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UNIVERSITY OF THE
FUTURE



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photo by AGH UST Krakow Student Photo Agency





1816

KTY WPROWADZANA
GÓRNICZYCH
UNIWERSYTECIE KOBELLOŃSKIM
1816-1817, 1822, 1830
SZK. 1809, 1816

BIURSKI
SI EDUKACJI WARSZAWIE
FABRYCACH GÓRNICZYCH
1816-1817
1818-1819

ISIA PRZESZONA
ZADY GÓRNICZYCH I FIZYKI
UNIWERSYTECIE KOBELLOŃSKIM
1816-1817

GRAM AKADEMII GÓRNICZEJ
WARSZAWY

SZKOLENIA AKADEMII GÓRNICZEJ
WARSZAWY 1816-1817 F. WILHELM
WILHELMSKI I. B. POSCH I. GRAF
KOBELLOŃSKI I. E. WILHELM
WARSZAWY

photo by Maciek Bernas, AGH-UST Krakow Student Photo Agency

Foreword from AGH UST Rector

Dear Readers,

We are beginning the 2020–2024 term of office, and at the same time, the second century of our Alma Mater.

In front of the AGH UST academic community there are new plans, opportunities, and challenges. We will work on them together – as a community and the AGH UST family. The bar has been set very high both by the previous generations, and the university authorities in the previous terms of office. We have an important role to play in this generation relay.

The strength of the AGH UST brand is a reason to be proud. The university has a well-established position in Poland, and one that is getting stronger abroad. Excellent infrastructure, stable budget, modern laboratories, experienced academic staff, gifted and ambitious students and doctoral students are our great asset. Acquiring the status of a Research University and a European University, as well as the first in the AGH UST's history grant awarded by the European Research Council (ERC) places us in the lead of the scientific elite. Our university has graduates who dynamically carve out their professional careers, easily finding their feet in the sectors of economy, industry, and research and development.

Based on the solid foundation that has been built for a hundred years and taking advantage of the developed potential, we want to take actions in the direction in which the best and the most prestigious world universities are currently moving. We want AGH UST to be perceived as an incubator of innovation and new technologies that can be applied to fundamental and practical research. Apart from a diversified and attractive educational offer both for students and the socio-economic surroundings, a priority will be to carry out practical projects that are important for sustainable development and the social responsibility of the university.



Professor Jerzy Lis
Rector of AGH UST in Krakow

The aims that we have set ourselves require hard work, but I am convinced that we will achieve them together, so that in four years' time we will be able to say: AGH UST – University of the Future!

Enjoy the read!



AGH UST authorities in the years 2020–2024



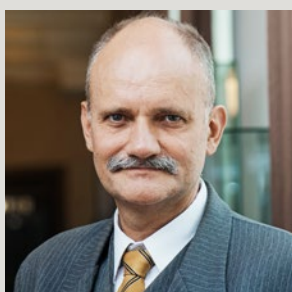
**AGH UST Vice-Rector
for Science**
Professor Marek Gorgoń



**AGH UST Vice-Rector
for Cooperation**
Professor Rafał Wiśniowski



**AGH UST Vice-Rector
for Student Affairs**
Professor Rafał Dańko



**AGH UST Vice-Rector
for Education**
Professor Wojciech Łużny



**AGH UST Vice-Rector
for General Affairs**
Professor Tadeusz Telejko

Rector of AGH UST
Professor Jerzy Lis



Mission Statement of AGH University of Science and Technology in Krakow

The AGH University of Science and Technology in Krakow is a modern state university which develops partner collaboration with colleges and universities in Poland, Europe, and all over the world. The university's priority is the accomplishment of tasks and projects that are part of the knowledge triangle: education – scientific research – innovation. The AGH University of Science and Technology is a technical university where exact sciences are strongly represented and where they constitute basis for the development of a wide spectrum of applied sciences at a gradually increasing role of social sciences and humanities. In line with global development trends, we create new fields of study, but at the same time we keep the conventional ones, which are indispensable for a proper development of science, technology, and the economy of our country.

The system of education adopted at AGH UST aims at making students develop the skills of acquiring and applying knowledge, logical, constructive and future-oriented thinking, quick and deductive reasoning, as well as making optimum decisions. The AGH University of Science and Technology conducts scientific research at a high, world level in different fields and disciplines of science, which are the basis for a high level of education and the development of university staff. This constitutes one of the fundamentals of the operation and position of the university.

From the very beginning, AGH UST has been closely connected with the units of the national economy and local governments, serving the Polish economy and advising state and local authorities. The university supports all activities that aim at the establishment of strong inter-faculty, inter-university, and international research teams. A strong position of the AGH University of Science and Technology requires the intensification and involvement of the university in the area of national and international collaboration, both in educational and research-related fields. An element of this strategy is the establishment of a network of associated universities, scientific research centres, and industrial units. The university shall become a unique academic and economic consortium that develops its own business activity by means of creating conditions suitable for transfer of technologies and business incubation.

