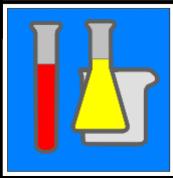




THE SOCIETY FOR ORGANIC PETROLOGY



NEWSLETTER

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ISSN 0743-3816

33rd Annual TSOP Meeting

Held Jointly With:

AASP & ICCP

September 18 – 23, 2016

Houston, Texas USA



The Society for Organic Petrology, The Palynological Society and
The International Committee for Coal and Organic Petrology

JOINT MEETING TSOP - AASP - ICCP

**September 18 – 23, 2016
Houston, Texas USA**

The Society for Organic Petrology, AASP-The Palynological Society
and the International Committee for Coal and Organic Petrology

www.tsop.org/2016Houston/

The purpose of this joint meeting is to bring together a diverse group of scientists to discuss the close relationships between organic petrology and palynology, to foster thoughtful discussion and address issues that may be of benefit to furthering the respective sciences. Key themes to be addressed during joint activities include source rock/source-rock reservoir resource assessment, microscope methods of characterizing microporosity, coal characterization, and palynofacies/kerogen.

Please See Pages 5 - 9 for Updated Details!

Organizing Committee:

The local Organizing Committee consists of Thomas Demchuk (RPS), Jen O'Keefe (Morehead State U.), Thomas Gentzis (Core Laboratories) and Joe Curiale (Independent). Over the next several months as the technical and social programs are finalized, we will do our best to keep the societies and membership informed of new events, the associated costs, and deadlines. We look forward to a great joint meeting in September of 2016.



The Society for Organic Petrology

TSOP is a society for scientists and engineers involved with coal petrology, kerogen petrology, organic geochemistry and related disciplines. The Society organizes an annual technical meeting and field trips; sponsors research projects; provides funding for graduate students; and publishes a web site, a quarterly Newsletter, membership directory, annual meeting program and abstracts, and special publications. Members may elect not to receive the printed Newsletter by marking their dues forms or by contacting the Editor. Members are eligible for discounted subscriptions to the Elsevier journals *International Journal of Coal Geology* and *Review of Palaeobotany and Palynology*. Subscribe by checking the box on your dues form, or using the form at www.tsop.org. Contact Paul Hackley phackley@usgs.gov if you do not receive a bill or have any other problems with a subscription. For the best prices on subscriptions to AGI's *Geotimes*, see their web site at www.geotimes.org/current.

TSOP is a Member Society of AGI and an AAPG Associated Society.

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GUIDELINES:

The TSOP Newsletter welcomes contributions from members and non-members alike. Readers are invited to submit items pertinent to TSOP members' fields of study. These might include meeting reports and reviews, book reviews, short technical contributions including those on geologic localities or laboratory methods, as well as creative works such as poems, cartoons and works of fiction. Photos, graphs and other illustrations are welcomed. Low-resolution images are discouraged, as they cannot be reproduced well in print. Articles are preferred in Microsoft Word, RTF or plain text formats.

Contact the Editor:

Rachel Walker

e-mail: drachelwalker@gmail.com

Address Changes

Please report any changes in address or contact information to: Paul Hackley, TSOP Membership Chair, phackley@usgs.gov

Members can update their own information by logging into the secure TSOP website:

www.tsop.org/mbrsonly/

The TSOP Newsletter is published quarterly by The Society for Organic Petrology and is distributed to all Society members as a benefit of membership.

Membership in the Society is open to all individuals involved in the fields of organic petrology and organic geochemistry. For more information on membership and Society activities, please see:

www.tsop.org

For purposes of registration of the TSOP Newsletter, a permanent address is:

The Society for Organic Petrology,
 c/o American Geological Institute,
 4220 King St., Alexandria,
 VA 22302-1520 USA

Newsletter Submission Deadlines

June Issue: June 5th, 2016

September Issue: Sept. 5th, 2016

December Issue: December 5th, 2016

March Issue: March 5th, 2017

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member society of



connecting earth, science, and people

Institutional/Corporate Memberships



We'd like to make members aware that membership in TSOP is also open to any organization having an active scientific interest in organic petrology or related fields. TSOP especially encourages institutions to join at the special **institutional rate of \$75/yr** and help support the goals of the Society. See the website for details: www.tsop.org/join.htm



is on



www.facebook.com/OrganicPetrology

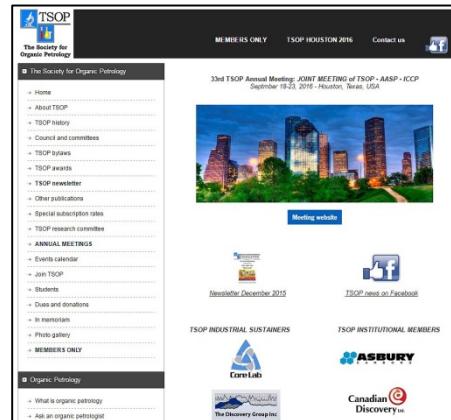
TSOP DUES REMINDER!

TSOP dues payments are critical to support the society and its work. Our Dues Prepayment Incentive can save you time and the hassle of arranging your yearly payment. When you prepay your dues four years in advance at the regular rate of \$25/yr we will give you the fifth year free!

