

**21-22 APRIL 2021, KRAKOW, AGH UST**



**11** EAST  
MEETS  
WEST

**INTERNATIONAL STUDENT  
Petroleum Congress**





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## Organizing Committee:

Anna Michalska  
Kinga Mesjasz  
Patryk Żrebiec  
Karolina Rerutko  
Arkadiusz Pyczko  
Patryk Bijak

## Support:

Dawid Doniecki  
Kacper Gdalewski  
Magdalena Wątor  
Remigiusz Kunasz

## Scientific Advisors:

Prof. Stanisław Nagy  
Ph.D. Szymon Kuczyński  
Ph.D. Ewa Knapik  
Ph.D. Rafał Matuła  
Ph.D. Łukasz Klimkowski



# Message from the Chairman



Dear Participants,

I am honored to welcome You at 11th International East Meets West Congress. After a two years break, we can finally meet online.

This year's conference is different from the previous ones – we can see each other only through the cameras.

Our committee did everything to plan panels attractively – to have a chance to gain knowledge, exchange experiences, but what's most important to establish relationships nowadays - during the pandemic situation.

We would like to express great gratitude to AGH University of Science and Technology Partners and all involved people for their support.

I hope everyone and every each of You will spend great time during 11th EMW Online Congress.

Yours sincerely,

A handwritten signature in black ink that reads "Michalska".

Anna Michalska

Chairman of the Organizing Committee



## Wednesday 21/04/2021:

10:00 AM – 10:15 AM (GMT+2)

**Opening Ceremony**

### **Lecture**

10:15 AM – 10:50 AM (GMT+2)

**Laura Precupanu**

*Lecture: "The Importance of Online Events – Why Are We Here?"*

10:50 AM – 11:00 AM (GMT+2)

Break

11:00 AM – 12:00 PM (GMT+2)

**prof. Stanisław Nagy**

*Lecture: "Underground Energy & Gas Storage as a tool for Energy Transformation Policy in Europe"*

12:00 PM – 01:00 PM (GMT+2)

**Jakub "Jimmy" Ślęk**

*Lecture: "Industry 4.0 Digitalization- Tips from the inside"*

01:00 PM – 01:30 PM (GMT+2)

Break

01:30 PM – 02:00 PM (GMT+2)

**Ph.D. Szymon Kuczyński**

*Lecture: "Application of microfluidic and Raman spectroscopy for measurements of CO2 solubility in water and brine"*

## **EMW Paper and Poster Contet & Roundtable**

02:00 PM– 02:30 PM (GMT+2)

Paper by **Olga Likhacheva**

*"Use of passive seismic to identify oil-bearing reservoirs in the Udmurt Republic, Russia"*

02:30 PM – 03:00 PM (GMT+2)

Paper by **Juan Carlos Santivañez Huarcaya**

*„Use of potato starch and NaOH in the API filter of water-based drilling fluid in the oil industry"*

03:00 PM – 03:30 PM (GMT+2)

Poster by **Klaudia Pakos**

*"Machine learning methods in identification of two phase fluid flow regime in horizontal pipes"*

03:30 PM – 03:45 PM (GMT+2)

Break

03:45 PM – 04:45 PM (GMT+2)

**Roundtable**

04:45 PM (GMT+2)

**Closing ceremony**

# Messages from Previous Chairman



## Sebastian Krocza - 1st edition Chairman

I remember like it was yesterday. I am waking up in a little shock. This is today... After entire year of preparations with fantastic team of people we will host first edition of international conference called East Meets West. One year of preparations, sponsors search, registration and lengthy negotiations.

We will finally start!

I never allowed myself to dream that we will achieve such a big success in year one. I also never expected that this idea will last for the next 10 years. What are the success factors that helped students from Krakow build one of the biggest student conferences under SPE?

1 idea: Over 10 years we have learned how to turn idea to success. Our success is network Ing and knowledge exchange. Those principles where the fundament of East Meets West congress. It is an uneasy task considering that organizing committee changes as students are stepping into their mature life. Each chairman and his team will have the idea how to run such multidisciplinary conference. So far within 10 years we grown year over year. This means that the idea is turned into value.

2. People: We always valued people and put them on the first place. This is the spirit of SPE. Probably this is why so many people came back in next editions. We are proud as we have build EmW community!

3. From passion to belief: Without passion we would never succeed and would never convince attendees and sponsors to believe in us. 10 years of conferences and connecting people from East and West in Krakow is a fantastic achievement. Without passion to science and networking we would not be where we are.

From Ideas to Success - this is all what East Meets West is. The success of the conference is the success of attendees. New ideas born from passion however they gain real strength once they are shared with public, when we can defend them and share with others. 10 years ago we have started something beautiful. We - the EmW community.



