

## MINUTES OF COMMISSION I

General Coal and Organic Petrology

68<sup>th</sup> ICCP Meeting, Houston, USA, 22<sup>nd</sup> September 2016

Chair: Deolinda Flores, [dflores@fc.up.pt](mailto:dflores@fc.up.pt), Secretary: Stavros Kalaitzidis, [skalait@upatras.gr](mailto:skalait@upatras.gr)

### **Opening remarks**

The Commission I meeting was held the whole day on Thursday the 22<sup>nd</sup> of September and was attended by 26 members. Apologies for not attending were received by Lila Gurba and Shaoqing Wang. The Chair outlined the programme for the sessions and presented a short overview of the Commission's activities during the last year.

### **Temporal Variations in Coal WG – Lopo Vasconcelos**

Although this WG is not active any more, Lopo continues to add new data into the database, which now reaches in total 13,416 maceral data entries from 76 countries and territories (22 “Gondwana” and 54 “North Atlantic” countries/territories). **ICCP Members are encouraged to use the Database that is loaded on the ICCP webpage (<http://www.iccop.org/workinggroup/temporal-variation-of-coals/>) and/or to add any new data that become available by conducting either Lopo or Com I Chair/Secretary.**

Commission's I sessions included a joint Microscope Session with Com II, as well as presentations of the following WG's:

- SCAP - Single Coal Accreditation Program
- Suberinite Working Group
- Standardization Working Group
- ISO Standard
- Distinguishing Features of Macerals Editorial Group
- Reflectance & Terminology of Zooclasts in old sediments
- Petrographic Image Database
- Xylite-rich Lithotype Classification WG
- New Handbook Editorial Group
- Liptinite Editorial Group
- Oxidation Editorial Group

## **Single Coal Accreditation Program - Kimon Christanis**

Stavros presented on behalf of Kimon the progress of the 2016 SCAP round.

The 2016 SCAP exercise was announced in February 2016. Participants have electronically registered *via* the ICCP webpage. Unfortunately, due to late registrations the dispatch of invoices, samples and instructions have lasted from April till August 2016.

In the past exercises, beginners received six block samples and continuing participants two bulk coal samples. However, in the 2016 exercise for the first time all the participants received bulk samples. In total, around 350 samples were despatched. The participants had to measure the following parameters:

- Vitritinite random reflectance (VR) according to ISO 7404-5 measured on collotelinitite (ICCP, 1998).
- Vitritinite content (VC) according to ISO 7404-3.

The extended deadline to submit the results was set on 31<sup>st</sup> of October 2016.

In total 107 analysts were initially registered in the 2016 SCAP from 63 laboratories located in 23 countries; 106 analysts corresponded further, from whom 65 are ICCP members. The breakdown in continuation *versus* new entries is 89 to 17, respectively. It is also interesting to note that the majority of the participants are ICCP Members, something that did not happen since the 2008 round. The geographic (concerning continents) distribution of the participants was: Oceania 30%, Europe 33%, America 23%, Africa 10% and Asia 4%.

Kimon also sent some comments regarding the logistics of the Programme so far.

- After the experience of the 2014 round, sample sets to participants in certain countries were sent per registered post. This increased the expenses per sample set, although at the end, proved being cheaper (30%) and more reliable (i.e. less lost sample sets, no delays in the procedure).
- Several payments were enormously delayed and after several reminders sent by Jen and Kimon, the completion of the sample-dispatch could be achieved only by the end of August, instead of the planned date that was May.
- For the first time in SCAP's history, the participants' results will be assessed through a database. This prerequisite that the organizer inserts to the database the coal and sample codes for all participants; then the data summary sheet for each one is generated and sent to the participant. In order to be able to complete this job, all the participants have to pay the fee on time and to receive the samples. Late payments and

lost sample sets lead to delays. For this reason the data summary sheets have been distributed to the participants early September.