The AGH University of Science and Technology was established for the purpose of education and training of students, education and development of academic staff, and for the purpose of carrying out scientific research and development works according to the principles of freedom of education, mission of exploration, as well as the freedom of science and sharing the truth, in the spirit of human respect and service for the well-being of the country and humanity. Our motto is work in the spirit of the university slogan "Knowledge – Passion – Bond".



photo by AGH UST Museum

Establishment – 1913

The Mining Academy was established thanks to the efforts of many generations of Polish people. Its traditions date back to the times of the Ore Commission, established in 1782, and the Academic-Mining School in Kielce, established in 1816 on the initiative of Stanisław Staszic. Polish engineers – miners and metallurgists, the Galician members of parliament, and Krakow authorities, as a result of many-year endeavours, in 1913 led to the establishment of a mining school in Krakow. However, the outbreak of World War I made it impossible to begin the academic year.

Opening – 1919

When Poland regained its independence in 1918, the Organising Committee recommenced its work, and on 8th April 1919, the Polish Government brought the Mining Academy into being. The first professors were nominated on 1st May 1919. On 20th October 1919, the Mining Academy was inaugurated in the main hall of the Jagiellonian University by Józef Piłsudski, Chief of State.

From the pages of history

Development in interwar period

On 15th June 1923, the cornerstone for the future university building was laid. Two years later, the design of the Academy emblem (to be seen in the AGH UST Museum) signed B.T. – Bogdan Treter – was created; it is believed that the emblem was approved by the General Assembly of Professors. Soon, the Academy reached a very high educational standard, and became one of the best European mining schools. Since its early days, the university has collaborated closely with industry, and retained close links with the Polish economy.

World War II

The outbreak of World War II stopped the development of the Academy. Professors of the Mining Academy were arrested by the Gestapo during "Sonderaktion Krakau". The science and research elite were sent to the Nazi Germany's concentration camps in Sachsenhausen-Oranienburg and Dachau. Between 1939 and 1945, the main building of the Academy was occupied by the German General Government. The property of the Academy was completely devastated and plundered, and the sculpture of St Barbara was thrown from the roof of the main building, and broken. Thanks to the dedication of staff, part of the library was saved. The Academy started to act in conspiracy, and the authorities tried to regain or create provisional teaching facilities.

Contemporary history

At the beginning of 1945, the Mining Academy was the only technical university in Poland that was able to operate. It became a support centre for other technical universities in Poland. The Cracow University of Technology came into being within the walls of the Academy; it acted under the name of the Polytechnic Faculties of the Mining Academy until 1954. The Academy also played a major role in the establishment of the Silesian University of Technology (23 Mining Academy graduates

were appointed professors there), and Częstochowa University of Technology, and it also contributed to the reconstruction of Warsaw University of Technology, and the organisation of Wrocław University of Science and Technology and Gdańsk University of Technology. In 1947, an internal decision was made to rename the university the Academy of Mining and Metallurgy. However, a formal approval of the decision by superior authorities took place only in 1949. In 1969, Stanisław Staszic was chosen the patron statesman of the Academy. At the same time, the university received its standard. On 14th December 1981, the AGH UST academic community, under the flag of "Solidarność", had courage to protest against suppressing – by an act of imposing Martial Law – the retrieved feeling of freedom and solidarity. The Independent Self-Governing Trade Union "Solidarność" at AGH UST was a student organisation, the only one in Krakow, and one of only three in Poland, which organised sit-down strikes in the first days of Martial Law. In 1999, the reconstructed sculpture of St Barbara was placed on the roof of the AGH UST main building.

The AGH University of Science and Technology cherishes its traditions and educates students to be wise and honest people, ones who develop their home country, whose well-being is for them the highest priority, in a professional and community spirit, according to the motto:

Labore creata, labori et scientiae servio
(Created in labour, I serve labour and science)

From the Statute of the AGH University of Science and Technology in Krakow

Research University



AGH UST is among the winners of the first competition in the programme “Initiative for Excellence – Research University”. The programme is one of the most important initiatives of the Ministry of Science and Higher Education provided for in the Constitution for Science.

One of the main aims of the project at AGH UST is the internationalisation of the university and its transformation into a modern technical university that in the course of 10–15 years will become an attractive place to study and work, in a way comparable to some other European universities.

The status of a research university is connected with additional funds. The money will make it possible for the academic staff to focus more extensively on scientific activity, as well as improving the quality of education. The additional subsidy also means a possibility to compete with universities which are at the top of international ranking lists, as well as strengthening research-related collaboration with scientific institutions that enjoy a high reputation on the international arena. The beneficiaries of the additional funds will be in the first place research teams working in the field of the so-called “Priority Research Areas”.

Priority Research Areas

- Sustainable energy technologies, renewable sources of energy, and energy storage
- New technologies for the circular economy
- Water–energy–climate: interdisciplinary approach to sustainable development
- Technical solutions: from fundamental research, through modelling and design, to prototypes
- Materials, technologies, and processes inspired by nature
- Intelligent information, telecommunication, computer, and control and operation technologies
- Design, production, and testing of modern materials and the technologies of the future
- Crossing boundaries: experimental high energy physics, extreme states of matter, transdisciplinary applications