### **Anna Ropka 2nd and 3rd edition Chairman**

From the very first day, 'East meets West' was an exciting adventure. I can still remember all this hard-working, ambitious & inspiring people sharing ideas and delivering enormous efforts for this event to come true. I still remember the buzz in the air & this feeling, that nothing is impossible and every goal is achievable with this team. The team, which makes East meeting West for ten years now.



### **Tomasz Wróblewski 4th edition Chairman**

Being involved in the organization of EmW congress in the early stages of its life remains one of the more important and cherished experiences of mine. It is an absolute pleasure to see it thrive and every year I am looking forward to the event. I truly hope that this year's 10th anniversary is just the first of many to come.



### **Aleksandra Piotrowska 6th edition Chairman**

Some people dream of accomplishing great things Others stay awake and make it happen. I strongly believe that EmW was, is, and still be such a great thing created by phenomenal people. Event that brings every year people from all over the world, blurs the boundaries between people, cultures, students and professionals, became one of the biggest

Student Congress over the years and I am extremely proud and grateful that I could be a part of it. I am even more proud of the fact that my younger friends continue this amazing idea and make it happen for the 10th time. Nothing during my studies shaped me as a person and professional as this event. Long lasting friendships and immense experience will stay with me forever. For the 10th time I want to congratulate the organizing committee for making it happen, and for the 10th time I want to wish all participants the unforgettable and full of excitement Congress. One more time let the East meet West!



### **Kamil Przymuszała 7th edition Chairman**

In my opinion East meets West was always about the people both organizing and attending the Congress. Each year we were able to create fantastic atmosphere and establish a platform for knowledge exchange and networking for the petroleum industry in a broad sense. The biggest achievement for all of us is the recognition we have gained over the years.

As I was saying in 2016: "This is the idea of any barriers, for every student and professional from around the world!"





### **Natalia Krygier 8th edition Chairman**

Unique, vibrant and vital - those three words are an essence of the 'East meets West Congress. Tackling innovation and bringing young and active minds together, it has been successfully organized for 10 consecutive years to provide students with one of a kind opportunity to network and exchange knowledge. It has also been my honor to be a part of its creation and I will always cherish the memories I made with my Organizing Committee. Great persistence and engagement of all the people and companies who were supporting this event resulted in EMW becoming a widely known brand that, I'm confident, will continue its mission for more years to come.



### **Filip Czerniawski 9th edition Chairman**

I am very grateful that I was able to be a part of this fantastic event. I believe that East meets West is indeed the biggest Oil and Gas student Congress in Europe and mostly, because people trust us each year. What is the most important for us as AGH Student Chapter is trust from international students, industry and SPE.

I encourage you to also be a part of this proactive community. You need to be aware that you shape your future. I am confident that our anniversary edition will be a great chance to meet old friends and introduce yourself to new people in the industry. I would like to wish all of you great moments during the event and I hope you will remember your time in Cracow.



### **Patryk Bijak 10th edition Chairman**

I am really happy that The East Meets West Congress is happening again despite this challenging times. This event was always about creating connections, sharing knowledge and experiences. Even though this year we meet online, it will not stop us from learning and networking.



# Lecture

## Lecture "The Importance of Online Events – Why Are We Here?"



**Laura Ioana Precupanu**

SPE Regional Director Europe

Laura Precupanu is a senior expert in stimulation technologies within the Production Technology Department of OMV Petrom, Romania. In addition to her work in production technology, her experience includes chemical engineering, numerical simulation, and smart field technologies.

She started her tenure as SPE Regional Director for Europe during ATCE 2020. She served as SPE Romanian Section treasurer and previously as secretary. She was a young professionals program officer in 2016–2017 and has been a member of the SPE Completions Advisory Committee, with responsibility for online education. She has published two SPE papers on formation damage and fracturing.

Laura holds a bachelor's degree with honors and a master's degree, both in chemical engineering from Politehnica University of Bucharest.

# **Lecture "Underground Energy & Gas Storage as a tool fo Energy Transformation Policy in Europe"**

## **Prof. Stanisław Nagy**

President SPE Poland Section

Stanisław Nagy is thermodynamics and natural gas engineering professor at the Drilling, Oil and Gas Faculty at the AGH University of Science and Technology, Cracow, Poland. He graduated in Mining from AGH UST in Cracow (1984), received his Ph.D. in 1988, associate professor in 2005. Professor Nagy is the Head of Gas Engineering Department, Drilling, Oil and Gas Faculty at AGH University of Science and Technology in Cracow. He is a Corresponding Member of the Polish Academy of Science. Professor Nagy is a promoter of 9 completed doctoral dissertations, author, and co-author of many scientific papers (in total over 200, including co-author of 6 books / 19. chapters). He participated in many international projects (including 7FP / Horizon 2000), also as a project manager and several national grants; he is a co-author of over 100 studies for the industry. Professor Nagy's research interests and main scientific activities include mining and geology engineering, gas engineering, thermodynamics of gas and oil, oil and gas engineering, geothermal resources, also the protection of the environment, numerical modeling of reservoirs, transmission and distribution of natural gas; carbon dioxide sequestration, politics, and energy models.

