

Summer Report 2014

Eötvös University Student Chapter of AAPG





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Introduction

The Eötvös University Student Chapter had a successful year with even more activities than the last semesters. One of the major events was the 5th International Students Geological Conference of which we were co-organizers. The conference was a break-through at Eötvös University, as geology students have not hosted such a large event in recent years. The colorful program was profitable for every participant.

Motivated by the previous field trips, the Student Chapter successfully organized a Balearic Islands field trip without the financial support of the AAPG. Our excellent guides gave us an invaluable insight into carbonate platforms and their reservoir qualities. Some of our members could also participate in a field trip organized by the Aberdeen University Student Chapter.

We have organized lectures, workshops and talks in a wide range of subjects. We grab every opportunity to advance the student members in their professional development. Participation at the Imperial Barrel Awards is an excellent example for this. We visited several well sites and companies so that we can familiarize with the workflow in the hydrocarbon industry.

Many students joined the chapter this year and many of them were active in the organization of our programs. The cooperation with other student chapters was also fruitful. Several programs were co-organized with the Eötvös University Student Chapter of the Society of Exploration Geophysicists.

I would like to thank the student chapter members for their active participation in our work. It was a pleasure to be the president of the Eötvös University Student Chapter; I am certain that we have many more exciting years ahead of us!

1st July 2014, Budapest

*Lilla Tőkés
Student Chapter President*



Student Chapter Information

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Executive Committee for the 2013/2014 term:

President:	Lilla Tőkés	lillatks@yahoo.com	Earth Sciences PhD
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Webmaster:	Péter G. Kovács	kovacs.g.peter@gmail.com	Geology MSc
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**Members of the Student Chapter in the 2nd semester of 2013/2014:**

75 members; the new members (11) are highlighted with brown.

First name	Last name	Degree subject	Member ID
Róbert	Arató	Geology MSc	10066889
Dávid	Bajnai	Geology MSc	10104205
Attila	Balázs	Earth Sciences PhD	10066890
Dominik	Baláz	Earth Sciences BSc	10103679
Viktor	Balogh	Geology MSc	10089822
István Róbert	Bartha	Geology MSc	10087666
Edina	Bartakovics	Geology MSc	10102170
Noémi	Blaskó	Geology MSc	10104263
Tünde	Bodnár	Earth Sciences BSc	10097400
Petra	Bodor	Geology MSc	10102169
Soma	Budai	Geology MSc	10104242
Dóra	Csengődi	Geology MSc	
Pál	Csicsák	Earth Sciences BSc	10116498
János	Csizmeg	Earth Sciences PhD	10060462
Luca	Farkas	Geophysics MSc	
Katalin	Fülöp	Geology MSc	
Gabriel	Vinícius Morais de Andrade	Geology MSc	10104593
Fanni	Gaál	Earth Sciences BSc	10104318
Zsuzsanna	Gálik	Geology MSc	10107355
Tamás	Garamhegyi	Geology MSc	10094644
Erik	Gordos	Earth Sciences BSc	10093049
Judit	Grüll	Earth Sciences BSc	10113470
Tímea	Havril	Earth Sciences PhD	10073638
Balázs	Horváth	Geology PhD	10060415
Bence	Horváth	Geology MSc	10086321
Benjámín	Hirschmann	Earth Sciences BSc	10104214
Rita Anna	Kapiller	Geology MSc	10104492
Zsuzsanna	Kapui	Geology MSc	10094401
Anikó	Koczán	Earth Sciences BSc	
Ádám	Kocsis	Earth Sciences PhD	10091266
András	Kovács	Geophysics MSc	10098267
Gellért Péter	Kovács	Geology MSc	10087956
Viktória	Kovács	Earth Sciences BSc	10106676
Dániel	Kőrösi	Earth Sciences BSc	10098093
Péter	Laczko-Dobos	Geology MSc	10103137
Orsolya	Lukovszki	Earth Sciences BSc	10097753
Gyula	Márky	Earth Sciences BSc	10103603
Dávid	Mészáros	Geophysics MSc	10090088
Katalin	Mészáros	Earth Sciences BSc	10112474
Daniella	Micsinai	Geology MSc	10081741
Mária	Molnár	Geology MSc	



Ahmed	Muhammed	Geology MSc	10104211
Adrienn	Németh	Earth Sciences BSc	10104025
Viktor	Németh	Geophysics MSc	10098395
Csilla	Orgel	Geology MSc	
Szilvia	Ormándi	Earth Sciences PhD	10097372
Rebeka	Oross	Geology MSc	10085976
Norbert	Pásztor	Earth Sciences BSc	10113039
Domokos	Pásztor	Geology MSc	
Péter	Pálfay	Geology MSc	10104825
Edina	Pável	Geology MSc	10066893
Attila	Petrik	Earth Sciences PhD	10066894
Zóra	Pók	Geology MSc	
Kristóf	Porkoláb	Earth Sciences BSc	10098096
Rezhan	Jamal Arif	Geology MSc	10104213
Jennifer	Sarrang	Geology MSc	10085801
Bence	Solymosi	Geology MSc	10082135
Balázs	Soós	Earth Sciences BSc	10116266
Shakhawan	Latif	Geology MSc	10104212
Vivien	Szabó	Earth Sciences BSc	10104226
Soma	Szathmári	Geology MSc	10104248
Rachel Lilla	Szilágyi	Geology MSc	
Emese	Szócs	Geology MSc	10094086
Gergely	Szóts	Geophysics MSc	10117080
Dániel	Szűcs	Earth Sciences BSc	10105525
Zoltán	Téczely	Geophysics MSc	10089818
Mihály	Temes	Geology MSc	10066896
Ádám Zoltán	Tóth	Earth Sciences PhD	10060428
Bernadett Ildikó	Tóth		10070713
Lilla Bea	Tőkés	Earth Sciences PhD	10073644
Ágnes	Török	Geology MSc	
Balázs	Trásy	Environmental Sciences PhD	10074804
Miklós	Varga	Environmental Sciences PhD	10103814
Enikő	Várkonyi	Geology MSc	10066898
Gábor	Zsiborás	Earth Sciences BSc	10103680

Student Chapter Activities from January to June 2014

Well site visit in the Békés Basin

24th April

The Eötvös SCs of AAPG and SEG had the opportunity to visit a hydrocarbon exploration drilling rig near Magyarbánhegyes (Great Hungarian Plain) thanks to Mol Plc.