Kimon acknowledged the contribution of the following persons, the former and the current chair of the ASC Deolinda and Magda for continuous support. He specially thanks Deolinda for her valuable contribution in the preparation of the database to electronically assess participants' results; the Honorary Treasurer Jen for handling the SCAP finances; Isabel, Gisela & Gerd, Deolinda, Jolanta, Stavros, Małgorzata for sample supply and his students Nadia, Vasia and Zozo for assistance in preparing the sample sets.

Regarding the samples databank, since only bulk samples will be distributed from now on, **Members who can supply with suitable bulk, single coal samples, please contact Kimon: [christan@upatras.gr](mailto:christan@upatras.gr).**

During the discussion Isabel and Paul offered to send samples to Kimon.

Another point that was raised on the discussion and was agreed upon was the suggestion to include in the future in both the webpage and the call for participation the following recommendation:

*'It is highly recommended that CBAP participants also participate in SCAP exercise'.*

Commission I will act on this.

Commission I thanks Kimon for all his efforts in convening the SCAP.

Deolinda also presented the Excel-based databases for the evaluation of the SCAP and DOMVR Accreditation Programs. The databases were created by Interrelate Lda and the final versions were ready in May 2016. The software enables for an automated pipelined procedure for the evaluation of the data of each program. All the previous data of the Programs were provided by Kimon (SCAP 7606 entries) and Angeles (DOMVR 724 entries) and added in the database. The set-up process of the database is still on going and the final checks if the system works properly will be performed during the evaluation of the data which will be by the end of November early December 2016. Therefore, it has been approved that Kimon and Magda will travel to Porto for the final checks.

Deolinda would like to thank Angeles and Kimon for their support during the development of the databases and also her colleague Álvaro Figueira from Interrelate Lda Company, as well as José Carlos, who understood the complexity of the ICCP APs and conceived and developed a very satisfactory system.

Finally, Isabel sent the following letter to Commission I regarding the creation of the Accreditation Software.

*“This is the last time that we are having Deolinda as Chair of the Accreditation Subcommittee. Hence, I want to dedicate a few words to Deolinda for their important and invaluable work as Chair of the Accreditation Subcommittee.*

*When she started as Chair of the Accreditation Subcommittee (some years ago) she quickly understood me and my problems with the CBAP database, as well as the need of having a set of unified databases for all the Accreditation Programs. Unfortunately this was an issue not very well understood by the ICCP.*

*The Accreditation programs are one, if not the main source of income for the ICCP. On the other hand in these programs there are many ICCP members and also non-ICCP members and every year the number of participants are increasing. And this is due to the good work of de Convenors of the accreditation programs especially those more complicate programs and the Chair, Deolinda, of the Acc. Subc.*

*To have successful Accreditation Programs into the ICCP, Deolinda always understood that everything related to the Programs overall the databases should be Professional and serious and not something developed in an excel spread sheet “in the kitchen” of the convenors. And it is for that she fought in the last 4 years. And with my support and my complaints and overall her high professional interest in these matters she got them and she won.*

*And now thanks to Deolinda the Accreditation Programs have a set of unified and professional database, working properly for many years.*

*Deolinda, I want only to say to you thanks, thanks and thanks”.*

*Isabel, September 2016*

### **Standardization WG – Walter Pickel**

Walter Pickel presented a summary of the conclusions derived during the 2010 Standardization Exercise. The annual reports of this, as well as the exercise files are located in the ICCP webpage (<http://www.iccop.org/workinggroup/standardization>).

Some main remarks that came out from the 2010 RIC concern the distinction between telovitrinite and detrovitrinite, since it is important to distinguish between the two sub-groups in order to decide on which to perform vitrinite reflectance analysis.

Petrographers should be aware when comparing results from different analysts or labs, since there is still a lack of reproducible data in the distinction between Telo-, Detro- and Gelovitrinite.

Definitions are useful in low to medium rank bituminous coals, but less useful with increasing rank.

Walter will provide a final report of the 2010-2016 Activities of the 2010 Standardization Exercise.

He also presented the New exercise RIC 2016, which will be based on lignite samples. The objectives of the exercise will be to test the applicability of ICCP 1994 System Classifications regarding the maceral group, sub-group, maceral, and maceral type level.