We encourage members to use our convenient online dues payment system. You can use it to pay by credit card, check (US Members), money order or credit card. You can login at www.tsop.org/mbrsonly and select 'Online dues payment' or go to www.tsop.org/dues and access the online form without logging in. Please note that credit card payment processing is via PayPal and you don't need a PayPal account to use it. If you want to use a dues form, a copy of this year's form can be downloaded from the website by following the 'Members only->Dues' links from the main page at www.tsop.org.

Thank you for your interest and support of TSOP and we look forward to a renewal of your TSOP membership.

TSOP Website Update



You may have noticed that the TSOP website has undergone a 'facelift' recently. Thanks are due to Agnieszka Drobnia for the new look and, of course, many thanks to Dave Glick who has been webmaster of the TSOP website for many years. Agnieszka will now be serving as webmaster for the TSOP website. Mike Avery will continue his role operating the secure members-only section of the website. We hope the new layout helps members move around the site and find what they need with ease. If you have any feedback on the website, you can contact the webmasters by clicking on the 'Contact us' link on the top right of the webpage.



JOINT MEETING TSOP - AASP - ICCP

The Society for Organic Petrology, AASP-The Palynological Society
and the International Committee for Coal and Organic Petrology

September 18 – 23, 2016
Houston, Texas, USA
www.tsop.org/2016Houston/

We are pleased to present the latest details regarding this first historic joint meeting of these three related geological, geochemical and biological scientific societies. We have finalized our schedules of technical sessions including the Symposia and Theme Sessions, and further finalized the pre-meeting Short Course, and the two fieldtrips. The purpose of this joint meeting is to bring together a diverse group of scientists to discuss the close relationships between organic petrology and palynology, to foster thoughtful discussion and address issues that may be of benefit to furthering the respective sciences. Key themes to be addressed during joint activities include source rock/source-rock reservoir resource assessment, microscope methods of characterizing microporosity, coal characterization, and palynofacies/kerogen.

The venue for this meeting will be the historic Magnolia Hotel in downtown Houston. The Magnolia was built in 1926 as the former Post-Dispatch Building. It was re-purposed in 2003 as The Magnolia Hotel, and further underwent a significant upgrade in 2009. The hotel is centrally located in downtown within walking distance of excellent restaurants and pubs. Over the past several years downtown Houston has undergone a major revitalization with many new office buildings, exciting arts and entertainment venues, and several world-class restaurants. We believe the downtown will provide exciting possibilities for every need and want.

REGISTRATION FEES

The following registration fees have been finalized for the meeting:

1. Full 5-day Registration: Early Bird	US\$300	After Aug 1 st US\$350
2. 3-day Registration: Early Bird	US\$225	After Aug 1 st US\$275
3. 1-day Registration: Early Bird	US\$100	After Aug 1 st US\$150

At this moment, the Organizing Committee is working with the TSOP webmaster to set up a registration and payment website. When this is completed, a notification to all associated members will be sent out. Please note that this registration fee is exclusive of the respective Society Business Luncheons, Wednesday Evening Conference Dinner, Saturday Short Course, and Fieldtrips.

SHORT COURSE

Saturday All-day Short Course: It is the pleasure of the Organizing Committee to present an all-day pre-meeting short course entitled, "***Integration of microscopy and geochemistry in petroleum source rock evaluation***". The course will be taught by Dr. Richard Tyson (Getech, UK). The course will be presented in a classroom setting, and will emphasize the integration of microscopy and geochemistry to better understand and characterize source rocks in both conventional and unconventional exploration. The interpretation of both palynofacies and organic petrological data will be discussed. Additional details of the short course are being finalized and will be published in upcoming announcements.

The costs for this full-day Short Course will be **US\$250** for professionals, and **US\$200** for students. This will include all class materials, lunch and coffee breaks through the day. At this time the class is limited to 40 people and a percentage of attendance will be reserved for students. Attendance will be based on a first-come, first-served basis.

SYMPOSIA/THEME SESSIONS

After considerable discussion, a number of integrated Symposia and Theme Sessions have been finalized. These will include:

- **Microscope Methodologies in Recognizing and Characterizing Organic Microporosity** (Joint TSOP/ICCP Theme Session: Monday PM)
- **Palynofacies and Kerogen** (Joint TSOP/ICCP/AASP Theme Session: Tuesday PM)
- **Multi-modal Characterization of Source Rocks, including Source-Rock Reservoirs** (Joint TSOP/ICCP/AASP Symposium: Wednesday All-Day)
- **Palynofloral Contributions to Source Rocks** (AASP/TSOP/ICCP Theme Session: Thursday AM)
- Additional AASP-sponsored sessions will include:
 - **Alfred Traverse Symposium** (Thursday PM)
 - Guest Lecture on **Forensic Palynology** to open the Friday AM general session.

A list of Invited/Keynote Speakers has been finalized, invitations have been sent and accepted, and the format for these technical sessions is being finalized. For many of the proposed joint sessions, at least one organic petrography/geochemistry and one palynology Keynote Speaker will be invited. All interested scientists will be strongly encouraged to contact us and propose to submit their abstract(s) for one or more of these Sessions and the all-day Wednesday Symposium. Details regarding these sessions will be forthcoming in the next respective Newsletters, and will appear on respective websites very soon.

