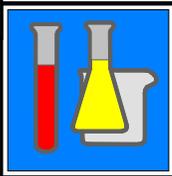




THE SOCIETY FOR ORGANIC PETROLOGY



NEWSLETTER

Vol. 33, No. 3

September, 2016

ISSN 0743-3816

**Thank you to the Organizing Committee of the
33rd TSOP conference for a great Houston meeting!**

Mark your calendars for...

34th TSOP Annual Meeting

**September 21 – 27, 2017
Calgary, Canada**



TSOP Annual Meeting

September 21 – 27, 2017
Calgary, Canada



Stay tuned for more information!



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 *Earth*, 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

December Issue: Dec. 5th, 2016

March Issue: March 5th, 2017

June Issue: June 5th, 2017

September Issue: Sept. 5th, 2017

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member society of
 **AGI** american
geosciences
institute
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_TSOP.html

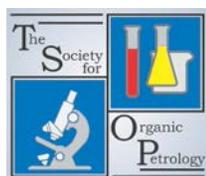
available on the TSOP website. Just login to the Members Only section of the website and select '**Ann Mtg Documents**' from the left hand menu. A dropdown box will allow you to choose which meeting you are interested in. Select the item of interest and click '**Display**'!

Houston 2016 Meeting Photos

A gallery of photos from the recently concluded 2016 TSOP meeting in Houston, Texas, are available at the following link:

<https://goo.gl/photos/2SrYyShn8sW3nS69A>

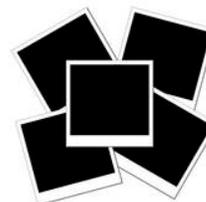
If you have meeting photos you would like to share, send them in to the Editor at drachelwalker@gmail.com



is on



www.facebook.com/OrganicPetrology



Annual Meeting Programs, Abstracts and Photos Available on the TSOP website

Houston 2016 Awards Presented

The annual meeting is a time for presenting a variety of TSOP awards and 2016 was no different!

Distinguished Service Awards

Kaydy Pinetown and Tim Moore were recognized for their service to TSOP with Distinguished Service Awards.

Kaydy was co-organizer of the 2014 TSOP Annual Meeting in Sydney, Australia, which was a well-planned and well attended meeting.

Tim Moore was co-organizer of the 2015 TSOP Annual Meeting held in Yogyakarta, Indonesia.

Members only - Annual Meeting Program & Abstracts

Notes: Abstracts volumes are available for all meetings while group photos are available for most.

The 1985 Group photo is reported to have been lost due to technical problems with the camera or film. The 2010 meeting photo was taken at the Banquet and does not represent the full meeting attendance. Photo indexes are missing for years 1990-91, 2004-08. Any contributions to filling in missing photos or indexing of the photos are welcome.

<p>Step 1: Select a meeting</p> <p>2015 Yogyakarta</p> <p><small>Reminder: Depending on your Internet connection and time of day etc. Items greater than 2Mb may take a significant amount of time to download.</small></p>	<p>Step 2: Select an Item to be displayed</p> <p>Abstract volume</p> <p><input checked="" type="radio"/> Vol32 2015 Yogyakarta.pdf (6.3 Mb)</p> <p>Group photo</p> <p><input type="radio"/> Vol32 2015 Yogyakarta Field Trip.JPG (1.6 Mb)</p> <p><input type="radio"/> Vol32 2015 Yogyakarta Mtg.JPG (4.9 Mb)</p> <p>Field trip</p> <p><input type="radio"/> Vol32 2015 Yogyakarta Guidebook.pdf (7.9 Mb)</p> <p style="text-align: center;"><input type="button" value="Display selected item"/></p>
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Hint: When you finish viewing the item use the back button (top left of browser) to get back to this page. Also, to see the HiRes version of larger JPG files you might have to click on the image with zoom (+) pointer provided by the JPG viewer.

The abstracts, photos and field trip guide from many past TSOP meetings are all now

This was another excellent meeting in terms of planning and attendance. Congratulations to both Kaydy and Tim!

Lifetime TSOP Membership Award

Dave Glick was recognized for his outstanding and long term commitment to TSOP as chair of the internet and archive committees. Dave has dedicated uncountable hours of time to the Society, and for that we are very thankful!

