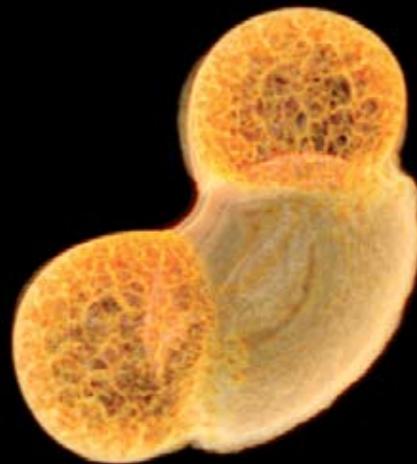


# AASP- THE PALYNOLOGICAL SOCIETY



*Pinus nigra*  
by Amen Zwa (The Gannon Technologies Group LLC),  
Stanislav Vitha, and V. Bryant (TAMU)



## NEWSLETTER



**September 2009**  
**Volume 42, Number 3**



# A.A.S.P. NEWSLETTER

Published Quarterly by the AASP - The Palynological Society

September 2009  
Volume 42, Number 3

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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 Leonard R. Wilson (elected 1975)  
Professor Knut Faegri (elected 1977)  
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Professor Lucy M. Cranwell (elected 1989)  
Dr. Tamara F. Vozzhennikova (elected 1990)  
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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)  
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Dr. John A. Clendening (awarded 1987)  
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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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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 **November 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.**

# *Go forth and do good things!*

By Fredrick Rich

As it happens, I have one more chance to write a Message from the President. This has been a periodic and pleasant task for me, and I suppose this is the last such message I will write. Being a member of AASP, and an officer from time-to-time have been great privileges for me; being a member is dependant upon paying monetary dues, but being an officer is dependant upon paying other dues. I've never regretted being involved with this organization and, along with Ducks Unlimited, The Nature Conservancy, and the Save The Redwoods League, it is a group to which I have remained true for most of my life. All four organizations are involved, in one fashion or another, with the topic I most love – woodlands, wetlands and wetlands ecology. It doesn't matter if you look at them from the current perspective of striving for preservation, or from the geological perspective of trying to understand how they came to be. Whether we look at things from a paleoecological point of view, or that of a neoecologist just doesn't matter; the simple need is that we must look at things at all, and try to understand them. This notion was reflected, I think, in my last message, where I detailed some of the work that is being done in public schools. Get into the kids' minds, show them some wonderful things and some great experiences, and they will acquire your enthusiasm for the world.

We, as an organization have embarked upon some new ventures, as will be described later by Jim Riding, vis a vis our relationship with

Taylor and Francis. AASP cannot remain static in its position in a world that is fairly turbulent. Just as organisms and organizations have always had to change and adapt, we have elected to enter into an agreement with T&F for them to publish our flagship publication, PALYNOLOGY. After long years of dedicated service, AASP members (notably Vaughn Bryant and Bob Clarke) have been asked to give up the task of assembling and producing this publication, and we are turning it over to a publication firm. This should be seen as a sign of growth, and emergence, if you will. The Board of Directors extend their profound gratitude to all the people who have ushered us through the last four decades of successful publication and distribution of a publication that describes that about which we are enthused – old swamps-new swamps, old deserts-new deserts, old oceans, etc. It isn't as important that we speak to each other of our own interests as that we speak of them to another world that might just be interested.

So, I guess I'm left with the opportunity for one last admonition, "Go forth and do good things." It doesn't matter what the nature of them is; it only matters that they are good, and solid, and that people who are new to our trade might find them fascinating.

Kindest regards to all of you, and good luck!

Fred Rich

# THE JOURNAL PALYNOLOGY TO BE PRODUCED BY TAYLOR & FRANCIS FROM 2010

By James B. Riding  
Managing Editor  
jbri@bgs.ac.uk

Taylor & Francis (T&F) approached the association in 2008 with a proposal to take over the publication and distribution of *Palynology*. This partnership does not alter our editorial control; all editorial issues remain entirely with AASP – The Palynological Society. This offer has been extensively discussed by the Board of Directors. Furthermore, we examined alternative providers and finally concluded that T&F offered the best deal for us. Negotiations took place, the joint venture was agreed, and a contract signed with T&F in July 2009. This new production scenario is effectively cost-neutral to the society. T&F are a major international publishing house and they also produce *Grana*, a Scandinavian journal largely aimed at modern pollen morphologists and aerobiologists. T&F also produce *Alcheringa*, *GFF*, and *International Geology Review*. I will be working with T&F in the coming months to ensure that the change in production is seamless.

Taylor & Francis was established in 1798 and is one of the world's leading publishers of academic research. They publish 1,500 academic journals in association with 340 learned societies from a network of 20 offices, including Beijing, Johannesburg, Melbourne, New Delhi, Oxford, Philadelphia, Singapore, and Stockholm (see [www.informaworld.com](http://www.informaworld.com)).

From 2010, there will be two issues of *Palynology* per year, with an annual page budget of around 300 pages. These parts will be published in June and December. All completed articles will be electronically published awaiting paper printing. Furthermore, T&F will take over our institutional membership, and the administration of the various electronic delivery alliances such as Geoscience World, BioOne, and JSTOR. The society will receive a generous royalty payment based on all “non-member income” from T&F. There will be no increase in individual subscription levels, but the institutional (library) subscription will increase to \$135 per year from 2010. T&F anticipate significantly growing library subscriptions from their present level. T&F will also digitise all previous volumes of the journal and make them available electronically.

From 2010, manuscripts will be submitted electronically using “Manuscript Central”. Electronic submission of manuscripts is standard elsewhere, and the vast majority of scientific writers should be well experienced in this. Let me assure potential authors that “Manuscript Central” is a very user-friendly platform. As editor, I will see all the manuscripts submitted, and will administer the selection of reviewers, communications with reviewers, and all aspects of manuscript revision. Only when I

am happy with the final version will it be sent for production. All stages of the process are marked by standard emails with clear instructions and weblinks. T&F have professional copyeditors who go through revised manuscripts for consistency, spelling, format etc. Authors can make changes to proofs electronically.

In summary, the partnership with TF provides:

- A secure and sustainable future for *Palynology*.
- Two issues per year, which is a scenario we have been seeking for some time. This will significantly increase the impact factor of *Palynology* (currently 0.304).
- TF will market *Palynology* to libraries using their international infrastructure, thereby increasing our annual royalty payment. This would also potentially increase our individual membership through our increased global visibility.
- TF to provide a user-friendly electronic submission platform and full copyediting facilities.
- “When ready” electronic publication of papers through *iFirst*; authors will no longer have to wait for paper publication once a year. This is standard elsewhere.
- The enhanced production of our journal will heighten the profile of the society, and hopefully expand the individual membership.
- Back issues of *Palynology* from Volume 1 to 33 will be fully digitised and available online, alongside Volumes 1 to 15 of *Geoscience and Man*, the predecessor title to *Palynology*.

Under my stewardship we got *Palynology* into the Science Citation Index; this was a significant achievement. It seems eminently logical to take the Journal forward yet again by entering into a partnership with a major publishing house. We will ensure that the cost to individual members does not rise. This relationship assuredly should be seen as partnership. The society wants to produce a modern, professional, high-quality product in a scenario which is sustainable long into the future and T&F wish to expand their science journal portfolio.

Authors with manuscripts in various stages of peer review/production should note that if their accepted articles do not make it into volume 33 (2009), they will automatically be transferred into the T&F system. If any member and/or author have any questions regarding this matter, please contact myself or Vicky Gardner, the Managing Editor for Earth and Environment at T&F (e-mail: Victoria.Gardner@tandf.co.uk).

I cannot end this article without a note of sincere thanks to Bob Clarke and Vaughn Bryant. *Palynology* is currently produced by me as Editor, Bob as Production Editor/distributor, and Vaughn as custodian and distributor of the backstock. Bob and Vaughn have been involved from the start of *Palynology* (the journal) in 1977, and have done an incredible job over many years. They have made the journal what it is today and AASP – The Palynological Society owes them both a huge debt of gratitude.

