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Knowledge, passion, bond – the bridge between the AGH UST and Vietnam

Photo by P. Kućmierz



3rd POL-VIET Conference,
Hanoi, 2016.

From many years now the cooperation with Vietnam was, and still is, one of the priorities in the internationalization strategy of the AGH University of Science and Technology. The AGH UST employees established the first relations with the Vietnamese institutions in the 80s. Then at the end of the 90s, during the term of office of His Magnificence Rector Ryszard Tadeusiewicz, the contact with the Vietnamese partners was renewed: the AGH UST Authorities visited Vietnam, the Vietnamese Minister of Science, Technology and Environment visited the AGH UST, and above all the AGH UST

Minister of Science, Technology
and Environment in Vietnam is
visiting the AGH UST, Kraków, 1999.



Photo from J. Lis archives

once again opened for the Vietnamese students and founded scholarships for them so they could study at our university. The last ten years were filled with revived dynamic development of our contacts with the Vietnamese partners. Those activities have been initiated during the first term of office of His Magnificence Rector Antoni Tajduś and they are still continued and expanded. For the last few years the cooperation between the AGH UST and Vietnam resulted with: signing Letters of Intent with seven Vietnamese partners, starting realization of the Erasmus+ program, the AGH UST founding several scholarships for the Vietnamese students, creating the AGH UST Alumni Association in Hanoi and many others initiatives we are writing about in the present edition of the Bulletin. His Magnificence Rector Prof. Tadeusz Stomka is the founding father of the POL-VIET conference organized periodically from 2014 together with the main AGH UST partner in Vietnam – Hanoi University of Mining and Geology (HUMG). The fifth edition of the conference will take place in July 2019. Another essential partner among the Vietnamese universities is Binh Duong University (BDU), the private university located in the south of Vietnam. We have been cooperating with the BDU since 2013 while jointly realizing the Erasmus+ project and staff exchange in the framework of the bilateral agreement.

The AGH UST partners in Vietnam:

- Hanoi University of Mining and Geology;
- Binh Duong University;
- Vietnam Academy of Science and Technology;
- Vinacomin, Hanoi;
- PetroVietnam Manpower Development and Services Joint Stock Company;
- Vietnam Institute for Building Materials;
- Hanoi University of Science and Technology;
- Vietnam National University, Hanoi;
- Vietnam National University, Ho Chi Minh;
- Vietnam National Center for Natural Science and Technology;
- Vietnam International Education Development (VIED) Ministry of Education and Training (MOET).

The AGH UST contact with Vietnam have started already in the 60s, it was the time when the large group of the Vietnamese came here to study at the

AGH UST. Until this day, the AGH UST have educated over 300 Vietnamese citizens. Among our graduates we can find both former and present ministers, rectors, chairmen and directors of the key institutions in the Vietnamese industry. The stories of our graduates were described in the book “Przyjaźń polsko-wietnamska, wietnamscy absolwenci AGH” [The Polish Vietnamese friendship: The Vietnamese Alumni of the AGH UST] published by the AGH UST in 2015.

The AGH UST honoured three outstanding graduates of our university:

- Prof. Nguyen Van Giang from the Vietnamese Academy of Sciences was awarded the title of Doctor Honoris Causa,
- Mr. Nguyen Khoi Pham, the former Minister of Natural Resources in Vietnam, was awarded the title of the AGH UST Honorary Consul,
- Mr. Ho Chi Hung, the Secretary General of the Vietnamese-Polish Friendship Association, was also awarded the title of the AGH UST Honorary Consul.

Now at the AGH UST we are educating about 40 students from Vietnam. Those are both: the students of the full-time studies (also the 3rd degree studies) and the exchange students (Erasmus+, UNESCO).

The cooperation with Vietnam is not only the contact with the universities and educational units, it is also collaboration with the Vietnamese industry, among others education of the personnel for the state institutions of Vietnam, such as Vinacomin and PetroVietnam. The AGH UST is also the liaison between the Polish companies and the Vietnamese partners, for example our long-term partner Zakłady Magnezytowe Ropczyce is cooperating, for few years now, with the Vietnamese companies in the field of refractory materials production. During the fourth POL-VIET conference the Industrial Forum was organized, on this meeting the Vietnamese participants of the conference could come into contact with the representatives of the Polish companies mainly from the mining branch.

KNOWLEDGE, PASSION and BOND are the foundations of the bridge that we are building between Poland and Vietnam for almost half a century. KNOWLEDGE – because it's mainly scientific cooperation, academic and student exchange, scientific conferences and many joint publications, but also:

PASSION – because for many of us cooperation with Vietnam is not only our duty, but also fascination with the country, culture, and most of all people, because Vietnam is also

BOND with our graduates – without them there would be no such fruitful cooperation, and for some of us beautiful lifelong friendships. We encourage you to read our Bulletin and to develop cooperation with Vietnam!



Photo from M. Forys archives

The AGH UST Authorities are visiting Hanoi University of Mining and Geology, Vietnam, 2013.

Meeting of the AGH UST Authorities and the AGH UST Graduates in Ha Long, Vietnam, 2008.

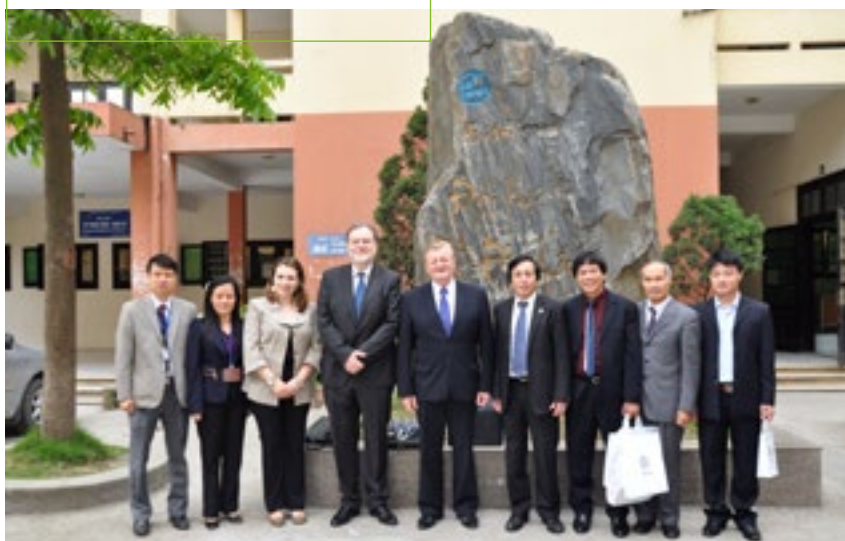


Photo from M. Forys archives

Signing the cooperation agreement with Hanoi University of Science and Technology, Vietnam, 2010.



Photo from M. Forys archives

A milestone for enduring AGH UST-HUMG cooperation

Prof. Tran Thanh Hai
Vice Rector of Hanoi
University of Mining
and Geology, Vietnam

Photo from M. Forys archives



Renewal of the cooperation agreement, Hanoi, 2008.

Brief history of HUMG-AGH UST cooperation

The initiation of cooperative relationship between the Hanoi University of Mining and Geology (HUMG) and its special partner, the AGH University of Science and Technology (AGH UST) has been set up in the early 1960s, when the first group of lecturers from the HUMG were sent to AGH UST to pursue post-graduate education. Since then the AGH UST has provided post-graduate education for many HUMG's academic staff members, who on their return have contributed significantly to development of the HUMG in many aspects, such as human resources development, higher education development and scientific research.

During the visit of the representatives of AGH University of Science and Technology to Hanoi University of Mining and Geology in 1987, the first official agreement on cooperation between the

two universities was signed, which formed the basis for the long-term connection and cooperation between the two universities. This first agreement was renewed in 2008 in a new MOU to the scope of cooperation between the two universities. The subsequent cooperation between HUMG and AGH UST has been intensified in accordance with a number of agreements signed in 2011 and 2014, which focus on education and training cooperation, and student exchange. Apart from traditional activities, the cooperation between the two universities became closer thanks to a new agreement signed in 2015 that started an implementation of the Erasmus+ partner countries program. Our cooperation and collaboration have brought very fruitful achievements of training, scientific research, international publications, students and academic exchanges, etc.

As the results of the cooperation in training and research, during the last 10 years, many young staff members and students from HUMG have benefited by various trainings and exchanging programs at AGH UST that were supported by the Erasmus+, UNESCO, AGH UST Rector's Scholarship and other sources of funding. A number of AGH UST graduate students have been sent to HUMG for academic visiting and training purposes. In addition, several joint research programs have been conducted by both AGH UST and HUMG scientists, which have led to great benefits for both sides in terms of new scientific discovery on the environmental effects of radiation on humans due to exploration, exploitation and processing of radioactive minerals in some areas of Vietnam. In addition, the cooperation also provided opportunities for Vietnamese graduate students to study at the AGH UST, and to publish international publications.