Two lignite samples from the the Lausitz Lignite District in Germany, kindly supplied by Claudia Niemtz from Vattenfall AB, will be distributed to the 13 Members that already expressed interest to participate.

The analysts will be asked to perform maceral analyses on both samples at least down to the maceral type level. The round robin will also include huminite reflectance analyses on ulminite. Analysts will be asked to note their level of experience in lignite analyses, e.g. high, low, never seen one in my live, etc. Samples are prepared and ready to ship with instructions by end of the year.

The samples of the 2016 RIC were also examined in a short microscope session and during the discussion Peter Crosdale mentioned the need to use fluorescence mode when conducting this exercise. Furthermore Angeles and Stavros proposed that the analysts should return also photomicrographs of the macerals they identified, in order to comprehend better the results.

Anyone interested to participate to the 2016 RIC please send an email to Walter [walterpickel@optusnet.com.au](mailto:walterpickel@optusnet.com.au).

Commission I thanks and congratulates Walter for his dedication conducting the Standardization round robin exercises. Also we would like to thank Bernard Kuecking from Bernard Instruments, Houston for providing the Microscope for our sessions.

#### **ISO Standard – Walter Pickel**

Walter discussed the status of the ISO 7404 parts 1-5, the development of which must be in the interests of ICCP to have an active participation.

Therefore, ICCP Members should revisit the ISO Standards and be ready with ideas when the revision time will come.

Commission I thanks Walter and the WG participants for their efforts in delivering the ISO Standard.

#### **Suberinite WG – Peter Crosdale & Antonis Bouzinos**

Peter Crosdale presented the results of the 2015 Suberinite Exercise. The objectives of the exercise were:

1. To investigate the various forms of suberinite in coal.
2. To establish if the present ICCP definition is adequate.

The participants received a file with 30 fields of view from two discrete samples of the Jurassic Walloon Coal Measures, Surat Basin, Qld. Each field comprised 5 images:

1. Black and white reflected white light
2. Black and white with areas of interest identified
3. Colour of fluorescence
4. Colour under reflected white light
5. Black and white with the value of reflectance measurements

Within each field between one and four areas of interest were indicated, resulting in a total of 113 identifications. The results were reported on a customised Excel spreadsheet.

Thirteen analysts conducted the exercise and sent results to Peter.

The main observations from the evaluation of the exercise are summarized below:

Fluorescence properties are an important parameter in positively distinguishing suberinite from huminite/vitrinite.

The presence or not of structure is a key element in deciding among suberinite / bituminte / liptodetrinite.

Suberinite was recognised by many participants by association to corpohuminite. If there is no clear corpohuminite then suberinite was identified by exclusion, i.e. excluding other macerals.

Peter will continue with the statistical evaluation of the results, to be presented next year. Furthermore, a new exercise for 2016 was discussed, in which the participants will receive blocks of the examined samples, for point counting; in addition they will have to take photomicrographs and label the various suberinite forms they will identify.

All the relative documentation of the WG is available on the ICCP webpage, along with the files of the 2015 Exercise (<http://www.iccop.org/workinggroup/suberinite>).

Fourteen members expressed their interest to participate in the 2016 Exercise, however, anyone interested in participating please contact Peter ([peter.crosdale@energyrc.com.au](mailto:peter.crosdale@energyrc.com.au)).

Commission I thanks Peter and Antonis for convening this very interesting WG.

**Reflectance & Terminology of Zooclasts in old sediments WG** – Thomas Gentzis

Thomas gave a presentation on Zooclcasts characteristics and reflectance measurements; various forms of Graptolites of various maturity levels were presented, in order to realize the difficulties petrographers might encounter when studying such samples. In an effort to ‘kick-start’ the WG on Zooclcasts, he presented the plan for the 2017 round exercise. He proposed to send a number of graptolite-containing samples (~12), taken from various formations in North America, Europe and Asia. Few members felt that the above number of samples is very large and would create problems with the circulation and timely analysis. Deolinda suggested that she could send a sample from the Silurian of Portugal that is very rich in graptolites of good quality. Thomas and Stavros reviewed Deolinda’s slides to confirm. Having so many splits from the same ‘parent’ sample will expedite the analysis. The idea is for each pellet to be analyzed by 3 participants. Results of the RR study will be reported at the next ICCP meeting.

