



Why peak performance is the goal!



Pierre-Olivier Lys.

Pierre-Olivier Lys is a geophysicist at Total E&P Norway and leads the EAGE Student Affairs Committee together with Claudia Steiner-Luckabauer (HOT Engineering).

If you google 'Perform and Peak' – the theme of the Vienna 2016 Student Programme – you are likely to come across a number of websites explaining how to manage your mental energy or how to open your mind to unlock the road to innovation, potential and eventually success.

However, standing out of all these websites is the homepage of a Swedish company, Peak Performance, which is well-known to outdoor and mountain lovers alike. The story of the company began back in the mid 80s, when three talented skiers decided to launch a startup aimed at designing ski clothing that combined a genuine and current design, with unrivalled quality and technical build. All sharing the same passion to ski, and coming from the same Swedish winter sports resort Åre, where the climate can be as harsh as it can be unpredictable, these three entrepreneurs each possessed a specific talent that turned a small local business into a multinational company only a handful of years later: one was a medal-winning mogul skier, one an editor-in-chief of the country's biggest ski magazine, and the remaining one an art director and designer.

I couldn't help but think that the story of Peak Performance is a more fitting explanation for next year's Student Programme motto than the

multitude of motivational articles you might find on this topic. Today, the oil and gas industry is evolving in an economical climate that is at least as harsh and unpredictable as that in Åre: only dedicated professionals sharing their talents will be able to find a solution to cope with this harshness and to manage these uncertainties.

This is basically what would best define the EAGE FIELD challenge, in which we invite teams of three to five students to generate a field development plan based on a dataset from an actual producing field - provided this year by OMV. During the Annual Conference in Madrid, I had the chance to attend the final presentations of teams who demonstrated an impressive amount of work and creativity in their submissions. Coming from around the world (Spain, China, Canada, Poland and Russia), each team tackled the subject from truly unique perspectives, giving the jury an exquisite sense of what multi-culturalism truly means!

“ Our gratitude goes to those 50+ Student Chapters which are now spread throughout the world. ”

The FIELD challenge finalists were selected from about 50 teams according to an essay that had to be written on a topic of interest for the oil and gas industry. This year's essay is about the transfer of knowledge between the senior generation of geoscientists/reservoir engineers and the coming new generation, i.e., you! Do not

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'Perform & Peak' at Vienna 2016 Student Programme

If you are seeking an opportunity to meet fellow students, share experiences, make new friends, explore job opportunities or improve your knowledge, do not miss the next EAGE Annual Meeting in Vienna.

With the Student Programme theme of 'Perform & Peak', we would like to encourage students to actively participate on their journey to the summit of their profession. As such, the 78th EAGE Conference & Exhibition represents a valuable opportunity which could help further your future career.

There is a chance to gain experience by presenting a paper in front of an international audience of industry experts and fellow students. EAGE invites students to submit their abstract (deadline: 15 January 2016) for Vienna 2016. Topics and template instructions are published online at EAGE.org.

Students may also apply for travel grants. The EAGE student travel grants offer

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hesitate to unleash your creativity and surprise us with your ideas. The finalists will be sponsored to attend the Annual Conference in Vienna and present their FIELD Development plans.

Another highlight during the Madrid Annual Conference was the famous EAGE Geo-Quiz, where more than 25 teams confronted one another in an over-heated atmosphere, trying to keep the score with more and more difficult questions, with less and less time to think about the correct answer. This year, the AGH University of Science and Technology (Poland) was victorious, followed closely by a team from the Indian School of Mines Dhanbad.

Just as Peak Performance's garments are fitted to the rugged outdoors with great emphasis on the quality of their products, we at EAGE want the best technical training accessible to the largest number of students. This is the aim of the Student Lecture Tour (SLT) programme. It facilitates several lecturers each year, chosen for their exceptional professional expertise, to visit more than 50 universities to deliver high technical quality, state-of-the-art presentations, also

strengthening the links of the EAGE students' community.

Many of these awesome activities are planned for the months to come, with an anticipated climax during the 78th EAGE Annual Conference & Exhibition 2016 in Vienna.

For instance, not to be missed is a field trip organized by OMV to one of the largest oil fields in Central Europe. We'll also have a lot of fun with the EAGE Geo-Quiz, which takes place during the year at regional conferences, with the winning teams being sponsored by EAGE to compete in the final in Vienna.

All of this would not be possible without two major stakeholders involved in EAGE's Stu-

dent Affairs. First, there are our generous sponsors - EAGE Student Fund (including Shell) and the Vienna 2016 Student Programme sponsors Total, OMV and Wintershall, whom I would like to thank for constantly supporting our development. It shows how important the student community is to the industry. Secondly, our gratitude goes to those of you involved in the 50+ Student Chapters which are now spread throughout the world. We appreciate your efforts and dedication to instill a spirit of thoroughness and creativity to our global community, and also strongly encourage those of you still hesitating to join or create new chapters to do so! All it takes, I guess, can be summarized in three words: Perform and Peak!

'Perform & Peak' at Vienna 2016 Student Programme

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students support towards their participation in the Student Programme of Vienna 2016. Those accepted for a travel grant will receive an allocated amount of funds onsite during the conference in Vienna. Please note that the travel grants will not cover all the student's expenses, but are meant as a contribution to support the student.

The theme of the Vienna 2016 student programme is 'Perform & Peak' and this expresses clearly what is needed in challenging times even more than in the past period of high oil prices. Future professionals like you will have to keep current with new technology trends, develop a strong foundation in your discipline but at the same time approach science from a problem-solving perspective. You should also be able to work in integrated teams with colleagues from other disciplines and, last but not least, never forget your role in society.