The academic exchange has been recognized as a very important part of the AGH UST-HUMG cooperation, which resulted in many scholar visits, lecture tours, short course trainings as well as joint organization of international scientific

1st POL-VIET Conference at the AGH UST, signing the student exchange agreement with the HUMG, Kraków, 2014.



from M. Forys archives

conferences. The “Scientific-Research Cooperation between Vietnam and Poland” (VIET-POL) has been organized frequently and attracted hundreds of scientists and professionals from Vietnam, Poland and other participating international organizations.

VIET-POL International meetings and their significance

As a part of the HUMG-AGH UST cooperation initiatives, a joint international conference, “Scientific-Research Cooperation between Vietnam and Poland” was initially jointly organized by the HUMG and the AGH UST with an aim to provide opportunities for scientists and specialists from Vietnam, Poland and other parts of the world to exchange their new ideas and research outcomes as well as seeking for new scientific cooperation on areas of mutual interests. Firstly organized in 2014, the conference became an annual scientific event between our two closely collaborating institutions. The role of the hosting organizer was changed between the two universities to make the conference more adaptive to the each of university’s yearly celebrated event.

The First VIET-POL conference was hosted by the AGH UST in Kraków in 2014 attracting more than 100 participants from universities and research institutes in both Vietnam and Poland. More than 40 presentations covering a broad fields of research related to geosciences, mining, and other topics were presented at the meeting.

Following the first success, the Second VIET-POL meeting was organized in Hanoi in November 2015. The conference received more than 100 papers prepared by Vietnamese, Polish and other international scientists in many different aspects of the Earth sciences such as geological resources, mining, new technology in geosciences and applied material science. A Proceeding of the conference containing 64 outstanding papers, including 10 papers from the AGH UST was published.

The Third VIET-POL Conference was also organized in Hanoi in November 2016 in a special event to celebrate the 50th Anniversary of the HUMG foundation. During this event, the VIET-POL Conference was integrated, and became the part of the International Conferences on Earth Sciences and Sustainable Geo-resources Development (ESASGD 2016). During this event 29 scientists, managers and Vice Rector from the AGH UST and other organizations from Poland participated. The 2016 meeting attracted near 1000 Vietnamese and International participants, including more than 20 attending delegates from the AGH UST. The series of Vietnam-Poland joint conferences (Pol-Viet and Viet-Pol) were actively supported by Vietnamese and Polish governments. The evidences of these support were the participation and speeches from the ambassadors of Vietnam in Poland and the ambassador of Poland in Vietnam in every opening ceremony of these conferences.



Photo by M. Stachnik-Czapla

4th POL-VIET Conference, Prof. Tran Than Hai, Kraków, 2017.

The Hanoi University of Mining and Geology and AGH University of Science and Technology have been close partners for many years with great achievements. This enduring traditional cooperation have provided managers, scientists, specialists, staff members and students from both universities great opportunities to study, conducting scientific research and take part in many exchange programs. The continuing success of VIET-POL International Conferences is not only a good evidence for the close cooperation between the HUMG and AGH UST in general, but also provide great environment for scientists and specialists to learn from each other and create new research and training initiatives.

The participants of the 1st POL-VIET Conference, Kraków, 2014.



Photo from M. Foryś archives

The new level of cooperation in the challenging world

Dr. Cao Việt Hiếu
President of Bình Dương
University, Vietnam

Photo from M. Forýs archives



Signing the cooperation agreement with Bình Dương University, Vietnam, 2013.

We cannot decide ourselves when or where we were born on this earth, but we can decide who we make friends with and who to work with. The relationship that was established in July of 2013 between Bình Dương University, Vietnam and AGH University of Science and Technology, Poland is a predestined and wise choice that Academician, Prof. Cao Văn Phường, Ed. D – Chairman of BDU has worked so hard to build.

During the 5 years of cooperation, many regular activities between the two universities have taken place. Especially, through the Erasmus+ program the two universities have exchanged students, staff, and lecturers which is very useful and practical; contri-

buted to enhancing the understanding between the two universities, fostering the friendship between Vietnam and Poland.

The world is facing new challenges, protectionism has emerged and signs of it becoming a growing power, seriously affecting the liberalization of global trade; negatively affecting the solidarity of the people; causing divisions and instability throughout the world. It all starts with the leaders' perception! As a university for educating students, providing resources for society – future leaders, we need to pay attention and focus on shaping their awareness, understanding of culture, morality, conscience and responsibilities (expressed through 6 responsibilities):

1. Responsibility for oneself,
2. Responsibility for the family,
3. Responsibility for society,
4. Responsibility for the country,
5. Responsibility for nature,
6. Responsibility for the world as a global citizen.

Thus, let students know that there will be many roles in each person's life. Try to act well in any role, to fulfil your responsibilities for a better society, a wealthy nation and a better planet.

In the coming time, we are looking forward to continue to exchange and cooperate with your university. Particularly relevant for us are the publications of joint science research in prestigious journals in the field of artificial intelligence, automation, robotics, biotechnology. These are the areas that Bình Dương University is aiming for in its continuous development.

Bình Dương University and AGH University of Science and Technology are carrying on the mission to educate people, strive for the prestige and brand of each university, for the prosperity of the country and for a world built on core values: peace – friendship – cooperation and mutual development.

Wishing the cooperation between Bình Dương University and AGH University of Science and Technology become stronger and durable.

Pagoda in the Marble Mountains.



Photo by M. Forýs

Memories from my study days

Ho Chi Hung
General Secretary of
Vietnamese-Polish Friendship
Association

I was born in 1945 in Hanoi and my father came from Nghệ An – the province that is 300 kilometers away from Hanoi. My father was a geodesist and he worked in a French construction company called VIENDONG (EAST) that had a department in Hanoi. My mother was a homemaker. I spent my childhood in various provinces of Vietnam because at that time our country was fighting in the war of liberation against French invasion. Most of the people was emigrating from the big cities to the safe provinces where there was no fierce fights between the Vietnam liberation force and the French army. When the war was over and the peace was established in Indochina on the basis of Geneva Accords of July 1954, our whole family came back to Hanoi in 1956. In Hanoi I graduated primary school and mechanical collage, where I passed my final examination in 1965, like the other students who were attending secondary school. After I graduated from the school I also received a turner professional certificate of the 3rd/7th class. It is worth mentioning that from 1965 the war in Vietnam was waging not only in the south of the country but also in the north. Americans were engaging in the aerial warfare and attacking the north part of the country. The Vietnamese youth (over 18 years old) joined the army to take part in the fight against the American invasion. I was ready to become a military pilot after training in Russia or China. During my education in the mechanical collage in Hanoi I had been learning to fly on the glider in the aeroclub for three years. After all, I couldn't become the military pilot because I had health problems. In those days, I was wondering what should I do: join the army or go to the university? However, I would like to emphasize that at that time our country was sincerely believing in the final victory over the foreign aggression. The state decision was to choose some pupils from the north Vietnam who passed their exams with the highest grades and to send them to our brotherly countries, such as the Soviet Union, Poland, Czechoslovakia, Bulgaria, Romania, East Germany, Hungary, for the studies in order to educate the scientific-technical staff that would rebuild Vietnam after the war. I was given an opportunity to go to Poland for the studies. At the end of August 1965 the group of Vietnamese students that got the opportunity to go to Europe for the studies amounted around five hundred people. Our journey began in Hanoi, from the train

departure. We travelled for ten days through China and Siberia all the way to Moscow. We stayed there for two days for rest, and then each group set off to the country where they were supposed to start the studies. The student group I was in amounted one hundred twenty people and on 11 September 1965 at 10 am we reached Warsaw, the East Railway Station. I remember that it was chilly and it was raining a little bit. We were very tired after this long and exhausting journey of 10 000 kilometres from Hanoi to Poland. Each of us was happy because we came to Poland, the country that is famous for its great people like Fryderyk Chopin, Mikołaj Kopernik, Maria Skłodowska-Curie and other extraordinary Poles.

There were other international students, among others from Africa, Arab world and Cuba, that came to Poland in 1965 to study. However the group from Vietnam was the biggest. That's why not all of us were directed to Łódź to the School of Polish for Foreign Students. We were learning Polish in Kraków and Wrocław, and the rest of us (about twenty students) had classes in Łódź. I was in the group that was learning Polish in Kraków. We were living in the student dormitory "Żaczek" at 3 Maja Str. No 5 on the opposite side of Błonia Park.

Most of us came from the countryside so discovering of this new place was something incredible for us. For the first time we saw the beautiful Old Town in Kraków and Vistula River peacefully flowing through the city. We were amazed by tall buildings, trams, buses, and nice department stores. We noticed in Poland a lot of cute little children and pretty women.

Photo from author's archives



While studying in Poland, Kraków, 1966.

Meeting of graduates of Polish universities, Hanoi, 2017.