ABSTRACT SUBMISSIONS

All scientists of organic petrography and palynology are strongly encouraged to submit their abstract(s) to one or more of the Symposia, Theme and General Sessions. A call for Abstracts will be going out shortly: all abstract submissions will be strictly formatted. **Abstract submissions will open on Sunday, May 1st, and the closing date for submissions will be Sunday, August 1st.**

FIELD TRIPS

Friday-Sunday Pre-Meeting Field Trip: This 2+ day field trip will visit Eagle Ford Formation outcrops in west Texas, and will be led by Barry Wawak (Manager of Reservoir Geology, Core Laboratories Houston). The field trip will depart on the afternoon of the Friday prior to the meeting, and return by Sunday late afternoon or early evening. The Eagle Ford Formation is a world-class source-rock reservoir resource in the subsurface of south Texas, and the accompanying strata have been researched extensively in stratigraphic, geochemical and biostratigraphic studies.

The cost for this fieldtrip will be **US\$550** and will include the field guide, transportation by vans, two nights of accommodation, and two lunches. Dinners for the two evenings will be at the expense of the individual. The fieldtrip is not strenuous as most outcrops are along the highway, or a short distance from well-kept roads. Hiking boots and proper field equipment will be required. Safety equipment (hard hats, safety vests) will be provided.

Saturday Post-Meeting Field Trip: This will be a one-day excursion to Cretaceous through Eocene strata of east-central Texas. These strata are equivalent to the important Wilcox Formation that forms major reservoirs in the subsurface of the deepwater Gulf of Mexico. The field trip will leave early Saturday morning from the Hotel, and return early evening back to Houston. Final details of both field trips will be presented in upcoming Newsletters and on the respective Society websites.

The cost for this fieldtrip is still being finalized but will include the field guide, transportation by vans, and lunch. The fieldtrip is not strenuous as most outcrops are a short distance from well-kept roads. Hiking boots and proper field equipment will be required. Safety equipment (hard hats, safety vests) will be provided.

SOCIAL EVENTS

Multiple social activities of interest to all participants are being discussed and should be finalized in the very near future with the hotel and off-site venues.

Monday PM Icebreaker: The Monday evening Icebreaker will take place on the rooftop patio of The Magnolia Hotel (weather permitting). The patio offers a great view of the Houston downtown skyline and sunset.

Tuesday PM Happy Hour (TSOP/ICCP): On the Tuesday late afternoon, a Happy Hour will accompany an opportunity to view the posters that will be part of the technical aspect of the meeting. Drinks and finger food will be served and there will be sufficient opportunity to chat with authors about their poster displays.

Conference Dinner: A conference dinner has been finalized at the nearby Sambuca Café, a couple blocks walk from The Magnolia Hotel, located in the historic Rice Hotel. The Sambuca Café is well-known for its vibrant music scene and excellent food. The evening will include two free drinks, appetizers, and a three-course meal in a designer atmosphere, with live music for your listening enjoyment. Our special events area will allow access to an outdoor patio to allow for quiet conversation. The conference dinner will be **US\$75** per person.

Thursday PM Happy Hour (AASP/ICCP): A Thursday late afternoon Happy Hour will allow folks to enjoy the AASP poster sessions as part of the technical aspect of the meeting. Drinks and finger food will be served and folks will be encouraged to mingle with the authors and discuss their poster displays.

In addition to all these events, attendees will have sufficient opportunity to enjoy the Houston downtown with its numerous world-class restaurants, and abundant drinking establishments.

SOCIETY BOARD MEETINGS

Along with the technical and social activities, the respective Societies will have their necessary Board of Directors meetings, and Business Luncheons. The current schedule includes:

ICCP Council Meeting:	Sunday	September 18 th	16:00-21:00
TSOP Council Meeting:	Sunday	September 18 th	17:30-21:00
TSOP/ICCP Business Luncheon:	Tuesday	September 20 th	12:00-14:00
TSOP Council Meeting:	Tuesday	September 20 th	19:00-21:00
AASP-TPS Outgoing Board Meeting:	Tuesday	September 20 th	19:00-22:00
ICCP Council Meeting:	Thursday	September 22 nd	18:00-21:00
AASP-TPS Business Luncheon:	Friday	September 23 rd	11:30-13:30
AASP-TPS Incoming Board Meeting:	Friday	September 23 rd	17:00-18:30

TRANSPORTATION AND ACCOMMODATIONS

Houston is a significant transportation hub and the Intercontinental Airport (IAH) is serviced by all major airlines from Europe and Asia. Both airports (IAH and HOU) are serviced by the major US-based airlines: IAH is a major hub for United Airlines, and HOU is a major hub for Southwest Airlines. All the major American airlines (e.g. Delta and American) fly into IAH numerous times through the day. All major European, Asian and Middle East airlines (e.g. KLM, British Airways, Air France, Lufthansa, Singapore, Korean Air, JAL, Emirates, and Qatar Airways) fly once a day in and out of IAH. Transportation to and from the downtown area from both airports is available via taxi, shuttle, and MetroBus. Further information on fares and routes from the two airports will be distributed in later circulars.

