Dr. Kapp's professional interests, the emphasis of this symposium will be Quaternary palynology, but talks could also include topics other than Quaternary. If you knew Dr. Kapp, co-authored a paper with him, were inspired by him to become a palynologist, or ever used his books to identify palynomorphs, please plan to attend the symposium and make a presentation of a your research.

Nestled in the rolling foothills of the Blue Ridge Mountains, the Meadowview Resort offers an excellent venue for both discussing Dr. Kapp's contributions to Quaternary palynology and getting an update on the latest interpretations of Quaternary vegetation changes. Effective immediately, the Society is accepting titles for talks to be presented in the “**Kapp Symposium**”. We are seeking high-quality oral and poster presentations on any topics in which Dr. Kapp himself may have been interested. Please encourage potential participants to submit a title and abstract.

Individuals wishing to present a paper in the “Kapp Symposium” should submit their title as an e-mail no later than **01 June** 2009 to Lanny Fisk (Lanny@PaleoResource.com) and submit a full abstract online to the AASP website ([www.palynology.org](http://www.palynology.org)) by 10 August 2009. Information on registration fees and hotel accommodations for the conference can be found in the December 2008 AASP Newsletter (vol. 41, no. 4) and will be available soon on the AASP web site at: <http://www.palynology.org/>.





## INVITATION

### MEETING

Devonian to Carboniferous Palynology: Contributions to Palaeogeography, Palaeoceanography, and Geotectonics of the Euramerica – Gondwana Collision

**Venue:** University of the Algarve, Faro, Portugal

**Date:** 20 to 24 September 2009

The Spore / Pollen and Acritarch Subcommissions of the CIMP warmly invite you to attend the CIMP Faro 09 meeting on Devonian to Carboniferous Palynology: Contributions to Palaeogeography, Palaeoceanography, and Geotectonics of the Euramerica – Gondwana Collision.

This reunion builds on the general CIMP meeting held in 2007 in Lisbon and will bring together palynologists and other geoscientists with the aim of stimulating discussion regarding the utility of palynomorphs in the reconstruction of the Euramerica – Gondwana collision. We are seeking presentations in which palynomorphs contribute significantly to palaeogeographic, palaeoceanographic, and geotectonic models. Studies that integrate palynology with stratigraphy, sedimentology or other disciplines, are also welcome.

A two-day technical session will be followed by a two-day fieldtrip to the key outcrops of the Upper Devonian to Carboniferous Southwest Sector of the South Portuguese Zone. Due to difficulties relating to safe access of the outcrops, the fieldtrip will be limited to the first 25 participants. However, the technical sessions will not have any restrictions as to the number of participants.

We will very soon be including on the CIMP web page a link with all the information regarding this meeting.

Hope to see you all in Faro.

The organising committee,

Paulo Fernandes, Zélia Pereira, Tomás Oliveira, Geoff Clayton, and Reed Wicander