Canadian Association of Palynologists
Association Canadienne des Palynologues

NEWSLETTER

Volume 35 Number 1 May 2012

President's Message

As the new CAP President, when I look at the long list of previous Presidents, starting with Colin McGregor in 1979, I am honored to be included amongst these Canadian palynologists. Though a member of CAP for 16 years, I only became actively involved in the Association in 2006 when I became Newsletter Editor. CAP does not keep its own peer-reviewed journal, hold annual conferences, or offer major research funding – ours is primarily a newsletter-driven Association, with much of our activity and success tied directly to our biannual Newsletter. Many thanks to Florin Pendea, at Lakehead University, for recently taking over the important role of Editor.

In a 1979 Newsletter, Colin McGregor described our Association as having a "low profile" and wondered, "Shall we keep it that way?" When CAP first began in 1978, the Association had 45 members and while we've grown over the years to 70 members at last count, CAP still maintains a low profile. The CAP By-laws state that the objectives of the Association are to "*advance and encourage all aspects of palynology in Canada and to promote co-operation between palynologists and those engaged in related fields of study.*" My view of CAP is that our Association should specifically aim to: 1) facilitate communication amongst palynologists regardless of subdiscipline; 2) engage and educate the next generation of palynologists; and, 3) highlight the importance of palynology, particularly in the current context of global change, to the general public, universities, funding agencies, and governments at all levels.

Through the CAP Newsletter, website and Annual Student Research Award, CAP does a fine job of meeting the first two goals. As another step in that direction, CAP will be meeting in the fall of 2013 along with AASP, Dino 10 and NAMS in San Francisco for what will undoubtedly be the palynological conference of the year. Please consider joining us in San Francisco.

CAP can do more, particularly with regard to emphasizing the importance of palynology to those outside our discipline. As President, one of my challenges will be to examine whether CAP's low profile that Colin McGregor first wrote about in 1979 is something that needs to be addressed. What do our members think? If you have thoughts on this, I would appreciate hearing from you.

As a final note, should you think that support or sponsorship from CAP in your research, teaching or outreach would be beneficial to you or to the Association, do let us know. The Executive Committee is always interested in supporting our members and their activities.

Terri Lacourse, Ph.D. (tlacours@uvic.ca)
CAP President, 2012-2013

CAP EXECUTIVE 2012

President: Terri Lacourse
Secretary-Treasurer: Mary Vetter
Newsletter Editor: Florin Pendea
Website Editor: Alwynne Beaudoin
IFPS Councillor: Jean-Nicolas Haas

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2012 CAP ANNUAL GENERAL MEETING

The Canadian Association of Palynologists (CAP) is holding its 2012 Annual General Meeting this month in St. John's, Newfoundland and Labrador, during the annual joint meeting of the Geological Association of Canada and Mineralogical Association of Canada (GAC-MAC meeting). The conference is scheduled for May 27-29, 2012. Further information about the GAC-MAC meeting is available at: http://stjohns2012.ca/

If you plan on attending the GAC-MAC conference, or will otherwise be in St. John's this May, please consider attending the CAP Annual General Meeting. It will be a good opportunity to meet fellow CAP members and learn about the association's activities. Those interested in joining CAP are also welcome to attend the AGM.

AGM 2012
St. John's GAC/MAC Conference
Date: Monday, 28 May 2012
Time: 12 noon to 2 pm
Location: Cochrane Room, Delta Hotel

CAP By-Laws can be accessed at http://www.scirpus.ca/cap/tracking/by_laws.htm

We hope to see you in St. John's.

Editor's Notes

Thank you to all who contributed material for this edition of the *CAP Newsletter*: Alwynne Beaudoin, Terri Lacourse, Isabelle Larocque-Tobler, Bob Mott, Peta Mudie, Andrea Price, and Mary Vetter.