The Magnolia Hotel: Our current negotiated room rate at The Magnolia hotel is US\$179/night (single occupancy). Double- and triple- occupancy will be priced accordingly. This room-rate includes:

- FREE in-hotel/in-room Wifi
- Complimentary hot breakfast
- Late afternoon happy hour (complimentary beer/wine)
- Complimentary evening cookie buffet
- Reduced valet parking fees

We will be setting website registration with The Magnolia Hotel in the very near future. Further details on hotel accommodations can be found at the hotel website, <http://magnoliahotels.com/houston/magnolia-hotel-houston.php>. We will alert everyone when the accommodations website is ready.

Alternative Accommodation: A listing of alternative hotels in the downtown area will be made available upon request.

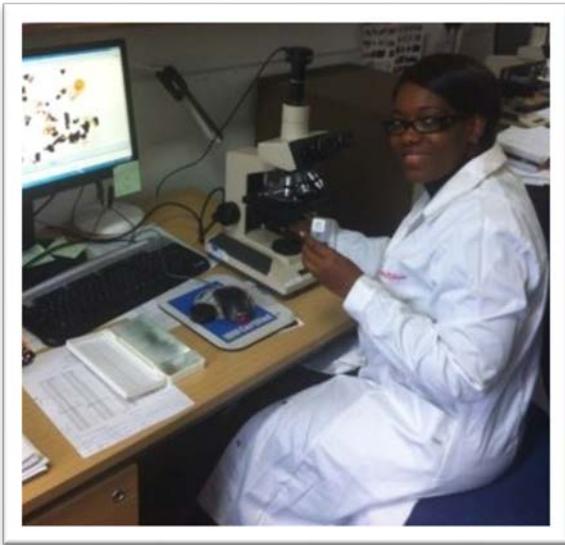
ORGANIZING COMMITTEE

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If you should have any questions regarding the meeting, you may send an e-mail to tdemchuk@swbell.net



New TSOP Members



Doreen Mkuu

Ms. Mkuu has pursued palynological research since 1988 with the Tanzania Petroleum Development Corporation where she is Principal Palynologist. She holds degrees from Sheffield and Leicester University and is currently pursuing PhD studies at Southampton University. Her research interests focus on hydrocarbon potential in the sedimentary basins of Tanzania and the biostratigraphic framework of dinoflagellates from Lower Cretaceous to recent age in Tanzania sediments.



Tanya Beattie

Ms. Beattie completed her BSc in Earth Science at the University of Glasgow in 2013 and then went on

to an MSc in Exploration Field Geology at University College Cork where her thesis involved the study of the palynology and macropalaeontology of Lower Jurassic shales in Northern Ireland and their associated hydrocarbon potential. Currently she is a PhD student at the University of Southampton studying source rocks, thermal history and unconventional potential of the Weald Basin in southeast England.

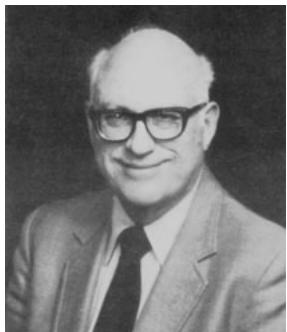


Louise Ponsaing Lauridsen

Ms. Lauridsen received her MSc in geology-geosciences in 2013 from the University of Copenhagen with a specialization in sedimentary basins. Her research included organic petrology and geochemistry. Beginning in March 2015 she has started PhD research with GEUS where her focus is source rock analysis and modelling.



John Castaño Honorary Membership Award Call for nominations 2016



Deadline: May 31, 2016

TSOP members are invited to nominate the scientist of your choice for the 2016 John Castaño Honorary Membership Award, The Society for Organic Petrology's highest honor (www.tsop.org/honmem.htm). The award acknowledges distinction in a scientific discipline of significance to the Society, in recognition of contributions in research, service to TSOP, or education. The John Castaño Honorary Membership Award conveys life membership in the Society. It is named in honor of John Castaño, one of our most active Houston-based founding members. John served as inaugural Vice-President, and later, as President of TSOP. He was an organizer of three TSOP meetings in the Houston area, and was made an Honorary Member in 1995. John served TSOP in many capacities until his death in 1997; a memorial article was published in the June 1997 issue of the TSOP Newsletter.

If you would like to nominate a candidate for the 2016 Castaño Honorary Membership Award, **please submit a letter of recommendation and a brief vita of the nominee to:**

**Dr. Thomas Gentzis,
Chair of the Committee
c/o Core Laboratories,
6316 Windfern Road,
Houston, TX 77040, USA
Tel: 713-328-2556
Email: thomas.gentzis@corelab.com**

Nominations must be received by May 31, 2016.

It is strongly suggested that supporting letters of recommendation from colleagues and other scientists accompany the nomination package.

Emphasis should be placed on the significance of the nominee's research and contributions.

Nominations will be reviewed by the Castaño Award Committee and results will be announced at the Annual Meeting to be held in Houston in September 2016. The selection process is confidential and nominees do not have to be former or current TSOP members.