Castaño Award

Dr Joseph Curiale was chosen as the 2016 recipient of the prestigious Castaño Award, which is presented in recognition of significant contributions to research and education in the field of coal and organic petrology and for service to the Society. Congratulations!

Spackman Award

Two students were presented with Spackman Awards for 2016:

Quin Ryan Scott Miller
University of Wyoming, USA
"Neutron scattering study of porosity evolution in unconventional reservoirs"

Qiang We
China University of Mining & Technology,
China
"Organic affinity of trace elements in Ge-rich coals from China"



Professor Joan S. Esterle Wins Prestigious Dorothy Hill Medal

Long-time TSOP member Prof. Joan Esterle (and Chair of the Vale-UQ Coal Geoscience Program) was presented with the Dorothy Hill Medal on the 27th of July. The award is given out by the Queensland Division of the Geological Society of Australia each year and this year it has gone to Joan for her contributions to the understanding of Queensland geology.

Most TSOP members will know that Joan has worked for many years on all aspects of coal geology around the world, but of course a focus has been Queensland, where she has lived since late 1991. In particular Joan has been able to bridge the academic with the applied aspects of coal geology, working on such things as: the relationship between breakage properties of coal and its macro- and microscopic composition; how vegetation type may influence key coal properties for combustion or methane generation; 3D depositional models that span multiple mines and helps makes sense of the wider basin development and point to where the best coal is; to prediction of geohazards in mines from an interpretation of sedimentological patterns.



Prof Joan Esterle gives her acceptance technical talk as recipient of the 2016 Dorothy Hill Medal, in Brisbane, Australia. Photo courtesy of Tim Moore.

Dorothy Hill (1907 – 1997), for whom the award is named, was a born and bred Queenslander, having grown up in a suburb of Brisbane. After studying chemistry and geology at University of Queensland (UQ) she won a scholarship to Cambridge University. Before the start of World War II she returned to UQ where she worked extensively on the stratigraphy and palaeontology of Queensland. Hill was the first female fellow of the Australian Academy of Science but it is her research that she most is renowned for throughout Australia. She retired from the University in 1972.

From all at TSOP, we would like to say Congratulations Joan!

Tim A Moore
Cipher Consulting Ltd.

paleoclimate of black and grey laminated shales from Dongying Sag, Jiyang Depression, Bohai Basin, China.



Quin Miller

University of Wyoming PhD candidate and Spackman Award applicant Quin Miller is using small- and ultra-small angle neutron scattering techniques at Oak Ridge National Laboratory to quantify pore networks in unconventional reservoir rocks. Neutron scattering will be used to distinguish mineral- and organic-hosted porosity in Woodford Shale and to quantify how both change in response to fluid-rock reactions.

New TSOP Members



Huiyuan Xu

Mr. Huiyuan Xu is a PhD candidate at Macquarie University where he is studying organic geochemistry and petroleum geochemistry, including biomarkers, reservoir accumulations and oil migration. His applications of analytical chemistry are focused on understanding the paleoenvironment and



Yanuar Yudhi Isworo

Yanuar has worked at the Coal Department of PT.SUCOFINDO (Persero) for 11 years, an Indonesia state-owned enterprise performing

coal laboratory services. Most of his work is in coal upstream services such as general coal mapping, coal exploration and quality control. His PhD research at the Pusan Clean Coal Center, Busan, South Korea is using coal petrographic approaches to investigate coal combustion properties.



Ibrahim Al Atwah

Ibrahim is a PhD candidate at Texas A&M University, College Station, where he researches the geochemistry and petroleum systems of the Woodford Shale and Mississippian Limestone in north Oklahoma. He graduated from University of Tulsa, with a bachelor's degree in Geology in 2011 and earned his MSc in Geology from Oklahoma State University in 2015.

Ibrahim joined Saudi Aramco in 2011 going through rotational assignments over different departments in both petroleum exploration and development business lines for two years. Ibrahim's technical expertise is in petroleum geochemistry and geology, specifically, examining macerals in organic-rich carbonates and petroleum migration and accumulation in sedimentary basins using molecular tools such as biomarkers and diamondoids.