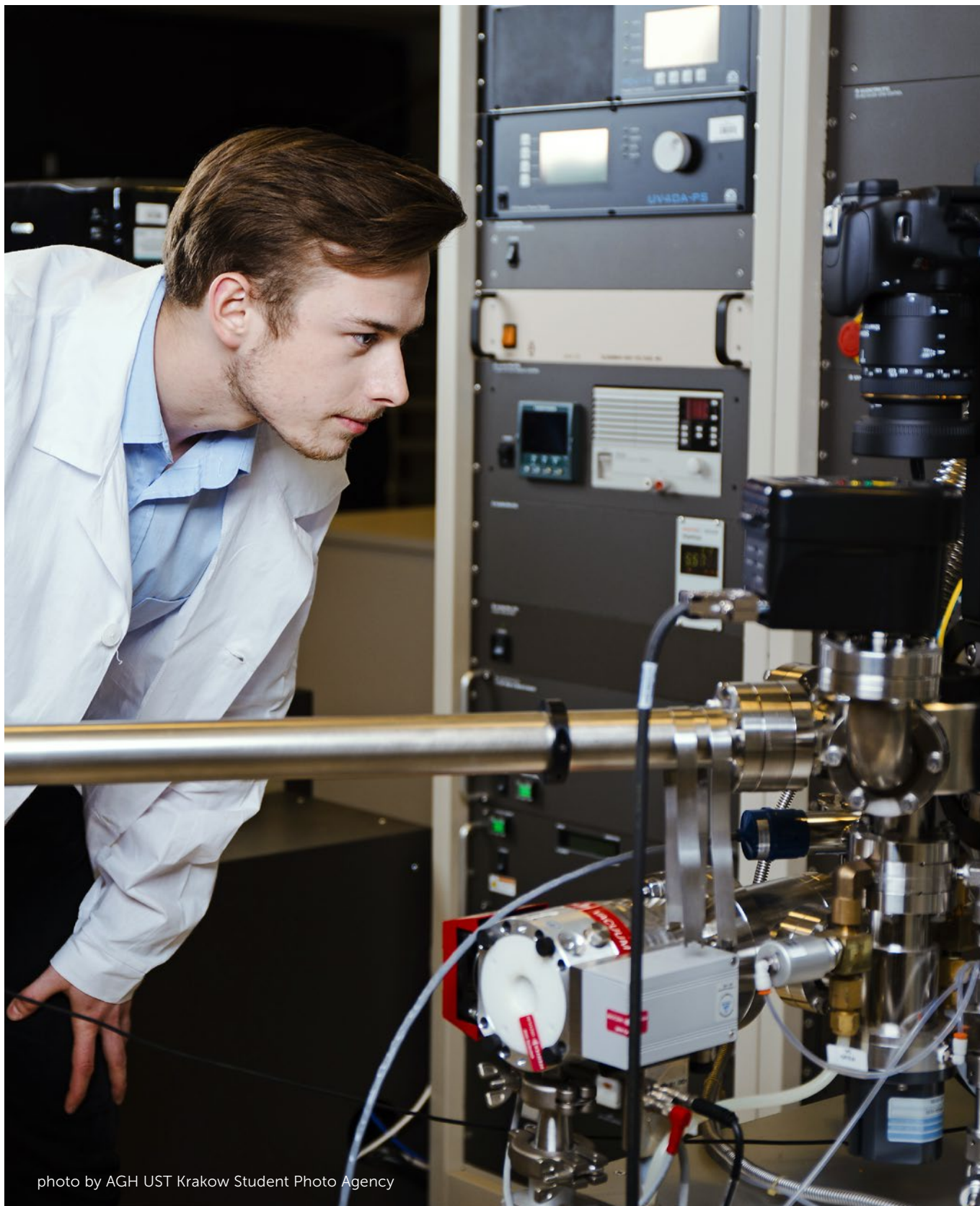


photo by AGH UST Krakow Student Photo Agency



photo by Joanna Dubielewska

European University

AGH UST has been officially recognised as a European University in the prestigious competition “European Universities” organised by the European Commission. Together with four other European universities, AGH UST is a part of the winning consortium called UNIVERSEH – European Space University for Earth and Humanity. Thanks to the project, AGH UST will develop education, science, and technologies connected with the exploration and exploitation of outer space.

AGH UST’s partners in the UNIVERSEH consortium are the University of Toulouse (France), the University of Luxembourg (Luxembourg), Heinrich Heine University in Düsseldorf (Germany), and Luleå University of Technology (Sweden).

In practical terms, awarding the status of a European University to AGH UST will enable the university to collaborate with other partners in the network on technologies for the space industry. The consortium will not only educate, but it will also conduct research into, for example, telecommunications, climate, and sustainable development of the space sector. The universities will carry out research in the areas related to space engineering and space-related industries, as well as social sciences, medicine, and art. Thanks to the award, AGH UST has won an opportunity to contribute to the development of one of the key industries of the future.

AGH UST supports the space industry by means of a number of projects carried out both by scientific research staff and students. The university actively develops research on space mining in close collaboration with experts from the Faculty of Mining and Geoengineering and the Faculty of Drilling, Oil and Gas. Additionally, AGH UST and the Space Research Centre of the Polish Academy of Sciences are involved in a joint project called “LOOP – Landing Once on Phobos”. The research findings will be used for the purpose of a planned mission that involves landing on

one of the moons of Mars. The research conducted at AGH UST is part of a project carried out by the European Space Agency (ESA).

On the other hand, innovative designs of rockets, space probes, Mars rovers, and stratospheric balloons are developed by university students who are members of the student special interest group “AGH UST Space Systems”, a winner of many international awards.