11 August 2009

# Palynological and Related Publications

compiled by Sarah de la Rue, University of Idaho, Dept. of Geological Sciences  
Moscow, ID 83844 (sarah.delarue@vandals.uidaho.edu)

*Do you want this column to continue?  
Please email me your opinion.*

## Special Journal Issues

*Review of Palaeobotany and Palynology* 156 (1-2) July 2009. Spore/pollen fine structure in living and fossil plants. Authors include Wellman, Bek, Turnau, and "Max" Taylor.

## Topics

### Marine algae:

Andreini, G., Buratti, N., Cirilli, S., 2009. The occurrence of Chitinoideids in palynological residues from the Ammonitico Rosso Formation (Tithonian), Spain. *Palaios* 24 (6): 402-405.

Flores-Trujillo, J.G., **Helenes, J.**, Herguera, J.C., Orellana-Cepeda, E., 2009. Palynological record (1483-1994) of *Gymnodinium catenatum* in Pescadero Basin, southern Gulf of California, Mexico. *Marine Micropaleontology* in press.

Grey, K., Willman, S., 2009. Taphonomy of Ediacaran acritarchs from Australia: Significance for taxonomy and biostratigraphy. *Palaios* 24 (4): 239-256.

Kodner, R.B., Summons, R.E., Knoll, A.H., 2009. Phylogenetic investigation of the aliphatic, non-hydrolyzable biopolymer algaenan, with a focus on green algae. *Organic Geochemistry* 40 (8): 854-862.

Warny, S., Askin, R., Hannah, M., Mohr, B., Raine, I., Harwood, D.M., Florindo, F., and the SMS Science Team, in press. Palynomorphs recovered from sediment core reveal a remarkably warm Antarctica during the Mid Miocene. *Geology*, October 2009.

### Paleobotany and Paleoflora:

Balseiro, D., Rustan, J., Ezpeleta, M., Vaccari, N.E., in press. New Serpukhovian (Mississippian) fossil flora from western Argentina: Paleoclimatic, Paleobiogeographic and stratigraphic implications. *Palaeogeography, Palaeoclimatology, Palaeoecology*.

Boettger, T., Hiller, A., Junge, F.W., Mania, D., Kremenetski, K., 2009. Late Glacial/Early Holocene environmental changes in Thuringia, Germany: Stable isotope record and vegetation history. *Quaternary International* 203 (1-2): 105-112.

Gastaldo, R.A., Purkynova, E., Simunek, Z., Schmitz, M.D., 2009. Ecological persistence in the Late Mississippian (Serpukhovian, Namurian A) megafloral record of the Upper Silesian Basin, Czech Republic. *Palaios* 24 (6): 336-350.

Gastaldo, R.A., Purkynova, E., Simunek, Z., 2009. Megafloral perturbation across the Enna Marine Zone in the Upper Silesian Basin attests to Late Mississippian (Serpukhovian) deglaciation and climate change. *Palaios* 24 (6): 351-366.

Sims, H.J., Cassara, J.A., 2009. The taphonomic fidelity of seed size in fossil assemblages: A live-dead case study. *Palaios* 24 (6): 387-393.

- Sweeney, I.J., Chin, K., Hower, J.C., Budd, D.A., Wolfe, D.G., 2009. Fossil wood from the middle Cretaceous Moreno Hill Formation: Unique expressions of wood mineralization and implications for the processes of wood preservation. *International Journal of Coal Geology* 79 (1-2): 1-17.
- Taylor, W.A., Wellman, C.H., 2009. Ultrastructure of enigmatic phytoclasts (banded tubes) from the Silurian-Devonian: Evidence for affinities and role in early terrestrial ecosystems. *Palaaios* 24: 167-180.
- Utescher, T., Mosbrugger, V., Ivanov, D., **Dilcher, D.L.**, 2009. Present-day climatic equivalents of European Cenozoic climates. *Earth and Planetary Science Letters* 284 (3-4): 544-552.
- Wang, Y.-H., Ferguson, D.K., Feng, G.-P., Wang, Y.-F., Zhilin, S.G., Li, C.-S., Svetlana, P.-T., Yang, J., Ablaev, A.G., in press. The Phytogeography of the extinct angiosperm *Nordenskiöldia* (Trochodendraceae) and its response to climate changes. *Palaeogeography, Palaeoclimatology, Palaeoecology*.
- Woodcock, D., Meyer, H., Dunbar, N., McIntosh, W., Prado, I., Morales, G., 2009. Geologic and taphonomic context of El Bosque Petrificado Piedra Chamana (Cajamarca, Peru). *GSA Bulletin* 121 (7-8): 1172-1178. [Eocene buried forest in ash; associated leaves]

### Palynology in general:

- Gomez, A.A., Jaramillo, C.A., Parra, M., Mora, A., 2009. Huesser Horizon: A lake and a marine incursion in Northwestern South America during the Early Miocene. *Palaaios* 24 (4): 199-210.
- Jarzen, D.M., Dilcher, D.L.**, 2009. Palynological assessment of Holocene mangrove vegetation at the American Memorial Park, Saipan, Northern Mariana Islands. *Grana* 48 (2): 136-146.
- LaMoreaux, H.K., Brook, G.A., Knox, J.A., in press. Late Pleistocene and Holocene environments of the Southeastern United States from the stratigraphy and pollen content of a peat deposit on the Georgia Coastal Plain. *Palaeogeography, Palaeoclimatology, Palaeoecology*.
- Martinetto, E., 2009. Palaeoenvironmental significance of plant microfossils from the Pianico Formatio, Middle Pleistocene of Lombardy, North Italy. *Quaternary International* 204 (1-2): 20-30.
- Smojic, S.B., Smajlovic, J., Koch, G., Bulic, J., Trutin, M., Oreski, E., Alajbeg, A., Veseli, V., 2009. Source potential and palynofacies of Late Jurassic "Lemes facies", Croatia. *Organic Geochemistry* 40 (8): 833-845.
- Yavuz-Isik, N., Demirci, C., 2009. Miocene spores and pollen from Pelitcik Basin, Turkey- environments and climatic implications. *Comptes Rendus Paleovol* 8 (5): 437-446.

### Palynology and Archaeology:

- Bezusko, L.G., Mosyakin, S.L., Bezusko, A.G., 2009. Flora and vegetation of the Ovruch Ridge (Northern Ukraine) in the Early Middle Ages according to palynological evidence. *Quaternary International* 203 (1-2): 120-128.
- Kiage, L.M., Liu, K.-B., 2009. Palynological evidence of climate change and land degradation in the Lake Baringo area, Kenya, East Africa, since AD 1650. *Palaeogeography, Palaeoclimatology, Palaeoecology* 279 (1-2): 60-72.
- Lopez-Saez, J.-A., Dominquez-Rodrigo, M., 2009. Palynology of OGS-6a and OGS-7, two new 2.6 Ma archaeological sites from Gona, Afar, Ethiopia: Insights into the aspects of Late Pliocene habitats and the beginnings of stone-tool use. *Geobios* 42 (4): 503-511.
- McGregor, H.V., Dupont, L., Stuut, J.-B. W., Kuhlmann, H., 2009. Vegetation change, goats, and religion: a 2000-year history of land use in southern Morocco. *Quaternary Science Reviews* 28 (15-16): 1434-1448.
- Menendez, L.P., Osterrieth, M., Oliva, F., 2009. First phytolith approximation to diet study in the archaeological site Gascon 1, Pampean Region, Republica Argentina. *Quaternary International* 204 (1-2): 84-94.
- Tipping, R., Bunting, M.J., Davies, A.L., Murray, H., Fraser, S., McCulloch, R., 2009. Modelling land use around an early Neolithic timber 'hall' in north east Scotland from high spatial resolution pollen analyses. *Journal of Archaeological Science* 36 (1): 140-149.
- Zernitskaya, V., Mikhailov, N., 2009. Evidence of early farming in the Holocene pollen spectra of Belarus. *Quaternary International* 203 (1-2): 91-104.

### Palynology and Coals:

- Hower, J.C., Greb, S.F., Keuhn, K.W., Eble, C.K., 2009. Did the Middlesboro, Kentucky, bolide impact event influence coal rank? *International Journal of Coal Geology* 79 (3): 92-96.