Angeles and George also expressed an interest to submit Zooclcasts-bearing non-proprietary samples for future studies.

Already 18 members signed to participate in the Round Robin study, and anybody interested, please contact Thomas ([Thomas.Gentzis@corelab.com](mailto:Thomas.Gentzis@corelab.com)).

Commission I thanks Thomas for his presentation and efforts in convening this WG.

### **Distinguishing Features of Macerals EG – Walter Pickel**

Walter presented the aim of the WG, which is to “*define and compile criteria that will add more detail to the ICCP 1994 maceral classification and thus support analysts in maceral identification*”. The intention is to add detail in the framework of the existing definitions to assist analyst with further distinguishing features of the macerals they want to identify.

He presented draft texts for several macerals from all the maceral groups (i.e. Telovitrinite, Detrovitrinite, most of liptinite and inertinite macerals). This text will be circulated among the 14 members, who expressed their interest to participate with comments and additions. A draft version of this compilation will be presented at the next ICCP meeting in Bucharest.

Commission I thanks Walter for his efforts in this Editorial Group.

### **Petrographic Image database – Petra David**

Stavros presented on behalf of Petra the progress on the ICCP Image Database. Although the level of activity during 2015 was low, Petra modified and distributed the Information Sheet

for photomicrographs to the members of the working group: Paddy Ranasinghe, Paul Hackley, Angeles G. Borrego, Johan Joubert & Stavros Kalaitzidis for their comments.

It was agreed that for the 'industrial products' additional information are required (e.g. process, burner, temperature, etc). Magdalena was contacted and contributed with additional info.

Ralph Delzepich was contacted and he had suggested the "TwentyTwenty" (<http://zurb.com/playground/twentytwenty>) as potential tool that could be used to present images under different illuminations. Also he suggested a separate webpage for the image database. However, Stavros will conduct Silk Tech, the company that already supports the current ICCP webpage for technical and financial information.

As a test set of images for the database the imaging material from the Qualifying WG, will be used, but additional material could be delivered by the Concentration of Organic Matter WG and/or the images taken for the DOM Atlas.

The Information Sheet for the Database will be uploaded to the webpage so that ICCP Members can review and comment if anything else can be added. Once the Sheet is agreed upon a Demo version will be created to evaluate and then the members will be requested to provide images.

Commission I anticipates that in Bucharest the Demo will be presented, and thanks a lot Petra for her efforts and dedication on this work.

### **Xylite-rich Lithotype Classification WG – Giannis Oikonomopoulos**

Stavros presented on behalf of Giannis the activities of the WG that was established last year. The objective of this WG is to develop a Classification scheme for Xylite-rich lithotypes of low-rank coals. For the 1<sup>st</sup> year Giannis conducted a detailed review of the existing international literature and circulated an Excel spreadsheet to the WG members for additional entries and comments. The collected information referred to the various "xylite" types that occur in xylite-rich lignite deposits in Eastern Europe and Western Asia.

The bibliographical information was grouped in the following categories:

1. Definitions of macrolithotypes.
2. Classification systems of lignite/coals and the reasoning of the systems.
3. Classification systems for xylite-dominated lignites and the reasoning of the systems.
4. Descriptions of xylite-dominated lignite deposits.

The spreadsheet was presented and discussed and it will be available to the 12 interested members soon for additional comments. During the discussion Dragana Zivotic mentioned



that in the classification scheme technological properties (e.g. grindability), should also be included. Additionally for 2016-2017 the activities will focus on creating a set of images of the macro-characteristics of xylite-rich lithotypes.

Anybody interested to participate in the activities of this WG please contact Giannis ([giannis@metal.ntua.gr](mailto:giannis@metal.ntua.gr)).