“For us, it is a great honour. Together with our European partners we will create a network of space universities. Developing disciplines that go beyond the planet Earth is the direction in which the world’s best universities are currently heading. It is a source of motivation for AGH UST to make a contribution to the development of a discipline of the future – space and its closer exploration. We are beginning the university’s second century with ambitious plans of developing advanced technologies for the space industry.”

professor Jerzy Lis
AGH UST Rector

In Łukasiewicz Research Network

Improvements in implementation and research efficiency, which will translate into a faster development of Polish companies, constitute the key elements of an agreement signed between AGH UST and the Łukasiewicz Research Network.

The partnership, which will boost Poland's economic growth based on global trends and the expectations from Industry 4.0, assumes participation in research and implementation projects, both domestic and international, within the framework of the European Institute of Innovation and Technology – EIT Raw Materials, which supports the development of innovations in the sector of raw materials. It is also planned to carry out joint projects within the framework of the Digital Innovation Hub coordinated by the Krakow Technology Park in the field of key technologies and solutions for the future, including automation, robotics, artificial intelligence, as well as augmented and virtual reality (AR and VR).

AGH UST and the Łukasiewicz Network also aim to intensify educational cooperation by means of organising career development programmes for scientists, the exchange of scientific research staff, as well as implementation doctorates.

“The agreement between AGH UST and the Network is a signal – for our environment as well as other universities and research centres – that defines the direction in which science should be moving. This direction is collaboration to the benefit of the Polish economy. With such a powerful partner as the Łukasiewicz Research Network we can effectively respond to any requirements of business and industry, as well as improving the efficiency of transfer of technologies.”

professor Jerzy Lis
AGH UST Rector



photo by AGH UST Krakow Student Photo Agency

The university structure comprises faculties whose research activity is connected not only with the conventional branches of industry or Earth and technical sciences, but also with the fields of science that are fundamental for the development of modern economies, such as new materials, renewable sources of energy, biomedical engineering, information technologies, and intelligent systems.



photo by AGH UST Krakow Student Photo Agency

Research – a source of innovation

Developing research at the highest level, searching for new technologies that can be applied to industry, creating innovative solutions – these are our priorities through which we have influence on the contemporary science and economy.

The AGH UST staff are over 2,000 teachers and scientists, of which more than 700 have a status of independent researchers. Scientists present the results of their research works and projects by organising and participating in a few dozen international and Polish conferences and science symposia every year. Experience and the highest qualifications enable many AGH UST professors to hold important functions in prestigious scientific bodies in Poland and abroad.

The university carries out projects financed by the Ministry of Science and Higher Education, the European Commission, the National Science Centre, the National Centre for Research and Development, and the Polish National Agency for Academic Exchange. The university carries out domestic research projects, research and development projects for industry, as well as projects conducted jointly with international partners within the framework of the following programmes: EU Programmes HORIZON 2020, KIC InnoEnergy, KIC RawMaterials, POLONEZ, HARMONIA, MOTOROLA grants, International Visegrad Fund, Research Fund for Coal and Steel, ERA, bilateral collaboration programmes, Erasmus+, and Structural Funds.

Research activity is supported by modern equipment. We have one of the most powerful microscopes in the world – Titan Cubed G-2 60-300, unique technological and measurement equipment, including devices working in the conditions of high cleanness, in the so-called “clean

room” with equipment designed for nanotechnology and material nanodiagnostics, as well as laboratories equipped with advanced apparatus and devices, such as the Laboratory for the Evaluation of Energetic Efficiency and Automatic Control of Buildings – AutBudNet, which holds – unique in Poland and East-Central Europe – the accreditations of LonMark International, RWE – AGH UST Solar Lab, which is the first LTE laboratory at a Polish university, the AGH UST – KGHM Laboratory of Critical Elements, and the Laboratory of Microelectronics and Radiation Sensors.

In 2019, AGH UST carried out **526 scientific research projects:**

- 407 domestic research projects,
- 85 international research projects (including 33 projects in competitions within the framework of the programme HORIZON 2020),
- 34 projects financed from Structural Funds.

The university also conducted **72 educational projects:**

- 45 projects financed from Structural Funds,
- 27 international projects.

Making supercomputers available to scientists

The AGH UST Academic Computer Centre CYFRONET supports Polish scientists by means of providing world-class resources and unique IT solutions. In the first place, these are two supercomputers: the fastest in Poland – Prometheus (2.65 PFlops, the highest 38th rank on the list TOP500 of the fastest supercomputers in the world in 2015) and Zeus (374 TFlops, the highest 81st rank on the list TOP500 in 2011). In 2019, for the purpose of scientific research, Zeus and Prometheus performed 4,993,639 calculations of the total operation time equal to 44,027 years! Cyfronet is a research and development centre in the field of IT technologies. R&D projects carried out by the Centre encompass issues related to supercomputers, parallel processing, large scale data analysis, artificial intelligence, and computer networks. Cyfronet is a centre of competence in the field of distributed computing infrastructures of the grid and cloud type, and the administrator of the Academic Metropolitan Area Network in Krakow (MAN). The MAN operates its own optical fibre infrastructure of a total length of nearly 200 kilometres.