Deadline for Next CAP Newsletter

Please submit items for the next issue of the *CAP Newsletter* (Volume 35, Number 2, December 2012) by November 15, 2012. Conference reports, announcements, field trip reports, notices of new books, dissertation abstracts, book reviews, news, and essays on topics relevant to Canadian palynology are all welcome. Please send contributions to:

Florin Pendea
CAP Newsletter Editor
ifpendea@lakeheadu.ca

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Andrea Price Receives 2012 CAP Student Research Award

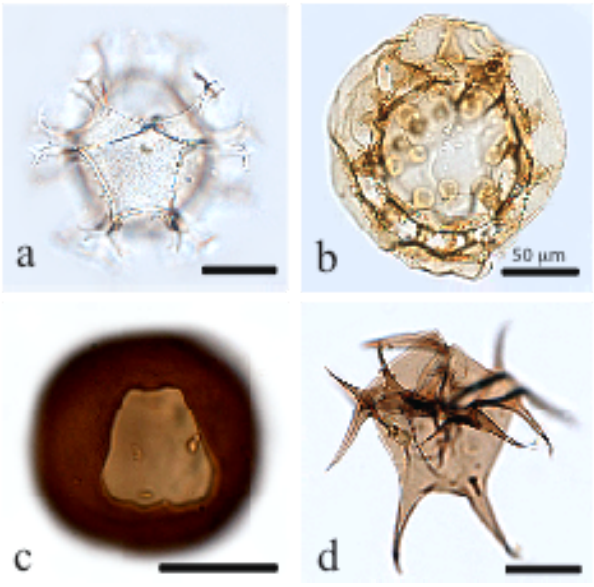
Andrea Price (School of Earth and Ocean Sciences, University of Victoria) was the recipient of the 2012 CAP Student Research Award. This award was established in 2009 to recognize contributions to research in palynology made by students. Andrea received the award for her M.Sc. research on "Late Quaternary climatic and oceanographic changes in the North Pacific as recorded by dinoflagellate cysts."

Organic-walled dinoflagellate cysts are proxy indicators of the sea-surface conditions under which they were produced, and over the last few decades, dinoflagellate cysts have been developed as tools used in paleoenvironmental reconstructions. For my M.Sc. thesis, conducted under the supervision of Dr. Vera Pospelova at the University of Victoria, I am using dinoflagellate cysts to investigate Late Quaternary climatic and oceanographic changes in the Northeast Pacific and to describe the response of primary production to abrupt changes in environmental conditions.

Sediment samples for this study come from a 63 m long core (MD02-2515) collected from Guaymas Basin, Gulf of California (Mexico). Guaymas Basin is an exceptional location for conducting paleoenvironmental reconstructions as it is known for high sedimentation rates, high primary productivity, and low oxygen bottom waters, which have allowed for deposition and preservation of laminated sediments over a considerable portion of the core. I am focusing on the last 40,000 years, in particular intervals of intense climate change: Dansgaard-Oeschger events, the Last Glacial Maximum, the Bølling-Allerød, and the Younger Dryas. A total of 178 sediment samples taken every ~10 to 20 cm from the top half of the core have been processed using standard palynological treatment methods and were examined microscopically. Dinoflagellate cysts were found to be well preserved and abundant throughout the core and show millennial scale variability over the time period studied, sometimes following global trends such as during Dansgaard-Oeschger events, while at other times following regional trends such as during the Younger Dryas when warm sea-surface temperatures are recorded.

In addition, a new dinoflagellate cyst species belonging to the *Spiniferites* genus was discovered in the core, and funds from the Canadian Association of Palynologists Student Research Award will be used to describe this species. I would like to thank CAP for their support.

Andrea M. Price
School of Earth and Ocean Sciences
University of Victoria



Bright-field photomicrographs of dinoflagellate cysts: (a) *Spiniferites pachydermus*, (b) *Tuberculodinium vancampoae*, (c) *Brigantedinium simplex*, and (d) *Stelladinium reidii*. Scale bars are 20 µm unless otherwise noted.