Photo from author's archives

Photo by Z. Sulima



The ceremony of awarding the title of AGH UST Honorary Consul to Mr. Ho Chi Hung, Kraków, 2016.

Our favourite season of the year in Kraków was fall with its golden leaves falling on the streets and in the parks. I also remember kind and friendly looks of average Poles – they were greeting us warmly and cordially. When they were looking at us – young people with black hair – and they knew we were from fighting Vietnam their faces were lighting up with a friendly smile.

From October 1965 we started to learn Polish in Jagiellonian Language Centre. Now I would like to write a few words about the course prepared for our group. Every day in the morning we attended lessons that lasted until noon, and after our classes we came back to the dormitory to study some more. At that time not all of us were speaking Polish. We only knew several Russian words and Polish teachers didn't speak Vietnamese. During the first semester it was really hard when it came to grammar and Polish pronunciation. We could learn individual words by heart, but their pronunciation was very difficult for us. Thanks to our teachers' patience and commitment we were learning diligently and we were making quick progress in our studies. After the

Ha Long Bay, UNESCO World Heritage Site.



Photo by M. Foryś

winter semester almost all of us got good grades. During the second semester we already had lectures in Polish in the subjects such as mathematics, physics and chemistry, to familiarize ourselves with scientific and technical language. In June 1966 we had a final exam of our Polish language course. All of us successfully passed this exam, and I myself got very good grades from both parts written and oral. Fifty three years passed from the day we came to Poland for our studies and we were learning Polish. We still cherish in our hearts the unforgettable pleasant memories of our teachers who taught us our first Polish words, and who were kindly looking after us like we were their close ones. Thanks to them we were going on the trips to Zakopane, Wieliczka, Ojców, we could visit Wawel Castle, the Main Square, museums and beautiful churches... We fondly recall friendly meetings in our teachers' homes. On behalf of my colleagues from the group, I would like express our sincere gratitude to our Polish teachers for their work, efforts and attempts to learn us Polish. I would also like to thank you that we could complete our studies on the Polish universities and became good specialists to rebuild our Fatherland after the war.

When we completed the Polish language course, we were again divided to study on different universities in Poland in the cities like Warszawa, Gdańsk, Sopot, Poznań and Łódź. Our group of fourteen people stayed in Kraków. We were accommodated in one of the student dormitories – Block No. 6. It was situated on the premises of the new elegant student campus for the students from all over Kraków. Here we spent our first holidays impatiently and joyfully waiting for the inauguration of the academic year of 1966/1967 at AGH University of Science and Technology.

On the occasion of the 100th anniversary (1919–2019) of our beloved AGH University of Science and Technology named after Stanisław Staszic in Kraków, I recall my beautiful youth years that I spent studying at AGH UST. Now, while remembering these past years, I consider my studies at AGH UST the most splendid and unforgettable period of my life. The AGH UST professors and staff, my colleagues from the studies were representatives of the Polish nation and the Polish State who offered us thoughtful care, noble help and education that made us became good and well-educated people.

On this occasion, on behalf of AGH UST Alumni Association in Vietnam from Hanoi, I would like to express our profound gratitude to the Authorities of AGH University of Science and Technology and wish them great achievements that will follow in their development. To all professors, employees and students, I wish the best of luck in their studies and professional work, good health and happiness in their personal life.

Cooperation between AGH UST and VAST

Prof. Jadwiga Jarzyna
Faculty of Geology, Geophysics
and Environmental Protection,
Department of Geophysics,
AGH University of Science and
Technology, Poland

The initiator and driving force of the renewed cooperation between the Department of Geophysics of the AGH UST Faculty of Geology, Geophysics and Environmental Protection and Vietnam Academy of Science and Technology (VAST) Institute of Geophysics is Prof. Nguyen Van Giang, the graduate of AGH UST Faculty of Geology and Mineral Exploration of 1974.

Cooperation between the AGH UST Faculty of Geology, Geophysics and Environmental Protection with Vietnam has long history that was initiated by the intensive education of the Vietnamese students in the years of 1967/68–1977/78 and obtaining academic degrees by the employees of Vietnamese scientific facilities (e.g. HUMG Vice-Rector, Prof. Mai Thanh Tan's habilitation). However the first Vietnamese student took up studies in the field of ore geology at the Faculty of Geology and Mineral Exploration already in 1957. Whereas, the first cooperation agreement between Vietnamese Centre for Science and Technology in Hanoi and AGH University of Science and Technology was signed in 1990. Its goals were common research, exchange of experiences and research results, and mutual staff exchanges. The agreement was in force until 1999.

After completing his studies Nguyen Van Giang MSc came back to Vietnam and started his work as a geophysicist. In 1999, while he was working in the Institute of Geophysics of the then Vietnam National Centre for Natural Sciences and Technology in Hanoi (VNCNST), he renewed his contact with the AGH UST. Thanks to his efforts in August 2000 a new agreement about mutual scientific and scientific-technical cooperation between the AGH UST in Kraków, represented by His Magnificence Rector Prof. Ryszard Tadeusiewicz, and VNCNST in Hanoi, represented by General Director prof. Dang Vu Minh, was concluded for unlimited period of time. The close cooperation between the Geophysics Institute of the Faculty of Geology, Geophysics and Environmental Protection and the VNCNST Institute of Geophysics was scheduled in the years of 2001–2005. The suitable agreement was signed by the then Dean of the Faculty of Geology, Geophysics and Environmental Protection, Prof. Tadeusz Słomka and the then VNCNST Institute of Geophysics Director, Prof. Nguyen Dinh Xuyen. Before the Polish governmental delegation went to Vietnam in April 2001, the subject "Development of methodology and interpretation in applied geophysics" was formulated and submitted for the implementation protocol of the intergovernmental

agreement concerning scientific and scientific-technical cooperation between Vietnam and Poland. The persons who were directly responsible for the cooperation were: on the side of the Geophysics Institute of the AGH UST Faculty of Geology, Geophysics and Environmental Protection – Prof. Jadwiga Jarzyna, and on the side of the VNCNST Institute of Geophysics – Prof. Nguyen Van Giang. This agreement started close cooperation between the VNCNST Institute of Geophysics, now renamed to the Vietnam Academy of Science and Technology (VAST), and the Geophysics Institute (now renamed to the Department of Geophysics) of the AGH UST Faculty of Geology, Geophysics and Environmental Protection. This cooperation, that Prof. Nguyen Van Giang dedicated so many time and effort, in addition to its scientific activities included also managing the international teams, in which Polish specialists were involved, preparing comparative works and testing grounds for improving methodology of the geophysical works with inclusion of industrial units.

In 2008 another cooperation agreement between the AGH UST and the VAST Institute of Geophysics was prepared and signed. The following goals and assumptions of the agreement were formulated: 1) Initiation and development of the cooperation in the field of the basic and applied scientific research; 2) Cooperation in the field of improvement of the teaching programs and the organization of education process; 3) Mutual pursuit in achieving the highest level of research, education and training, and also unrestricted and open exchange of ideas and scientific opinions. The agreement was signed by the then AGH UST Rector Prof. Antoni Tajduś and the then Director of the VAST Institute of Geophysics, Prof. Ha Duyen Chau, in Hanoi on

Fishing village Mui Ne.



Photo by M. Foryś

Photo by M. Foryś



Ninh Binh Province.

26 November 2008 for unlimited period of time. The detailed agreement between the VAST Institute of Geophysics and the AGH UST Faculty of Geology, Geophysics and Environmental Protection was entitled "Application of geophysical and geological methods into engineering and environmental tasks". During the years of 2010–2014 the agreement concerning the subject of "Geophysical investigations in hydrotechnics, engineering tasks and depositional problems" under the supervision of the Prof. Nguyen Van Giang and Dr. Jerzy Dec was realized. Thanks to mutual cooperation between the AGH UST Faculty of Geology, Geophysics and Environmental Protection and the VAST, and the specialists exchange in its framework, the Polish lecturers had the opportunity to present the series of lectures to the Vietnamese students of the Geology Faculty of Hanoi Natural Science University, the Physics Faculty of Natural Science University in Ho Chi Minh City and Hanoi University of Mining and Geology. In the framework of the agreement two groups of Polish students of the AGH UST Faculty of Geology, Geophysics and Environmental Protection (thirty people) realized their cartography practice in Vietnam in the years of 2010–2011. Thanks to the cooperation with the VAST, collaboration with the Hanoi University of Mining and Geology (HUMG) was also activated, and it resulted with education of two doctoral students from that university at AGH UST Faculty of Geology, Geophysics and Environmental Protection, and also with referring three students from Vietnam at AGH UST, two of them were studying geophysics and one was studying environmental engineering. All those students received the AGH UST Rector scholarship. During this active cooperation Prof. Nguyen Van Giang

was also performing the function of the creative liaison between the AGH UST Graduates holding high posts in the Vietnamese state administration and the AGH UST Authorities, what was the basis for the collaboration development.