The committee evaluates research, service and educational impact based on the following criteria:

- Research contributions include work that demonstrates a high degree of originality and serves to advance the science of organic petrology or related disciplines. Nominees must possess a sustained international record of professional publication and achievement.
- Nominees recommended for service must demonstrate significant contributions to TSOP (the Society) in a leadership role. Their service must have enabled the Society to stimulate interest and promote innovative research in coal geology. Contributions include educational activities, administrative duties, or the development of the Society.
- Nominees recommended for education must demonstrate a high degree of dedication and significant impact as a teacher of organic petrology or related disciplines.

Dr. Thomas Gentzis
TSOP Vice-President and
Chair of the John Castaño Honorary Membership Selection Committee

“Godzillanite” – Unusually Large Pieces of Bitumen from the Cleveland Member of the Late Devonian Ohio Shale in Eastern Kentucky, USA

Cortland Eble

Kentucky Geological Survey
University of Kentucky
Lexington, Kentucky
eble@uky.edu

The Cleveland Member is the stratigraphically youngest member of the Late Devonian Ohio Shale. The Ohio Shale is a (mainly) gas producing interval of organic rich shale that extends across east-central Ohio and eastern Kentucky. The unit is correlative with the Chattanooga shale in south-central Kentucky and Tennessee, the New Albany Shale in the Illinois Basin (parts of Illinois, Kentucky and Indiana), and the Antrim Shale in Michigan.

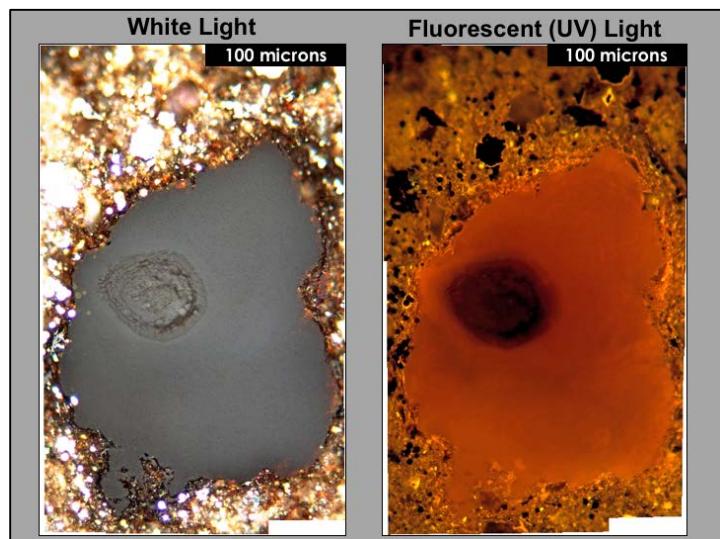


Figure 1 - White and fluorescent light images of Godzillanite, example 1 (maximum dimension, 238 microns).

Although bitumen is a common component of the Ohio Shale, most pieces are observed to be <50 microns in size. The unusually large pieces shown in Figures 1 through 4 measure 224 to 409 microns in longest dimension. Despite their large size, the reflectance values obtained ($0.44\% \pm 0.02$ Ro random) are similar, if not identical, to smaller (and

more common) pieces of bitumen in the same samples. Corresponding vitrinite reflectance values for the samples were $0.60\%, \pm 0.02$ % Ro random. The reddish-yellow fluorescence is characteristic of much of the bitumen in the Ohio Shale in this range of thermomaturation. The darker, and more red, middle portions, and lighter, more yellow edge portions probably indicates that the pieces are lenticular, or lozenge, shaped in cross section. Although pyrite is ubiquitous, and abundant, in the Ohio Shale, the piece in Figure 2 is unusually large. Most of the pyrite in the Ohio Shale occurs as small (<10 micron) euhedral crystals, or framboids.

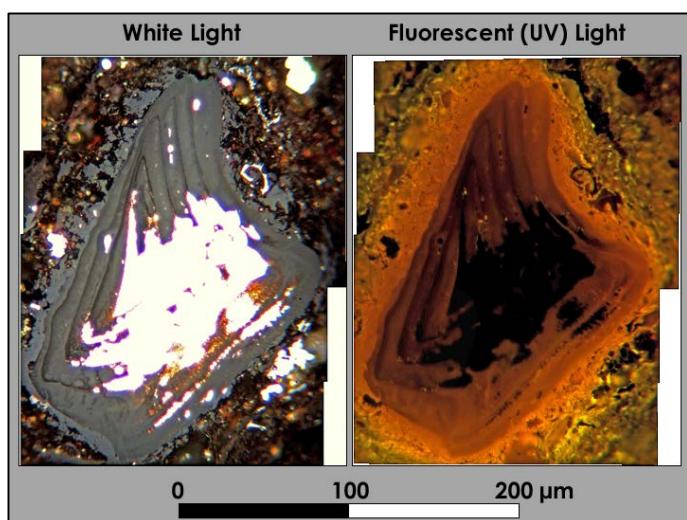


Figure 2 - White and fluorescent light images of Godzillanite, example 2 (maximum dimension, 224 microns). The center portion of the grain is occupied by pyrite.