On the field we could examine the drilling equipment, such as drill pipes and rotary heads. Furthermore their usage and the severe safety standards were also introduced. Then, we visited the mud logging cabin, where we saw the process of analyzing the cuttings taken directly from the well. We were in luck, as we could see how a new drilling pipe is attached when we went up to the rotary table. Following that, well site geologists showed us a few seismic sections and petrophysical logs of the research area.

Finally, we visited a nearby producing pump jack, so we could all feel the goal of hydrocarbon exploration. This visit was very useful for all of the participants. We are grateful for the Mol Plc. for making this possible.

Attila Balázs



The participants



The pump jack

Imperial Barrel Award

6-7th March

The Imperial Barrel Award of this year was a real challenge for the Eötvös University team. Professor János Haas has the role of the faculty advisor, who was helped by the consultants János Csizmeg and Imre Szilágyi. Fortunately the search of the participants did not take too long, and the members did their job perfectly. It was really hard, but fortunately not impossible, to complete the project in 6 weeks instead of 8, as at Eötvös University January is the month of exam period.

The Eötvös University Team got the Merrimelia exploration block in South Australia. The data contained three 3D seismic surveys and three wells with available logs. The research process was carried out with the play based exploration strategy, as it was suggested by the organizers. Fortunately the area was promising for hydrocarbon exploration, so during the research & exploration the team members gained a lot of practice and knowledge about the applied methods and processes of the hydrocarbon industry.



The Eötvös Team (left to right): János Csizmeg (consultant), Péter Gellért Kovács, Rebeka Oross, Edina Pável, Jenifer Sarrang, Gergely Szóts with Keith Gerdes (President of the Europe Region)

The presentation was to be held on 6th March in Prague. This year, the number of the participating universities was so large that the competition had two rounds and only the four best team made it to the second round. Even though the Eötvös University team did not get into the second round, the members really enjoyed the participation, the holding of the presentation, the gala dinner and the whole event. The gala dinner and the party after it were a great experience and a good opportunity to talk to other participants, and to find new friends. For these events and the whole competition we owe a great thank you to AAPG, and to the organizers, especially to Francesca Ghigi, plus the sponsors who made this possible.



Eötvös Team (right side) with part of Amsterdam University Team (left side) and with Gábor Vakarcics (member of the judges, CGG) at the gala dinner

I am really glad that I could be a part of this competition, during which I gained a lot of experience, knowledge, friends and joyful moments.



The Eötvös Team visiting the city of Prague after holding the presentation

Rebeka Oross

Oil Industry Afternoon

14th March



Dr. István Bérczi visited the Eötvös Loránd University in Budapest to spend a nice afternoon with students interested in hydrocarbon exploration and his colleagues and share his experiences and career in the oil industry with us. It was a conversation in a good mood which was conducted by Attila Schlakker, entrant geologist in the oil industry (MOL Plc.); he put questions to Dr. Bérczi.

Firstly, Dr. Bérczi told us why he chose the geologist career and his answer was surprising because he became a geologist by mistake. After that he spoke about what difficulties he encountered at the beginning of his career and how successful he was in solving professional problems during his career. The audience listened with great interest to the experiences of Dr. Bérczi in the oil industry, his memorable projects, especially his stories from Nigeria. He told us his opinion about what kind of professional knowledge students have to acquire at the university if they would like to find a job in the oil industry and what skills are worth to improve before entering work. He spoke about his activity in professional organizations and his projects as the one-time president of AAPG Europe then his opinion about the activity of AAPG SC.

We are grateful to Dr. Bérczi for visiting us, it was a really great opportunity to get to know better the work and life in the hydrocarbon industry.

Edina Pável



Attila Schlakker and Dr. Bérczi in conversation



The students and professionals

Visiting the MFGI

20th March

On 20th March our student chapter together with the new Eötvös SEG student chapter visited the headquarters of the Geological and Geophysical Institute of Hungary (MFGI). We were mainly interested in the survey equipment of the Institute. At first, a brief introduction was also held on the history of the Institute, its departments and their research areas.

Afterwards, our hosts kindly showed us the following equipment: engineering geophysical seismic survey equipment, including S-wave recording geophones; multielectrode DC geoelectric instruments; seismological sensors, including the one developed by the Institute. Last but not least we could also experience how a Ground Penetrating Radar (GPR) survey takes place. It was very popular, as many of us could see and use a GPR for the first time.



Deploying geophones



GPR survey in progress

We are grateful to the Geological and Geophysical Institute of Hungary for this visit. Thanks to the outstanding presentations about the instruments we learnt a lot

Bence Solymosi

Student Chapter Night

20th March

This spring an informal night was organized by all three Eötvös Student Chapters. In addition to the AAPG SC, the Society of Exploration Geophysicists and the Society of Economic Geologists also has an active student chapter. Several departments were invited to get know more about the chapters, their operations and how to take part in the activities. Geologists and geophysicists were both interested. Graduated student chapter members were invited to share their experiences in the industry. Furthermore, it was a great occasion for the current members to get to know each other and keep in touch with the other chapters as well.

Tünde Bodnár



Visiting the Horizon well site

28th March

By favor of the Hungarian Horizon Energy Ltd. our Student Chapter had the opportunity to visit a hydrocarbon exploration drilling rig of the company at Barcs, near the Croatian border..

We were lucky, because the field of the drilling was showed by István Sulyok, senior engineer who informed us of untold useful information. As a start there was a safety briefing right after we arrived, then we could see the base of drilling, where the choke is located. The drill stems just have been put together on the rotary table, after a week-long stand-by status, thanks to this we could observe the process, a variety of tools, and the driller's cabin. Later we saw the mud tanks, the agitators, the mud pump, and the centrifuge. We visited the place where they kept the mud-treating agent.