In the framework of the cooperation between the Department of Geophysics of the AGH UST Faculty of Geology, Geophysics and Environmental Protection and the VAST Institute of Geophysics various events, contributing to tightening relations, took place:

- The Vietnamese participated in the conference "Earth sciences in the basic research, deposit research and environmental protection at the beginning of the 21st century" organized on the occasion of the 50th anniversary of the Faculty of Geology and Mineral Exploration in the days of 28–29.06.2000.
- Prof. Jadwiga Jarzyna, the Director of the Geophysics Institute of the AGH UST Faculty of Geology, Geophysics and Environmental Protection, visited Vietnam in the days of 15.08–6.09.2001. Her visit in Vietnam included talks conducted with the VNCNST (Institute of Geophysics in Hanoi and Sub-Institute of Geography in Ho Chi Minh City) representatives that aimed at establishing the detailed problematics being the subject of the cooperation in the proposed topic, and also her participation in the international conference IAGA-IASPEI in the days of 19–31.08.2001. During her stay in Hanoi and Ho Chi Minh City she also spoke with many AGH UST graduates, especially with those who graduated their master studies in the 70s at the Faculty of Geology and Mineral Exploration or who defended their doctoral or habilitation theses. The delegation also paid the official visits in Vietnam Petroleum Institute, Hanoi University of Mining and Geology, Hanoi Vietnam National University and Hanoi University of Science, Faculty of Geology. During those visits the talks regarding the possibilities of cooperation have been conducted and the attempts have been made to formulate research problems that would interest both parties.
- Mr. Nguyen Ba Duan, a young employee from the VAST, visited the Geophysics Institute of the AGH UST Faculty of Geology, Geophysics and Environmental Protection and during his 1-month stay he familiarized himself with an advanced measuring and interpreting technology in the field of geoelectrical methods. The knowledge and experience he had gained helped him obtain the master degree.
- The VNCNST employees – Prof. Nguyen Van Giang and Ly Minh Dang – visited the Geophy-

sics Institute of the AGH UST Faculty of Geology, Geophysics and Environmental Protection in 2003. During their stay the seismic, gravimetric and GPR measurements were made on the embankments of Vistula River and Rudawa River, and also in the region of Rów Krzeszowski [Krzeszowski Graben] in the vicinity of Miękinia, in order to assess the usefulness of the above mentioned methods for checking the condition of earth embankments and the examination of complicated geological structures. The results were processed and the researchers tried to interpret them. While they were staying in Kraków, the guests participated in the seminar, organized by the Geophysics Institute of the AGH UST Faculty of Geology, Geophysics and Environmental Protection, with the representatives of Green Mountain Group and during this meeting they familiarized themselves with the seismic software.

- In 2006 the specialists from the Department of Geophysics of the AGH UST Faculty of Geology, Geophysics and Environmental Protection together with the research team from the VAST Department of Geophysics of Sub-Institute of Geography performed geoelectric works in Ho Chi Minh City. The measurements were made in the framework of two research projects that were carried out by geophysical team under supervision of Dr. Le Ngoc Thanh, the director of Department of Geophysics of Sub-Institute of Geography. The first one was concerning the usage of geoelectric methods in the environmental protection. The research studies were conducted on the field testing ground, that was the surrounding of the currently closed down dumpsite in Ho Chi Minh City. The second project was geoelectrical recognition / distinction of Holocene and Pleistocene formations on the area of Saigon River. The geoelectrical research studies conducted by the AGH UST were presented on the special seminar in the VAST Department of Geophysics of Sub-Institute of Geography. During her stay in Ho Chi Minh City Prof. Jadwiga Jarzyna delivered the cycle of lectures on well logging for the master studies students of the geophysics specialization at the Physics Faculty of Natural Science University. When the delegation was in Hanoi they had a meeting with the employees of the Hanoi University of Mining and Geology (HUMG). During this gathering a discussion took place, it was concerning the possibility of the effective usage of geoelectrical methods in the search of drinking water in Vietnam.
- The Vietnamese participated in the Jubilee Conference on the occasion of the AGH UST 90th anniversary in 2009.
- During his visit in Hanoi in 2009, the Dean of the AGH UST Faculty of Geology, Geophysics and Environmental Protection, Prof. Jacek Matyszkiewicz initiated the discussion about expanding the cooperation to the broader circle of the Faculty employees.
- The proposition of cooperation in the field of seismometry and induced seismicity observed on Son La Dam water dam and in its surroundings, that was formulated in 2009 after the visit of Prof. Stanisław Lasocki in the VAST. It was planned to use the Polish equipment SEJS-NET that is successfully used to monitor seismicity induced by the mining works in Poland. It was also proposed to use high resolution seismicity to examine the geological formations with com-

plicated structure, to develop interpretative procedures for geoelectrical research in small scale (resistivity imaging and azimuthal resistivity soundings) and for the examination of temperature changes on stable and unstable slopes. The cooperation in this field is continued with Polish teams of the Geophysics Institute of the Polish Academy of Sciences because Prof. Stanisław Lasocki is now working in this institution.

- In 2010 the Vietnamese participated in the 23rd Congress of International Association of Hydrologists "Groundwater quality sustainability".
- The GPR measurements conducted in February and March 2011 by the joined teams of the AGH UST and the VAST under the supervision of Prof. Nguyen Van Giang and Dr. Jerzy Ziętek, with participation of the students from the Physics Faculty of Natural Science University in Ho Chi Minh City, in order to identify the geological and anthropogenic reasons causing damages in the road surface in Ho Chi Minh City. For the measurements the researchers used ground-penetrating radars with variable horizontal resolution and diverse vertical range of examination, that are part of equipment belonging to the Department of Geophysics of the AGH UST Faculty of Geology, Geophysics and Environmental Protection and the VAST Institute of Geology. The research were co-financed by the commercial unit collaborating with the VAST.

In recognition of their efforts put into organization and development of the Polish-Vietnamese cooperation, and thanks to endeavours of Prof. Nguyen Van Giang, Prof. Jadwiga Jarzyna and Dr. Jerzy Ziętek were awarded the Medals of Vietnam Academy of Sciences "In the recognition of the achievements in the framework of the Polish-Vietnamese cooperation between the AGH UST and the VAST". The medals and diplomas were presented to them during the Jubilee Conference on the occasion of 50th anniversary of the Geophysics Institute of the Vietnam Academy of Sciences in Hanoi in November 2012. In 2017 His Magnificence the AGH UST Rector Prof. Tadeusz Słomka and Prof. Jan Golonka were awarded the Medals of Vietnam Academy of Sciences. The medals were presented to them during IV International Conference POL-VIET.

In 2015 Prof. Nguyen Van Giang was awarded the title of doctor honoris causa of the AGH University of Science and Technology. The cooperation between geophysicists and geologists from the Faculty of Geology, Geophysics and Environmental Protection and geophysicists and geologists from the VAST in Hanoi and Ho Chi Minh City, initiated by Prof. Nguyen Van Giang, is still continued and developed with mutual interest and profits in the form of common research works, publications and student and doctoral students education. Prof. Nguyen Van Giang is the long-term member of the Scientific Committee of the AGH UST quarterly journal *Geologia*, now renamed to *Geology Geophysics & Environment*. The specialists from Vietnam are also reviewers of many works prepared by the Polish authors and by the international teams regarding the GPR research and the complex geophysical research applied in search of water and mineral resources, submitted for *Acta Geophysica*, *Geology Geophysics & Environment* and many others international journals.

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The Indosinian orogeny in South-East Asia

Introduction and Methods

The Late Triassic Indosinian orogeny was defined one hundred years ago in Vietnam, where the major unconformity was observed (Deprat 1913, 1914, Fromaget 1927, 1934, 1941, 1952, Golonka et al., 2018). This orogeny name was derived from Indochina, the region, which includes Vietnam, Laos and Kampuchea. It was later referred also to consolidation of Chinese blocks (e. g. Yin & Nie, 1996) and correlated with Cimmerian events in Europe and South-Central Asia (e.g. Sengör 1984, Golonka, 2004). The present authors attempt to put the Indosinian orogeny in the global context (Figs. 1, 2).

The presented plate tectonic maps, were generated by PLATES, PALEOMAP and GPLATES computer software using a plate tectonic model, which describes the relative motions between approximately 300 plates and terranes (Golonka et al., 2018). The calculated paleolatitudes

and paleolongitudes were used to generate computer maps in the Microstation design (.dgn) converted later into Corel Draw (.cdr). Facies and paleoenvironment information were posted after reviewing database files, regional paleogeographic maps and relevant papers. (Golonka et al., 2018). The field observation in Indochina, Thailand and Myanmar were supplemented by information from several general, regional and paleogeographic papers (see references).