### Palynology and Geochemistry:

- Bonneville, S., Smits, M.M., Brown, A., Harrington, J., Leake, J.R., Brydson, R., Benning, L.G., 2009. Plant-driven fungal weathering: Early stages of mineral alteration at the nanometer scale. *Geology* 37 (7): 615-618.
- Donders, T.H., Weijers, J.W.H., Munsterman, D.K., Kloosterboer-van Hoeve, M.L., Buckles, L.K., Pancost, R.D., Schouten, S., Sinninghe Damste, J.S., Brinkhuis, H., 2009. Strong climate coupling of terrestrial and marine environments in the Miocene of northwest Europe. *Earth and Planetary Science Letters* 281 (3-4): 215-225. [lipids, dinoflagellates]
- Gupta, N.S., Yang, H., Leng, O., Briggs, D.E.G., Cody, G.D., Summons, R.E., 2009. Diagenesis of plant biopolymers: Decay and macromolecular preservation of *Metasequoia*. *Organic Geochemistry* 40 (7): 802-809.



## MASTER CLASS

ConocoPhillips



# “Terrestrially-Derived Fossil Palynoflora: Subsurface Application to Petroleum Geology”

August 2010 Utrecht, The Netherlands



### Course Outline:

General Pollen/Spore Morphology and Taxonomy

Concepts and Applications

Paleozoic Spore Chronostratigraphy and Paleoecology

(with special focus on Middle East plays)

Mesozoic Spore/Pollen Chronostratigraphy and Paleoecology

(Australia, N.W. Europe, North America)

Cenozoic Pollen Chronostratigraphy and Paleoecology

(North and South America)

Special Focus on Neogene Pollen Chronostratigraphy and Paleoecology

(West Africa, Southeast Asia)

Quaternary/Holocene Palynostratigraphy and Paleoecology

Fieldtrip: Type-Maastricht

### List of Potential Instructors:

Charles Wellman, Michael Stephenson, Doug Nichols, Carlos Jaramillo,  
Robert Morley, Thomas Demchuk, Henry Hooghiemstra, Timme Donders,  
Andy Lotter, Oscar Abbink, Roel Verreusel, Dirk Munsterman, Jim Riding

### The Aims and Deliverables of the Class will be:

- \* Provide instruction on basic pollen/spore/algal taxonomy as an aid in identifying and classifying varied terrestrially-derived palynoflora
- \* Provide a general background into terrestrial palynomorph morphology, taxonomy, chronostratigraphy, paleoecology and paleoclimate through the Phanerozoic.
- \* Provide case studies of standard and innovative Industrial applications of terrestrially-derived pollen/spore/algae to subsurface problem solving, including calibration to sequence stratigraphic modeling (systems tracts):  
Middle East - Paleozoic; Southeast Asia - Cenozoic; Offshore Nigeria - Neogene

This week long course will also include a half-day fieldtrip to the Type-Maastricht in the southern Netherlands, an opening evening Icebreaker, and mid-week Dinner

Maximum enrollment will be 35 participants.

Course fees are anticipated to be: 500Euros (Students), 800Euros (Academic), 1200Euros (Industry)

\* It is hoped that sufficient corporate funding will be obtained to reduce these fees, especially for students

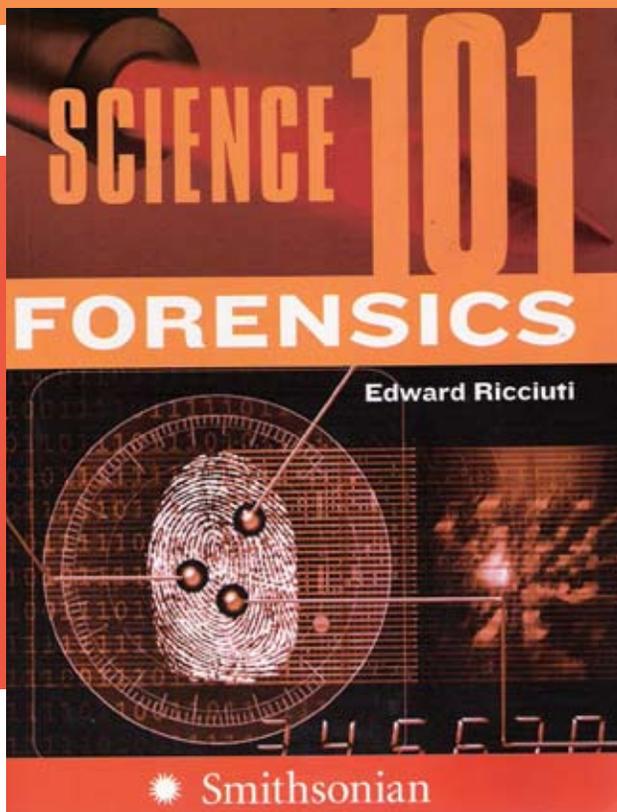
**For additional information regarding this course, please contact either:**

**Thomas D. Demchuk (Thomas.D.Demchuk@conocophillips.com)**

**or James Eldrett (James.Eldrett@Shell.com)**

**Please visit the AASP website ([www.palynology.org](http://www.palynology.org)) and read future issues of the  
AASP Newsletter for additional information**





## Forensics for "Dummies"

Reviewed by  
Vaughn M. Bryant  
Texas A&M University

“Forensics for Dummies” isn’t actually the title of the book I am reviewing, but the book really does explain the basics of forensics for most people who are probably “dummies” about how people use forensics and how it *really* works. For most of the last decade the hottest programs on TV have been “CSI” and all of its daughter versions including....in Las Vegas....in Miami...in New York City....etc. If that isn’t enough TV forensics to satisfy you, then watch “Bones,” or “Forensic Files,” or “Cold Case,” and so on, and so on and on! There is no shortage of TV shows about how all sorts of clever new forensic techniques can quickly solve a case and point out the real criminal in a matter of minutes. In fact these shows are now being blamed for the general public’s misunderstanding and wrong belief that all of these TV forensic techniques are simple, quick, and mostly foolproof.

I do forensics. I use pollen and spores associated with criminal activities to catch the “bad guys” and save the innocent ones. Every now and then I get a telephone call from some screen writer, mystery novelist, or playwright asking for ways to incorporate pollen forensic evidence into some

fictitious murder case. A few of my suggestions have been used in mystery novels and others have been used on TV. However, none of the mentions of pollen evidence in these TV cases has amounted to much more than a casual mention by a forensic lab analyst to some investigating detective. In one instance they reported the murdered man must have been in a pine forest because a few pine pollen grains were found in the victim’s earwax. In another case a unique pollen grain from a plant that grew in only one known location was immediately identified to the species level in some dirt on a suspect’s shoe. No, I didn’t suggest either of those uses. The point, however, is that the “dummies” or viewers, now believe forensic techniques are easy and quick. However, if you don’t want to be one of those dummies, if you really do want to learn the basics of forensics, and if you don’t have much free time to read then go buy a copy of *“Science 101: Forensics.”*

The word forensics comes from the Latin and can be loosely translated as meaning “to debate or argue in a forum.” In reality that is what it is about, debating the evidence in a court of law. According to the first book chapter, forensics has a long history. It began in China as early as the third century when physician Wu Pu used medical testimony to settle legal cases. By the thirteenth century another Chinese physician wrote the book

“Xi Yuan Ji Lu,” in which he urged coroners to “get their hands dirty” and examine a corpse in detail.

In Europe, the first reported use of forensics is ascribed to Archimedes who revealed that the court’s goldsmith had tricked the King of Syracuse by giving him a crown made only partly of gold, but had charged the king for pure gold. It was also the Greeks that gave us the term “autopsy” meaning “to see with one’s own eyes.” However, it wasn’t until the Middle Ages that the courts of Charlemagne were the first to begin admitting testimony using medical evidence in cases of murder, abortion, and incest. By the sixteenth century the Italian doctor and surgeon, Paolo Zacchia pioneered a way to establish the time of death using “rigor mortis” and “livor mortis.” Shortly after death the body stiffens with rigor mortis, which lasts about 24 hours and then disappears. Livor mortis begins when the heart stops pumping blood and the first traces are visible in about an hour after death when the body turns first blue and then a deep purple color.