They initiated us into the work of mud chemists, and opened the door to see the mud samples, and the cuttings under a microscope. The samples of the current drilling were on view in the supervisor's office. We could look into the project summary papers such as seismic profiles which are used for research, logistics guides, and diagrams describing the processes as well. Finally, we visited the company producing well, which was located only a few hundred meters from the drilling site, and there we looked at the final yield of the progress.

We are grateful to the Horizon Energy Ltd for making this visit possible. It was a great opportunity for us to get insight into the hydrocarbon industry.

Norbert Pásztor

Seismic Interpretation Short Course

3th-4th April

On 3rd-4th of April some of the AAPG Eötvös Student Chapter members had a great opportunity to participate in a short course with the title of “Geologic Interpretation of Reflection Seismic Profiles”. This event was organized by Austrian Geophysical Society (AGS) at the Headquarters of OMV, Vienna. The two days long short course was held by Dr. Gábor Tari. The aim of the course was to get familiar with the workflow of seismic interpretation.

The course included a wide range of case studies of different basins from all around the world. The evolution and tectonic style of the different basins were presented and discussed in the first part of every lecture. The second part of the lectures was absolutely interactive, everyone got hard-copy seismic sections and had to interpret it in a group. During the team work we gained valuable experiences, such as, how to be creative, solve geological problems and co-operate with others.



Dr. Gábor Tari during his presentation



Hard working geologists and geophysicists

3rd of April's evening we had a great social event. As guests of AGS we were invited to have dinner at Schweizer Haus, which is a traditional Austrian restaurant. This occasion gave us a good chance to get to know each other better, and we were able to have unforgettable talks with professionals.



Our dinner at Schweizer Haus



Our team with Dr. Gábor Tari

Participation of Hungarian students was supported by Gábor Tari and the Papp Simon Foundation, we are thankful for his offering.

Mária Molnár



Visiting the MOL Szolnok Headquarters

10th April

On the 10th April we had an opportunity to visit the research & exploration center of the MOL Plc. in Szolnok. Our Host was Károly Kiss, the Head of Exploration projects of the company. He presented us the buildup of the whole exploration process. His presentation started with the construction of the company and the position of the Exploration projects in it. It was remarkably interesting to see what the function of a geoscientist is in a huge oil company. We also learned how we can connect to the whole process of hydrocarbon research and exploration from the decisions to the production.

This field trip was a great opportunity to observe the process of hydrocarbon exploration and production. We are grateful to the Mol Plc. and especially to Károly Kiss for his outstanding presentation and guidance.

András Kovács

AAPG Miner's Eve

23rd May

The Miskolc University has had traditions for hundreds of years from their ancestor mining university, the Selmec University. One of the most important tradition is the Miner's Eve, which is a collegial good atmosphere ceremony to express and strengthen the togetherness and friendship of the participants of a selected group. We got the invitation of the Miskolc Student Chapter to join to the first AAPG Miner's Eve at the Miskolc University on 23rd of May. It was a great honor for us Eötvös University students to be a part of this noble tradition.

The event invalidates every secular position, rank, and title, everybody is equal. It has its own locally elected officers (Praeses president, Major Domus, Fuchsmajor, Contrapunct, etc.), who have the responsibility to ensure the Miner's Eve within the traditional framework in a good, cheerful atmosphere. Our event was led by Endre Nádas (Praeses president, former AAPG SC president) and Gábor Katona (Major Domus, current AAPG SC president). The Eötvös University students and the young professionals of the MOL Plc. were present as guests.

The event started with the Hymns of Miners, Metallurgists and Foresters. After the elections, the participants gave their serious and jesting comments and speeches, including our future plans (field trips, short courses, opportunities) and funny stories from the students' weekdays. Between the speeches the president ordered singing of traditional miner songs, which wasn't so hard after a few beers. Namely the official drink of the Miner's Eve is the beer that we drank from the official mug of this special AAPG Miner's Eve. The closing of the event was about midnight, but we continued the (after) party in a nearby club.

It was a great opportunity to meet and bring closer the two Hungarian AAPG Student Chapters in the terms of friendly and professional relations, too. We are very glad for the Miskolc Student Chapter for the invitation, and we hope next year the AAPG Miner's Eve can continue.



The participants of the Miner's Eve from the Miskolc and Eötvös University SCs and MOL Plc.

János Csizmeg



5th International Students Geological Conference

24-27th April

Introduction

Aims

The aim of the conference was to create a forum for students and young researchers from any field of geosciences where they can present their scientific work, make contact, share experience and inspire each other.

After five years and four successful conferences in Krakow (Poland), Ratnieki (Latvia), Lviv (Ukraine), Brno (Czech Republic) ISGC finally arrived to Budapest (Hungary).

The conference included a wide range of scientific sessions, 4 workshops and 5 exciting field trips representing many different disciplines of geology.

Organizers

The main organizers of the conference were the geology students of the Eötvös Loránd University. In order to support the organization of the event, several student chapters joined the organizing committee. The Eötvös Loránd University Student Chapter of the Society of Economic Geologists and the two AAPG student chapters of Hungary: the Eötvös and Miskolc University Student Chapters united their forces.

The AAPG Student Chapters were responsible for organizing the Hydrocarbon Research and Exploration Session supported by MOL and AAPG. The thematic session was joined by a workshop and a field trip. The report will focus on these events.

Participants

The conference brought together 230 students and young professionals from 22 countries from all over the world. Most students came from Central and Eastern Europe: Poland, Ukraine, Slovenia, Serbia, Russia, Romania, Croatia, and the Czech Republic were the best represented countries. 140 participants presented the results of their research in an oral or poster session. Many of the participants were graduate students, far in their studies and having decent scientific results. This fact made the conference scientifically advanced and the discussions heated. The conference was

also fruitful for undergraduate students, along with PhD students and some young professionals. The workshops and field trips provided attendance for over 100 students.

Internationally recognized researchers and industry professionals were invited to take part in the scientific committee of the conference and in the sections' jury. Workshops and plenary lectures were held on the applications of interesting methods and current results in geosciences, too.