Collisional Indosinian Tectonics

The major collisional event and unconformity as observed in Northwest Vietnam. Lower – lowermost Upper Triassic (up to Carnian) marine deposits are deformed and arranged into nappes and thrusts in this region (Golonka et al., 2006, 2018). The Upper Triassic continental red conglomerates (“terrains rouges”, see Deprat, 1913, 1914, also Golonka et al., 2006, 2018) unconformably covered older, deformed Triassic deposits. The main metamorphic event occurred around 250–240 Ma (Lepvrier et al., 2004, Maluski et al., 2001, 2005, Lepvrier and Maluski, 2008, Golonka et al., 2018 and references therein). The 225–205 Ma postorogenic plutonism in northeastern Vietnam was related to Late Triassic Indosinian orogeny (Hung, 2010, Faure et al., 2014). According to Faure et al. (2014) the Jinshajiang and Ailaoshan belts in China mark also the Indosinian Orogeny, which cause the closure of Paleotethys Ocean (Figs. 1–5) along Raub-Bentong, Sra Kao and Nan-Uttaradit suture between Sibumasu and Indochina and Ailaoshan suture between Sibumasu and South China (Metcalf

Fig. 1. Global plate tectonic map of Late Triassic at 224 Ma ago. Molweide Projection. 1-oceanic spreading center and transform faults, 2-subduction zone, 3-thrust fault, 4-normal fault, 5-transform fault.

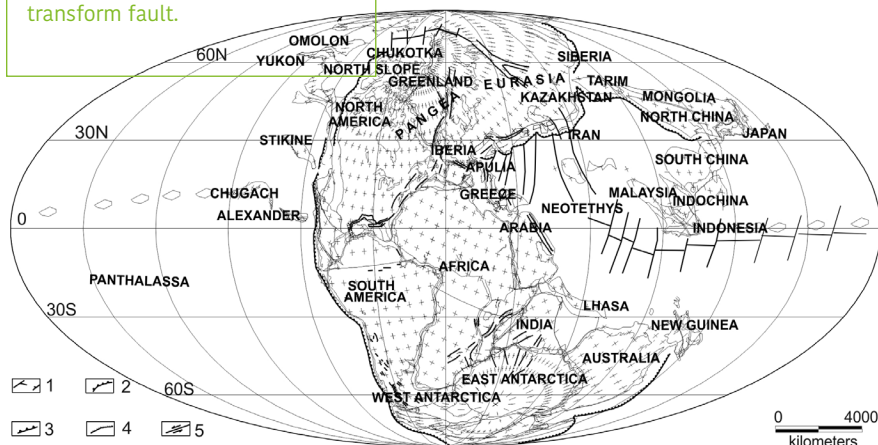


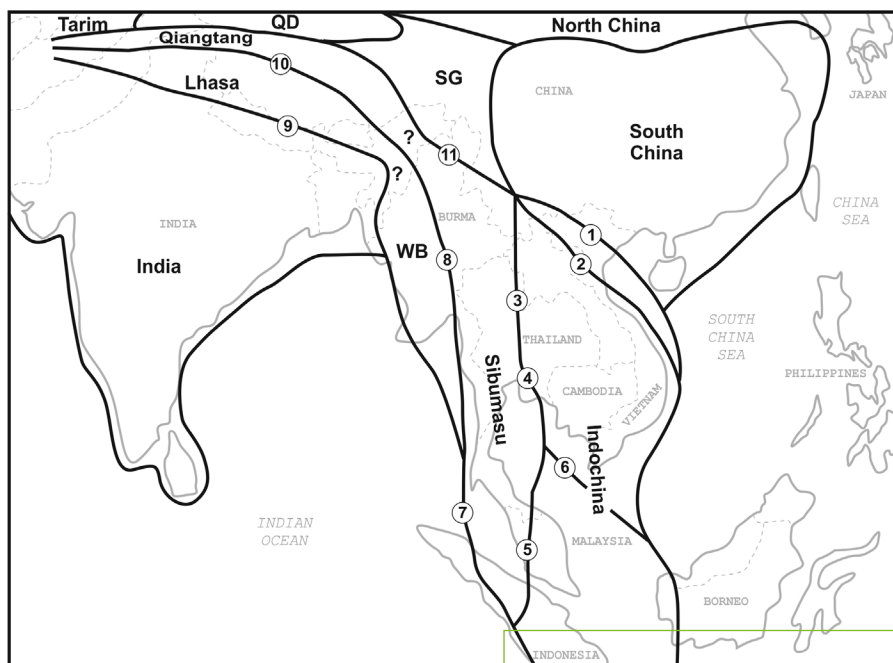
Fig. 2. Global plate tectonic map of Late Triassic at 200 Ma ago. Molweide Projection. 1-oceanic spreading center and transform faults, 2-subduction zone, 3-thrust fault, 4-normal fault, 5-transform fault.



1994, 1996, 2000, 20011, 2013a,b, Golonka et al., 2006 and references therein).

The Late Triassic orogenic event occurred also in Thailand/Myanmar trans-border zone and volcanogenic-sedimentary event in Myanmar correlates presumable with the synorogenic processes, which are represented by the Upper Triassic flysch deposits with basaltic pillow lavas. The Triassic-Jurassic succession in the Mae Sot area in northern Thailand, belongs to the Shan-Thai terrane, representing a remnant of Paleo-Tethys Ocean (Meesook & Sha 2010), which occupied a wide realm between Cimmerian Continent and Eurasian plate during Late Paleozoic-Early Mesozoic times. This block is subdivided into several zones from the west to east, including the Mae Sariang zone, within the Mae Sot area, contains rocks of Triassic cherts (radiolarites), carbonates and flysch (turbiditic) facies, which indicate both pelagic condition and synorogenic deposits (Golonka et al., 2018). The post-orogenic continental-shelf deposits including the oldest Jurassic bed, or the youngest Triassic bed, so-called "base-conglomerate", cover discontinuously older pelagic Triassic formations (Ishida et al., 2006; Meesook & Sha, 2010, Golonka et al., 2018). The events of Indosinian orogeny are diachronic, Early Triassic and Carnian/Norian transition orogenic time in Vietnam (Lepvrier et al., 2004) and close to Triassic/Jurassic transition in Thailand (Golonka et al., 2018), The Late Triassic volcanogenic-sedimentary event in Myanmar correlates presumable with such synorogenic processes, which are represented by the Late Triassic flysch deposits with basaltic pillow lavas [Shweminbon Group (Upper Triassic – Lower Jurassic turbidites), formerly part of Loi-an Gp.; Bawgyo Group (Upper Triassic) and their equivalents; Upper Triassic turbidites (Thanbaya/Pane Chaung group/formations; Bannert et al., 2011, Win Swe, 2012, Cai et al., 2017, Golonka et al., 2018]. The Late Triassic Indosinian orogenic event has been connected with docking and amalgamation of Indoburma, Shan-Thai (Sibumasu) and Indochina terranes, which constitute recently the main part of South East Asia (Golonka et al., 2018).

The collision between South Chinese plate and the North Chinese block began during the Late Permian and continued during the Triassic (Yin and Nie, 1996, Golonka et al., 2006). The Qinling orogenic belt records this collision. According to Dong et al. (2011) the Shangdan zone between the North and South Qinling belts is the suture separating the convergence and collision between North South Chinese plates. The post-suturing plutons were emplaced along the suture zone and on the adjacent plates (Bao et



al., 2015, Liang et al., 2015, Lu et al., 2016). The new large Chinese-SE Asian plate including North and South China, Mongolia and eastern Cimmerian plates was consolidated at the Triassic-Jurassic boundary.

Conclusions

The consolidation of Chinese blocks with Indochina and Sibumasu constitute the main result of the Triassic Indosinian Orogeny. The Indosinian Orogeny is related to the Cimmerian events that happened in Europe and South-Central Asia. The docking and amalgamation of eastern Cimmerian plates that included Indoburma, Shan-Thai (Sibumasu) and Indochina terranes consolidated the main part of South East Asia. This plate docking caused also collision between South Chinese plate and the North Chinese block. The new large Chinese-SE Asian continental plate including North and South China, as well as eastern Cimmerian plates existed since Early Jurassic times.

Fig. 3. Main plates, terranes and of Southeast Asia. Partially from Mecafe, (1999), Golonka et al. (2006) WB - Myanmar, SG - Songpan Ganzi accretionary complex. QD - Quidam terrane. Sutures and major strike-slip faults:

- 1 - Red River zone,
- 2 - Song Ma,
- 3 - Nan-Uttaradit,
- 4 - Sra Kaeo,
- 5 - Raub Bentong, Three Pagodas,
- 7 - Woyla,
- 8 - Shan boundary,
- 9 - Indus Yarlung Zangbo,
- 10 - Banggong,
- 11 - Ailaoshan.



Fig. 4. Plate tectonic and lithofacies map of Southeast Asia during Late Triassic. Modified from Golonka et al., 2006. Explanations in Fig 4a.