# **Lecture "Industry 4.0 Digitalization- Tips from the inside"**

## **Jakub "Jimmy" Ślęk**

Senior Drilling Consultant

Jakub "Jimmy" Ślęk was born in Toruń, Poland in 1985. In 2009 he graduated from AGH University of Science Technology, Faculty of Drilling, Oil and Gas with a Master of Engineering degree. From 2006-2008 employed by AGH University as part of well construction evaluation project in Polish Carpathian Mountains. Joined Halliburton in 2008 and since 2011 based in Krakow Poland as employee of Halliburton Poland.

Well construction software instructor, participated in multiple long term well planning, planning support and survey data migration projects for Repsol, Total and Shell. In 2017 became a member of Digital Well Planning development project for AkerBP and since 2019 for Equinor as QA and Subject Matter Expert.

Joined SPE in 2004. Since 2006- member of Student Chapter Boards and since 2018 member of SPE Poland Board.

# **Lecture "Application of microfluidic and Raman spectroscopy for measurements of CO<sub>2</sub> solubility in water and brine"**

## **Ph.D. Szymon Kuczynski**

Researcher

Szymon Kuczyński is physicist and specialist in gas engineering at the Drilling, Oil and Gas Faculty at the AGH University of Science and Technology, Poland. He is author and co-author of several papers and presentations. During his work in Natural Gas Engineering Department he participated in several research projects (national and international) in cooperation with both academic and industrial partners, related to gas engineering: unconventional hydrocarbons (shale gas), energy storage (in form of hydrogen in salt caverns), alternative fuels (CNG), CO<sub>2</sub> sequestration, reservoir monitoring, fluid composition monitoring with Raman Spectroscopy (with fiber optic application). Szymon Kuczyński research interest includes fluid mechanics, reservoir engineering, gas processing, energy storage.

## EMW STUDENT PAPER & POSTER CONTEST

As always, one of the main events that takes place during the East Meets West is the Student Paper Contest. It has always been a fantastic platform for sharing ideas through presentations of researches, conducted by contestants split into Undergraduate and PhD categories. From fresh and different approach to well-established industry standards to entirely new and surprising ideas, across a variety of specific fields such as geology, reservoir engineering and even chemistry - expect to be amazed by the quality of work presented!

Similarly to the paper contest, the EMW Student Poster Contest is also focused on exploring the results of the contestants' research projects. This competition, however, takes on a different approach to the form of presentation. Contestants are required to prepare a poster, containing the essentials of their work in a concise form that is both easy to comprehend and eye-friendly. And even if you find anything that is not quite clear, there is no need to worry- the authors themselves will spend some time right next to their posters, ready to discuss and answer in detail any questions you might have. Make sure to use this great opportunity to learn something new!

# EMW Paper contest

## **Effect of potato starch and NaOH in the API filter of water-based drilling fluid in the oil industry**

Juan Carlos Santivañez Huarcaya, Walter Erick Cano Tocas  
National University of Center of Peru

In this investigation drilling fluid (mud) system was formulated, to evaluate its API filtering, using Potato Starch as a filtering control agent, NaOH as a pH controlling agent, and bentonite as viscosifying and densifying agent. In this investigation, the effect of potato starch and NaOH on the water-based drilling fluid was evaluated with a mixed factorial design of  $3 \times 4 \times 2$ , preparing 12 muds each in 1 bbl., with 28 lbs. of bentonite, (0,5; 1,0 and 1,5) lbs. of potato starch and (0,17; 0,27; 0,37 and 0,50) lbs. of NaOH which were tested for laboratory-scale. The tests obtained that the sludge with quantities of potato starch (0,5 and 1,5 lbs.) and NaOH (0,27 and 0,50 lbs.) have the maximum and minimum values in the API filtrate (29,4 ml and 12 ml respectively). Potato starch is an economic and ecological substitute for PAC L as a filtering controlling agent, generating an opportunity for the industrial development of potatoes in Peru.