Field trip

Vienna is known as a city of culture but did you know that the largest oil field in Central Europe is located some 30 km from Vienna? At the student field trip you will have an opportunity to get close to this field, to visit a rig (if possible) and also to examine the reservoirs in OMV's core lab. The Student Programme on its own - with its variety of technical presentations, workshops, exhibition tour, trial interviews and our famous

EAGE Geo-Quiz - would be a sufficient reason to come to Vienna. Together with the networking and recruitment opportunities, as well as the social and educational activities, this is a conference to remember. A unique experience!

Student Affairs Committee co-chair Claudia Steiner-Luckabauer (HOT Engineering) advises students to stand out and make themselves visible during Vienna 2016. She adds: 'The EAGE Student Affairs Committee aims to close the gap between students and professionals. Students often work very hard and enthusiastically on their careers. We see students travelling around the world to visit other universities and conferences to gain more knowledge, but how to get a foot into the door of the O&G industry at a time where the oil price dominates the hiring rates? Make yourself visible! EAGE helps you (and your skills) to become visible for the industry. Participate in the FIELD Challenge, the Vienna 2016 Student Programme, establish a Student Chapter, and grab the chance to build on a global network that EAGE provides you with as this may be just as important as technical knowledge.'

Support the Vienna 2016 Student Programme

We would like to thank Total, OMV, Wintershall and the EAGE Student Fund (including Shell) for supporting the Vienna 2016 Student Programme. If your company would be interested in sponsoring the Vienna 2016 Student Programme, please review the sponsoring opportunities at EAGE.org or contact us at sponsoring@eage.org.

EAGE Student Newsletter

Student Affairs Committee

Claudia Steiner-Luckabauer co-chair
(HOT Engineering GmbH)
Pierre-Olivier Lys co-chair (Total)
Anne Jardin (IFP Energies Nouvelles)
Giancarlo Bernasconi (Politecnico di Milano)
Leon Barends (Total E&P Nederland)
Roger Clark (University of Leeds)
Vladislav Kuznetov (Novatek NTC)
Aaron Girard (University of Western Australia)

Manager Media Production Department
Linda Molenaar (lm@eage.org)

Community Manager (Students)
Kirsten Brandt (kbt@eage.org)

Media Production Coordinator
Laura van Kal (lk@eage.org)

Manager Corporate Relations Department
Peter Leitner (plr@eage.org)

EAGE Head Office
E-mail: eage@eage.org, students@eage.org
Website: www.eage.org

Fresh perception offered by Australasia student lecture tour

A recent EAGE Student Lecture Tour tour in Malaysia and Australia by Dr Gaynor Paton (ffA Geoteric) brought something different to students, and it seems to have gone down very well with those who attended. Her topic was 'Colour Perception and its Role in Seismic Interpretation: a Geological Expression Story' and it served as an eye-opener for many.

Prof Dr Ramasamy Nagarajan, head of the applied geology department, Curtin University of Sarawak, Malaysia was among those to thank Dr Payton for her lecture. The tour included Curtin University



Dr Gaynor at the Universiti Teknologi Petronas.

of Sarawak (7 July), Universiti Teknologi Petronas (9 July), Curtin University, Western Australia (21 July) and University of Western Australia (22 July). At Universiti Teknologi Petronas, the lecture, coordinated by the EAGE Student Chapter and Prof Abdul Halim of the geoscience department, attracted over 60 participants despite the Ramadan season.

Dr Payton also represented EAGE Asia Pacific at an inaugural meeting of the EAGE Student Chapter at the Universiti Teknologi Petronas with an introduction on student chapters and benefits of student membership.

Dr Payton said: 'I am involved with our offices in Kuala Lumpur and Perth and regularly see the challenges faced by E&P companies operating in the area. Today's students are tomorrow's scientists and I strongly believe that if you learn different techniques early on in your career you become a more effective professional. I want to help the students who will be working in this region to be better equipped for the challenges they will face'.

Dream ticket takes Imperial students to memorable Madrid meeting

This report describes describes a sponsored trip to EAGE's Annual Meeting in Madrid made by Imperial College London students enabled by a grant from Total.

It all started with our success in gaining a Total Dream Ticket grant as the only UK winner from a total of eight. This opened up a great chance for the Chapter to better engage the students by giving them the benefits in both technical and social aspects. Total's generosity made it possible for the Chapter to fly 30 students with paid flights and hostel to Madrid for the 77th Annual EAGE Conference & Exhibition!

The main group flew together from London directly to Madrid. It was a long day flying right after work, arriving well past midnight. Nevertheless, it did not lower our spirit to join the conference in the morning. All in all this went quite smoothly, much to the relief of the committee, especially as students were flying in from all over, including Indonesia, Ibiza, Aberdeen, and Paris.

The students greatly appreciated the conference fully utilising the students' courses, technical presentations and, of course, we could not miss the student night. This was a great chance to meet new people and unwind, maybe a bit too much in some cases. For many of us this was also an opportunity to see some familiar faces from the EAGE Geophysics Boot Camp. We were really reminded just how small this community is.

The main event that gathered our group together was the presentation from our sponsor, Total. They presented their latest strategy and impressive tech with a very engaging demonstration. And nothing quite captures the audience like a goody bag at the end full of useful little freebies; the geological timeline has a perfect spot on my desk.

Each student was required to submit a report to the committee containing information of presentations they had attended and key learnings, successful networking, and comments on the trip and recommendations for future events. We

hope that both Total and EAGE find this information useful for greater success to come. The best three reports were awarded vouchers for the EAGE Bookshop, a kind offer to our Chapter for which we are so grateful.