Fig. 5. Plate tectonic and lithofacies map of Southeast Asia during Early Jurassic time. Modified from Golonka et al., 2006. Explanations in Fig 4a

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The success of AGH UST – Vietnam cooperation

Cooperation between the AGH UST and Asian countries in the field of education of miner engineers and engineers of many others specialities is dated from the end of the 50s. The first four Masters Engineers of the mining section who came from Vietnam have completed their studies in the academic year of 1962/63. In the following years, until 1977 two or three students a year have graduated the studies at the AGH UST. After the period of visible decrease in the number of the Vietnamese students in Poland, the last years are abounding with many interesting propositions and good projects.

The lively cooperation of the Faculty of Mining and Geoengineering with Vietnam National Coal and Mineral Industries Holding Corporation Ltd. Vinacomin is dated from 2011, when the scientific-research project entitled The Analysis of stability of the south slope of Na Duong opencast mine with taking into consideration Na Duong power station was realized.

In February 2012 the representatives of the workers' board of the Vietnamese Mining industry Corporation "VIET BAC" that is the part of the Vietnam National Coal-Mineral Industries Holding Company "Vinacomin" (the biggest mining company in Vietnam) visited Poland. The delegation was headed by the "Vinacomin" Vice-Director General Vu Manh Hung and "VIET BAC" Director General Dao Huu.

Diploma
Ceremony,
Kraków, 2017.

Photo by A. Bator



Completion and closure of the project took place during the AGH UST representatives' – Prof. Marek Caba and Agnieszka Stopkiewicz MSc – visit in Vietnam. That was the first joint venture in the field of scientific-research cooperation between the "Vinacomin" Group and the AGH UST that was ended in the great success of both sides.

In 2012 the general agreement was signed. One of its main goals was to start the Master degree studies for the groups of Vietnamese engineers in the specialization of mine ventilation. The agreement was signed on behalf of the AGH UST by His Magnificence Rector Prof. Tadeusz Słomka and on behalf of the "Vinacomin" Group by President Mr. Le Minh Chuan.

In the days of 1-2 September 2014 the AGH UST Faculty of Mining and Geoengineering was hosting the delegation of the "Vinacomin" Group that was made-up of: Nguyen Anh Tuan – Vice-Director General; Le Tuan Minh – Human Resources Director; Tran Van Cir – Education Department Director; Pham Dang Phu – Principal of Business Administration School; Dinh Tien Hoa – Vice-Manager of the International Cooperation Division.

During the stay of the Vietnamese delegation, the education system, the education programs, the staff's experience and competences, teaching, laboratory and research bases, and also system of education quality assurance at the Faculty of Mining and Geoengineering were presented to the guests. As a result the primary assumptions of the project were made. The project aim was to educate fifteen engineers from the "Vinacomin" Group at the Master degree studies, major: Mining and Geology, specialization: Mine Ventilation. The issues concerning the financing of the education, the students' social conditions and all other matters regarding their stay in Poland were also established.

In the framework of the Polish Economic Mission in the days of 19-25 October 2014, the Dean of the Faculty of Mining and Geoengineering Prof. Piotr Czaja was visiting Hanoi. He was conducting talks, among others, with Her Excellency Polish Ambassador in Vietnam Mrs. Barbara Szymanowska, with the representatives of the "Vinacomin" management, and with Prof. Phan Dang Phu – Principal of Vinacomin Business Administration School. He also met with the candidates for the studies in Poland who were studying Polish at this university.

Already in the summer 2012 the preliminary concept of the specialist studies, that the Vietnamese partner was interested in, has been drafted at the Faculty of Mining and Geoengineering. And in 2014, under supervision of the Vice-Dean for Cooperation Dr. Marek Borowski, the detailed program of the speciality was prepared and the procedure of legislation was completed: from the Faculty Council, through the Senate Commission, to the Senate Resolution.

Finally, in December 2014, the agreement regarding education of the group of fifteen Vietnamese engineers at the Master degree studies was signed. The Dean Prof. Piotr Czaja entrusted Dr. Krzysztof Broda, taking into consideration his experience gained during performing the function of Vice-Dean of the Faculty, with the supervision over the student group from Vietnam. And the Senate, during its session on the day of 25 March 2015, passed the resolution No. 47/2015 regarding creating the specialization Mine Ventilation in the framework of the full-time studies of the 2nd degree at the Mining and Geology major, and the Faculty of Mining and Geoengineering was entrusted with its managing. It was the first specialization of the studies created at the AGH UST for the industry commission. That's why the studies program for the Vietnamese engineers was settled together with the ordering party of the education. During the studies the student also had trainings in the Polish mines. Before they started the Master degree studies, they were attending the one-semester course of Polish language in Poland, that was completed with the exam. They also participated in the language camps.

On 9 April 2015 the 15-person group of the Vietnamese engineers arrived to Kraków and started the intensive learning of the Polish language in the AGH UST Department of Foreign Languages. At the end of the course the Faculty of Mining and Geoengineering organized the language camp in various regions of Poland: in the vicinity of Bełchatów, in Warszawa and in Beskid Mountains (Wisła and its surroundings). By the courtesy of the Mine Management, the students could visit Bełchatów Coal Mine – the biggest opencast mine in Europe and one of the biggest in the world – where they could familiarize themselves with the modern methods of brown coal exploitation and revegetation of the post-exploitative areas. In Wisła they visited the summer residence of the Polish President.

On 1 October 2015 during the matriculation ceremony of the students of the Faculty of Mining and Geoengineering, the students from Vietnam took the student oath and became the lawful students of the AGH UST. During their studies they realized full program broadened by a lot of field trips to the mines and mining companies, and also by the realized trainings.

In the days of 20–22 July 2017 the Faculty of Mining and Geoengineering hosted the delegation from “Vinacomin” They were the management representatives: Nguyen Hoang Trung – Vice-President; Tran Van Cu – General Manager of Personal Division; Nguyen Tien Nho – General Manager of International Cooperation Division; Pham Dang Phu – Principal of Business Administration School; Do Trung Hieu – Deputy Director of Institute of Mining and Energy Engineering. They came at the AGH UST Faculty of Mining and Geoengineering to participate in the formal commencement ceremony of the Vietnamese graduates of the 2nd degree studies at the major of Mining and Geology, specialization Mine Ventilation.

During the first day of their visit, the guests met with the Dean Authorities of the Faculty of Mining and Geoengineering: Dean Prof. Marek Cała, Vice-Deans Dr. Marek Borowski, Dr. Arkadiusz Kustra and Dr. Zbigniew Niedbalski. Two other persons participated in this meeting: Dr. Krzysztof Broda (the supervisor of the group of the Vietnamese students) and Prof. Chau Nguyen Dinh, the lecturer of our course and the Faculty friend. The course of the education process of the Vietnamese engineers was discussed and new solutions and education forms were proposed. A kind of debate also took place, it concerned the cooperation continuation both in the framework of education and scientific-research collaboration. The meeting proceeded in friendly and constructive atmosphere.

On the next day, 21 July 2017, the formal commencement ceremony took place. The ceremony was honoured by the presence of the “Vinacomin” delegation, the Chairman of the AGH UST Alumni Association Prof. Piotr Czaja, former Dean of the Faculty of Geology, Geophysics and Environmental Protection Prof. Adam Piestrzyński, the Head of the Department of International Relations Mrs. Marta Foryś and numerous group of lecturers and employees of the Faculty. At the beginning we heard a few words from Dean Prof. Marek Cała, Prof. Piotr Czaja and “Vinacomin” Vice-President Mr. Nguyen Hoang Trung. After their speeches the university diplomas and occasional gifts were presented to the students. Prof. Marek Cała, Prof. Piotr Czaja, “Vinacomin” Vice-President Mr. Nguyen Hoang Trung and Vice-Dean Dr. Marek Borowski, responsible for the cooperation and supervising the Vietnamese group studies, took part in the ceremony. Bui Quang Tinh, MSc took the floor on behalf of the graduates. He also handed on to the Dean the painting, a gift from the graduates. At the end of the ceremony Mr. Nguyen Hoang Trung presented the Dean and the Head of the Department of International Relations with occasional gifts thanking them for the cooperation. The ceremony ended with a glass of champagne, and then the attendees went to the A0 pavilion to take a picture against the University patron – Stanisław Staszic.

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Erasmus Plus – the project that brings people together

Photo by: S. Malik



9th edition of the
International Day at the AGH
UST, Kraków, 2018.

Erasmus Plus is the European Union program that supports, among others, international student and staff exchange from the higher education institutions. For almost 30 years the Erasmus program was supporting mobility only among the European countries. In 2015 the European Commission announced a new project within the framework of the Erasmus+ Program: Education Mobility for Higher Education to the Partner Countries – KA107. The Socialist Republic of Vietnam was included as the Partner Country. The AGH UST have been successfully applying for funds for student and staff exchanges with Vietnam since the first edition of the program in 2015.