In Memoriam

Wallace (Wally) G. Dow

Jun 4, 1937 - June 28, 2016



Modern geochemistry and the term 'petroleum system' are in the forefront of exploration for new sources of petroleum largely due to Wallace (Wally) G. Dow. Wally is the father of the concept of the petroleum system (originally 'oil system'). Dow's intuitive, scientific and practical approach to the search for oil and gas has provided oil exploration companies with a systematic approach to evaluation and assessment of petroleum resources.

Wally began his career by studying geology at The State University of New Jersey, Rutgers University, from 1955 to 1959 where he earned his Bachelor's degree. He continued his education by pursuing a master's degree at the University of North Dakota in geology, which he completed in 1964. An important part of the journey through the MS program was meeting his future bride, Marlys, who also played a major role in Wally's entrepreneurial efforts in the 1980's-1990's.



After a three-year stint in the U.S. Army, Wally's early profession career was spent with Amoco Production Company and Amoco Research Company in Tulsa. The Amoco connection was special for Dow as it connected him with exploration geochemistry, chemistry and lab analyses, and colleagues such as Jack Williams, Bob Thompson, John Winters, and many others. While at Amoco, Wally and his colleague, Jack Williams, effectively launched the petroleum system approach in the Williston Basin. Dow's 1974 seminal publication on the oil systems of the Williston Basin is the foundation for the petroleum systems approach in exploration today.

Wally continued his education pursuing his PhD at the University of Tulsa. However, in the midst of this pursuit, he was offered a position at The Superior Oil Company in Houston where he established a geochemical laboratory. There he met many of his long term colleagues such as Dolores O'Connor and John Allen, both of whom worked with Wally later in their joint professional journeys. Wally moved to Getty Oil after Superior, but an offer from Robertson Research as vice president extracted him from Getty. However, one of the 1980's business down turns resulted in Robertson closing their Houston laboratory and Wally set out on his own establishing his own geochemical laboratory, Dow Geochemical Services, later changing the name to DGSI.

Running his own business from 1984 to 2000 was a difficult assignment for anyone in the petroleum sector including Wally, his family, and colleagues. However, the business succeeded on the strength of Dow's energy, perseverance, and financial contributions. While many geochemical laboratories were data factories for oil companies, DGSI succeeded on the strength of Dow's ability to provide data with an integrated interpretive report that assisted the success of clients in

assessment of conventional and unconventional plays.

After selling DGSI in 2000, Wally became an independent consultant for several years. In 2006 he joined EOG Resources as chief geochemist, where he assisted in identifying the best areas for oil production in the Eagle Ford Shale play. After leaving EOG in 2011, Wally became chief geochemist with Cimarex and he and Marlys returned to Tulsa.

Working with Wally over the years, it was obvious that his innovative and technical skills were always advancing as shown by his willingness to try new ideas and concepts. His company, DGSI, was the first to transmit geochemical data electronically. Also, while capillary chromatography had gained popularity, it was not widely used in the petroleum industry including at major oil companies and Wally's DGSI offered very high resolution whole oil analysis in 1984. Further to his credit, DGSI was also one of the first companies to demonstrate use of 1D basin modelling to assess petroleum prospects. A paper given in 1987 at the AAPG National Convention featured Arif Yukler's basin modelling work with DGSI's kinetic analysis. DGSI was also first service company to have the Rock-Eval 6 and an internet website.

Wally was always willing to share his knowledge with others, but he expected such students to work at understanding the basis for such concepts that he related to them. He would provide references for colleagues or students to read and later sit down and discuss what they learned and thought. I consider Wally my mentor in organic geochemistry providing the foundation on which to build a career in the field.

Perhaps one of the key contributions of Wally's career was joining Les Magoon of the U.S. Geological Survey as a co-editor and joint instigator of AAPG Memoir 60, The Petroleum

System – from Source to Trap, which was published in 1994. This is one of the most popular books ever published by the AAPG. In fact this publication won the editors AAPG's Robert H. Dott Memorial Award for the best special publication dealing with geology.

Although Dow's work on petroleum systems is a well-known association, he published numerous papers and gave innumerable presentations and courses. His oil and gas generation bubble chart featuring oil and gas windows with thermal maturity measurements is widely utilized. In addition Wally and his good friend and colleague, Prasanta Mukhopdyay (Muki), were co-editors of a 1994 ACS Symposium Series book entitled Vitrinite Reflectance as a Maturity Parameter: Applications and Limitations.