# Use of passive seismic to identify oil-bearing reservoirs in the Udmurt Republic, Russia

Olga Likhacheva, Gleb Kashin  
Udmurt State University Russia

Currently, the level of oil production in the Udmurt Republic is on a declining trend, due to the depletion of large and medium-sized oil fields that have been operated for a long time. Therefore, the main challenge in this region is to stabilize & increase the amount of oil extraction by exploring more perspective low-field deposits. However, some problems complicate the process. Firstly, geological prospecting and exploration works, as well as drilling exploration wells, entail financial implications, increasing the accumulated cost of these works. Secondly, there may be some errors that often contain during the hydrocarbon reserves' calculation process for such deposits. Passive seismic is proposed to become a solution to these problems. Use of this technology could decrease the amount of time required for hydrocarbon exploration and enable to reduce the exploration and development costs. The exploration technique of finding hydrocarbons uses low frequencies as the seismic sources. The main purpose of the method is to discern geological structures, having good prospects. The use of passive seismic, in addition to the 3D common depth point method, allows determining the existence of significant hydrocarbon deposits in the Udmurt Republic with precision. Furthermore, the method advantages include reducing the number of empty wells while drilling and also increasing the amount of original oil-in-place. In addition, passive seismic data availability could enable much more accurate calculations of original oil-in-place, accumulated in already discovered oilfields. Also, passive seismic data availability could enable much more accurate calculations of original oil-in-place, accumulated in already discovered oilfields. The projects using passive seismic have been effectively implemented for geological prospecting and exploration of various production areas in the Volga-Ural Petroleum Province, including Melekess, Buzuluk depressions and Kama, Zhigulevsko-Orenburg, Tatar, Sol-Iletsk arches. This technology has provided to get the chance of success for exploration wells up to 85%. The depth of the accurately explored zone was 400 to 7000 meters. Additionally, the implementation of passive seismic acquisition leads to ease the detecting of small-sized oil- and gas-bearing geological structures, so it will be possible to find the most appropriate placements for drilling a smaller number of exploration wells. The drilling of these wells aims to confirm the results of the passive seismic and to determine reservoir lithological, petrophysical and rock pore spaces fluids properties. After that, these wells, in turn, can be used as production ones, during the subsequent process of oilfield development. That could significantly reduce the search and exploration works cost, making oilfield operation much more profitable. The proposing technology also can be successfully applied to already discovered & exploiting oil fields in order to determine accurate reservoir oil-water contact as well as to monitor the process of development. To summarize, passive seismic exploration makes it possible to give the correct forecast for the discovery of hydrocarbon reservoirs, occupying structurally complicated small-sized and non-structural traps. Also, such exploration method allows detecting fluid contacts of deposits in case if they do not correspond with the subsurface structure. Passive seismic may be successfully applied not only in the Udmurt Republic but also in the other regions all over the world. This technique could enable obtaining valuable/reliable exploration results/information, regardless of geological structure complexity and reservoir depth, for the oil fields, located anywhere in the world.

# EMW Poster contest

## **Machine learning methods in identification of two-phase fluid flow regime in horizontal pipes**

Klaudia K. Pakos

AGH University of Science & Technology (Poland)





YoungPetro is an international student magazine with topics related to the broadly understood oil & gas industry.

It is a free magazine published since 2011, created on the initiative of students of the Faculty of Drilling, Oil and Gas AGH in Poland, designed specifically for the oil & gas industry. In YoungPetro you can find interesting articles, scientific research made by students from around the world, interviews with outstanding scientists, practitioners and professionals from the industry.

This is something bigger and more important than a student magazine - it is a continuous and careful creation of a fresh, more friendly, commercial oil and gas industry that still needs change, which is one of YoungPetro's ideas.

Currently, the magazine editorial board consists students of the AGH University of Science and Technology in Krakow and foreign Ambassadors from over 20 European and Asian countries who support the activities of YoungPetro in their country. Twenty-three issues have been published since the beginning of the magazine - in print and on-line version as well.

YoungPetro goes to the hands of students and professionals from around the world, and also supports various initiatives such as: East meets West Congress (Cracow), Oil & Gas Horizons Conference (Moscow) and many others. YoungPetro focuses on connecting people, it is a unique platform thanks to which the most talented and ingenious students of the world, whose work is published in the magazine, meet the audience.

Their scientific research provides innovative solutions and technologies that can be used in practice. Therefore, this magazine is an invaluable HR tool for the oil and gas industry, providing access to a source of potential employees who can guarantee the far-reaching development of oil companies.

YoungPetro partners have the opportunity to find employees of great value, while the most ambitious students have the chance to get their dream job.

## HONORARY PATRONAGE



## MEDIA PATRONAGE



## ORGANIZERS





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