The Mystery Grain

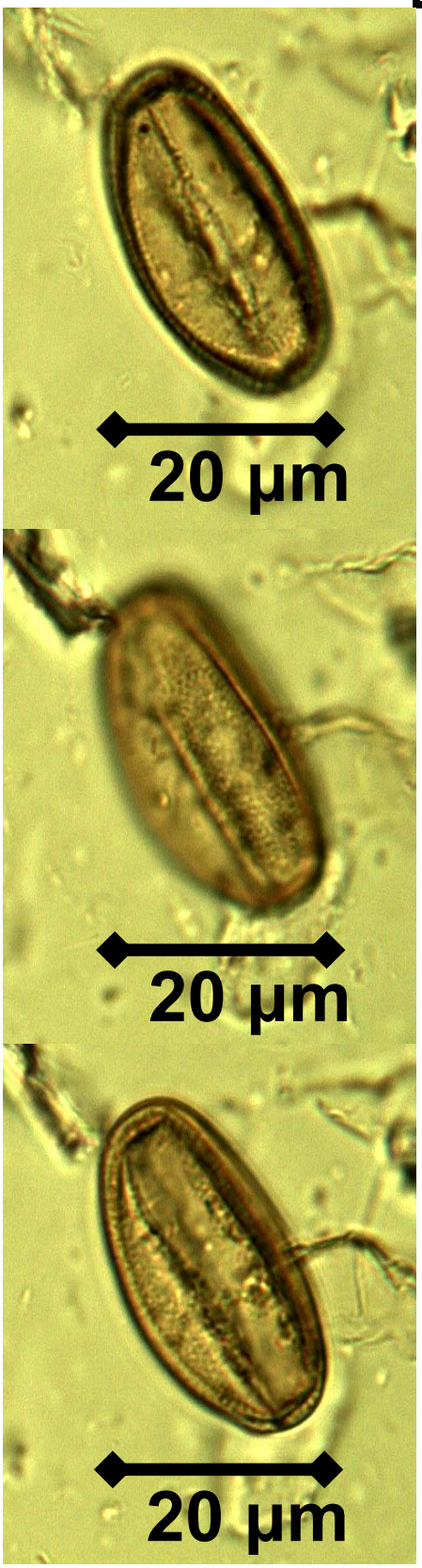
Welcome to our new newsletter series: *The Mystery Grain.* The idea came to me while analysing a Late Glacial pollen assemblage from the Siberia Far East and came across a fairly abundant pollen grain that took me a few days to figure out. Now, I know that even great pollen morphologists encountered at least once in their lifetime a palynomorph that gave them a few headaches (although it might be hard to publicly admit it) not to mention aspiring palynologists that surely had a rough time figuring out some of those numerous tricolporate grains.

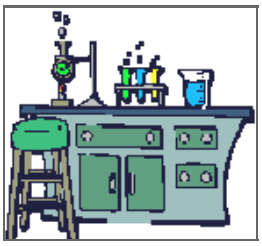
So, I would like to invite you dear palynologist, expert or novice, to submit short articles on palynomorphs that are rare, from far-away places, or simply difficult to ID. Anything would be great: pollen, spores, testate amoebae, dinoflagellate cysts, fungi, or anything that looks like one of those "type # X" from the van-Geelian long list of non-pollen palynomorphs.

The first mystery grain I propose comes from the Late Glacial of Kamchatka Peninsula (Russia). It is a tricolpate grain, microverrucate ornamentation, sexine more or less gradually thickened at the poles with a single layer of collumelae, colpi fairly broad, and colpus membrane covered with numerous, distinct granules. Please send me your opinion by email (ifpendea@lakeheadu.ca). I'll have the anonymous results published in the next issue. I hope you enjoy the exercise and don't forget to send me ***your*** mystery grain following the specifications below:

- three microphotographs (ideally bright-field) showing key morphological features;
- a short blurb with a morphological description of the grain and its geographic origin.