Supercomputers not only for advanced scientists

Cyfronet is the initiator and coordinator of the Programme PLGrid, within the framework of which the national computing infrastructure PLGrid has been built for the needs of the scientific environments in Poland. It encompasses supercomputers as well as unique IT platforms and dedicated computing environments, including specialist science software packages – tailored to the needs of scientists and researchers representing different scientific disciplines. The resources offered by the PLGrid infrastructure can be used both by researchers and students carrying out scientific research projects. It is just enough to register on the PLGrid Portal (www.portal.plgrid.pl) and create a virtual computing “grant”. The PLGrid infrastructure also makes it possible to use the resources of the European Cloud and Grid Infrastructure EGI, and it will soon be connected to the fastest European supercomputers EuroHPC. Thanks to the above, it is possible to use the Polish infrastructure in order to analyse data in collaboration with international scientists and researchers, in such projects as HL-LHC (a successor to the Large Hadron Collider), EPOS, CTA, LIGO-VIRGO, and many others.



The supercomputer Prometheus, built according to the specifications developed by Cyfronet experts, when launched in 2015, was the first European installation and one of the largest installations in the world based on the technology of direct cooling by liquid. After several years of operation, it is still one of the most energy-efficient systems in its class (142nd position on the international list Green500, as of November 2019).



photo by Krzysztof Mastalski, AGH UST Krakow Student Photo Agency

Prestigious ERC Starting Grant

AGH UST professor Urszula Stachewicz became a laureate of the prestigious Starting Grant awarded by the European Research Council. The scientist of the Faculty of Metals Engineering and Industrial Computer Science will conduct research into innovative insulation materials that will enable the reduction of daily energy consumption. For the purpose of carrying out the 5-year project, she will receive funds of 1.7 million euro.

“SANO Project” – Centre for Personalised Computational Medicine

The AGH UST's “SANO Project” was awarded a grant of 15 million euro in the prestigious competition “Teaming for Excellence”, organised within the framework of the EU programme HORIZON 2020. The project will be carried out by the AGH UST Academic Computer Centre CYFRONET together with five partners, including science centres from Germany and Great Britain.

Within the framework of the project, a Centre for Personalised Computational Medicine will be established in Krakow. It will deal with the development of innovative methods for medical diagnostics and personalised therapies, which will be supported by advanced computer simulations.

Otoimplant – Polish product of the future

Otoimplant, a prosthesis of the middle ear with bactericidal effect, won the main prize in the category “Product of the future designed by an institution of higher education and science” in the 22nd competition “Polish Product of the Future”. Designed by a team of scientists from AGH UST, headed by professor Magdalena Ziąbka of the Faculty of Materials Science and Ceramics, the innovative prosthesis has also been awarded a special prize of the Minister of Science and Higher Education.

Transfer of technology and knowledge to the economy

AGH UST is an important centre for transfer of technologies and commercialisation of innovative solutions. University units co-create a comprehensive offer that takes into account the needs and expectations of both scientists and students, as well as the representatives of industry, economy, and administrations. A key factor of success is the mutual awareness of needs and possibilities, as well as the trust of scientific and business environments.

AGH UST Centre for Transfer of Technologies

The AGH UST Centre for Transfer of Technologies is a non-faculty unit established in 2007. In the organisational structure of the Centre there are two departments: the Department for Transfer of Technologies, and the Department for Protection of Intellectual Property. The Department for Transfer of Technologies deals with the protection of intellectual property, as well as organisational, legal and financial aspects of the transfer of technologies related to selling and making intellectual property rights available to others. Every year, there is an increase in the number of concluded agreements relating to the transfer of inventions, but also to the results of other research activity, such as know-how, computer programs and systems, databases, and documentation. The Department for Protection of Intellectual Property deals with preparing and submitting applications that concern granting exclusive rights both in national and international procedures.

Administration and Business Cooperation Department

The Administration and Business Cooperation Department is a university unit supporting collaboration between the academic community and companies, business-related institutions, national and local government bodies, universities, as well as research and development institutes and agencies. This objective is accomplished through promoting the potential of the university by means of organising meetings, seminars, and conferences, as well as coordination and support in formal and legal aspects related to signing collaboration agreements with external entities, and also recording, monitoring, and registering R&D agreements. Every year, AGH UST signs about 100 collaboration agreements, letters of intent, and memoranda of understanding with industry, administrations, and business-related institutions.

In 2019, AGH UST carried out 926 research and development contracts, of which more than 75% were projects commissioned by industry.