The large pieces of bitumen examined thus far are either ovoid, or fork-shaped. The fork-shaped morphologies (Figures 3 and 4) may indicate that these pieces actually represent graptolite, or possibly megaspore fragments. Although most graptolites become extinct by the early Devonian, dendroid forms survive into the early Carboniferous (Bulman, 1970). Likewise, megaspores are known from, at least, the middle Devonian (Steemans et al., 2011).

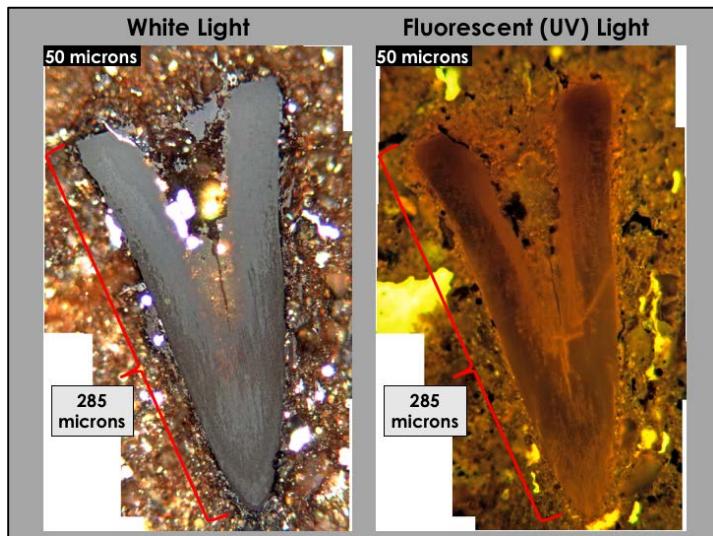


Figure 3 - White and fluorescent light images of Godzillinite, example 3 (maximum dimension, 285 microns).

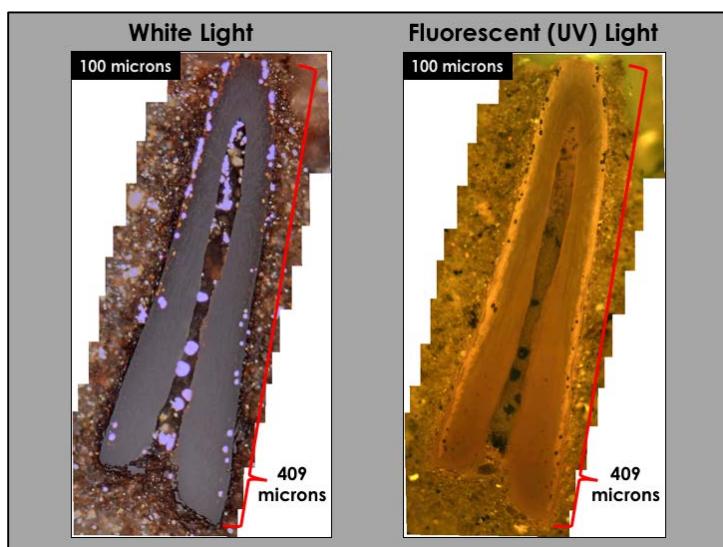


Figure 4 - White and fluorescent light images of Godzillinite, example 4 (maximum dimension, 409 microns).

The large pieces of bitumen have been informally designated “Godzillanite”, after Godzilla of cinematic fame, as both are of extraordinarily large size. Fortunately, the bitumen pieces are much more benign than their namesake, and do not appear to have the poor attitude, general dislike (disdain?) for humankind, and incessant desire to destroy Tokyo.

References:

Bulman, O.M.B., 1970. Graptolithina, with sections on Enteropneusta and Pterobranchia, in Teichert, C. (editor), *Treatise on Invertebrate Paleontology*, Part V (2nd Edition). Geological Society of America and University of Kansas Press, Boulder, Colorado and Lawrence, Kansas, 163 pp.

Steemans, P., Breuer, P., Petus, E., Prestianni, C., de Goyet, F., and Gerrienne, P., 2011. Diverse assemblages of mid-Devonian megaspores from Libya. *Review of Palaeobotany and Palynology* 165(3-4): 154-174.

TSOP Spackman Award Research Summary

Sophia Bratenkov

The TSOP Spackman award was used to produce data for paleoclimate reconstructions in the Canterbury Basin, New Zealand region during the Miocene period. The funding was used for the analytical work in the laboratory. The results were presented during the latest International Meeting of Organic Geochemists (IMOG2015) in Prague, Czech Republic. Currently, we are working on publication of this research in a high impact international journal.

Global sea level changes or local tectonics? First Miocene biomarkers in cored sedimentary rocks from IODP Expedition 317, Canterbury Basin, New Zealand

Sophia Bratenkov^{1,*}
and Simon C. George¹

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(*corresponding author: sophia.bratenkov@mq.edu.au)

The influence of global sea level (eustasy) and local tectonic changes on sedimentation processes in continental margin deposits is a fundamental part of sedimentary research. During the late Miocene to recent period global sea level change was dominated by glacioeustasy (Miller et al., 2005). Integrated Ocean Drilling Program (IODP) Expedition 317 to the Canterbury Basin, on the eastern margin of the South Island of New Zealand, provided a unique opportunity to study sediment geochemistry in contrasting depositional settings, from mid-shelf to upper slope, for the early Miocene to recent period.