It was great news all round for the committee and Total that the students were satisfied with the organised trip! Hopefully, we can take more students to join this amazing opportunity in the future.



Imperial College students at the EAGE Annual Meeting in Madrid.

Starting out on a career in Shell

Martina Wittmann-Hohlbein joined Shell two years ago. She explains how she was recruited, her job experience so far and why she chose the oil business in the first place.



Martina Wittmann-Hohlbein.

Give us a brief description of what you studied at university and any internships along the way to your career with Shell

I studied applied maths at Martin Luther University, Halle-Wittenberg, Germany, specializing in optimization theory. I went on to Imperial College London, UK, to obtain a PhD in Chemical Engineering at the Centre of Process Engineering. My research topic was in the field of parametric programming, which has applications in offline model predictive control and scheduling under uncertainty. I developed novel algorithms for multi-parametric mixed integer linear and non-linear programming problems. During my studies I interned at two municipal energy providers in Germany, gained first experiences as a software developer at the Numerical Algorithms Group in the UK, and also worked as a teaching assistant.

At what point and why did you choose to join the oil industry?

The decision to join the oil industry came by chance. My husband took up a tenure track position in the Netherlands. So, as a family - we have a young son - we decided to relocate. From recruitment events at Imperial College and via former fellow students I was aware that Shell offered attractive positions in the Netherlands in my area of interest.

What was the process to get a job with Shell?

At the time, there were three stages to be hired as a graduate consisting of an online application, a telephone interview and attending the Shell Recruitment Day. The Shell Recruitment Day is a day-long assessment centre. After the Shell Recruitment Day the applicant is matched with potential graduate roles, depending on the profile and preferences of the candidate. I was invited to get to know a team in IT and it turned out to be a great fit. The application process took about three to four months.

What is your current role with Shell and what does it involve?

I joined Shell two years ago as a geophysical seismic applications developer. Our team develops and maintains a competitive software package providing an efficient and effective environment for seismic data processing and interpretation. I work closely with research and processing geophysicists, taking up novel geophysical developments from the processing community and preparing these for deployment. My job involves a lot of coding. The best part of my job is experiencing first-hand how our tools lead to powerful subsurface images from places all around the world.

Do you have any further study you wish to pursue?

I am currently studying geosciences subjects. As part of the Shell graduate programme in the geoscience skill pool, I am attending a range of courses and job tasks for training purposes. Two to three months per year are reserved for classroom training. As I do not have a geo-related degree, I am very grateful for this opportunity to gain relevant skills. The courses cover topics from geology, geophysics, petrophysics, seismic processing and interpretation, and reservoir engineering. I have been on geological field trips to Spain and visited a land seismic acquisition crew in Oman which was an invaluable experience.

With your expertise where do you think your career will lead?

Sometimes opportunities just arise. Three years ago I would not have imagined having a geo career in the first place. Currently, I am very happy with pursuing a mainly technical role working in geophysics or IT. But with increasing experience I see myself moving more into managerial and team-leading positions in the future.

What would be your advice to anyone considering a geo degree/career?

Studying for a degree in natural sciences, engineering, or computer sciences provides an excellent foundation for a successful career in many areas. Many skills from STEM subjects (science, technology, engineering and mathematics) are transferable across disciplines, also to geosciences. A lot comes from learning on the job, something that classroom training barely provides.

Do professional societies such as the EAGE provide useful support to students, and is there any way they could do more?

EAGE membership includes access to a number of excellent journals. I like the *First Break* series which publishes both technical articles and industrial news. It also serves as a broad source to get informed about potential career paths and employers. In general, I think it is important that professional societies are in the position to offer scholarships and travel grants for as many students as possible to reduce the financial burden to attend relevant conferences.

Do you sense any disadvantage being a woman in the oil industry?

In Shell diversity and inclusion plays an important role to overcome potential issues. At my workplace and given the nature of my job, I do not encounter any disadvantages for either gender. Dutch law also promotes a work-life balance and a four-day week is common among men and women that have young children.

Are you comfortable working in an industry which is often treated with suspicion by the general public and in the media, especially regarding environmental and some ethical issues?

For many years to come there is no viable alternative to fully replace fossil fuels to meet the world's energy demand and the petrochemical industry. I enjoy working alongside so many skilled and dedicated people that try to resolve and mitigate the many operational challenges in the field. It is exciting to see new technologies being developed and deployed. Everyone is working hard to de-risk well drilling and consequently to make exploration more efficient and safer.

Why EAGE student membership is a necessity of life!

Want some extra help with your university essays and transcripts? Of course you do, and we know how to make it happen. Just be sure that your EAGE membership is up to date and you will have access to EarthDoc, a treasure trove of geoscience knowledge at your disposal.

EarthDoc is EAGE's online geoscience database, currently with over 60,000 unique titles on a wide range of topics. Over the course of 2016, approximately 2500 new entries will be added making EarthDoc an exceptional database for learning about, or simply making reference to, all the latest geoscientific techniques, modelling and case studies from across the globe.

There's much more to EAGE membership. For example, all the most recent academic and professional research will be available to you via a complimentary EAGE journal subscription. You can choose to receive online editions of *Basin Research*, *Geophysical Prospecting*, *Near Surface Geophysics* or *Petroleum Geoscience*. This is in addition to your monthly online copy of EAGE's flagship journal *First Break* where you can find peer-reviewed papers, reports on industry developments and news about EAGE activities.