5th ISGC participants

Title of the Scientific Sessions	Number of presentations	Number of posters
Mineralogy, Petrology-Geochemistry & Volcanology	15	14
Paleontology & Stratigraphy	6	14
Sedimentology & Structural Geology	9	7
Economic Geology & Mineral Resources	10	13
Hydrocarbon Research & Exploration	6	13
Hydrogeology & Engineering Geology	6	7
Environmental Geology	6	4
Geoarcheology	–	4
Remote Sensing & GIS Applications	3	–
Open session	–	3
Total	61	79



Programs

24th April (Thursday)

19.00 Ice Breaker Party

25th April (Friday)

8.30 Opening ceremony

9.30-10.00 Zsófia Ruszkiczay-Rüdiger (Eötvös Loránd University, Hungarian Academy of Sciences): Quantification of Quaternary vertical movements in the central Pannonian Basin using in situ produced cosmogenic nuclides

10.00-10.30 András Király (MOL Plc.) Resources and Reserves Reporting Systems

10.30-11.00 Szabolcs Harangi (Eötvös Loránd University): Volcanology in the 21st century: perspectives and new challenges

11.00-11.20 Coffee break

11.20-11.50 Attila Ősi (MTA-ELTE Research Group for Paleontology): Uncovering an 85 million years old ecosystem: the Central European Iharkút vertebrate locality

11.50-12.20 Federica Zaccarini (University of Leoben): Electron microprobe and Raman spectroscopy applied to rare and tiny phases: the platinum group minerals (PGM) case study

12.20-12.50 Mihály Pósfa (University of Pannonia): Magnetite formation inside bacteria: mineralogy, evolution, and potential medical applications

13.00-14.00 Lunch

14.00-17.30 Workshops (Coffee break between 15.00 and 16.00)

15.00-16.00 Meeting of the Scientific Committee

26th April (Saturday)

9.00-10.30 Oral sessions: Environmental Geology (Room A), Remote Sensing & GIS Applications (Room B), Hydrogeology & Engineering Geology (Room C)

10.30-10.50 Coffee break powered by ECHN

10.50-12.20 Oral sessions: Mineralogy, Petrology-Geochemistry & Volcanology (Room A), Paleontology & Stratigraphy (Room B), Hydrocarbon Research & Exploration (Room C)

12.20-13.20 Lunch

13.20-14.30 Poster sessions (all sessions)

14.30-16.00 Oral sessions: Mineralogy, Petrology-Geochemistry & Volcanology (Room A), Sedimentology & Structural Geology (Room B), Economic Geology & Mineral Resources (Room C)

16.00-16.20 Coffee break

16.20-17.20 Oral sessions: Mineralogy, Petrology-Geochemistry & Volcanology (Room A), Sedimentology & Structural Geology (Room B), Economic Geology & Mineral Resources (Room C)

17.20-18.00 Scientific Committees withdraw

18.00-19.00 Closing ceremony

19.30 Closing party

27th April (Sunday)

Field trips



Registration



Ice breaker party



Ice breaker party – The participants learning Hungarian folk dance



Plenary lecture by András Király from MOL Plc.



The audience of the plenary lectures



Sharing ideas during coffee break



Raman Spectroscopy Workshop



GIS Workshop



FIB-SEM Workshop



Visiting the Paleontology-Biology Museum

Lilla Tőkés

Structural styles in fold and thrust belts and their relevance for hydrocarbon exploration workshop

On April 25, several interesting workshops were organized at the Eötvös Loránd University in Budapest within the framework of the 5th International Student Geological Conference. One of them was held by Dr. Zsolt Schléder from OMV Petrom S. A., Bucharest with the title „Structural styles in fold and thrust belts and their relevance for hydrocarbon exploration”. It took place from 2 p.m. to 5 p.m. with one coffee break.



Sketching structures



Understanding the dynamics of fold and thrust belts



Concentrating on the task at hand



Zsolt Schléder explaining experimental results

Many people were interested in this workshop: the participants' number reached forty including students and young professional geologists/geophysicists from MOL Plc. At the beginning of the course the lecturer talked about faults and their development in general because it is necessary to understand the basics. He touched upon the historic milestones of the understanding of fold belts and briefly discussed the mechanical base of their evolution. He emphasized that it is important to



check the validity of a geological cross section. He highlighted the importance of the geological model because the companies assign new boreholes based on the data provided by the model.

During the workshop he illustrated the evolution of faults and other deformations with several animations of both sand-box and numerical models. These animations were very helpful to understand the development of the complex deformations and fault systems, too. He also gave us several exercises to practice the interpretation of the faults or to see how sedimentation changes during the faulting.

This workshop was a great opportunity for us to learn more about and practice the interpretation of fold and thrust belts which are often prolific hydrocarbon provinces.

Daniella Micsinai

Hydrocarbon Research and Exploration Session supported by MOL and AAPG

On April 26, oral sessions were held by students within the framework of the 5th International Student Geological Conference in Eötvös Loránd University, Budapest. Hydrocarbon Research and Exploration section was the fifth section; it was supported by *MOL Hungarian Oil and Gas Plc.* and *AAPG*. In this section five presenters held twelve minutes long presentations, which were linked to hydrocarbon research in different ways. Short discussion was possible at the end of each presentation. The jury consisted of professionals in the hydrocarbon industry so that the relevance of any research to hydrocarbon exploration was emphasized.