The book points out that The University of Edinburgh in Scotland was among the first universities to teach forensics and it remains a major epicenter for forensic research today. Other early developments include the work of Mathieu Orfila, a Spanish doctor, and chemist who is called the “father of toxicology” for his guide to identifying poisons and how to test for them. The Scottish physician, Henry Faulds, is credited with recognizing the uniqueness of individual’s fingerprints and wrote to Charles Darwin in 1880 telling him about his discovery and asking for his support. Darwin never responded but instead gave the letter to his cousin, Dr. Francis Galton who then used the idea to develop the first fingerprint classification index using the unique patterns of whorls, arches, and loops in each person’s prints. The Frenchman, Alexandre Lacassagne was the first to recognize that bullets had grooves and other markings on them that were unique and could be traced to the gun that fired them; however, it was the American Calvin Goddard who was the first to prove that a

bullet recovered from a victim actually was fired from only one specific gun. Later, he used his new technique to solve Chicago’s Saint Valentine’s Day Massacre and prove which machine guns had been used to kill the various victims.

If you want to become an “armchair” forensic expert, but you don’t have the time to get a PhD in forensics, then buy this book. It is well-written, uses little technical jargon, is nicely illustrated, simple to understand, and covers most of the major topics of forensics in short 2-3 page entries. After reading the book you can become conversant on the basics of how to analyze a crime scene, how forensic anthropologists determine the age and sex from skeletons, you can explain the basics of fingerprint ID, ballistics, trace evidence, DNA, toxicology and chemical trace elements, and techniques used to identify arson. Other short chapters discuss criminal profiling, how forensics solved high-profile crimes from King Tut’s murderer and the killers of the Iceman of the Alps, to the most recent crimes of ethnic cleansing and mass genocide. The book also discusses how forensics was used to unravel the details of the terrorists’ attack on the World Trade Center of 9/11/2001.

One of the more interesting chapters in the book was on “the selling of forensic.” It details how the early stories about Sherlock Holmes focused on his use of forensic techniques, some of which were not invented yet. Those stories intrigued the readers and created early public fascination and interest in forensics. Later, Agatha Christie’s books about inspector Hercule Poirot and the British busybody Miss Marple became the mainstay for British television while in America prize-winning author Patricia Cornwell’s fictional books about a Virginia medical examiner, called Kay Scarpetta, sold millions of copies and were filled with detailed examples of forensic applications and how she used those to solve crimes. And finally, the recent explosion of forensic-based TV programs has continued to captivate the public’s interest in the details and intricacies of forensic science.

So why am I reviewing a forensic book



for a newsletter read mostly by palynologists? Because this book has a chapter on pollen! Yes, it is **one of the very first forensic books** to mention and

discuss the merits of forensic palynology. Not only that, it devoted four pages to pollen, which isn't bad for a book that is barely 200 pages long and covers at least 100 different topics related to forensics! The information about pollen is brief, but very good and accurate. The pollen chapter begins with the classic 1959 case where a fossil *Carya* pollen grain from a Miocene outcrop led to the conviction of the murderer. Next, it discusses, and credits New Zealand as being the pioneering nation to use forensic pollen on a regular basis and it discusses some of the court cases and convictions based on

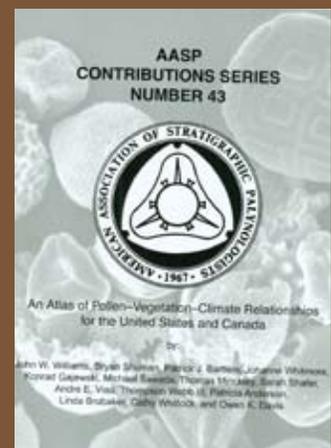
the work of palynologist Dallas Mildenhall. The pollen chapter also focuses on the legal limitations of using forensic pollen evidence, the very recent emergence of pollen as a forensic technique, and why law enforcement agencies in the United States seem to be so hesitant to adopt and use such an important forensic tool.

The book is a quick read and it will provide you with the basics of how and why forensic techniques work or don't work. After reading this book you can test your knowledge by analyzing the forensic discussions on the next TV chapter of "CSI" or "Bones." Best of all, you can smile and know it isn't so when one of the TV actors tries to impress the audience with the "wow effect" provided by some complicated forensic technique that in minutes returned results that solved the crime nicely, and did it within the TV program's one-hour time allotment!

**Science 101: Forensics**  
**A Smithsonian Science Book**  
**Edward Ricciuti.**  
Harper Collins Publishers, Irvington, NY.  
218 pp., illus., glossary, index  
ISBN: 978-0-06-089130-5. (\$15.95) (Paperback) 2007.

## AASP CONTRIBUTION SERIES # 43 A BASIS FOR NEW CLIMATE RECONSTRUCTION

AASP Contribution Series 43: An Atlas of Pollen-Vegetation-Climate Relationships for the United States and Canada. is the basis for a new dataset to be used for climate reconstructions in eastern North America. In this revised dataset, all samples from the Intermountain West were removed from the AASP Contrib 43 database, and 81 new samples from Ohio and the northern Great Plains were added. For a full description, see Gonzales, L.M., E.C. Grimm, J.W. Williams, E.V. Nordheim. 2009. A modern plant-climate research dataset for modeling eastern North American plant taxa. GRANA 48 (1)1 - 18. The database can be downloaded as an Excel file, including references and location data, from <http://www.geography.wisc.edu/faculty/williams/lab/Downloads.html>.



**AUTHORS:** John W. Williams, Bryan Shuman, Patrick J. Bartlein, Johanne Whitmore, Konrad Gajewski, Michael Sawada, Thomas Minckley, Sarah Shafer, Andre E. Viau, Thompson Webb, Iii, Patricia Anderson, Linda Baker, Cathy Whitlock, and Owen Davis.

# INTERNSHIP!

**MSc and PhD Scholarship Opportunities**  
**NSERC Discovery Grant Project**  
**MUN Department Earth Sciences**

**Application deadline: 31 August, 2009 (or until cand. selected)**  
**For more information or to apply,**  
**please contact [http:// www.mun.ca/research](http://www.mun.ca/research)**  
**Or contact Dr. Peta Mudie Ph. 1-902-426-8720;**  
**email [pmudie@nrcan.gc.ca](mailto:pmudie@nrcan.gc.ca)**



Memorial University Department (MUN) of Earth Sciences announces a 2-year MSc and 3-year PhD scholarship supported by NSERC.

Candidates will contribute to an International program of sedimentology, palynology and archaeology to understand the records of climate change, sea level and water salinity and their impact on human history in the Black Sea-Mediterranean Corridor. The Black Sea Corridor lies at the crossroads of civilization and cultural exchange between Europe and Asia. Since 2001, the Memorial University scientific team has shown that marine palynology (study of pollen, freshwater and marine plankton spores) is the best tool to study links between climate records, archeology, and marine archives of temperature, salinity and productivity (see <http://paleoforge.com/geoarchaeology.htm>). Our studies are Canada's contribution to a United Nations program analyzing impacts of climate and sea level change on humans, and showing how regional hydrogeology affects global water cycles, salinity and heat transport in the North Atlantic - research that is vital because, on both global and regional scales, changes in the Earth's water cycle are the greatest challenge to society. In addition, deep basins of the Corridor contain organic-rich sapropels, the precursors of gas and petroleum-producing black shales, and they provide us with an unparalleled opportunity to study processes leading to oil/gas formation.

The scholarship offers exciting opportunities for participating in research cruises to gather new sediment and oceanographic samples, to interact with the geophysicists, sedimentologists and geochemists at MUN, and collaborate with an International Science team. Using new methods developed for study of marine palynology, and international databases, the research will provide new insight to decades-old debates about the role of flooding vs. carbon production export in sapropels formation, and to refine climate predictions based on numerical models. The sapropel studies will also benefit Canada's search for new offshore fuel resources, and shed new light on the interaction between plankton production and salinity, and how the history of monsoons and Nile floods has shaped civilization in the Near East.