Palynologically yours, Florin Pendea





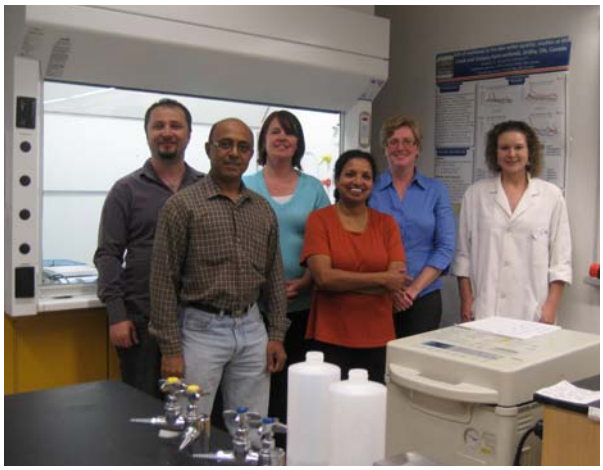
NEW LABS

A Brand New Microbiology-Paleoecology Lab at Lakehead University—Orillia

Opened in September 2010, the posh new Lakehead University's Orillia Campus is Canada's first LEED (Leadership in Energy and Environmental Design) campus and hosts a small but growing community of enthusiastic students and faculty.

Dr. Nanda Kanavillil and Dr. Sreekumari Kurissery started a biology lab in 2008 focusing on lacustrine and wetland ecology and microbiology. A Paleoecology component was set-up in 2010 when Dr. Florin Pendea joined Lakehead University. The latter focuses on palynomorph, macrofossil, and geochemical analyses for wetland development and carbon storage studies.

M.Sc. student Debbie Balika working in the dark room for her chlorophyll a and diatom analyses.



The research group, from left to right: Dr. Florin Pendea, Dr. Nanda Kanavillil, Debbie Balika, Dr. Sree Kurissery, Sheri O'Connor, and Amanda Grant.

Two graduate students and a dozen undergraduate Honours students have already made the lab their second home with projects ranging from pollen morphometry and pollen-based climate reconstructions to palynomorph records of nutrient enrichment in wetlands.

M.Sc. student Sherri O'Connor, sub-sampling for her testate amoebae analysis

Palynolit

A Doomed Valley in Spring

Francis Brett Young was an English novelist active during the first half of the twentieth century. He is best known for his Mercian novels, set in the English midlands and documenting rural and industrial life. These novels are predominantly family sagas and are well written if sometimes overly sentimental. *The House Under the Water* is one novel in that series and follows the fortunes of the Tregaron family. The central event in the story is the damming of a Welsh river, the Garon, and flooding of its valley, Dol Escob (which translates to Bishop's Dale), to supply water to the burgeoning industrial city of West Bromwich, a fictional version of Birmingham.

Young based this story on real events. Many such reservoirs were built in the late nineteenth and early twentieth centuries. Perhaps the most famous of these is Lake Vyrnwy, which filled in the 1880s and flooded the small village of Llanwddyn. Traces of the original drowned village can still be seen in dry summers when the water level is low. The dams and reservoirs were often strongly opposed and bitterly resented by the local people in Wales, who were mainly small-scale farmers, raising sheep. These close-knit agricultural communities were not wealthy and wielded little political power and so were unable to (continuation on page 7).

Lake Vyrnwy and Dam in Powys, north Wales, photographed from the summit of Craig garth-bwlch. The modern village of Llanwddyn lies at the foot of the dam in the Vyrnwy valley. The lake trends to the northwest and the uplands of Snowdonia are just visible in the far distance. The structure in the lake close to the far shore is the Straining Tower, which contains a mechanism that removes debris from the water before it flows along an aqueduct to Liverpool. Much of the land around the Lake is managed for forestry and as a Nature Reserve and offers excellent hiking. The photograph was taken by Sean Hattersley on 25 July 2009 and can be obtained from Wikipedia (http://en.wikipedia.org/wiki/Lake_Vyrnwy).