Scientific Committee:

Dr. Balázs Badics – Senior Geologist, E.ON, Norway

Dr. Zsolt Schléder – Structural Geologist, OMV Petrom S.A., Romania

Viktor Sőreg – Senior Exploration Advisor, MOL Plc., Hungary

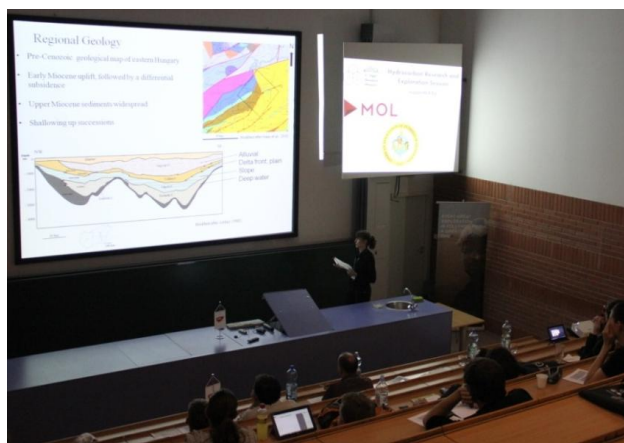
Péter Zahuczki – Senior Geophysicist, MOL Plc., Hungary

The presentations covered a wide range of hydrocarbon geology and geophysics. The sedimentary evolution of the Pannonian Basin based on spectral decomposition; cross-spread domains in 3D seismic processing; the chemical effect of overpressured shales and the organic geochemistry of shales from Poland were all on offer. 13 students and young professionals took part in the poster session of the Hydrocarbon Research & Exploration session. The topics included basin analysis; 3D modelling; compaction; maturity; migration paths; entrapment; hydrogeology of hydrocarbon deposits; oil seeps; application of gamma-ray logging and borehole imaging and hydrocarbon engineering. The study areas ranged from the Barents Sea through the Pannonian Basin to Kazakhstan, just to name a few.

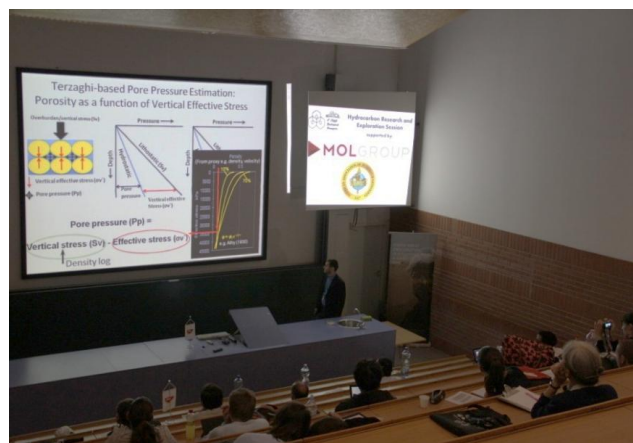
This event provided a perfect opportunity for students to present their research and get new ideas from the experts and the like-minded students. We would like to thank the participants for their demanding presentations and the jury for their observations and new ideas.



The jury listening intently to the students



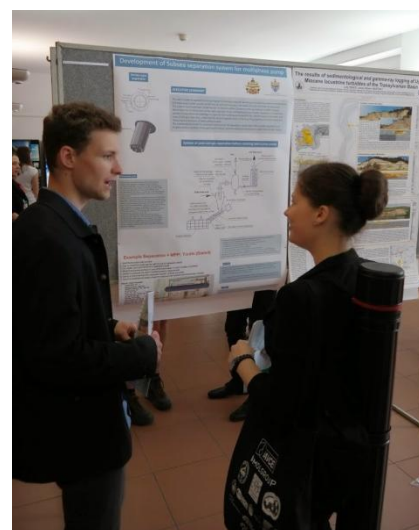
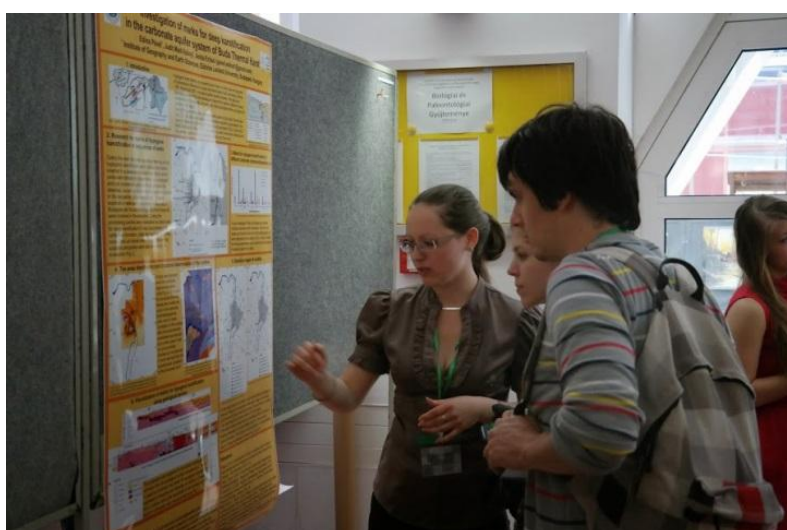
A study on the Pannonian Basin



A presentation on overpressured shales



The audience of the session



The poster session

Mária Molnár

Awardees of the Hydrocarbon Research and Exploration Session

During the conference the job of the Scientific Committee was to choose the best oral and poster presentations as well. The judges of the Hydrocarbon Research and Exploration did not have easy task, because the presentations were very well prepared. The specialty of the session was that the media partner of the ISGC, the Young Petro Magazine offered a special prize, which means the YP Magazine will publish the awardees' scientific result. The Awards were given on the closing ceremony by Zsolt Schléder, the Head of the Scientific Committee of the Hydrocarbon Session.