Wally also received numerous awards and honors such as the Arthur Gray Leonard Medal from the University of North Dakota for outstanding achievement in the geosciences. He has been recognized with a variety of awards from groups in North and South America. Wally is a long time and emeritus member of AAPG as well as an AAPG Charles Taylor Fellow. He was also a member and active participant in The Society for Organic Petrography (TSOP), The European Association of Organic Geochemists (EAOG), The Latin American Association of Organic Geochemists (ALAGO), and Sigma Xi.

In 2014 a session was organized at the AAPG ACE deservedly honoured Wally Dow for his 50 years of service in the field of organic geochemistry.

Wallace G. Dow, the father of the petroleum system concept – was a true leader and innovator in the field of organic geochemistry.

Daniel M. Jarvie

Papers from the 32nd Annual Meeting of TSOP

The International Journal of Coal Geology has now accepted the final papers for the Special Issue from the 2015 Annual Meeting of TSOP that was held in Yogyakarta, Indonesia. As guest editors of this Special Issue, we are delighted to showcase the following nine papers:

The first by Friederich et al. discusses the unique nature of SE Asian Cenozoic coal-bearing basins.

The second paper, by Ayaz et al., also concentrates on sedimentological settings and palaeoenvironments but the ones in this paper are of Permian age and in Australia.

Holgate et al. discuss the origin of lithotypes in brown coals from both Australia and Germany in the third paper of this volume. Anggara et al. present results of coal swelling experiments during CO₂ injection in the fourth paper.

The fifth paper, by Dai et al., looks at Permian age coals from the Sichuan Province in China, and presents data on the mineralogy and geochemistry with emphasis on rare metals.

Carrying on with the topic of geochemistry, Gong et al. in the sixth paper examines the mineralogy and trace elements that are released from fly ash during alumina extraction.

The seventh paper, by Quaderer et al. looks at the thermal effects of dike intrusion in coals from the Illinois Basin, USA.

The eighth paper, by Gentzis is focused on the potential of unconventional hydrocarbons of the Cretaceous age Steel/Niobrara Shales in Wyoming, USA.

Finally, the ninth paper by Warwick and Ruppert give laboratory results of the carbon and oxygen isotopes released when coal is combusted.

Tim A. Moore - Cipher Consulting Ltd. and School of Earth, Environmental and Biological Sciences, Queensland University of Technology, Brisbane, Australia

Tennille E. Mares – Santos Ltd., Adelaide, Australia

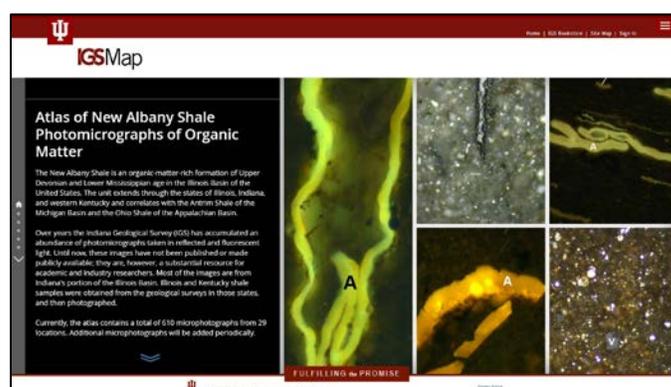
D. Hendra Amijaya – Gadjah Mada University, Yogyakarta, Indonesia.



the images are from Indiana's portion of the Illinois Basin. Illinois and Kentucky shale samples were obtained from the geological surveys in those states, and then photographed.

Currently, the atlas contains a total of 610 microphotographs from 29 locations. Additional microphotographs will be added periodically.