withstand the demands for water from the industrial heartland of England. In this extract, Philippa Tregaron, youngest daughter of the family that has occupied the valley for eight hundred years, has just found out that her home and its lands are to be flooded and destroyed: *Distraught, she rushes outside and looks towards the mountain, Forest Fawr, which forms the valley side.* It was typical of the situation's irony that Forest Fawr, on that day of all days, should reveal itself in new aspects of almost fantastical loveliness. Dol Escob had never shone with a more lustrous beauty than in this dark hour, the doomed valley assuming an air of ethereal gaiety that made its imminent destruction doubly unbearable. The river murmured and glistened in the sun, rejoicing in a sweet freedom; the trees stooped and swayed and flung their pollen on the breeze or shook out crumpled fans of delicate leaf; harmless rabbits crept out to crop the thymy tussocks; the green vale rang from end to end with torrents of bird-song.

Francis Brett Young (1932) *The House Under the Water*, p. 337. Harper and Brothers Publishers, New York.

Alwynne B. Beaudoin
Edmonton, Alberta

Recent Publications

Allard, G., M. Roy, B. Ghaleb, P.J.H. *Richard, A.C. *Larouche, J.J. Veillette, M. Parent (2012) Constraining the age of the last interglacial–glacial transition in the Hudson Bay lowlands (Canada) using U–Th dating of buried wood. *Quaternary Geochronology* 7:37–47. DOI: 10.1016j.quageo.2011.09.004

Archibald, S. B., D. R. Greenwood, R. Y. Smith, R. W. *Mathewes and J. F. Basinger (2011) Great Canadian *Lagerstätten* 1. Early Eocene *Lagerstätten* of the Okanagan Highlands (British Columbia and Washington State). *Geoscience Canada* 38(4): 155-164.

Archibald, S.B., K.R. Johnson, R.W. *Mathewes and D. R. Greenwood (2011) Intercontinental dispersal of giant thermophilic ants across the Arctic during early Eocene hyperthermals. *Proceedings of the Royal Society Series B* 278: 3679-3686. DOI: 10.1098/rspb.2011.0729

Baum, K. A., W. L. Rubink, R. N. Coulson, V. M. *Bryant Jr. (2011) Diurnal patterns of pollen collection by feral honey bee colonies in southern Texas, USA. *Palynology* 35(1): 85-93. DOI: 10.1080/01916122.2010.546621

Bremond, L., C. Carcaillet, C. Favier, A. A. Ali, C. Paitre, Y. Bégin, Y. Bergeron and P. J. H. *Richard (2010) Effects of vegetation zones and climatic changes on fire-induced

atmospheric carbon emissions: a model based on palaeodata. *International Journal of Wildland Fire* 19(8): 1015-1025. DOI: 10.1071/WF09096

Carcaillet, C., P. J. H. *Richard, Y. Bergeron, B. Fréchette, and A. A. Ali (2010) Resilience of the boreal forest in response to Holocene fire-frequency changes assessed by pollen diversity and population dynamics. *International Journal of Wildland Fire* 19 (8): 1026-1039. DOI: 10.1071/WF09097

De Schepper, S., E. Fischer, J. Groeneveld, M. J. *Head and J. Matthiessen (2011) Deciphering the palaeoecology of Late Pliocene and Early Pleistocene dinoflagellate cysts. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 309: 17–32.

MacRae, A., J. Weston, P. Ascoli, K. Cooper, R. *Fensome, D. Shaw, G. *Williams (2010) A revised biostratigraphic and well-log sequence stratigraphic framework for the Scotian Margin, offshore eastern Canada. *Central & North Atlantic Conjugate Margins Conference: Re-Discovering the Atlantic, New winds for an old sea, Lisbon 2010*. Extended abstracts, Volume IV, p. 157–161. Available online at http:// metododirecto.pt/CM2010.