The best oral presentation:

Mária Molnár, Balázs Gellért, György Pogácsás, Ágnes Bárány (Eötvös University): Study of Late Miocene-Early Pliocene evolution of the Dráva Basin, based on seismic interpretation and spectral decomposition

The best poster presentation:

Lilla Tőkés & István Róbert Bartha (Eötvös University): The results of sedimentological and gamma-ray logging of Upper Miocene lacustrine turbidites of the Transylvanian Basin

Enikő Várkonyi & Brigitta Zentai-Czauner (Eötvös University): The hydrodynamic entrapment model of the Tatárülés-Kunmadaras gas field

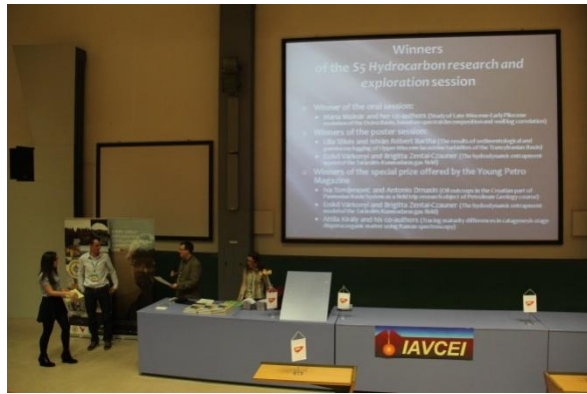
The Young Petro Special Prizes:

Iva Tomljenović & Antonio Drnasin (University of Zagreb): Oil outcrops in the Croatian part of Pannonian Basin System as a field trip research object of Petroleum Geology course

Enikő Várkonyi & Brigitta Zentai-Czauner (Eötvös University): The hydrodynamic entrapment model of the Tatárülés-Kunmadaras gas field

Attila Király, Félix Schubert, Tivadar M. Tóth (University of Szeged): Tracing maturity differences in catagenesis stage disperse organic matter using Raman spectroscopy





János Csizmeg

Hydrocarbon Reservoir Rocks and Oil Production in Northern Hungary Field Trip

At the ISGC 2014 we took part on the fieldtrip “Hydrocarbon reservoir rocks and oil production in Northern Hungary”. Our guides were Orsolya Sztanó from the Eötvös University, János Blahó and István Varga from MOL Plc. During our program we visited the Demjén oil field and some outcrops nearby. At the oil field we listened to interesting presentations about its geology, moreover the history and techniques of the production. Then we had the opportunity to see currently operating pump jack wells, hear about how they actually work and see the crude oil dripping from pipes to huge tanks.



The ISGC Team in front of an operating pump jack well.

After the visit to the field, we learned about the geology and the evolution of the northern part of the Hungarian Paleogene Basin by visiting several outcrops, where we were able to examine the source and the reservoir rock of the oil. The source rock is the Tard Clay, which was deposited in an anoxic inland sea of the Paratethys. We had an opportunity to collect nicely preserved leaf fossils from that laminated organic rich clay.



Crude oil dripping from the well into a tank



The Tard Clay and some leaf fossils

In the sandstone quarry of Andornaktálya we had the chance to study the sandstone interbeddings of Kiscell Clay, which is the main reservoir rock of the Demjén field. They contain ichnofossils and various structures from the zone of the wave base to the coastal region. At the following stop, the spa of Egerszalók, which gets its water from one of the former oil exploration wells, Pleistocene travertines were deposited. Finally we visited the outcrop of the rhyolite tuff too, which is covering the reservoir rock series.

It was a great opportunity to visit and learn about a working hydrocarbon field and its analogue elements on the field during a one day field trip.



Ichnofossil in the Andornaktálya sandstone quarry



Learning about crossbedding from Orsolya Sztanó

Soma Budai



Acknowledgements for the 5th ISGC

Special thanks goes to the MOL Group, one of the main sponsor of the conference.

We would like to say thank you for the financial support of the AAPG for the Hydrocarbon Workshop, Session and Field trip.

We gratefully acknowledge the financial support of Hungarian oil companies: the RAG-Hungary Ltd., the Oil and Gas Development Ltd., the Falcon-TXM Ltd. and the Hungarian Horizon Energy Ltd.

We appreciate the support of the Eötvös Loránd University, the Hantken Miksa Foundation, the Hungarian Geological Society, the Esri Hungary & the Zwack Unicum Plc.

We are pleased to cooperate with the 5th ISGC Organizer Team, the Eötvös Loránd University Student Chapter of Society of Economic Geologists (ELUSCSEG), the Miskolc University AAPG Student Chapter, the students of International Association of Volcanologists and Chemistry of the Earth's Interior (IAVCEI), the students of the International Association of Hydrogeologists (IAH) and the Early Career Hydrogeologists' Network of IAH and the Eötvös Student Chapter in Society of Exploration Geophysicists.

We greatly acknowledge the contribution of our invited lecturers: István Czeller (MOL), András Király (MOL), Zsolt Schléder (OMV Petrom). The jury is profoundly thanked for their contribution to the conference: Balázs Badics (E.ON), Viktor Sőreg (MOL), Péter Zahuczki (MOL). We would like to thank Orsolya Sztanó (ELTE), János Blahó (MOL), István Varga (MOL) and Attila Petrik (ELTE) for guiding the field trip.

The Media Partner of the 5th ISGC was the YoungPetro International Student Petroleum Magazine. We appreciate their offer for a Special Award.

Sponsors and supporting organizations of the 5th ISGC



Media partner



Sequence Stratigraphy Short Course

28th- 29th April

On 28th and 29th of April all who were concerned, had the opportunity to listen to an astonishing lecture about sequence stratigraphy. The Student Chapter invited Dr. István Csató as a lecturer, who works for MOL Ltd., and has an outstanding experience in applying and developing the concept of sequence stratigraphy.



Dr. István Csató introduced by Attila Balázs



Students absorbed in sequence stratigraphy

The lecture was comprehensible for those as well, for whom it was a completely new discipline, owing to a short review of the basics given in the first part. We reviewed the main driving factors and features of the different cycles related to different timescales. Then the lecture passed to the discussion of the characteristics of the system tracts developed in varying sedimentological environments. In this part the lecturer touched upon specific cases as well, such as the carbonate cycles and the applicability of the concept in fluvial environment.

During the last part of the 2nd day lecture, Mr. Csató shared with us some chapters of his recent research project. Analyzing the concept of sequence stratigraphy from a quantitative approach was refreshingly new for the most of us. It also opened our minds to solutions what we have not even thought of before. He drew our attention to avoid applying the concept in the wrong way.

All in all it was not only good to listen to a brief review of the main points of the concept, but also to get to know the frontiers of the development of our discipline as well.