Explore your opportunities

EAGE membership also opens up the opportunity to network in the geoscience community worldwide. EAGE is the No 1 platform to meet your peers and get in touch with young professionals, recruiters and like-minded students from across the globe.

Another excellent reason to be a member of EAGE is the chance to participate in the exciting Student Programme at our annual meetings, next year in Vienna 2016. But did you know that many of EAGE's conferences and workshops also have special discounted fees for students?

Finally, we will continue to offer student lecture tours programme which bring to your region regular presentations by some of the most distinguished geoscientists in the world.

Membership renewal is easy!

Convinced? Good! It is now possible to renew via eage.org/renew-membership. Make sure to have renewed before December to continue to make the best of your interaction with EAGE. If you have questions, don't hesitate to drop us a line on membership@eage.org, or ask them via Facebook.

Jesper Dramsch is a Masters degree student at Hamburg University (Germany). He frequently writes for his blog 'The Way of the Geophysicist' on his experiences as a student in the geoscience community.



What I learned from my first scientific presentation

Many of you will have the first opportunity to publish research as a student. Whether you are going for a poster presentation or a full talk, it is a great way to take the first steps into a bright future of research.

The 78th EAGE Conference & Exhibition 2016 will be held in Vienna. It reminds me that five years ago the 73rd EAGE Conference was also held in Vienna, and I was exposed to a larger international audience for the first time. At that meeting I submitted an extended abstract of my Bachelor's thesis and was admitted to hold a poster presentation.

I was prepared. I was confident. But I made a mistake. Before the presentation I was reading the name tags of the first row of the audience. Almost everyone I cited was there. I was not prepared for this. In hindsight, it was obvious as my thesis was about an obscure niche topic. At the end there was a great discussion, but don't ask me about the presentation. The shock sent me straight into autopilot.

As a student the exhibition can be overwhelming. The companies are outdoing each other with their booths. There is an immense number of talks to attend, workshops to participate in and company representatives to talk to. I felt like a very tiny fish in a huge pond. Nevertheless, students are very welcomed into the vast community of geoscientists and engineers.

Additionally, the EAGE student programme is very engaged in providing more value, tailored for students and young researchers. Be sure to check out the events specifically catering to students.

This is a unique opportunity for early career scientists to start building their network. Don't be afraid to talk to company delegates, in my experience they love talking to students and telling about their own experiences as a student.

My tips for fellow students would be: Never read the name tags of your talk attendees; schedule the events you don't want to miss: be prepared for a lack of sleep if you want to get the most out of Vienna 2016: and, finally, enjoy every part of it!

Is your university up for the FIELD Challenge?



Practical experience is an important factor for a successful career in our industry. Oil and gas companies are in need of new experts in different geoscience and engineering disciplines, but the collaboration between those disciplines is crucial as well. That is why the EAGE's FIELD Challenge is a win-win for students and industry. Claudia Steiner-Luckabauer (Student Affairs Committee co-chair, FIELD Challenge judge) says: 'Students have the possibility to show their professionalism, enthusiasm and their brilliance in this competition.'

On Monday 30 May 2016, after a few months analysing data, the six finalists in this university team competition will present their FIELD Development plans at the 78th EAGE Conference & Exhibition in Vienna. Is your university up to the challenge and will your team earn one of those six spots in the FIELD Challenge finals? To find out you need to take up the challenge!

“ Students have the possibility to show their professionalism, enthusiasm and their brilliance in this competition. ”

The competition is a response to the industry's call for more cooperation between the different kinds of geoscience and engineering expertise. University teams thinking about entering the

competition should consider including expertise in petrophysics, geophysics, geology, reservoir, drilling and production engineering, and petroleum economics.

Gerhard Milan of OMV is a member of the Local Advisory Committee for the 2016 EAGE Annual Meeting in Vienna. He has this message for

students: 'For a long time the oil and gas industry has been talking about integrated teams. Technology development has made this integration possible. The FIELD challenge provides the opportunity to work in an integrated multi-disciplinary team and to apply technical skills against a business background. The absence of time pressure should allow you to look at the problem from different angles and to thoroughly discuss the uncertainties. OMV has intentionally decided to formulate the task as a greenfield development to leave various development options open.'

For the 2016 FIELD Challenge the dataset will be provided by OMV. The dataset is based on a discovered hydrocarbon resource. The challenge should not be taken lightly! An expert jury will expect a development plan to include well log and test analysis, structural and depositional

The dataset: A new field in an old basin

Gerhard Milan (member of Vienna '16 Local Advisory Committee) writes:

The dataset provided by OMV for the FIELD Challenge 2016 is an example of a new development in an old basin producing for more than 80 years. OMV, the largest producer in Central Europe, operates a number of oil and gas fields in this basin which despite its small area has produced already more than 1 billion boe since production started.

The proposed satellite oil field is located in the vicinity of Vienna. The Vienna Basin is a pull-apart basin between the Eastern Alps and the Western Carpathians. The extension caused large faults and deep depocentres. The depocentres were filled predominantly with siliciclastic, shallow marine, deltaic and fluvial sediments of Neogene age. The discovery well of the new oil field was drilled close to a structure already producing since 1939 from a shallower level.

The field has 10, vertically stacked, main reservoirs and additionally roughly 15 auxiliary hydrocarbon zones. The working interval in this competition is limited from the 8th to the 12th Torton reservoir unit, which are of Badenian (Miocene) age.

The discovery well and the appraisal wells drilled were based on new 3D seismic. The subsequent development of the field has been successful despite the structural complexity due to the vicinity of a large fault. The field is currently producing 1600 bopd from its 10 main reservoir units.