Previous work suggested good preservation of low amounts of organic matter in some Miocene samples (George et al., 2011). The detected total organic carbon contents in Miocene samples was generally low (<1 wt. %), with only a few samples in U1352 having higher values (Expedition 317 Scientists, 2010). Here we report the first organic geochemical data for all Miocene sediments retrieved in IODP Expedition 317. Upper Eocene to Holocene sedimentary sequences were cored along a transect of the continental shelf (Sites U1351, U1353 and U1354) and the continental slope (Site U1352). Overall, 82 samples were recovered from Miocene sediments in U1351, U1352 and U1353 for geochemical and biomarker analysis. To determine the origin of the organic material, as well as the thermal maturity gradients in these three cores, all samples were solvent extracted using an Accelerated Solvent Extractor (ASE300), and the extractable organic matter (EOM) was fractionated into aliphatic hydrocarbons, aromatic hydrocarbons and polar compounds. The hydrocarbons were then analysed by GC-MS.

Relatively low amounts of EOM were detected in which good preservation of C₁₁–C₃₅ alkanes was observed. The long-chain *n*-alkanes display varying odd-over-even predominance (CPI₂₂₋₃₂ = 0.2–4.8) while the pristane/phytane ratio (Pr/Ph = 0.7–5.9) indicates bottom water conditions ranged from anoxic to oxic. Low thermal maturities (sub the start of the oil window) are suggested for all the Miocene core samples based on Pr/*n*-C₁₇ (0.6–8.06) and Ph/*n*-C₁₈ (0.3–2.8) ratios. Widely used hopane (Ts/(Ts+Tm))

and C₂₉ $\alpha\alpha\alpha$ sterane (S/(S+R)) ratios support the low thermal maturity data.

The depositional environment was further constrained by relative abundances of the C₂₇–C₂₉ regular steranes, as well as the C₃₀ sterane index, the oleanane index and the C₃₁R/C₃₀ hopane ratio. Predominantly the outer and inner continental shelf cores contain OM of shallow marine origin, whereas the continental slope core is dominated by OM of open marine origin. The distribution of aromatic hydrocarbons confirmed the diverse origins of the organic matter, and suggested various levels of biodegradation.

The biomarkers extracted from IODP Exp. 317 sediments provide the opportunity to explore the evolution of the organic input to marine sediments in the Canterbury Basin, New Zealand. These data may reflect changes in the OM input caused by global sea level fluctuations during the Early and Middle Miocene epochs. In addition, alteration in the sediment supply to the basin could have been triggered by local tectonics such as uplift of the Southern Alps during the Late Miocene.

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Miller K.G., Kominz M.A., Browning J.V., Wright J. D., Mountain G.S., Katz M.E., Sugarman P.J., Cramer B. S., Christie-Blick N., Stephen F. Pekar S.F., The Phanerozoic Record of Global Sea-Level Change. *Science* 310(5752), 1293-1298.

Expedition 317 Scientists, 2010. Canterbury Basin Sea Level: Global and local controls on continental margin stratigraphy. IODP Prel. Rept., 317. doi:10.2204/iodp.pr.317.2010.

George, S.C., Lipp, J.S., Claypool, G.E., Yoshimura, T., and Expedition 317 Shipboard Scientific Party (2011). Organic carbon content and character of Holocene–Eocene sediments recovered during IODP Expedition 317, Canterbury Basin, New Zealand. In: 25th International Meeting on Organic Geochemistry, Abstract Book, 18-23 September 2011. Interlaken. Poster-039, p. 186.

CALENDAR OF EVENTS

www.tsop.org/cal.htm

2016



June 19-22: AAPG 2016 Annual Convention & Exhibition, Calgary, Alberta, Canada. See the web site: [AAPG 2016 Annual Convention](http://AAPG2016.ca)

June 1 – July 26: 26th Goldschmidt Conference, Yokohama, Japan.
<http://goldschmidt.info/2016/>

August 8-12: International Pittsburgh Coal Conference, Cape Town, South Africa. See details at: <http://www.engineering.pitt.edu/pcc/>

August 27 – September 4: 35TH INTERNATIONAL GEOLOGICAL CONGRESS, Cape Town, South Africa. See website for details: <http://www.35igc.org/>

September 18-23: Joint Meeting of TSOP-AASP-ICCP in Houston, Texas, USA. This will be the 33rd Annual Meeting of TSOP. Stay tuned for further details!