Gellért Péter Kovács

Reservoir-scale heterogeneity in Upper Miocene Platforms of the Balearic Islands Field Trip

3rd - 10th May 2014

17 members of the AAPG Eötvös Student Chapter and 2 professors, Dr Andrea Mindszenty and Dr János Haas from the Eötvös Lóránd University with also 3 students from Spain took a 5 day field trip on Menorca and Mallorca. Our guides on the field trip were Luis Pomar from the Balearic Islands University and Michele Morsilli from the University of Ferrara.

The Menorcan Tortonian ramp and the Mallorcan Lluç Major Tortonian platform are important to understand the processes and elements of the carbonate platforms and the approach to understand them instead of using existing models.



The inner-and outer ramp lithofacies of Menorca

We travelled from Budapest to Bratislava with train and from Bratislava to Mallorca with plane. We finished our travelling with taking the plane from Mallorca to Menorca.



Rhodoid from the inner-ramp.



Dr János Haas explaining something to the students.

On the first day of the field trip we met with our 3 spanish colleagues and the group visited outcrops near Mao with the help of our guide Michele Morsilli. He drew our attention to the concept of ecological accommodation which has to be used in the case of carbonate rocks. During this day we could observe the facies of the inner and middle ramp.



The participants paying attention to the presentation of Dr. Luis Pomar

The next day our group travelled across Menorca and investigated the outcrops of ramp slope, toe-of-slope, outer ramp and fan delta facies. In those places we could observe the deposits of turbidity currents and some redeposited rodoliths. At the end of the day we flew back to Mallorca.

During the second part of the field trip we studied the Lluc Major platform facies on Mallorca. Here, Luis Pomar joined us and introduced the regional geology of the Balearic Islands. After his outstanding presentation we visited Sa Pedrera Blanca where the group studied the open shelf lithofacies and the fore-reef slope. Mr Pomar explained us that carbonate systems can give linear or non-linear responses to the fluctuations of sea level.

Our next stop was Cala Pi where we observed lagoonal lithofacies and then we moved forward to Cap Blanc where the reef core crops out. We found beautiful fossils of mollusks and bivalves and giant coral molds. The participants applied the different coral groups for bathymetrical zonation to solve the given tasks.

We also visited Cala Llobards' shallow water carbonates such as mangrove-like and oolitic lithofacies or subtidal stromatolites. In Cala Figuera we could get into early karstic structures and we discussed the importance of identifying these structures in the case of reservoir rocks.

On our last field day we took part in a boat trip along the south shoreline of Mallorca. We could follow the outcrops on strike and dip direction and we could recognise the lithofacies we have already seen on field. This enabled us to successfully complete the exercises given to us at the end of the field trip: interpreting seismic sections and well cores.



Dr Luis Pomar's presentation during the boat trip



The „fossil collection”



Karstic features at Mallorca



Dr Andrea Mindszenty and Dr Michele Morsilli discuss about the Menorcan ramp

Before travelling back home we had one day to take a journey across the Mallorcan Tramontana. We visited beautiful cities and natural sites.

During this field trip all the participants learnt a lot and they had the opportunity to study fossil carbonate environments. Beside this they could enjoy the beautiful beach and interesting cities of Menorca and Mallorca.

We are very grateful to our guides Dr Luis Pomar and Dr Michele Morsilli for their efforts and teaching. We also would like to express our gratitude to Campus Hungary for supporting this field trip.

Péter Laczkó-Dobos

Proximal to distilled: lacustrine facies transitions, and associated whiskys, from lake margin to lake centre in the Old Red Sandstone of Northern Scotland

22nd-26th May

We got a chance to participate at the AAPG Student Chapter Field Trip to Northern Scotland on 22-26 of May, which was organized by the University of Aberdeen Student Chapter. The participants were undergraduate and graduate students from the AAPG student chapters of Aberdeen, Delft, Bucharest, Eötvös and IFP Paris. There were three members of the Eötvös AAPG SC (Edina Bartakovics, András Kovács, Zoltán Téczy).



Participants of the Northern Scotland AAPG Student Chapter Field Trip

During this trip, we examined lacustrine systems and their potential to provide source, reservoir and seal to a petroleum system. We could examine lateral facies changes and their response to climatic fluctuations in a lake dominated basin. The leader of the field trip was Professor Steven Andrews from the University of Aberdeen.

The first day we visited Hilton of Cadboll, where we examined the response of fluvial dominated lake margin sedimentary systems to the Achanarras transgressive and regressive cycles. The Achanarras fish bed is a co-source rock to the Beatrice Oil field.



Cyclic sequences composed of aeolian, fluvial, playa, perennial lake and deep lake facies in Hilton of Cadboll

The next day we went to see the Achanarras Quarry, where we could study the lake centre facies. The deposit is mainly well laminated, but it is interrupted by turbidite deposits. This is a famous fossil fish locality and we found some remains. On this day we traveled to see the basin center cyclic lacustrine sequences of Wick. Some geophysical surveys have been made in this area.



Achanarras Quarry and Basin Cycles Sequence in Wick

One of the most unique parts of the field trip was the visit to the Orkney Islands. We traveled to Stromness, where we could see the lake margin unconformity, microbialites and condensed Achanarras fish bed succession. On the other part of the Orkney Islands, in Yesnaby, we went to see the Lower Old Red Sandstone basin margin aeolian deposit outcrops. In this part we could

examine the Aeolian Yesnaby Sandstone Formation which formed towards the basin margin. If the ORS succession is considered as a petroleum play this would be a major reservoir target. We visited in Birsay, where we could study the Achanarras fish bed cycles with extensively developed turbidite system and lake shore zone facies.



Participants in front of the Yesnaby Castle (sea stack)

On the other parts of the field trip we visited three famous distilleries in Tain, Wick and Kirkwall. We tasted Scottish whiskeys along the way and got the chance to see some archaeological world heritage sites in the Orkney Islands, for example Skarra Brae and Ring of Brodgar.