Commission I would like to thank Yiannis for his initiative and efforts in this Working Group.

**New Handbook Editorial Group** – Petra David, Ivana Sýkorová, Isabel Suárez Ruiz & Kimon Christanis

Deolinda presented a short overview of the progress related to the New Handbook. The new chapters that have been approved are: Liptinite, Oxidation, SEM and TEM microscopy. The Chapter Pyrolytic carbon was already approved but has been published in International Journal of Coal Geology, without being an ICCP publication or referring to ICCP, which definitely is a not in the interests of ICCP.

The chapter on QEMSCAN has been sent to two external reviewers and is under review at this stage. For the chapter on Raman Spectroscopy, it was decided to contact Dr. Keno Lunsdorf to take over as a new convenor.

It was also reminded that the old Handbooks are already scanned and uploaded on the open part of the webpage <http://www.iccop.org/publications/iccp-handbook/> for everybody to download.

During the discussion the issue of how to publish the various ICCP classifications on peer-review journals was raised. It was suggested, as a possible solution to overcome the problem with retaining copyright, to publish under Open Access licence, but since this issue would have been a subject for the General Assembly the issue was postponed.

Commission I thanks Petra, Isabel, Ivana and Kimon for their efforts on the Handbook, as well as all the reviewers that help to improve the manuscripts prepared by the conveners.

**Oxidation Editorial Group** – Jolanta Kus & Magdalena Misz-Kennan

Magdalena presented the final text of the Oxidation Chapter, which also was approved last year and can be found in <http://www.iccop.org/workinggroup/oxidation-editorial-group/>. The manuscript will be submitted to a peer-review journal once ICCP solves the copyright issues.

Commission I congratulates Jolanta and Magda for their work on the Oxidation Chapter.

#### **Liptinite Editorial Group** – Walter Pickel

Walter presented the Classification of Liptinite – ICCP System 1994 manuscript that was already approved last year and only minor editing issues were fixed in the text. The final version is available on the ICCP webpage (<http://www.iccop.org/workinggroup/liptinite>).

The manuscript will be submitted to International Journal of Coal Geology once ICCP solves the copyright issues.

Commission I congratulates Walter, for his work on the Liptinite chapter.

#### **Closing Remarks**

Deolinda Flores and Stavros Kalaitzidis closed the Session of Commission I.

Deolinda presented also a summary of Commission I activities for the period 2013-2014, since it is her last term as Chair of the Commission. In this period 10 WGs and 7 Editorial Groups were active. All the Groups produced a significant amount of work, and all the presentations and reports are available in the webpage <http://www.iccop.org/commissions/commission-i/>.

Stavros also expressed his gratitude to Deolinda for her friendship, high professionalism, commitment and integrity in every step during the last 8 years, as well as her enormous efforts in leading and supporting the scientific activities of Commission I. He said ***“ICCP Family is lucky to have you Deolinda; Dragana and I will try to honour the legacy you leave behind, by caring for ICCP”***.

ICCP Members were also reminded that the following Commission I Services are available for the Coal Petrography Community:

**Single Coal Accreditation Program, SCAP** – Kimon Christanis ([christan@upatras.gr](mailto:christan@upatras.gr)).

**Reflectance Standard Checking:** The service to check standards against the *ICCP Reflectance Standard* continues available from Dave Pearson, Walter Pickel and Gerd Bieg (USD 50; and free of charge for ICCP members).

As per final remarks Commission I would like to encourage ICCP members to visit the webpage, since a lot of data and information from the WGs has been uploaded <http://www.iccop.org/commissions/commission-i/>.

Also the convenors of the various WGs are encouraged to check and update regularly the web material.

Finally, Commission I would like to thank Thomas Demchuk and all the participants of the sessions for their active participation resulting in another productive Meeting.



Chair and secretary of Com I – since 2009  
Beijing 2012



Com I Council meeting  
Kolkata 2014



Com I meeting...  
Kolkata 2014



Com I meeting...  
Potsdam 2015

Thank you Deolinda!!!