Within the framework of the Erasmus+ program KA107 the AGH UST is cooperating with two Vietnamese universities: Hanoi University of Mining and Geology (HUMG) and Binh Duong University (BDU). The main fields of cooperation:

- between the AGH UST and the HUMG: mining, mine survey, geology, geophysics, oil and gas engineering, and also environmental engineering;
- between the AGH UST and the BDU: civil engineering, biotechnology, management, production engineering, cultural studies and sociology.

Within the framework of the project we are realizing four types of mobilities (all that are entitled):

- 1) student/doctoral student mobility for studies;
- 2) student/doctoral student mobility for traineeships;
- 3) staff mobility for teaching;
- 4) staff mobility for training.

Two editions of the project have been already completed, the third is being realized and we are starting the realization of the fourth (the results were announced in July this year).

Within the framework of the third edition of the Erasmus+ program KA107 65 mobilities between the AGH UST and the HUMG and the BDU were realized. They included:

- a) mobilities of 20 students from the HUMG and the BDU for studies in the AGH UST,
- b) mobilities of the 6 doctoral students for the studies in the HUMG
- c) mobilities of 13 staff members of the AGH UST for teaching,
- d) mobilities of 13 staff members of the HUMG and the BDU for teaching,
- e) mobilities of 4 staff members of the AGH UST for training,
- f) mobilities of 9 staff members of the HUMG and the BDU for training.

The satisfied beneficiaries and cooperation development between the partners are the greatest success of the project, that wouldn't be possible without engagement of many people: Erasmus Program University Coordinator and Faculty Coordinators, the students' supervisors and the teams realizing the project in the Department of International Relations and in the AGH UST Centre for International Students. The project couldn't exist and result in such remarkable success without engagement, kindness and cooperation willingness of the Authorities and employees of the Partner Universities.

Very important elements of the project realization are trainings and promotional meetings during which we are presenting the assumptions of the Erasmus+ program and the applying process to the potential beneficiaries. During the 9th edition of the AGH UST International Day in March 2018, for the second time "Study in Vietnam" stand was organized and it met with great interest. The AGH UST students from Vietnam were supporting the Department of International Relations in promotion of their universities (BDU and HUMG). While their training visits at the Partner Universities, the AGH UST employees were conducting trainings concerning realization of the project and they were helping during the participants' enrolment. When the employees of Department of International Relations and the Centre for

International Students were visiting the HUMG in 2017, the exhibition of photographs taken by the HUMG students, who were participating in the 1st edition of the Erasmus+ Program at the AGH UST, was opened.

Erasmus+ Program is one of the most important elements of the long-term cooperation between the AGH UST and the Vietnamese universities. The most crucial in the Project are the personal meetings of lecturers, administrative employees and students. The beneficiaries from both countries are extending their knowledge, they are invited to the international projects and joint publications with the partners, and they also familiarize themselves with the educational systems in Poland and in Vietnam. The students from Vietnam often come back at the AGH UST for the studies and traineeships. The AGH UST students have the opportunity to cooperate with outstanding scientists and access the materials that are not available in Poland. The participation in the project is not only studying and working, but also it's a journey to the new, unknown culture. It's learning about cultural differences and trying to understand another human being. And, above all, it's new acquaintances, friends and even loved ones.

Erasmus+ Program in the reminisces of the chosen participants:

Dr. Kamila Wawrzyniak-Guz and Dr. Paulina Krakowska, Faculty of Geology, Geophysics and Environmental Protection, mobility for teaching, 1st edition of the project 2015–2017:

“Our aim was to conduct classes with the students and to maintain and develop cooperation between both Geophysics Departments: at the AGH UST Faculty of Geology, Geophysics and Environmental Protection in Kraków and at the HUMG Faculty of Oil and Gas in Hanoi. For the subject matter of our lectures and scientific discussions we have chosen the issues concerning: processing and interpreting of well logging profiling, laboratory measurements, and interpretation of the results obtained on rock samples. The classes and meetings with the HUMG students and employees were nice and friendly. The students were actively participating in the lectures, they were asking questions and were very inquisitive.”

“Our stay in Hanoi convinced us that the Vietnamese are very open and kind nation! These few days in Vietnam were full of professional and tourist events for both of us. We came back enriched with great experiences and marvellous memories. But the most valuable are the acquaintanceships and friendships established during our stay. Because they are the reason we want to maintain the scientific-didactic cooperation and come back to Hanoi!”

Dr. Magdalena Dumańska-Słowik

Faculty of Geology, Geophysics and Environmental Protection, Department of Mineralogy, Petrography and Geochemistry, mobility for teaching, 1st edition of the project 2015–2017:

“Thanks to Erasmus+ Program I had an opportunity to be hosted by the Hanoi University of Mining and



Photo from the private archive of Le Minh Hang.

The visit of the delegation from Binh Duong University, Kraków, 2018.

Geology. My visit mainly consisted in realization of the lectures regarding evolution of alkaline magma within the framework of Oktyabrsky massif at the HUMG Faculty of Mineralogy, Petrography and Geochemistry. It was my first journey within the framework of Erasmus+ Program, but I hope it won't be the last one.

From the very first day of my stay in Hanoi I was enchanted by the special atmosphere of this city. With its smiling people, busy crowded streets full of motorcycles, and also its warm and sunny weather. This country is so different than ours.

Besides my education program, I had a chance to see the Hanoi district with the Lake of the Restored Sword (Hoan Kiem Lake), the Temple of Literature, considered the first Vietnamese university and Vietnamese military museum. Moreover, with my Polish colleagues, I had an opportunity to take part in the short field trips to the northern part of Vietnam, spreading from well-known province Son La with Ban Phuc nickel mine to Thanh Hoa province in search of outcrop in the shape of serpentinite. It was the great chance to see how the Vietnamese live in the mountain regions of this country, to try green tea on the mountain plantation and to admire beautiful landscapes.”

Le Minh Hang, the employee of the English Centre, Binh Duong University

A memorable picture with Wawel Royal Castle in the back, Kraków, 2017.

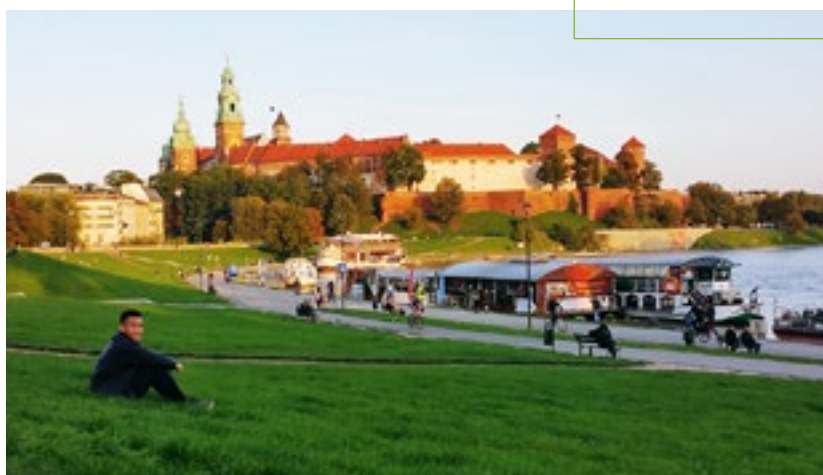


Photo from the private archive of Cuong Bach Hai.

Photo from the private archive of Thuy Nguyen Son Ngoc



Visiting Kraków in the company of friends and colleagues, Kraków, 2017.

„During our stay, Mrs. Magdalena from the Department of International Relations and Mrs. Dorota – Vice-Director of the Department of Foreign Languages were providing us with professional and substantive help while familiarizing us with the specific character of the University. Thanks to their efforts we have an opportunity to know the Polish culture and to taste local delicacies.”

Thuy Nguyen Son Ngoc, the student of the Foreign Languages Faculty, Bình Dương University, mobility for studies, 2nd edition of the project 2016–2018:

„It was one of the greatest experiences that I have ever had in my life. The AGH UST employees and students showed us their love and their care even in little things, such as: instructing us how to enrol for the courses or holding the Tết holiday for Vietnamese students, we could always

count on them.

The teachers treated us in a kind and respectful way. The ESN (Erasmus Student Network) was always holding exciting events to connect all Erasmus Students from around the world.

After all, I would like to say “thank you” to the CIS staff (Centre for International Student), especially to Ms. Luiza and Ms. Katarzyna, the International Relations Office, all the teachers that I took classes from and the staff at the Studies Office of Faculty of Humanities at the AGH UST, as well as to the Alfa Dormitory staff. I am grateful to them for all the support before and during my stay.”