Applicants should have a degree that would allow them to start palynology studies of existing core material at MUN in January (MSc) or May 2010 (PhD) at the latest. The successful candidate will be employed by the university during the fellowship, and the MSc candidate will have the opportunity to work towards the qualification of PhD. resources.

# IS FORENSIC PALYNOLOGY COMING OF AGE IN AMERICA?

By Vaughn M. Bryant, Texas A&M University

I don't recommend that all palynologists rush out and try to learn how to do forensic palynology quite yet, but the climate for this type of work may be slowing getting better in the USA. I just returned from a week-long conference on forensics sponsored by the National Institute of Justice (NIJ), which is part of the U.S. Department of Justice. The conference, entitled "Interpretation of Trace Evidence: The Present and Future," was held in Clearwater Beach, Florida, at the Sheraton Sand Key Resort (look it up on Google!). I found this to be really "tough" duty since that five-star hotel had a snow-white beach watered by crystal-clear salt water. I was there as a guest of the NIJ with all my expenses covered. My task was to conduct a forensic palynology workshop for members who attended the conference.

This is quite a change from the past. As some of you may know, the first reported use of pollen evidence anywhere in the world, in a forensic application, occurred during the late 1950s in both Sweden and Austria. Between the 1950s and 1980s there were very, very few reported cases in any country where pollen was used as evidence in helping to solve a criminal or civil case. By the mid to late 1980s New Zealand began to use pollen as forensic evidence in a few criminal applications. By the 1990s forensic pollen studies in criminal cases made it appearance in the United Kingdom and renewed its appearance in other areas of Europe. By the late 1990s it was used in a few cases in Canada and some countries in Asia began to take an interest in learning how to use forensic palynology. Currently, the use of forensic palynology in criminal and civil cases has become common in the United Kingdom and New Zealand and it is growing in importance in some areas of continental Europe such as Germany and Spain.

By contrast, the United States has virtually ignored this important forensic application.

I don't know for certain what the earliest attempt to use forensic palynology in the United States might have been, but during the past 30 years there have been only a few spotty applications where pollen evidence was used in a forensic application. During the mid 1970s the US Office of the Inspector General (OIG), asked me to assist them in their efforts to verify the domestic origin of honey sold to the U.S. Government as part of the Farm Subsidy Program. The OIG pointed out that their function was to investigate and then issue a Report of Investigation. In cases involving criminal conduct, such as the misrepresentation of the origin of honey (sold to the US Government as being domestic when it was not) being sold as part of the subsidy program, the OIG was required to submit a report to the appropriate U.S. Attorney or to the Department of Justice for further investigation. During a three-year period I received a large number of honey samples each year that were identified only by lot number. My instructions were to report the nectar sources and place of origin for each sample. This three-year effort became my "baptism of fire," so to speak, in terms of learning forensic palynology. I probably ended up working for less than one dollar an hour when I added up all the hours I spent trying to identify the many different pollen taxa in the honey samples, reading hundreds of melissopalynology and other pollen reports trying to learn about nectar sources and the ecology of the plants that produced the pollen, and then trying to figure out how to use pollen spectra in honey samples to assign correct geographical origins to each sample. Overall, I determined that about 6% of those honey samples sent to me by the OIG had come from non-domestic sources. By the early 1980s I was feeling more confident so I agreed to examine 550 honey samples collected by beekeepers throughout the US and to determine the nectar

sources for each sample. For those samples I was given the precise geographical location of the hive and I was also told the purported nectar sources. That study lasted for nearly a decade and all samples were processed and analyzed. However, because we later discovered our processing technique (using only water instead of EtOH) potentially skewed our results, and because of the untimely death of my co-investigator, the results of that large study were never published, but I still have those data. However, by examining those honey samples I gained valuable insights into the spectra of pollen types that potentially occur in honey samples from numerous regions of the United States. It also laid the groundwork for my later studies (with Dr. Gretchen Jones) on developing improved processing techniques for honey and the use of pollen coefficients in honey analyses. Most importantly, I found that my years of honey research helped to hone my later studies in forensic palynology.

Between the early 1980s and early 2000s there are only a few known applications of forensic palynology in the United States. Palynologist, James King helped convict a murderer in Illinois, who was placed at the crime scene based on the pollen recovered from his clothing. Palynologist Alan Graham helped resolve a civil lawsuit by showing that pollen found in the fuel line of a crashed private plane had come from sources after the crash and had not been the cause of the crash, as claimed by the defendant. During these two decades I was asked to review the forensic pollen evidence associated with the Shroud of Turin, was asked to use forensic pollen evidence to help solve a murder case in West Texas and another one in Rochester, New York, and was asked to examine the pollen evidence associated with a serial murder case in East Texas. In addition to these few cases, I



was also contacted by nearly a dozen detectives from various regions throughout the United States asking for my assistance in some crime scene investigation or cold case. Unfortunately, in most instances it was too late to search for good pollen evidence at their crime scene, or the evidence they had already collected was too contaminated to stand the rigors of cross examination in a court of law. I did agree to examine a few samples for various police departments even though I suspected the results would not be definitive enough for criminal prosecution, and in each of those cases I found my suspicions were unfortunately correct. Throughout these two decades I continued working with honey importers and exporters concerned about the illegal transshipping of honey and the importation of mislabeled honey in terms of the purported nectar sources or place of origin.

As you can see, between the 1970s and early 2000s the number of times forensic pollen was called upon in the US to assist in some type of investigation was very limited. This was certainly not a field where someone in the US could earn a living or claim this discipline as a profession! But, things began to change for forensic palynology after terrorists destroyed the World Trade Center Twin Towers in New York City on September 11, 2001. Later, I learned that soil samples had been recovered from the residences of some of the suspects who died in that attack. Those samples were sent to a palynologist in hopes of establishing the country of origin of the terrorists. I do not know the person who did that work or the results, both of which are classified.

My current role in forensic palynology has changed considerably from those earlier years. Most of my early forensic work was done “pro bono” or for minimal fees (which all went toward running my

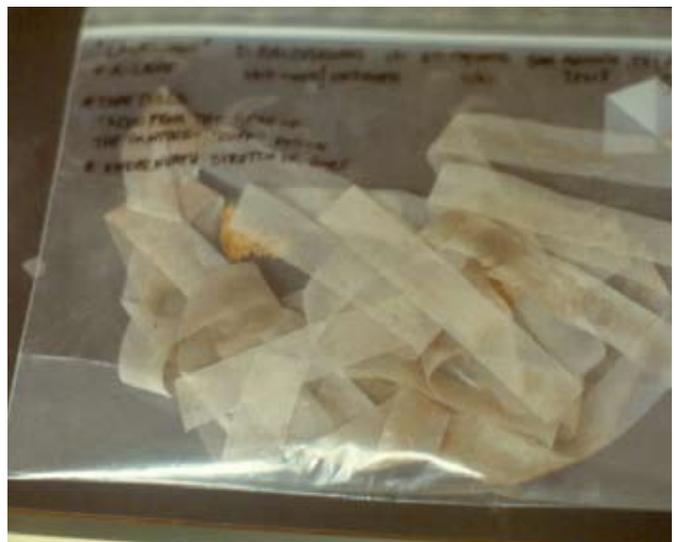
pollen lab facility) in an effort to publicize the merits of doing forensic palynology. During the past 30 years I have also given numerous presentations on forensic palynology to law enforcement personnel, US Customs Agents, military intelligent officers, lawyers, drug enforcement agents, cadets training to become state troopers, members of Homeland Security, and to students in various forensic degree programs at a number of universities. One could also add my various forensic pollen presentations at a number of palynology conferences. During the mid to late 1980s I also conducted a series of 2-day forensic palynology short courses for McCrone Forensics in Chicago and I held a one-week forensic palynology short course for inspection agents from various US Customs offices throughout the US.

Beginning in 2005 my efforts to promote forensic palynology began paying dividends. Since that time I have been very busy doing forensic pollen work for various federal agencies; most of that work is classified and cannot be discussed. Hopefully, one of these days I will be permitted to share some of those cases and results with others. Another aspect that has changed is that I now have all the funding I need and I also have the freedom to pursue a number of new avenues some of which we hope will provide better ways of applying pollen data to a number of forensic applications; and that brings me to discuss the results of the recent meeting in Clearwater, Florida!