The FIELD Challenge 2016 has been designed as a 'greenfield' development. Therefore only the data available prior to the development decision will be provided. This will allow consideration of various development options. The key uncertainties should also be addressed in the development plan.

At OMV we believe that both static and dynamic models are equally important. While a strong foundation in the disciplines is the base of a successful project, the integration of the various disciplines in a multi-disciplinary team is a must.

models, identified flow units, static reservoir models, property modelling, dynamic reservoir modelling and a forward appraisal and development plan.

How to enter the FIELD Challenge

University teams (three to five students and one PhD student per team) are invited to submit an essay (2000-3000 words) on the following topic: 'Many geoscientists and reservoir engineers in your company will all retire in three to five years from now. How would you organize the transfer of knowledge between these senior geoscientists/engineers and the new generation?'. Essay guidelines are available on the eage.org/students.

All essay submissions will be checked for plagiarism, and will be reviewed by the EAGE Student Affairs Committee. Only the six best essays will be selected to work on OMV's dataset, and

only those university teams will receive a spot in the finals and receive travel grants (three travel grants per team) to go to Vienna 2016.

Although becoming a FIELD Challenge finalist is already a great accomplishment, there can be only one FIELD Challenge winner. The team that has the best presentation will not only earn the prestigious FIELD Challenge Winner title, but will also receive a €3000 prize, in the form of a voucher for EAGE events, books and other services.

So grab your pens (or laptops) to excite and inspire the jury with your essay. One thing to remember: our judges are all technical people as well as professionals, so illustrate your ideas with case studies and technical applications to score well!

Before entering the FIELD Challenge, all student teams as well as their faculty advisors should read through the rules and procedures



Repsol's debriefing during the FIELD Challenge 2015 in Madrid.

of the FIELD Challenge. When entering the challenge, the submission of the essay should be accompanied by a completed submission form and a signed copy of the Declaration of Integrity.

For more information (submission form, essay guidelines, etc.) please go to eage.org/students or contact us at students@eage.org.

Latin American students meet in Rio

Following the success of the previous events, the SEG/UFF Student Chapter and the Seismic Imaging and Inversion Group from Federal Fluminense University recently organized the 3rd Latin American Geosciences Student Conference (LAGSC). The event was supported by EAGE,

SEG and SBGf, as well as by industry sponsors Statoil, PGS and Queiroz Galvão E&P.

The event, attended by 71 students, was held from 27 July to 1 August 2015 at Federal Fluminense University in the city of Niterói, a metropolitan area of Rio de Janeiro, Brazil. The first two days were dedicated to short courses, all of them high quality educational courses. A total of 53 people attended the five short courses which suggests a strong thirst for knowledge among Latin American students.

During the event there were ten lectures and nine oral presentations on various geoscience topics, a workshop on job seeking and opportunities, and a roundtable discussion on the challenges for students when they graduate. The SEG Challenge Bowl (regional), a competition similar to the EAGE Geo-Quiz that was held a few days later at the SBGf Conference in Rio de Janeiro, made for plenty of competition among students.

In addition, there was a field trip on 1 August to the Rio de Janeiro coast reviewing all the geological processes that have created today's rock formations. It was a chance for participants to admire the beauty of Brazilian beaches while also gaining some geoscientific insight.

There was a parallel event to LAGSC, focused on high school students nearing their college acceptance tests to promote geoscience as a university subject and the path to a career. The event's aim was to promote geoscience studies and to give an introduction on several related topics and studies. The great attendance during this parallel event suggested a great interest in geoscience among high school students!

In summary the conference represented a great opportunity for students to understand the challenges they face after college and also catch up with the latest research and technology being developed in Latin America. More information about the 3rd LAGSC can be found on: www.lagsc2015.org/p/home.html.



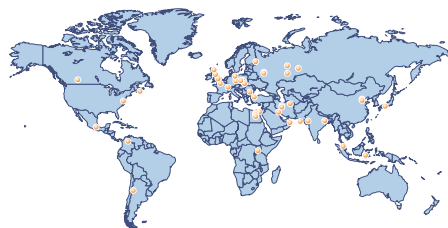
EAGE Webinar presented by Dr Raymond Abma (BP) in progress.



Satisfied faces during the LAGSC closing ceremony.

What it takes to be the best chapter

The EAGE Student Chapter at Suez University (Egypt) has won the Best Student Chapter 2014-2015 for their fantastic work, enthusiasm and creativity. They won a €2000 voucher that will give student chapter members the chance to participate in EAGE events of their choice, but can also be used for the organization of their own events. With the explosive growth of EAGE Student Chapters it is getting quite a challenge for the Student Affairs Committee to choose the Best Student Chapter from so many competitive, excellent chapters. In the final ranking a well-deserved congratulations goes to second place winner Sultan Qaboos University (Oman) and (shared) third place winners AGH University (Poland) and Hasanuddin University (Indonesia). What is the secret of these chapters to be so successful? We hear the stories behind the winners of the EAGE Best Student Chapter 2014-15.



Dream comes true for Suez students

The dream started when preparing for the International Petroleum and Geoscience Conference 2014 (IPGC'14) - the dream of success, the dream of being distinctive, and the dream of sitting on the throne of the best student chapter 2014-2015. That dream eventually came true and we ended up with a successful conference that was supported by EAGE, Halliburton, Weatherford, BG, Shell and Schlumberger.

As the EAGE Suez Student Chapter, we want to send a message to all of the EAGE local chapters worldwide: no one can reach their goal without hard work, and this is exactly the principle of our student team. All of us should support the student chapter initiatives and help students to experience the practical aspects in their field of study.