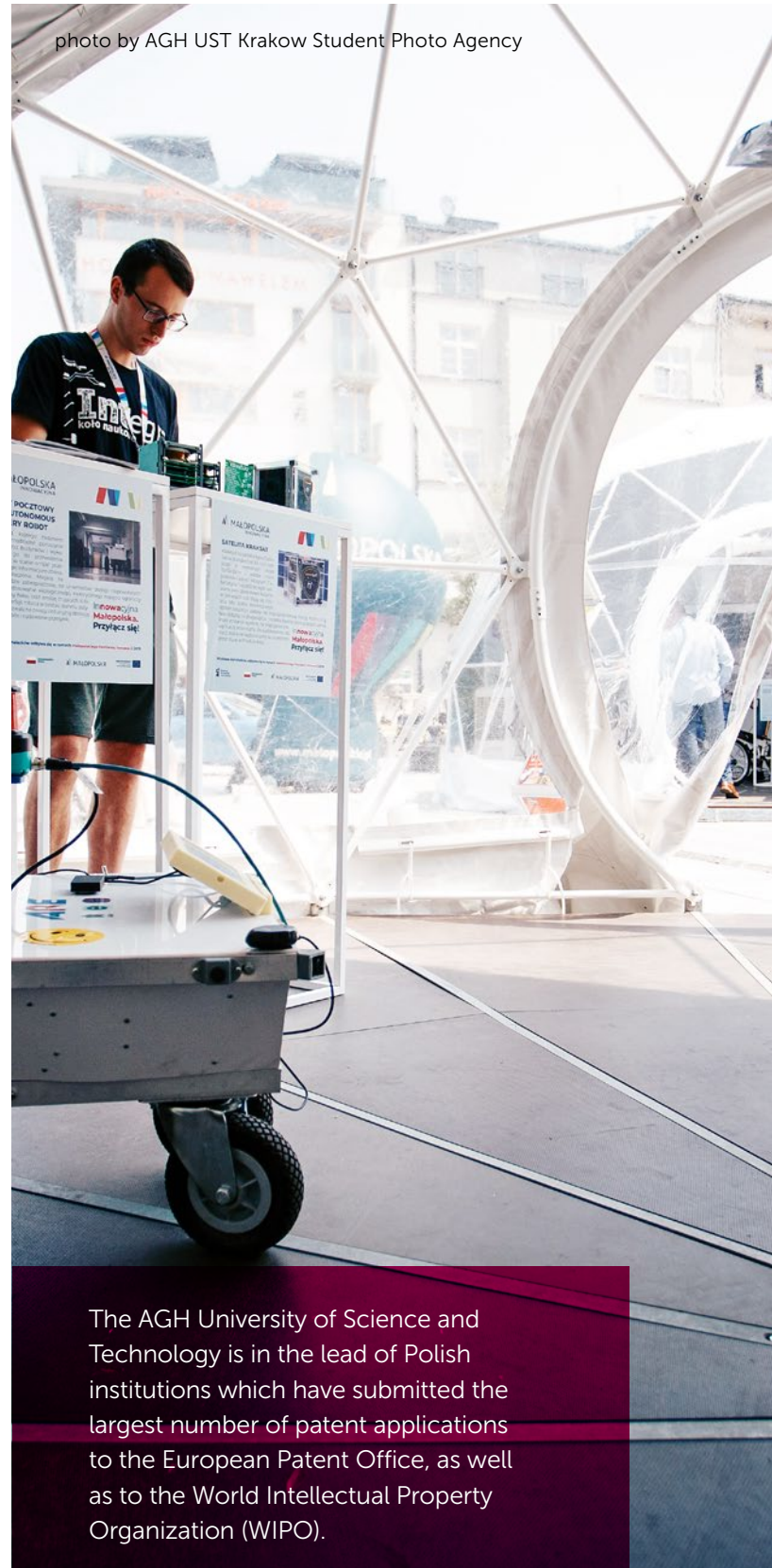
INNOAGH

The Krakow Centre of Innovative Technologies INNOAGH is a limited liability company established in 2010, with 100% share capital owned by AGH UST. INNOAGH is a special-purpose entity whose objective is the commercialisation of the results of scientific research and development work carried out at the university. Its operations are based on intellectual, inventive, and technological potential of AGH UST scientific research staff, and the university's infrastructure.

The mission of INNOAGH is a comprehensive development and promotion of academic entrepreneurship, and its main objective is creating technological start-ups and spin-off companies, and in this way, developing business based on knowledge and modern technologies. INNOAGH, as a quasi-investment fund, advises and provides support to research staff and doctoral students who are interested in setting up innovative companies based on knowledge, technology, skills, and research results, including AGH UST intellectual property. Together with creators and developers, INNOAGH acquires shares in spin-off companies, mainly by contribution-in-kind of intellectual property rights or by means of financial contribution. On the basis of AGH UST intellectual property, 25 spin-off companies have been established. INNOAGH has so far completed divestment from nine companies, which had finished the process of incubation.

INNOAGH also supports transfer of the results of scientific research and development work to the economy through the process of commissioned research projects and pro-innovative services for companies (for example, Innovation Coupons for SMEs) with the use of experts' knowledge and laboratory facilities, not only of the parent university. The team of INNOAGH gets involved in the education and promotion of academic entrepreneurship. It also offers advice, training and workshops, thus providing professional knowledge and competences related to, for example, the process of creating technological start-ups, spin-off companies, capital investments, and indirect commercialisation.

photo by AGH UST Krakow Student Photo Agency



The AGH University of Science and Technology is in the lead of Polish institutions which have submitted the largest number of patent applications to the European Patent Office, as well as to the World Intellectual Property Organization (WIPO).

AGH UST acts for climate

AGH UST has established an interdisciplinary team whose role is to counteract the negative effects of global warming. "AGH UST for Climate" is the first inter-faculty team coordinating research conducted at the university in the field of environmental protection.