*May, L. and T. *Lacourse, (2012) Morphological differentiation of *Alnus* (alder) pollen from western North America. *Review of Palaeobotany and Palynology*. DOI:10.1016/ j.revpalbo.2012.04.007

Marrotte, R., G.L. *Chmura, and P. Stone (2012) Utility of Nymphaceae sclereids in paleoenvironmental reconstructions. *Review of Palaeobotany and Palynology* 169:29-37.

Mertens, K. N., L. R. Bradley, Y. Takano, P., J. *Mudie, F. Marret, A. E. Aksu, R. N. Hiscott, T. J. Verleye, E. A. Mousing, L. L. Smyrnova, S. Bagheri, M. Mansor, V. *Pospelova, K. Matsuoka (2012) Quantitative estimation of Holocene surface salinity variation in the Black Sea using dinoflagellate cyst process length. *Quaternary Science Reviews* 39:45-59.

Neville, L. A., F. M.G. *McCarthy, M. D. MacKinnon, G. T. Swindles and P. Marlowe (2011) Thecamoebians (testate amoebae) as proxies of ecosystem health and reclamation success in constructed wetlands in the oil sands of Alberta, Canada. *Journal of Foraminiferal Research* 41(3): 230-247. DOI: 10.2113/gsjfr.41.3.230

Papanikolaou, M.D., M. V. Triantaphyllou, E.S. Platzman, P.L. Gibbard, C. Mac Niocaill and M. J. *Head (2011) A well-established Early–Middle Pleistocene marine sequence on south-east Zakynthos island, western Greece: magneto-biostratigraphic constraints and palaeoclimatic implications. *Journal of Quaternary Science* 26: 523–540.

*Pendea I.F. and G.L. *Chmura (2012) Calibration of pollen assemblages and carbon-nitrogen ratios to discriminate boreal wetland types. *Review of Palaebotany and Palynology* 174: 48-56.

*Pendea I.F. and G. L. *Chmura (2012) High resolution record of carbon accumulation rates during boreal peatland initiation. *Biogeosciences Discussions* 9:1115-1128.

*Pendea I.F., G. L. *Chmura and A. Costopoulos (2011) Mid to late Holocene fire history of eastern James Bay: investigating the environmental impact of early humans. GeoHydro2011 *Proceedings of the Joint Meeting of the Canadian Quaternary Association (CANQUA) and the Canadian*

Chapter of the International Association of Hydrogeologists (IAH-CNC), (8 pages), http://www.geohydro2011.ca/gh2011_user/cle_usb/pdf/doc-2150.pdf

*Pendea I.F., A. Costopoulos, C. Nielsen, and G.L. *Chmura (2010) A new shoreline displacement model for the last 7 ka from eastern James Bay, Canada. *Quaternary Research*, 73 (3), 474-484.

Pienkowski, A.J., P.J. *Mudie, J.H. England, J.N. Smith, and M.F.A. Furze (2011) Late Holocene environmental conditions in Coronation Gulf, southwestern Canadian Arctic Archipelago: evidence from dinoflagellate cysts, other non-pollen palynomorphs, and pollen. *Journal of Quaternary Science* 26(8): 839-853.

Pross, J., A. J.P. Houben, S. van Simaeys, G. L. *Williams, U. Kotthoff, R. Coccioni, M. Wilpshaar and H. Brinkhuis (2010) Umbria–Marche revisited: A refined magnetostratigraphic calibration of dinoflagellate cyst events for the Oligocene of the Western Tethys. *Review of Palaeobotany and Palynology* 158(3–4): 213–235. DOI: 10.1016/j.revpalbo.2009.09.002.

*Schweger, C., D. Froese, J. M. White, and J. A. Westgate (2011) Pre-glacial and interglacial pollen records over the last 3 Ma from northwest Canada: Why do Holocene forests differ from those of previous interglaciations? *Quaternary Science Reviews* 30: 2124-2133.

Scott, D. B., P. J. *Mudie and J. S. Bradshaw (2011) Coastal evolution of southern California as interpreted from benthic foraminifera, ostracodes, and pollen. *Journal of Foraminiferal Research* 41(3): 285–307.