During the past year we were able to involve around 800 students through different types of events such as workshops, lectures, technical competitions, local and international conferences, field trips and yard trips. We also researched what students were looking for and tried hard to provide it for them.



The Suez Student Chapter winning team.

In order to solve any problem quickly it was important for the Student Chapter Board to strengthen the relationship with the entire team. Our target was to spread the good reputation of EAGE and the chapter, so we focused on how to increase our team with experienced and committed members ready for this big challenge. The spirit of the team is of course very high after winning the Best Student Chapter.

Our motivation and passion have no limits so we decided to put the first brick in our new season with the aim of winning the best student chapter for a second time. This first step was IPGC'15 which was again organized by EAGE Suez. The conference was held from 31 August to 2 September and included workshops, main sessions and an exhibition.

Sultan Qaboos looks to improve on second spot ②

Sultan Qaboos University (SQU) Student Chapter only recent joined the EAGE, but there is a longer history with the Association. It was in 2012 when seven SQU students along with their supervisor participated in the first EAGE Forum for Students and Young Professionals held in Abu Dhabi.

Two years later, SQU hosted the Second EAGE forum for Students and Young Professionals (7-9 December 2014), after which, the SQU chapter was officially launched and started its own activities. During those two years, SQU hosted the EAGE student lecture tours (SLT) that involved distinguished industry and academic geoscientists from all over the world. Hosting and organizing the second EAGE forum provided a great opportunity for SQU geoscience students to interact with young professionals and with the keynote speakers from the oil and gas industry. It also improved the students' skills in organizing such an important event and to present their research work through oral and poster presentations.

The vision behind starting the chapter is to develop awareness of the opportunities in geoscience and related disciplines to university students and to the Omani community in general. Also improving students skills in different environments, which cannot be learn in university classrooms, is a key objective. The chapter has provided a platform for geoscientists to meet

and exchange ideas. It conducts many activities to accomplish these goals and expands further to reach the non-academic community in Oman. This has involved different campaigns in the malls to increase the awareness of the geoscience community, visits to elementary and high schools, geologic field trips for school students, and workshops for school teachers and students at the university campus.

Despite the short period of time since the official birth, the SQU chapter earned second place among the EAGE chapters all over the world for 2014-2015. The judges said they were impressed by SQU activities within the academic environment and in the Omani community.



SQU Student Chapter officers.

The chapter is supervised by Dr Hesham El-Kaliouby, and led by Marwa Alkhayari, the first female president of an EAGE student chapter in the Middle East, who did a great job along with the other chapter officers.

Indonesian chapter inspired by place on the podium

Winning the third place in the Best Student Chapter competition has been a great boost for students at Hasanuddin University in Indonesia. Student president Christian name Harjumi said: 'We would like to thank the Student Chapter Board, EAGE, and all parties who have helped us to win this award.'

EAGE SC UH was officially established in January, 2015. In its few months of operation it has already initiated some learning programmes to improve members' geoscience skills. These included a session on care for the environment: the motto is learn to know, know to share, and share a cause we care for.

One successful project has been 'EAGE goes to LAPAN', where chapter members visited LAPAN, a remote sensing technology and data centre institute. The aim was to broaden students' perception in terms of geographic information processing, especially in parts of remote sensing.

There have also been some guest lectures with professional speakers, sometimes in collaboration with other student chapters in the university. Among them was a lecture on the topic of geothermal, a topic that is still rarely discussed although Indonesia has a rich geothermal potential. In



Members of the Hasanuddin University Student Chapter.

presenting the guest lecturers, the students sometimes collaborate with other chapters at Hasanuddin University.

EAGE SC UH also held BASALT (Basic Study Alternative). This activity is a weekly effort to improve the student's geoscience and knowledge skills. There is also an English language course in collaboration with the Hasanuddin English Community (HEC) in order to improve the English-speaking skills of members. In addition to the scientific field, the chapter also has organized activities in aid of charities.

Joint society projects benefit Polish students



Cracow Student Chapter wins the EAGE Geo-Quiz in Madrid.

We are an active group of students passionate about geosciences. In our faculty we created the Student Geophysical Society Geophone. Since its foundation quite a few years ago, Geophone grew to a staggering number of over one hundred active members, all of them current students of geophysics, geology and drilling at AGH UST.

When the decision was made to create the EAGE chapter, it became a natural extension of our society. All EAGE members are also members of Geophone. Most of the meetings are jointly organised with everyone present. We also work on projects together.

The largest events we have organized include the 2nd International Geoscience Student Conference (2011), Geophysical Student Workshops 'Geosphere' (2008, 2010, 2012, 2014) and the

international conference Student Shale Days (2013). However, some things are kept separate, like the managing team. All decisions about the chapter are made by the president together with EAGE members.

We put a lot of emphasis on seeking knowledge from different sources. Together with SGS Geophone we are holding internal scientific discussion sessions. It is an opportunity for students to present their research or share experience they gained at conferences or internships. Lecturers from the university are often invited to keep us up-to-date with projects they are involved in or to help us understand the subjects we are interested in.

Gaining knowledge is especially useful if we can put it into practice. Much effort is put into participating in different workshops (both organized by us and external) and field work. We take advantage of opportunities offered by EAGE (Geo-Quiz, FIELD challenge, conferences, SLT's, workshops). In 2014 we built a high voltage seismic generator. This device can be applied in several different methods of seismic measurements, mainly in engineering geophysics. It complements other measurements we usually conduct: gravimetric and magnetic surveys, GPR and electric measurements.