The team, established in 2020, comprises representatives of five AGH UST faculties that conduct intensified research into environmental protection, especially in the area of reducing the effects of climatic changes. The team's task is to initiate new research, coordinate university's actions with regard to counteracting and adaptation to climatic changes, as well as liaising with administrations, industry, and research centres in Poland and abroad. All members of the team have taken active part in consultations for the LIFE EKOMAŁOPOLSKA project, in which AGH UST is a partner.

AGH UST scientists carry out a number of projects connected with greenhouse gas emissions, including those delivered under the UN Environment Programme (UNEP), and the EU HORIZON 2020 Framework Programme. In their research projects, they also look into such issues as the rational use of fuels and the development of renewable sources of energy, circular economy solutions, carbon footprint calculations, and environmental monitoring, as well as low-emission mobility and sustainable urbanisation.





Education at the highest level

AGH UST educates 25,000 students. The educational offer comprises 67 fields of study within first-cycle programmes, and 58 fields of study within second-cycle programmes, offered by 16 faculties. The university also offers education in the AGH UST Doctoral School in 16 scientific disciplines, as well as nearly 90 postgraduate courses.

AGH UST offers unique, often interdisciplinary studies which can be tailored to individual needs. Every year, the university launches new fields of study whose programmes take into account the needs of the labour market, which arise from the economic transformations and the demand for highly-qualified specialists. A high demand for engineers is a reason why university graduates are often competed for by employers, who offer them excellent conditions of employment.

Our graduates are recognised as professionals both in Poland and around the world. Our main assets are:

- huge scientific potential,
- internationalisation,
- recognition by employers,
- close links with industry and business world,
- possibility to do practical trainings and internships,
- modern teaching and research facilities,
- good social conditions,
- possibilities to develop interests (special interest groups, student organisations, Academic Sports Association),
- university campus with the largest student accommodation area in Poland.

Technical education programmes are designed in such a way that prospective engineers have an opportunity to attend a large number of laboratory and design classes. Technical courses, connected with carrying out analysis, measurement, and research, are run in AGH UST specialist laboratories.

During their time at the university, students take part in practical trainings and internships in Polish and international companies, industrial plants, and public institutions. Their scope covers the broadening and verification of knowledge acquired during the course of studies, understanding the specifics of engineering tasks in typical work environments, gaining experience in team work, as well as finding out about the requirements laid down by prospective employers. The most-gifted students also have a chance to take part in prestigious internship programmes at the best universities in the world.

25,000 students
2,000 scientists and researchers
800 laboratories



photo by AGH UST Krakow Student Photo Agency

Education at AGH UST is closely connected with research. We involve and encourage students to take active part in conducted research projects. We believe in innovation and cooperation in the area of the exchange of technologies, and we actively collaborate with renowned Polish and international companies, which highly appreciate our graduates.

Some faculties of the university are unique in Poland, i.e. the Faculty of Materials Science and Ceramics, the Faculty of Non-Ferrous Metals, the Faculty of Drilling, Oil and Gas, and also the only in Europe Faculty of Foundry Engineering.

In line with the mission statement of the university, we place a lot of emphasis on the quality of education by taking steps in many different directions within the framework of the University System of Ensuring Quality of Education. One of the elements of improving the System are surveys of students' opinions concerning the evaluation of teachers, the process of education at particular fields of study, administration, and postgraduate courses. All activities that aim at maintaining high standards of the educational process are coordinated by Rector's Proxy for Quality of Education, and two teams: University Board for Quality of Education, and University Board for Didactic Auditing.

Excellent evaluation of the educational programme of the university is reflected in the reports published by the Polish Accreditation Committee. It is worth noting that in the course of the recent years, all AGH UST fields of study and faculties have received positive evaluation of the Polish Accreditation Committee, some with distinction.

All AGH UST faculties have been awarded top scores in the parametric evaluation conducted by the Ministry of Science and Higher Education. Five basic organisational units have been awarded the highest scientific category A+.

AGH UST units with category A+:

- Faculty of Computer Science, Electronics and Telecommunications,
- Faculty of Mechanical Engineering and Robotics,
- Faculty of Materials Science and Ceramics,
- Faculty of Physics and Applied Computer Science,
- Academic Centre for Materials and Nanotechnology.

Receiving education at the highest level, which is recognisable all over the world, is possible thanks to:

- intensified learning of foreign languages,
- integrated studies with double diplomas (of AGH UST and a foreign university),
- possibility to do practical trainings and internships abroad,
- tailored programmes of study,
- constantly modernised methods and content of education (for example, distance education),
- well-developed teaching and social facilities,
- possibility to gain teaching qualifications.

Caring about the competitiveness of our offer on the international education market we develop teaching in foreign languages. Currently, we offer study programmes in English at three fields of study at the first cycle, and two fields of study at the second cycle, as well as within several specialisations and graduation paths.

Moreover, our university operates the AGH UST Database of Electives (UBPO), which offers over 180 courses in foreign languages, thanks to which students can expand their specialist and technical vocabulary in foreign languages, as well as over 70 courses in Polish related to social sciences and humanities. In the academic year 2020/2021, a third set of UBPO will be launched, i.e. innovation-related courses, which take into account the latest achievements and trends in science, scientific research, technology, and socio-economic surroundings, or their application and use in everyday life. Every semester, the courses that are part of the AGH UST Database of Electives are made available to all AGH UST students.