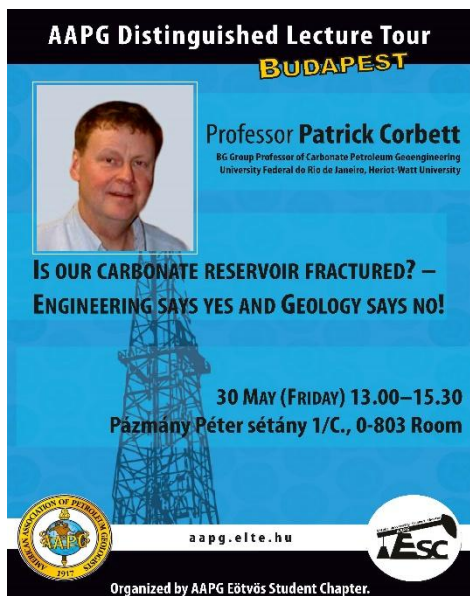
Skarra Brae and Ring of Brodgar

Finally we would like to express our gratitude to the AAPG for supporting this field trip, the Aberdeen Student Chapter for inviting us and the Papp Simon Foundation for supporting the Eötvös University students' participation!

Edina Bartakovics

AAPG Distinguished Lecture Tour- Patrick Corbett

30th May



On 30th May, the Eötvös University Student Chapter hosted Professor Patrick Corbett during his AAPG Distinguished Lecture Tour. He is an acknowledged professor of Carbonate Petroleum Engineering at University Federal do Rio de Janeiro and also at Heriot-Watt University.

Mr. Corbett presented two lectures, which studied the relationship between carbonate reservoir fractures and porosity and permeability. During the presentation we heard about the controversial information on the evaluation of fractured reservoirs, which arises from the two different approaches in industry. Geologists only see matrix

properties in their cores while engineers only see radial flow in their well tests. Patrick Corbett highlighted that both lines of information should be taken into account by both parties. For us, geoscience students, this introduction to the evaluation of well testing was a step in that direction. The second presentation reflected the importance of using geological data for the creation of engineering models through several examples.

Despite the exam period, still a large number of students were present. Patrick Corbett is an amazing lecturer; he can catch the attention of the audience and hold it for the whole speech. It was a great experience and we are grateful to the AAPG Distinguished Lecture Program for making this possible.



Discussion on geology vs engineering



Patrick Corbett explaining the basics of well testing

István Róbert Bartha

L. Austin Weeks Undergraduate Grant

13th - 16th June



I would like to thank the AAPG Foundation for the L. Austin Weeks Grant. It means a huge support for me and it is a valuable feedback to our Student Chapter to continue our work. I took part in the Smaller Benthic lectures of the 7th Course of International School on Foraminifera in Urbino (Italy), between 13th and 16th June, 2014. The registration fee was 472 USD. Microscope lab sessions provided the opportunity for participants to view Cretaceous to Neogene foraminiferal assemblages from Petroleum Exploration areas and ODP sites as well as Quaternary and modern assemblages. It was an exceptional opportunity to learn from the experts whom I knew only from publications (Kaminski, Hohenegger, etc.). I also met foreign students, so it could facilitate an international work in the future.”

Gábor Zsiborás

The Student Chapter is also very grateful for the L. Austin Weeks Undergraduate Grant. It will be used in the budget of the Moroccan field trip for the student participants from other international AAPG Student Chapters.

Lilla Tóké



Plans for the next semester

Leadership Days, Bucharest

July

3 members of our chapter are taking part in this event. This is an excellent opportunity to keep in touch with the other chapters, exchange our experiences, focus on leadership skills and strengthen the Student Chapter Program in all participating universities.

Field trip in North-Hungary with the AAPG SC of Utrecht

August

Together with the AAPG SC of Utrecht we are organizing a field trip. We are planning to visit some outcrops in North Hungary in the area of Eger and Salgótarján, where we will observe the elements of the hydrocarbon system of the Hungarian Paleogene Basin. According to our ideas sedimentological and structural features will be highlighted during the field trip. Beside this, we hope that this cooperation with the AAPG SC of Utrecht could be the beginning of a professionally productive friendship.

AAPG ICE, Istanbul

September

Taking part in this conference is a very good opportunity for our members to get to know the scientific works of their colleagues from all over the world and to see the perspectives in the hydrocarbon industry.

Moroccan Field Trip

October

During this autumn we organize an international field trip of structural geology and carbonate sedimentology. Morocco is a country with outstanding geological attractions and excellent outcrop conditions.

Budapest Education Days (BED)

October

Similarly to last years, we are planning a Budapest Education Days this autumn. We will invite guest lecturers, organize workshops and field trips. We are aiming to attract many young professionals and students from Hungary and surrounding countries. We hope that this event will be as successful as it was during previous years.

Acknowledgements

We would like to express our gratitude to the Faculty Advisor of the Eötvös Student Chapter of AAPG, Professor János Haas.

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We are grateful to the MOL Plc. for their financial and professional support, particularly to István Bérczi, András Németh and Bakos Barbara. We also would like to say thank you to Gábor Bánréti, Adrienn Lauter and Zsófia Nyisalovits.

We appreciate the financial support of the Papp Simon Foundation, special thanks to Klára Gulyás for her sacrifices.

We would like to express our gratitude for the Oil & Gas Development Ltd. for their financial support. Campus Hungary is thanked for funding our field trip.

We would like to say thank you to the MOL Plc., Hungarian Horizon Energy Ltd., Geological and Geophysical Institute of Hungary, for the opportunity to visit their facilities.

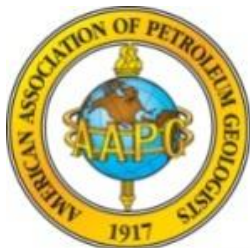
We greatly acknowledge the contribution of our (invited) lecturers, István Csató, Gábor Tari Patrick Corbett and Károly Kiss.

For the guidance of our field trip at the Balearic Islands we are grateful to Michele Morsilli, Luis Pomar, Andrea Mindszenty and János Haas.

We are pleased to cooperate with the Miskolc University AAPG Student Chapter, University of Aberdeen Chapter of the AAPG, Eötvös Loránd University Student Chapter of Society of Economic Geologists (ELUSCSEG) and the Eötvös Student Chapter in Society of Exploration Geophysicists.

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