Trinh Xuan Hien, the student of the Foreign Languages Faculty, Bình Dương University, mobility for studies, 2nd edition of the project 2016–2018:

“It was a great opportunity for me to experience new culture and exchange knowledge. I was happy to be admitted to the AGH University of Science and Technology (AGH UST), Krakow, Poland, not only because this is a very good university, but also this

was the great chance to get to know the real life in Poland, which fits my focus of study. Before departure, I received a lot of useful information from the AGH UST and I was also assigned the university mentor, who would assist and orient me in the beginning weeks, which was very thoughtful and well organized. Additionally, Erasmus provided the financial support for students who study abroad. As living expenses in Kraków were not high, and part of the spending costs was covered by Erasmus grant, I was able to stay there as a student. The applying for visa and document concerning insurance went smoothly as well.”

“Doing this student exchange has been the best decision I have made in my entire life. I have had so many wonderful, new and exciting experiences, and I have seen more places during my time at the university than I could have imagined. I’ve also made the most incredible bunch of friends during my time in Poland, and met some truly extraordinary people. The opportunities provided by the exchange are immense, such as getting a guided tour of the Museums around the Main Square in Krakow, among many, many others. This experience has helped me to grow and changed me (for the better) as a person, and I feel truly lucky that I have been in a position to have this opportunity. I would not hesitate to recommend the exchange to anyone at our university if they would have such good opportunity – I wish I could do it all over again!”

Cuong Bach Hai, the student of Faculty of Oil and Gas, Hanoi University of Mining and Geology, mobility for studies, 2nd edition of the project 2016–2018: “My first observation was the enormous and beautiful AGH UST camps localized in the centre of Kraków – it was compound of the Polish history and modern culture city.

During my stay, I was working in the petrophysics laboratory because in Vietnam I didn’t have the chance for measurements in such modern laboratory. During my mobility, I’ve not only improved my English, but also I’ve learned a little bit of Polish – in my opinion the most difficult language in the world. However the more difficult, the more attractive for me. Because I came back to Vietnam, I still learn Polish in my free time.

Friendly and warm meetings with Vietnamese students who were studying at the AGH UST organized by Prof. Lis strengthened relations between our universities – the AGH UST and the HUMG – and tightened the relations between us – the AGH UST students and employees.”

What’s more, spending time on discovering Kraków was an incredible adventure, and it helped me to learn more about the culture, people and food in Poland, especially in this charming city.”

Meeting over a cup of tea, Hanoi, 2017.



Photo from the private archive of M. Dumańska-Słowik

Doctoral studies at the AGH UST within the UNESCO Exchange Program

Dr. Duong Van Hao
Geophysics Department, Hanoi
University of Mining and
Geology, Vietnam

When I defended my Master thesis in 2012 I was employed as a scientific and didactic worker at the Hanoi University of Mining and Geology (HUMG). Within the framework of the bilateral project between the AGH UST and the HUMG entitled "Research of the influence of deposits exploitation on the radiation level in the environment", in February 2013 the AGH UST delegation came to the HUMG for the geological-geophysical measurement in the area of Sin Quyen copper deposit in Lao Cai province and Nem Xe rare earth elements deposit in Lai Chau province in the north of Vietnam. The following people were in the specialist group from the AGH UST: Prof. Adam Piestrzyński, Dr. Jadwiga Pieczonka, Dr. Nguyen Dinh Chau from the AGH UST Faculty of Geology, Geophysics and Environmental Protection and Dr. Paweł Jodłowski from the AGH UST Faculty of Physics and Applied Computer Science. From the HUMG Prof. Le Khanh Phon and me – Duong Van Hao MSc– participated in the measurements. I was really glad that I could take part in the research work together with the AGH UST employees.

When I was a student, I already heard that the AGH UST was a famous university not only in Vietnam, but also in the world. Many engineers in Vietnam have graduated from the AGH UST. They have very good opinion as specialists in their fields. Among the youngest there is Dr. Ha Quang Man – the doctoral student of the AGH UST Faculty of Geology, Geophysics and Environmental Protection during the years of 2007–2011, the holder of His Magnificence the AGH UST Rector's scholarship.

During our work with the AGH UST delegation I could recognize that the AGH UST employees are very good and responsible specialists, and that was the moment when I realized, that I would like to come to Poland, at the AGH UST, to continue my education. In June 2014 I participated in the 1st International Conference POL-VIET organized at the AGH UST. During this conference I could hear many interesting scientific presentations connected with the research conducted within the framework of the AGH UST and the HUMG cooperation. I also learned about the agreement regarding further cooperation between the AGH UST and the HUMG that was signed during the Conference by His Magnificence Rector Prof. Tadeusz Słomka and the HUMG Vice-Rector Prof. Tran Thanh Hai.



Photo from M. Foryś archives

The ceremony of signing the student exchange agreement between the AGH UST and the HUMG, Kraków, 2014.

During my stay at the 1st International Conference POL-VIET, I learned that there is the AGH-UNESCO program operating at the UNESCO-AGH Chair for Science, Technology and Engineering Education. Within the framework of this program the students can apply not only for the Master degree studies but also for the doctoral studies. Among the topics that were announced at the web page of the AGH-UNESCO I found the subject entitled "Measuring the content of the radioactive elements in the area of Sin Quyen copper deposit in Lao Cai". The supervisor of the subject was Dr. Nguyen Dinh Chau from the AGH UST Faculty of Physics and Applied Computer Science. It was a great chance for me to apply for the contest. I applied for this subject I was accepted.

4th Pol-Viet Conference, Kraków, 2017.



Photo from M. Foryś archives

In October 2014 I came at the AGH UST for the doctoral studies at the Faculty of Physics and Applied Computer Science. I was attending all the doctoral studies courses at the Faculty of Physics and Applied Computer Science and some chosen subjects realized in English. At the beginning I had a lot of trouble with language and learning. However, with the help of my supervisor Dr. Nguyen Dinh Chau and the employees of the Faculty of Physics and Applied Computer Science and the Faculty of Geology, Geophysics and Environmental Protection I was earnestly trying to realize my education program and pass all the compulsory subjects. My passion for learning and diligence helped me to pass all exams with positive outcomes and to conduct laboratory research needed for the realization of my doctoral thesis. During my doctoral studies I was participating in many conferences and courses organized in Poland, Vietnam and other European countries. At each conference I had an opportunity to present my research

results in the form of oral presentation and posters, and each completed course was confirmed with a certificate.

One of my achievements was the award for the best presentations on the 4th International Conference Applied Geophysics organized in the days of 28-29 June 2018 in Kraków.

On 6 July 2018 I defended my doctoral thesis entitled "Rare earth, natural radionuclides and selected precious metals in the IOCG Sin Quyen deposit, Lao Cai, North Vietnam". The doctoral thesis commission at the AGH UST Faculty of Geology, Geophysics and Environmental Protection unanimously accepted the defence and submitted the application to the Faculty Council to confer me the degree of Earth sciences doctor. During my stay in Poland I was very active in the social initiatives, I organized a lot of events and I promoted my country – Vietnam – among the students from other countries within the framework of the AGH-UNESCO Program and the Vietnam Culture Day in Kraków.

Dr. Sylwia Cygan-Korecka
Department of International
Relations, AGH University of
Science and Technology, Poland

Invitation for the 5th Conference Scientific-Research Cooperation between Vietnam and Poland (POL-VIET) 2019

Since 2014, on the initiative of His Magnificence Rector Tadeusz Stomka, the AGH University of Science and Technology in Kraków (AGH UST) together with Hanoi University of Mining and Geology (HUMG) have been organizing the international Conference Scientific-Research Cooperation between Vietnam and Poland (POL-VIET). The aim of this undertaking is to develop scientific-research cooperation between Poland and Vietnam, but also to summarize our common projects and initiatives. Development of the bilateral contacts in the field of education and collaboration with industry is also an essential aspect of the Conference.

The very important element of the POL-VIET 1st edition, that took place at the AGH UST in 2014, was the solemn signing of the student exchange agreement between the AGH UST and the HUMG. During the 2nd edition, organized at the HUMG in 2015, the jubilee of 25th anniversary of cooperation between the AGH UST and the Vietnam Academy of Science and Technology (VAST) was celebrated. The 3rd edition, that took place also at the HUMG in 2016, was combined with the jubilees of the 50th anniversary of the HUMG foundation and of the 30th anniversary of the AGH UST and the HUMG cooperation. The 4th edition, organized at the AGH UST in 2017, was affiliated with the IV Polish Mining Congress. Besides, within its framework the Polish-Vietnam Business Forum was arranged. This event was attended by the international guests and the representatives of the Polish industry.

During all POL-VIET editions, the thematic sessions, the study visits and formal dinners were filled with discussions, experience exchange, planning for the future and establishing new contacts. There were also recollections accompanying touching reunions after many years.

The following 5th edition of the POL-VIET Conference will take place in the days of 8-10 July 2019 at the AGH UST. Once again, it will be a great opportunity for meeting and exchanging knowledge and experience. It will be also very special edition because of the jubilee of the 100th anniversary of the AGH UST foundation, that will last from October 2018 till June 2020.

The participants of the 2nd edition of the POL-VIET Conference, Hanoi, 2015.

Photo from M. Forýs archives