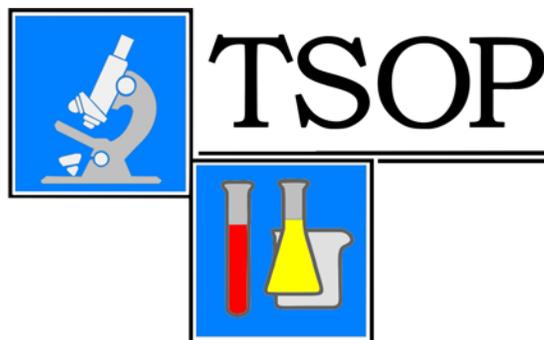
https://igs.indiana.edu/IGSMap/?map=NASP_hotomicro



Atlas of New Albany Shale Photomicrographs of Organic Matter

The New Albany Shale is an organic-matter-rich formation of Upper Devonian and Lower Mississippian age in the Illinois Basin of the United States. The unit extends through the states of Illinois, Indiana, and western Kentucky and correlates with the Antrim Shale of the Michigan Basin and the Ohio Shale of the Appalachian Basin.

Over years the Indiana Geological Survey (IGS) has accumulated an abundance of photomicrographs taken in reflected and fluorescent light. Until now, these images have not been published or made publicly available; they are, however, a substantial resource for academic and industry researchers. Most of



**The Society for
Organic Petrology**

CALENDAR OF EVENTS

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

<http://www.tsop.org/events.html>



2016



October 16-19

SEPM-AAPG Research Conference: Mudstone Diagenesis
Santa Fe, NM, USA

2017



April 2-5

AAPG 2017 Annual Convention & Exhibition - Houston, TX, USA



August 13-18

Goldschmidt Conference - Paris, FRANCE



September 5-8

2017 Pittsburgh Coal Conference - Pittsburgh, PA, USA



September 21-27

34th TSOP Annual Meeting - Calgary, CANADA



October 15-18

AAPG-SEG 2017 International Convention & Exhibition - London, UK



October 22-25

2017 GSA Annual Meeting - Seattle, WA, USA

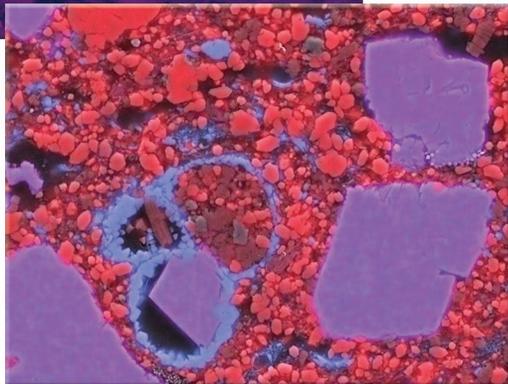
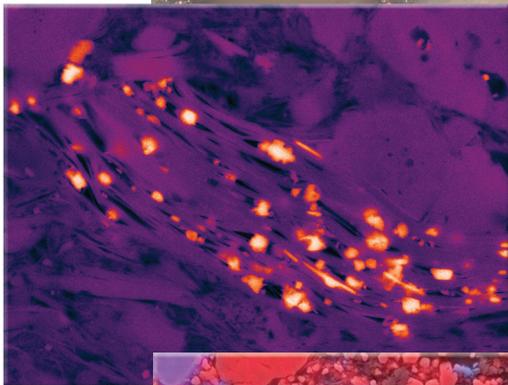
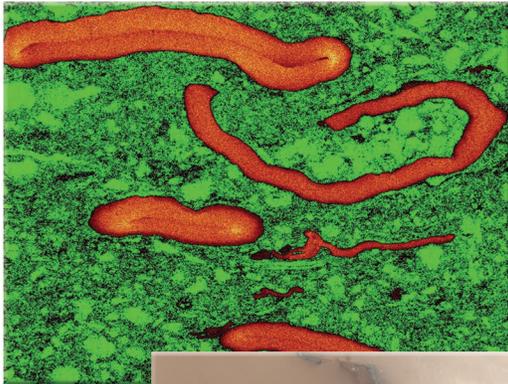


TBA

69th ICCP Annual Meeting - Bucharest, ROMANIA

SEPM-AAPG RESEARCH CONFERENCE

MUDSTONE DIAGENESIS



Implications for Exploration and Development of Unconventional Reservoirs

LOCATION: Hilton Santa Fe Historic Plaza
Santa 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 (Anadarko), Neil Fishman (Hess), Paul Hackley (USGS), Kitty Milliken (BEG-UT Austin) & Kevin Taylor (Manchester Metro. Univ.)
Email: wayne.camp@anadarko.com