I was invited to the Trace Evidence Conference for the purpose of presenting a short course workshop on forensic palynology. In advance of the meeting 26 of the 400 attendees signed up for the workshop, but during the workshop a number of other “walk-ons” also attended. The attendees included agents from a number of state and federal crime labs, agents from the FBI, NIJ, US Customs, and federal Fish and Wildlife Agency, members from the ATF (Alcohol, Tobacco, and Firearms), and members of a number of private forensic labs. There were also several attendees from Australia and the UK attending. We deemed the work shop a great success and received a number of compliments as well as enquiries about the discipline. During the general session of the meeting the US Fish and

Wildlife Agency (USFW) presented the results of a major international case that involved smuggling contraband elephant tusks, which had been seized in a warehouse in Singapore. The shipment was sent to the USFW forensic lab in Oregon where the contents were opened and examined. Two years ago I had been sent 3 grams of dirt from that shipment, but I was not told what the shipment contained, or where it had been seized. All I was told was that the dirt came from a crate containing “illegal contraband materials that may have come from Africa.” My task was to tell authorities “where” the dirt recovered in the crate originated. To my surprise, the case being reported by the USFW was the same case that I had worked on, but I had never been told either the particulars about the case or the results of the criminal investigation. The presenter mentioned that dirt had been sent to a forensic lab for analysis and that pollen in the dirt had played an important role in establishing where the shipment originated. When they showed a map of Africa, the probable region outlined was only slightly larger than the area I had “guessed” based on the pollen in the dirt sample.

Another presentation during the general session was by Ruth Morgan (University College London) entitled, “Pollen in Domestic Dwellings: Forensic Implications.” Essentially, what this presentation noted was that their experiments showed that dust and soil samples collected from vacuum samples and tape pulls in different areas in different rooms in domestic dwellings showed different pollen spectra! I was almost embarrassed by the presenta-



tion since it was so elementary and the results were so obvious. Regardless, it represented the first time that any presentation in one of their “general sessions” had ever focused exclusively on the application of pollen in forensics.

So, why do I think that forensic palynology “might be” coming of age in America? First, state, and federal agencies are beginning to realize that this area of forensics has potential. Second, with the increased fear of terrorism there seems to be renewed interest in using any new method that might aid in preventing terrorist attacks or catching terrorists before they have a chance to act.

Third, I have been given almost unlimited funding to pursue a number of research projects identified by federal agencies as being important to them. Some of these include: 1) the use of SEM vs. LM in forensic pollen work, 2) training a computer to recognize and count pollen in forensic samples [I doubt this will work but we have funding and a request to pursue this], 3) testing the potential application and use of Raman spectroscopy in forensic pollen analyses [I doubt this will work but I was asked to thoroughly check this out], 4) using various research instruments that can be attached to the SEM to extend the range of information that a specimen [pollen grains] can yield such as an energy-dispersive X-ray analyzer (EDX, or EDS), 5) determining the present and future potentials for using DNA of individual pollen grains in forensic applications [I doubt this will work but I have funding to examine this potential], 6) developing a pollen database for key target regions of the world, and 7) using spatial analysis to generate pollen distribution maps for various regions of the world based on surface pollen counts merged with global images of vegetational patterns. To assist



To assist

me in these tasks I have federal funding for a post doc position in forensic palynology. I have already hired this post doc who began her appointment August 1. I believe she has great potential for this type of work since she is a highly-qualified palynologist, botanist, and plant ecologist.

In addition to all of the above, since the end of the Trace Evidence Conference I have already be asked to find time this fall to go to the West Point Military Academy; Quantico, Virginia; and Washington, D.C. to discuss aspects related to current and future ap-

lications of forensic palynology. Several federal agencies have also called to say they are sending representatives to Texas A&M in September and October to visit with us, observe our operations, and discuss on-going and future projects. I guess this is going to be a very busy fall!

As I write this, my greatest worry is wondering if I have somehow “caught the tiger by the tail!” What began years ago as a crusade to make others aware of the potentials of forensic palynology may finally have caught fire, but for me it is almost too late and it took too long to mature! I am already past retirement age and I am still a full-time teacher teaching two large sections (250+ students per section) of anthropology this fall. My entire salary is still paid by Texas A&M University, which expects me to be a “full-time” professor! Trying to balance my University duties with all of this added forensic work is taking a toll on what little spare time, weekends, and vacation time I have left. I only hope I can pass the torch on to other highly qualified palynologists before this gets out of hand! Training the post doc will be one step in the right direction.



## Pollen Can Predict Stable Fly Origins

by David M. Jarzen  
Florida Museum of Natural History  
Gainesville, Florida

and Jerry Hogsette  
US Department of Agriculture  
Gainesville, Florida

Recent studies at the Florida Museum of Natural History and the USDA Center for Medical, Agricultural and Veterinary Entomology, both in Gainesville, Florida, have shed new light on the feeding habits of Stable flies (*Stomoxys calcitrans*) that may aid horse owners and breeders win the fight over these pesky insects. Horses, cattle and other animals including humans are often if not frequently infested with the bothersome and painful bites of the stable fly.

The flies, use their proboscis, as do mosquitoes and other insects to suck blood from their host, a necessary source of nutrition, important in reproduction. Unlike mosquitoes however, not just the female sucks blood, but rather both sexes of stable flies are blood feeders, making the population much more bothersome. Recently, data has been assembled which indicate that the stable fly can survive, but not reproduce, by sucking the nectar from various flowers. Although the list of plants visited by stable flies is probably not complete, several plants, quite common in Florida, are known to be nectar sources for the flies. Flies collected from the Horse Training Unit, University of Florida, were examined under the microscope for the pollen found adhering to their bodies. The pollen was processed in the laboratory, microscope slides prepared, and the pollen photographed. By comparison with pollen collected from plants collected in the field, nearly all of the pollen

found on the fly bodies was identified as Carolina willow (*Salix caroliniana*). Other plants in southeastern United States that are frequented by stable flies include Salt bush (*Baccharis halimifolia*), Joint weed (*Polygonella polygama*), and Chrysoma (*Chrysoma pauciflosculosa*).

What this means to horse owners is that the nectar sources of the stable flies may be predicted, thereby isolating the origin or area of nectar feedings. Through proper care of the vegetation around stables, and open fields, the elimination of these plants may lessen if not reduce measurable the stable fly numbers. In the case of the Carolina willow for instance, this small tree or shrub grows well in wetland areas, swamps or near streams. As the Horse Training Unit at the University of Florida is adjacent to Paynes Prairie Preserve State Park, one of the largest wetland areas in central Florida, eradication of the plant seems unlikely. However for horse owners whose stables are not near wetland or swampy areas, control of the other plants listed here, as sources of nectar, may well control the stable fly populations within suitable limits.

**Reference:**  
"Pollen from the exoskeletons of stable flies (*Stomoxys calcitrans* Linnaeus 1758), in Gainesville, Florida."  
**Palynology**  
**32(2008):77-81.**



Polar view of *Salix caroliniana*

# RESCEPP SOUTH AMERICAN GROUP FOR PALEOBOTANY AND PALYNOLOGY COLLECTIONS AND EDUCATION

*Coordinated by Paulo A. Souza (Porto Alegre, Brazil)  
Supported by CNPq (Brazilian Council for Scientific and Technological*

## RESCEPP

**South American Group for Paleobotany and Palynology Collections and Education**

*Coordinated by Paulo A. Souza (Porto Alegre, Brazil)*

*Supported by CNPq (Brazilian Council for Scientific and Technological Development)*

This group was created in 2006 to promote discussions on the themes related to the paleobotanical and palynological collections and education of selected South American institutions. Currently, it is composed by members from Argentina, Brazil, Chile, Uruguay and Venezuela. Currently, it is composed by members from Argentina, Brazil, Chile, Uruguay and Venezuela, as listed below.

**Argentina:** University of Buenos Aires, Mar Del Plata Nacional University, Miguel Lilo Foundation, Northwest Nacional University, South Nacional University, Natural Science Argentine Museum.