Sluijs, A., H. Brinkhuis, G. L. *Williams and R. A. *Fensome (2009) Taxonomic revision of some Cretaceous–Cenozoic spiny organic-walled peridiniacean dinoflagellate cysts. *Review of Palaeobotany and Palynology* 154(1-4): 34–53.

Soliman, A., S. Ćorić, M. J. *Head, W. Piller and S. Y. El Beialy (2012) Lower and Middle Miocene biostratigraphy, Gulf of Suez, Egypt based on dinoflagellate cysts and calcareous nannofossils. *Palynology* 36 (1): 1–42.

Srivastava, S. K. (2011) The occurrence of the fossil genus *Graminidites* in the Maastrichtian Scollard Formation, Alberta, Canada, and its palaeoecological and palaeogeographical significance. *Botanical Journal of the Linnean Society 167(2): 235–248.* DOI: 10.1111/j.1095-8339.2011.01171.x

Vavrek, M. J., D. C. Evans, D. R. *Braman, N. E. Campione and G. D. Zazula (2012) A Paleogene flora from the upper Bonnet Plume Formation of northeast Yukon Territory, Canada. *Canadian Journal of Earth Sciences* 49(3): 547-558. DOI: 10.1139/e11-0732520-2533.

Viau, A.E., M. Ladd, and K. *Gajewski (2011) The climate of North America during the past 2000 years reconstructed from pollen data. *Global and Planetary Change*. doi:10.1016/j.gloplacha.2011.09.010.

Yanko-Hombach, V., P. *Mudie, and A. S. Gilbert, (2011) Was the Black Sea catastrophically flooded during the Holocene? Geological evidence and archaeological impacts. In: Benjamin et al. (eds.), *Submerged Prehistory*, Oxbow Books, Oxford, UK, pp. 245-262.

** denotes a CAP Member*

PALYNFO

The Irish Pollen Site Database IPOL

is now available on www.ipol.ie

The database contains metadata and references for 467 fossil pollen sites from Ireland. It is organised into a table with particulars on the location, chronology and a publication reference for each site. Site locations can also be viewed in Google Earth.

The information contained in the site table is available for downloading in spreadsheet and access database format as well as site markers for display in Google Earth. IPOL does not hold pollen data, check the European Pollen Database or Neotoma for access to these.
Information on additional sites and reports of errors welcome. Please contact: bstefanini@ipol.ie.

Rolf Mathewes wins the SFU Alumni Association Award for Academic Achievement

Please join us in congratulating Rolf; he is one of the recipients of the 2011 Simon Fraser University Outstanding Alumni Awards, celebrating graduates who have made exceptional contributions in their local and global communities.

Congratulations Rolf!

PALYNFO

Retirement

Please join me in congratulating Dr. Robert (Bob) J. Mott for his recent retirement from the Geological Survey of Canada. Bob's first contact with the Geological Survey was as a summer student in 1957. He became permanent at the GSC in 1960 and officially retired in 1993. Bob held an emeritus status at the GSC until 2011 and since then he continued to work there as a volunteer. He has now decided to "really" retire from the GSC as of August.

Bob wanted to share with us that he still has a large number of samples and cores from across Canada and would like to know if there are people interested in continuing some of his work. If you would like to inquire about Bob's work and samples please contact him at bobjoan.mott@rogers.com.

Proxy Analyses and Scientific Writing at LimnoPaleoServ

If you want to complete your pollen record with other proxies, we offer chironomid, zooplankton, diatoms, chrysophytes, grain size, micro XRF and varve counting. The analyses are performed by scientists with Ph.Ds and years of postdoctoral and/or professor experience.
Please visit: www.limnopaleoserv.com for more details, or contact Isabelle Larocque-Tobler at zazoolaro@hotmail.com.