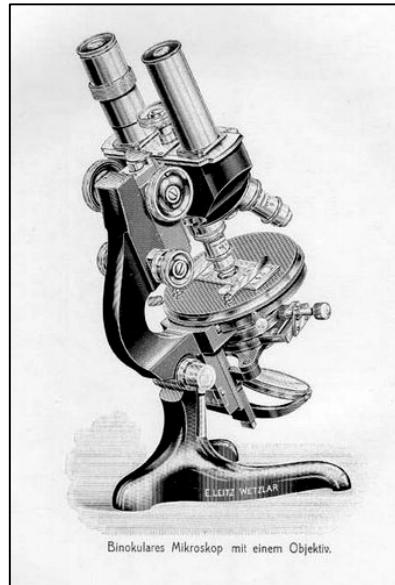
September 23-28: Geological Society of America Annual Meeting, Denver, Colorado, USA. [GSA Annual Meeting](http://GSA.org)

September 25-27: Eastern Section AAPG Meeting, Lexington, Kentucky, USA. This years' meeting will focus on the opportunities and challenges of energy resources in the Appalachian, Illinois and Michigan Basins. For details, see the website: www.esaapgmtg.org/

October 16-19: Mudstone Diagenesis, an SEPM-AAPG Research Conference. Santa Fe, New Mexico, USA. Theme: Implications for Exploration and Development of Unconventional Reservoirs. Deadline for Abstracts February 15, 2016. See flyer and website for details: [Mudstone Conference Website](#)

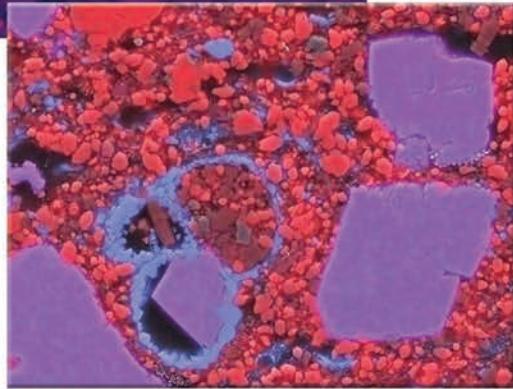
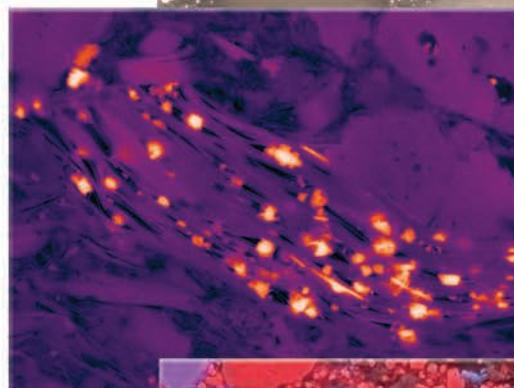
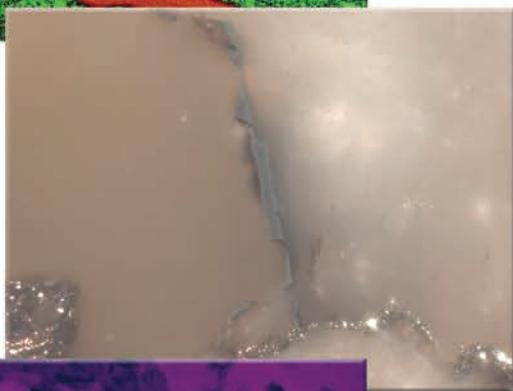
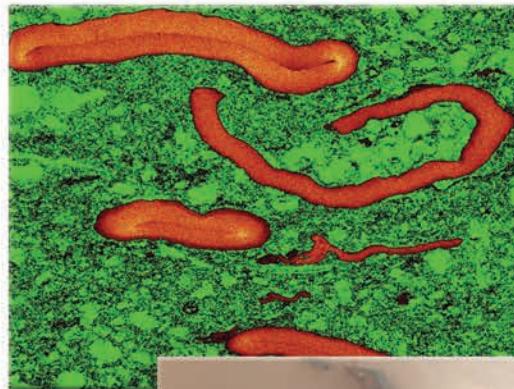
Please send in meeting, short course and special event announcements to the Editor!

For more geology event information see AGI's GeoCalendar at:
www.americangeosciences.org/calendar



SEPM-AAPG RESEARCH CONFERENCE

MUDSTONE DIAGENESIS



Implications for Exploration
and Development of
Unconventional Reservoirs

LOCATION: Hilton Santa Fe Historic Plaza
Sante Fe, New Mexico
Date: October 16-19, 2016

This conference will promote the exchange of new ideas among the leading experts from industry, academia, and government on the controls and impacts of inorganic and organic diagenesis on mudstone hydrocarbon generation, reservoir properties and seal quality.

- Call for Abstracts – December 1, 2015
- Deadline for Abstracts – February 15, 2016
- Registration opens June, 2016

MAJOR THEMES

- Starting Materials: recent sediments and thermally immature rocks
- Mechanical Diagenesis: compaction, fluid expulsion and fracturing
- Inorganic Chemical Diagenesis: porosity and mechanical property evolution
- Organic Diagenesis: organic matter-rock interactions during petroleum generation
- Tools and Techniques: new advances and limitations
- Organic Matter: bridging the gap between optical & electron microscopic observations

CONVENERS

Wayne Camp (Andarko), Neil Fishman (Hess),
Paul Hackley (USGS), Kitty Milliken (BEG—UT Austin)
& Joe Macquaker (ExxonMobil)
Email: wayne.camp@anadarko.com