In 2016, the 9th edition of the Geophysical Student Workshops 'Geosphere' is due to take place. The workshops will once again be our re-

sponsibility. This time the workshops will be held in Gdańsk, Poland, and our main focus will be on marine geophysics.

Another goal for this academic year is to promote cooperation with other universities both in Poland and on an international level as well as with industry. We would especially like to connect with other student chapters.

Receiving the third place in the 2014-2015 Best Student Chapter Prize at the EAGE Annual Meeting in Madrid was an honor we did not expect. We shall do our best to contribute even more to the promotion of the geosciences as well as EAGE student activities.

No EAGE Student Chapter at your university yet?

EAGE Student Chapters provide a platform for geoscience students to meet, exchange ideas and initiate activities with the support of EAGE. Become an EAGE Student Chapter and receive 15 free EAGE memberships per year! Please contact us at students@eage.org for more information about how to start up.

Bahia students win the big Geo-Quiz prize

A team from the Federal University of Bahia emerged the winners of a hotly contested EAGE Geo-Quiz, held during the 14th International Congress of the Brazilian Geophysical Society (SBGf). There was plenty at stake, with the winning team earning travel grants to the 78th EAGE Conference & Exhibition 2016 being held from 30 May to 2 June 2016 in Vienna, Austria.

Altogether 20 teams signed up for the Geo-Quiz. The participants came from nine different Brazilian universities, namely, Federal Fluminense University, Rio de Janeiro State University, Federal University of Rio Grande do Norte, University of Brasília, Federal University of Para, Federal University of Pernambuco, Federal University of Ceará, Federal University of Bahia, and University of São Paulo. As well as the Brazilian students there was one international student from the University of Los Andes (Colombia).

The Geo-Quiz was led by quizmaster Paolo Johann, a Petrobras reservoir geophysics manager who has been vice-president of both the SBGf and the SEG. Johann stole the show with his energetic performance during an exciting, one



Paolo Johann (Petrobras), Mohammed Alfaraaj (EAGE President) and Marcel van Loon (EAGE Executive Director) with the Geo-Quiz winners. Photo credits: Rogerio Jr.

and a half hour competition. Congratulations are due to the winning team from the Federal University of Bahia, made up of students Victor Koehne, Rodrigo Soares and Vitor Hugo. They can look forward to taking part in the global Geo-Quiz competition at the EAGE Annual Meeting in Vienna.

It was fitting that this popular competition was held at the SBGf conference, as it is the growing, fruitful relationship between EAGE and SBGf. The 14th International

Congress of SBGf was held on 3-6 August 2015 at the SulAmérica Convention Centre in Rio de Janeiro. The conference welcomed 250 students, with 15 Brazilian universities represented in a dedicated university area. This was where students had the opportunity to mingle and meet with fellow students and professors from other universities to find out what study programmes were on offer, as well as find out what is going on in geosciences for the E&P oil and gas industry.

Book your place at the Geophysics Boot Camp 2016!

If you haven't experienced EAGE's Geophysics Boot Camp, why don't you put it in your 'to do' list for 2016 when it is once again being hosted in Germany.

The Boot Camp brings together international students and young professionals and gives you a chance to put geophysical theory into practice on an active oil field during the span of a week. It is a great opportunity to experience the world of professional geophysics and help in your future career.

This year's Boot Camp is being held from 10-16 April 2016, and if there's enough interest a second one might be organized. A group of 30 students

and 10 young professionals will be accepted, based on their academic background and motivation

During the week, you will be organized into work groups and then rotate through several geophysical activities: reflection and refraction seismic acquisitions, gravity surveying, ground penetrating radar, etc. The day does not end on the field. The programme continues in evening sessions where professors will discuss the data results of that specific day with each work group.

The week starts with an HSSE induction to inform you about all safety aspects regarding the oil and gas industry operations. After this you will go on a one-day geological field trip to Bad Bentheim in Lower Saxony to visit the Bentheimer Sandstone to find out about the local geology.

To participate in the Boot Camp a fee is payable to cover your accommodation and meals. You are invited to apply until 31 December 2016. Please complete your application by uploading the required motivation letter (300 words), resumé and transcript of records. The Boot Camp committee will review all applications and inform accepted students by e-mail. For more information, visit the Learning Geoscience website (www.learninggeoscience.org).



Boot Camp participants out in the field.

Top of the geoscience university rankings is named

California Institute of Technology (Caltech) came first in an inaugural ranking of top universities worldwide in the field of geosciences based on research and reputation. This is perhaps not a surprise. The small, privately funded research university, which boasts 34 Nobel Prize winners among faculty and alumni in its 123 year history, has been top of the *Times Higher Education* world university rankings for the past three years. It has the advantage of a student staff ratio of 3:1 and an almost entirely residential campus for undergraduates.

For the rankings published by *US News & World Report*, a multi-platform provider of news and information, geosciences were defined as the study of Earth, from its structure to the history of its formation.

The top 10 were California Institute of Technology, University of Colorado-Boulder, Swiss Federal Institute of Technology, Zurich, Harvard University, University of Washington, University of California Berkeley, Columbia University, Massachusetts University of Technology, University of Cambridge, and University of Oxford.

The subject rankings were powered by Thomson Reuters InCites research analytics solutions. The subject-specific rankings – which are not of academic majors, departments or specific schools at universities, such as business schools or medical schools – were based on academic research performance in those subjects. Various bibliometric measures, including publications and citations, as well as indicators for global and regional reputation in that specific subject, were used, according to US News.



Robert A. Millikan Memorial Library at Caltech.