2012-2013 Conference Calendar

May 28-30: **Geological Association of Canada/ Mineralogical Association of Canada Meeting**
St. John's, Newfoundland
Theme: Geoscience at the Edge
http://stjohns2012.ca

May 28-June 2: **Canadian Association of Geographers Annual Meeting**
Waterloo, Ontario
http://env.uwaterloo.ca/cag2012/en

June 21-24: **22nd Biennial Meeting of the American Quaternary Association**
Duluth, Minnesota, USA
www.amqua.org

July 7-11: **Botany 2012**
Columbus, Ohio, USA
www.2012.botanyconference.org

July 21-25: **AASP—The Palynological Society 45th Annual Meeting**
Lexington, Kentucky
www.palynology.org/meetings.html

Aug 5-10: **34th International Geological Congress**
Brisbane, Australia
www.34igc.org

Aug 5-10: **97th Ecological Society of America Annual Meeting**
Portland, Oregon, USA
www.esa.org/portland/

Aug 21-24: **12th International Paleolimnology Symposium**
Glasgow, Scotland
www.paleolim.org

Aug 23-30: **13th International Palynology Congress / 9th International Organisation of Paleobotany Conference**
Tokyo, Japan
http://www.psj3.org/ipc-iopc2012/Welcome.html

Sept 3-7: **5th European Aerobiology Society Conference**
Krakow, Poland
www.5esa.cm-uj.krakow.pl

Sept 15-24: **29th Annual Meeting of The Society for Organic Petrology / 64th Meeting of the International Committee for Coal and Organic Petrology**,
Beijing, China
www.tsop.org

Nov 4-7: **Geological Society of America 124th Annual Meeting**
Charlotte, North Carolina, USA
www.geosociety.org/calendar

May 22-24 2013: **GAC/MAC Meeting,**
Winnipeg, Manitoba, Canada.
http://gacmacwinnipeg2013.ca

August 27 to 31 2013: **International Conference on Geomorphology**
Paris, France. Meeting of the International Association of Geomorphologists (IAS)
http://www.geomorphology-iag-paris2013.com/en

September 2013: **9th International Symposium on the Cretaceous System**
Ankara, Turkey
http://www.cretaceous2013.org/en/

October 27-30: **GSA 125th Annual Meeting**
Denver, Colorado, USA.
http://www.geosociety.org/calendar/

Join us in San Francisco!

CAP will meet in San Francisco next year and the meeting will be held in conjunction with AASP-Dino10-NAMS, sometime in the fall of 2013. We have not yet finalized any of the conference details yet but we will keep you posted.

CAP Membership Form

Canadian Association of Palynologists/Association Canadienne des Palynologues (CAP) membership is open to all members of the palynological community in Canada and others with an interest in Canadian palynology. The Association is dedicated to the advancement and encouragement of all aspects of palynology in Canada and the promotion of co-operation between palynologists and those engaged in related fields of study. Membership dues include two issues a year of the *CAP Newsletter*, to which all members are invited to contribute. CAP is also affiliated with the International Federation of Palynological Societies (IFPS) and CAP members receive two issues of the IFPS newsletter (*PALYNOS*) each year.

CAP membership dues are $10 per year in Canadian funds payable at the beginning of the year. Lapsed members are removed from the mailing list after one year, following a reminder notice. Members may, if they wish, pay for up to three years in advance.

To join, please fill out a copy of the following information form and send it with a cheque or money order payable to CAP to:

Dr Mary A. Vetter, CAP Secretary/Treasurer, Luther College, University of Regina, Regina, Saskatchewan, S4S 0A2, Canada

Name and title:_____

Affiliation:_____

Address:_____

_____

_____

Tel:_____Fax:_____Email:_____

Research interests:_____

_____

_____

Indicate: Renewal:_____New membership:_____Amount enclosed:_____

May we include your name/address/e-mail address in the on-line Directory in the CAP WWW page?

Yes:_____ No:_____

Do you permit your name/address/e-mail address to be included in the printed "World Directory of

Palynologists" compiled by IFPS? Yes:_____ No:_____