**Brazil:** Rio Grande do Sul Federal University, Vale do Rio dos Sinos University, Nacional Museum, Guarulhos University, Santa Catarina Federal University, Brazilian Geological Survey (CPRM), UNESP, PETROBRAS, MPEG.

**Chile:** University of Concepción.

**Uruguay:** University of the Republic of Uruguay.

**Venezuela:** PDVSA.

The main goals of RESCEPP are (i) stimulate and improve the inventory systems of South American paleobotanical and palynological collections, (ii) disseminate the content of each collection and facilitate the exchange of information, (iii) promote discussions on educational topics at various levels, stimulating the exchange of experiences, the optimization of resources, and the development of new strategies, and (iv) provide educational collections to the institutions involved, through the exchange of materials.

The first RESCEPP meeting was held in Florianópolis, Brazil (November, 2008), during the XII Brazilian Symposium of Paleobotany and Palynology. The next meeting will be held at the XIV Argentinean Symposium of Paleobotany and Palynology (Mar del Plata, 2009, see [www.xivsapp.com.ar](http://www.xivsapp.com.ar)), when an inventory on the collections and the education will be shown. Informations on the RESCEPP advances and publications are available in the ALPP webpage ([www.ufrgs.br/alpp](http://www.ufrgs.br/alpp)). Contributions and contact are welcome by the coordinator email: [paulo.alves.souza@ufrgs.br](mailto:paulo.alves.souza@ufrgs.br).



**Maria Caffrey**  
**mcaffrey@utk.edu**  
**University of Tennessee**  
**PhD candidate**

I am Maria Caffrey, a PhD candidate in Geography at the University of Tennessee Knoxville. I have been involved in palynology and lacustrine research for several years, starting when I was an undergraduate at the University of Plymouth, UK, where I completed an undergraduate thesis on pollen evidence of Holocene vegetation change on the Colorado Plateau. I have had a variety of experiences with pollen analysis in different research projects; such as, using surface pollen to examine the extent of invasive species along the Baja peninsula, Mexico; reconstructing Holocene

climate changes in highland Guatemala from pollen assemblages in a bogpeatland profile (my M.A.S. thesis); examining subalpine fire history from pollen and charcoal in lake cores from Rocky Mountain National Park, Colorado; and testing the use of heavy liquid separation of pollen from sediments from the Manix Basin, California.

My doctoral dissertation research (“Holocene lacustrine palynology from the Dominican Republic”), under the direction of Dr. Sally Horn, investigates the impact of tectonic versus climatic processes on the character of Holocene lacustrine sediments from the Caribbean region using a combination of sedimentary proxy data and ground penetrating radar (GPR). I am examining changes in pollen, microscopic charcoal, diatoms, and geochemistry in a 8.4 m-long sediment core from Laguna Saladilla in the Dominican Republic (19°39' N, 71°42' W). Using GPR, I will characterize the lake sediment in the Saladilla basin both spatially and temporally, to quantify where and when changes in sediment properties have occurred. These data will then be compared to the pollen and other proxy data to determine whether changes in lake depth in the past are due to changes in climate (evaporation/precipitation) or infilling of the lake driven by tectonic mechanisms. From these analyses, a more accurate depiction of past tropical climate change can be produced. This research will be valuable in assessing how the vegetation, fire ecology, and hydrological resources of Hispaniola have responded to warmer conditions in the past, and may respond in the to anthropogenic climate change in the future.

I am grateful to the AASP for supporting my dissertation work with a student scholarship.

## 2009 AASP GRADUATE STUDENT Scholarship Recipients



**Jan Hennissen**  
[hennissen@geology.utoronto.ca](mailto:hennissen@geology.utoronto.ca)  
**University of Toronto**  
**PhD candidate**

My name is Jan Hennissen, born in Beveren (Belgium) and currently I am a PhD candidate at the University of Toronto (Canada). I graduated in June 2006 as Master in Geology, at Ghent University (Belgium).

I specialized in palynology at the Université de Liège (Belgium) and obtained the degree: "Diplôme d'études approfondies en paleontology appliquée: micropaleontology végétale et palynologie". I established the first chitinozoan biostratigraphy of the Upper Ordovician Hirnantian deposits from the Avalonia Palecontinent

that allows now correlations on continental scale, and I refined the chitinozoan biozonation at the base of the Upper Ordovician of the Tarim Basin in China. This work stimulated my interest in the interaction between climate change and the evolution and ecology of marine microorganisms. Therefore, I started a research project at UofT about the adaptation of dinocyst assemblages to changing climatic conditions in the Pliocene/Pleistocene, supervised by Dr. Martin Head.

In spite of its obvious strong relevance to future global warming, little is known about the Pliocene development of the thermohaline circulation and North Atlantic Current. One proxy used to shed new light on the ocean current/climate interaction are Dinocysts. These fossil remains of single celled marine, dominantly photosynthesizing organisms are known to be excellent proxies for sea surface temperatures, salinity, sea-ice cover, and productivity. Therefore, I am using these organisms to elucidate living conditions of primary producers during the Pliocene, the last period when it was warmer than today, and during the Pleistocene. This project aims to answer two fundamental questions:

- 1) Can we determine the autecology of extinct Pliocene species and extend the validity of dinocyst based transfer functions to the Pliocene?
- 2) What was the influence of the North Atlantic Current as an extension of the Gulf Stream on the global climate during the Pliocene?

To minimize correlation errors, I use a same sample technique integrating dinocyst data and isotope analyses on benthic and planktonic foraminifers. I will mainly focus on high latitudes of the Atlantic where oceanographic changes profoundly influence global climate.



**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. The 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) and offers a stunning setting with swimming, golf (18 holes only \$45 with cart) and local tourist attractions (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). **The costs are very reasonable for students especially for 2 or more students occupying a room and for international attendees.** Field trip or attendance at the International Story Telling Festival is separate.

The website linked to the AASP-The Palynological Society web site is open for registration, and a secure website is linked to it for online payment, follow the instructions. Continue to check the web page for updates, and if anyone has any questions contact me at [zavadam@etsu.edu](mailto:zavadam@etsu.edu) or 423-439-6919, I will respond within 24 hours to all queries.

Plans for the pre-meeting workshops are being finalized. Plans for the Saturday workshop (September 26, 2009): *Understanding Pollen and its Application to Forensic Palynology* are moving forward. In addition, this workshop will be open to regional teachers that may want to incorporate this aspect or some other aspect of palynology in their curriculum. The plans for a Sunday workshop (September 27, 2009): *Working with palynodata and Palynoplot* by Chris Jessop and James White promises to very valuable to any one that has purchased the program or is planning to purchase the program. We have room for 10 participants that have not purchased the program that wish to assess it capabilities and additional room for those that have purchased the program and wish to get the most from this software. **NOTE: If you are planning to attend one of the workshops fill out the downloadable registration form from the webpage and email it to [zavadam@etsu.edu](mailto:zavadam@etsu.edu) by August 10, 2009.**

Thematic sessions on forensic palynology, and in honor of R. Kapp are also being planned for the technical portion of the meeting. In addition the society will be sponsoring two general lectures open to the public featuring, David Jarzen: *Palynology and the Artist: one way to make reconstructions of past environments*, and Lucy Edwards: *Buried Surprises – A Paleontologist Tells Tales of the Largest Impact Crater in the U.S.*

**I also want to remind every member and non-member whether attending the meeting or not, 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.

We are also planning two post meeting field trips. **Field trip #1** - Appalachian Habitats / Shady Valley / Rocky Fork, Leader Fred Alsop, This field trip is primarily for people interested in the fauna and flora of Appalachia, particularly the birds. Fred is a well known ornithologist and an excellent field biologist Price includes 3 more nights at Meadowview, transportation and all field materials (\$450). **Field Trip #2** Tennessee – Dayton, TN/ Paris, TN, Leaders Chris Liu & Mike Zavada. First Stop is the Dayton, TN Courthouse location of the Scopes Monkey trials, then on to the TN Ball clays (Eocene) near Paris TN for collecting, price includes accommodations, transportation, all field materials (\$450). **NOTE: If you are planning to attend a field trip please send an email by August 10 to zavadam@etsu.edu indicating your interest.**

Immediately following the meeting is the International Storytelling Festival in nearby Jonesborough, TN. This festival annually attracts tens of thousands of people for down home fun, and includes crafts, music, and showcases the rich folklore and oral traditions of the Appalachian people. Accommodations will be available at Meadowview at \$120/night including food but all arrangements are at your discretion.