Data for a five-year period from 2008 to 2012 used in the ranking was obtained from Web of Science, a Web-based research platform that covers more than 12,000 of the most influential and authoritative scholarly journals worldwide in the sciences, social sciences, and arts and humanities. The US News website (www.usnews.com) has more information and also provides regional rankings of universities offering geosciences.

UK stamp of approval for Edinburgh PhD student

Damon Davies, a PhD student in the School of Geosciences, Edinburgh University, is being depicted on a 75 p UK postage stamp. He was part of the NERC iSTAR Ice Sheet Stability Programme, which undertook the UK's first major-vehicle oversnow traverse in West Antarctica during November 2013-January 2014. The venture is being marked with a set of commemorative British Antarctic Territory stamps, which were due to be issued from mid November 2014.

The stamp depicts Damon Davies and a surface radar used to investigate the internal properties of ice in Pine Island Glacier. iSTAR is an ambitious scientific programme funded by NERC involving leading scientists from 11 UK universities and the British Antarctic Survey (BAS). The objective is to improve understanding of ice depletion processes in the West Antarctic Ice Sheet, where the greatest rates of ice loss over the last decades have been observed.

ETH shows how philosophy can help physics students



Prof Sarah Springman, rector, ETH Zurich.

Philosophical considerations do not take centre stage in a physics degree. However, a new seminar at ETH Zurich is providing physics students with an insight into the process of philosophical debate and reflection. This also teaches them about how their subject works and how new theories are formed.

Can philosophers provide additional motivation for physics students? An answer to this question comes in the form of a seminar. Instead of presenting theorems, it offers a discussion of philosophical aspects of physics by philosopher and physicist Norman Sieroka, philosopher Michael Hampe and particle physicist Rainer Wallny. According to an ETH report, they present their various positions in a resolute and highly controversial manner. Sometimes one is more convincing, sometimes the other. Around 50 Bachelor students listen intently as the arguments rally back and forth.

The Rector of ETH Zurich Prof Sarah Springman is pleased with the seminar, which forms part of a 'Critical Thinking' initiative. She said recently: 'When a physics lecturer and a philosophy lecturer combine forces, they can push students out of their comfort zone.' told the newspaper NZZ am Sonntag in July.

First year maths student Doré de Morsier said: 'The seminar discussions helped me to realise how our knowledge of electromagnetism was generated through the specific processes of discovery used by physicists at that time – and how these processes were rooted in their historical and cultural moment.'

Simon Mathis, a first-year physics student, said: 'The reflective teaching format is an excellent supplement to fact-oriented lectures. I now know that great ideas don't just spring up fully formed.'

Award winning researcher has advice for like-minded students

James Rae has come to some exciting conclusions about global warming and the value of research. A research fellow at the Earth & Environmental Sciences Department at the University of St Andrews, he was this year's winner of the European Geophysical Union (EGU) Biogeosciences Division Outstanding Young Scientists Award

Rae and his colleagues found that changes in ocean circulation in the North Pacific caused a massive 'burp' of CO₂ to be released from the deep ocean into the atmosphere, helping to warm the planet sufficiently to trigger the end of the ice age.



James Rae.

Cited in a recent EGU online GeoLog blog, Rae says: 'During ice ages we think CO₂ gets hidden away beneath the waves, at water depths of 2000–5000 m, and because the Pacific is so big it's likely that a lot of this CO₂ is stored down there. Other scientists had suggested that this CO₂ remerged at the end of the last ice age in the ocean round Antarctica. However my research shows that it could also "burp" out in the North Pacific. Our Pacific "burp" happens right at the beginning of the end of the last ice age – it coincides with the first CO₂ rise that heralds the start of the deglaciation.'

As an early career researcher Rae has some words of advice for masters and PhD students who are hoping to pursue a career as a scientist in the Earth sciences. 'Do what you really enjoy,' he says. 'This feeds in to everything else you do; it means you'll work hard and carefully in lab, find the reading interesting, and be able to present your work effectively to your colleagues. We do science because we love it, so it's really important to find topics within your field that you love working on. I think it's also helpful to find skills to be a specialist in and be known for, but then to try to apply these broadly to big picture questions in geosciences.'

Students visit OPEC headquarters



OPEC headquarters in Vienna.

A group of students in France from IFP School's Petroleum Engineering and Project Development (DEG) and Reservoir Geoscience Engineering (RGE) travelled to Vienna earlier this year to visit the headquarters of the Organization of the Petroleum Exporting Countries (OPEC).

The students were accompanied by Frédéric Lantz, supervisor of the Master's degree in environmental economics, sustainable development and energy. They were invited to the press room, the library and the OPEC ministers' conference room.

EAGE Students Event Calendar

November 2015

23-27 Nov **Student Lecture Tour Asia Pacific**
Beijing, China

March 2016

7 March **EAGE Regional Geo-Quiz (Middle East)**
Manama, Bahrain

8 March **EAGE Online Geo-Quiz (Student Chapters only)**
n/a

April 2016

10-16 April **EAGE Geophysics Boot Camp**
Emlichheim, Germany

EAGE Geological Boot Camp
Stuttgart, Germany

14 April **Saint Petersburg 2016 Student Programme**
Saint Petersburg, Russia

14 April **EAGE Regional Geo-Quiz (Russia/CIS)**
Saint Petersburg, Russia

May 2016

30 May – 2 Jun **Vienna 2016 Student Programme**
Vienna, Austria

30 May **EAGE FIELD Challenge finals**
Vienna, Austria

June 2016

1 June **EAGE Geo-Quiz (Global)**
Vienna, Austria