### Meeting Schedule

Friday, September 25, Check-in if attending workshop

Saturday, September 26,

*The Saturday Workshop: Understanding Pollen and its Application to Forensic Palynology*

Sunday, Sept. 27, Check-in & Meeting Registration, Icebreaker at Museum of Natural History and Gray Fossil Site

*The Sunday Workshop: Working with Palynodata*

Monday, September 28, Sessions, Public Lecture

Tuesday, September 29, Sessions, Evening Banquet

Wednesday, September 30, Sessions, Business Luncheon, Public Lecture

Thursday, October 1, Field trip #1, Field Trip #2

Friday, October 2, Storytelling Festival

Saturday, October 3, Field trips return to Meadowview, International Storytelling Festival

Sunday, October 4, Check-out of hotel, Last day of Storytelling Festival

### Registration

**A Non-Refundable deposit of \$250 is required at Registration** although you can submit the entire amount at the time of registration. Abstracts and registration is due by **August 10, 2009**. **The prices below are all inclusive.**

Note: our secure site for payment is <https://etsuaw.etsu.edu/wconnect/ace/home.htm>, click on currently scheduled courses, then biological sciences, then 42nd Annual AASP Annual Meeting. Register by logging on, or the form may be submitted online, called in, or printed and mailed or faxed. Fax the information to our secure fax at 423-439-8267. If you have any questions do not hesitate to contact Michael Zavada at [zavadam@etsu.edu](mailto:zavadam@etsu.edu) or call 423-439-6919.

*All are per person rates*

### Meeting Only

Option 1 – Sunday Check in – Wednesday Checkout

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

Option 2 – Saturday Check in – Wednesday Checkout

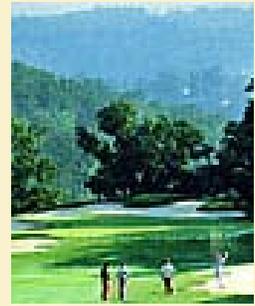
Single	Double	Triple	Quad
\$1000	\$825	\$775	\$725

Option 3 - Sunday Check in – Thursday Checkout

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

Option 4 – Saturday Check in –Thursday Checkout

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



### **Saturday Workshop + Meeting**

**Includes cost of the workshop**

**(Transportation will be provided to and from Meadowview and ETSU)**

Option 1 – Friday Check in – Wednesday Checkout

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

Option 2 – Friday Check in –Thursday Checkout

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*

**Field Trip #1--Appalachian Habitats: Flora, Bears, and Birds**, Organizer: Fred Alsop (add approximately \$450) This includes food, transportation, and accommodation, guides and materials. *Minimum 10 participants*

**Field Trip #2--Tennessee Ball Clays, Collecting the Clairborne**, Organizers: Liu and Zavada (add approximately \$450) Includes transportation, accommodations, 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*

**Field Trip #3--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> pay on your own). Meeting participants can stay on at Meadowview for this international event that begins on Friday October 2 and ends Sunday October 4 in the oldest town in Tennessee, Jonesborough and attend one, two days or all of the festival.

### **Saturday Workshop + Meeting + Field Trip**

Add approximate cost of the field trip to the following if you want to participate in the Workshop and the field trip for the best value. Those attending the International Storytelling Festival (ISF) should add \$120 for each additional night at Meadowview and pay for their own ISF tickets. **NOTE: During the International Story Telling Festival local Motels double their prices and most are booked well in advance.**

Friday Check in – Thursday Checkout

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

NOTE: That accompanying persons NOT attending the meeting, but staying at Meadowview, will receive the following credits:

NOT Attending the meeting \$215

NOT attending the Saturday Workshop, but taking the Workshop + Meeting option \$25

NOT attending the Banquet, but can still eat at the hotel restaurant \$10

NOT attending the Luncheon, but can still eat at the hotel restaurant \$10

ALL are welcome to attend the Icebreaker

For example, if a spouse is coming but not attending the meeting and chooses the Meeting Only-Sunday check in and Thursday checkout, double, the cost is \$825 for the registrant and \$590 for the spouse (\$815 -\$215 credit for registration -\$20 credit for the banquet and Luncheon = \$590), this includes registration, hotel, food, banquet, luncheon and icebreaker for the registrant and spouse's hotel, food and the icebreaker.

Attendees also have the Option of paying *a la carte* for the meeting and making their own arrangements for the hotel and food, the breakdown is as follows:

Registration (includes Icebreaker) \$250

Luncheon \$35

Banquet \$45

Saturday Workshop (Forensic) \$25

Sunday Workshop (Palynodata) Collected at the workshop \$25



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

Please mark you 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!



**CIMP Faro'09**

II Joint Meeting of Spores/Pollen and Acritarch Subcommissions

## **CIMP Faro'09 Second Joint Meeting of the Spores/Pollen and Acritarch Subcommissions**

The second joint meeting of the spore/pollen and acritarch subcommissions will take place in Faro, Portugal, September 20-24. A two-day technical session is planned, followed by a two-day fieldtrip to the key outcrops of the Upper Devonian to Carboniferous Southwest Sector of the South Portuguese Zone.

This meeting follows the highly successful first spore and acritarch meeting in Lisbon, Portugal in 2007, and promises to be just as exciting and worthwhile as the first joint meeting. The web page with all the information for this meeting is up and running and can be accessed at:

<http://cima.ualg.pt/eventos/cimpfaro09/home.html>

We look forward to seeing many of our colleagues in Faro this September.

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



## **The Society of Ethnobiology**

The Society of Ethnobiology invites papers for our 2010 conference "The Meeting Place: Integrating Ethnobiological Knowledge", to be held 6-10 May, 2010, in Victoria, British Columbia. This year's conference theme celebrates the potential of ethnobiology to bridge disciplines, ideas, and communities, and to foster an understanding of the connections between the biological and cultural worlds. Please visit the Society of Ethnobiology website for details: <http://www.ethnobiology.org/node/249>.

# FOURTH ARGENTINIAN SYMPOSIUM ON THE JURASSIC AND ITS LIMITS

[www.geologia.uns.edu.ar](http://www.geologia.uns.edu.ar)

We invite you cordially to participate at the Fourth Argentinian Symposium On The Jurassic And Its Limits to be held in Bahía Blanca, Buenos Aires Province, Argentina. The symposium will take place in April 12th to 15th 2010, Casa de la Cultura, Universidad Nacional del Sur, in the city of Bahia Blanca, Argentina.

The purpose of this Symposium is to interchange opinions between colleagues from Argentina and other countries on current projects of investigations related to different scientific matters of Jurassic research in Argentina and related gondwanic and extragondwanic areas.

This meeting is sponsored by the following institutions: INGEOSUR, Departamento de Geología (UNS), Asociación Geológica Argentina (AGA), Asociación Paleontológica Argentina (APA) and Asociación Argentina de Sedimentología (AAS). The scientific contributions will be presented as oral expositions and/or posters from Monday 12nd to Thursday of April, 2010. The oral presentations will be in English or Spanish language. The posters should bear illustrations with bilingual captions. You are invited to prepare contributions on the following items related to the Jurassic Period and Its Limits:

- Geochronology and isotopic geology
- Geochemistry
- Paleomagnetism
- Regional geology
- Structural geology and geotectonics
- Vulcanism and plutonism
- Economic geology
- Basin analysis and sedimentology
- Sequence stratigraphy
- Event stratigraphy
- Paleobotany and palynology
- Paleozoology of invertebrates and high resolution biozonation
- Paleozoology and evolution of vertebrates
- Micropaleontology (calcareous microfossils, calcareous nanofossils, etc.)
- Biostratigraphy and stratigraphic correlation
- Paleobiogeography
- Paleoecology and paleoclimatology
- Ichnology
- Taphonomy
- Other items

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