Specialist knowledge that can be gained during the course of studies requires a solid base, especially in the field of the so-called "fundamental subjects", i.e. mathematics, physics, and chemistry. This is a reason why for many years AGH UST has been taking steps that aim at the improvement of knowledge related to these subjects, both by candidates for the university, as well as current university students (for example, Foundation Year Programmes, preparatory courses).



photo by Maciej Talar, AGH UST Krakow Student Photo Agency

The AGH University of Science and Technology offers studies at three levels (cycles) of education:

- bachelor's degree (6–7 semesters),
- master's degree (3–4 semesters),
- doctoral studies – prepare students to teach and conduct independent research, and lead to awarding a doctor's degree.

Offer of education

Degree programmes in English

First-Cycle Degree Programmes:

- **Electronics and Telecommunications**
Faculty of Computer Science, Electronics and Telecommunications
- **Mechatronic Engineering**
Faculty of Mechanical Engineering and Robotics
- **Computer Science**
Faculty of Electrical Engineering, Automatics, Computer Science and Biomedical Engineering

Second-Cycle Degree Programmes

- **Chemical Technology: Energy Transition**
Faculty of Energy and Fuels
- **Renewable Energy and Energy Management: Sustainable Energy Systems**
Faculty of Energy and Fuels
- **Automatic Control and Robotics: Cyber-Physical Systems**
Faculty of Electrical Engineering, Automatics, Computer Science and Biomedical Engineering
- **Computer Science and Intelligent Systems: Artificial Intelligence and Data Analysis**
Faculty of Electrical Engineering, Automatics, Computer Science and Biomedical Engineering
- **Electrical Engineering: Smart Grids Technology Platform**
Faculty of Electrical Engineering, Automatics, Computer Science and Biomedical Engineering
- **Electronics and Telecommunications: Networks and Services**
Faculty of Computer Science, Electronics and Telecommunications
- **Geophysics: Applied Geophysics**
Faculty of Geology, Geophysics and Environmental Protection
- **Management: International Management**
Faculty of Management
- **Materials Engineering: Functional Materials**
Faculty of Materials Science and Ceramics
- **Non-Ferrous Metals Science and Engineering: Modern Materials, Design and Application**
Faculty of Non-Ferrous Metals

- **Mechatronic Engineering: Mechatronic Design**
Faculty of Mechanical Engineering and Robotics
- **Applied Geology: Economic Geology**
Faculty of Geology, Geophysics and Environmental Protection
- **Mining Engineering: Mining Engineering**
Faculty of Mining and Geoengineering
- **Computer-Aided Process Engineering: Virtualization of Foundry Engineering**
Faculty of Foundry Engineering

AGH UST Faculties

- Faculty of Mining and Geoengineering
- Faculty of Metals Engineering and Industrial Computer Science
- Faculty of Electrical Engineering, Automatics, Computer Science and Biomedical Engineering
- Faculty of Computer Science, Electronics and Telecommunications
- Faculty of Mechanical Engineering and Robotics
- Faculty of Geology, Geophysics and Environmental Protection
- Faculty of Mining Surveying and Environmental Engineering
- Faculty of Materials Science and Ceramics
- Faculty of Foundry Engineering
- Faculty of Non-Ferrous Metals
- Faculty of Drilling, Oil and Gas
- Faculty of Management
- Faculty of Energy and Fuels
- Faculty of Physics and Applied Computer Science
- Faculty of Applied Mathematics
- Faculty of Humanities



photo by AGH UST Krakow Student Photo Agency

Postgraduate courses

AGH UST offers **nearly 90 postgraduate courses** aimed at both professional engineers (programmes in the fields of ceramics, electrical engineering, power engineering, gas engineering, geodesy, geophysics, mining, computer science, mechatronics, metallurgy, robotics, telecommunications, financial engineering), as well as people who are interested in obtaining a new specialisation, for example, in the field of digital marketing, computer science and computer graphics, cybersecurity, environmental protection, accounting and controlling, occupational health and safety (OHS), property valuation and management, as well as project, business, IT, quality, and sales management. A new and particularly interesting part of the educational offer are postgraduate courses in the field of corporate branding, personal branding, talent management, designing a product, as well as in the area of social communication and social media.

E-learning

AGH UST operates the **Centre of e-Learning (CeL)**, which is responsible for a comprehensive development of teaching with the use of the Internet, and supports the university's e-learning in three areas: teaching methods, tools, and teaching/learning resources. AGH UST CeL enables students, doctoral students, and employees to take advantage of a rich offer of courses, training programmes, and webinars dealing with online education.

Students, doctoral students and teachers can effectively use modern means of media and communications with the help of the **University e-Learning Platform (UPeL)**, which is tailored to the needs of a technical university and integrated with the Virtual University platform. Each AGH UST student and employee is automatically assigned an UPeL account, and faculties are assigned their own platform space and an administrator who manages the structure of online courses. UPeL makes work easier, for example, by increasing the efficiency of collecting end-of-semester papers or online testing.

AGH UST Doctoral School

The AGH UST Doctoral School offers education in all 16 disciplines in which the AGH University of Science and Technology is entitled to award the doctor's degree:

- **in the discipline of engineering and technical sciences:**
 - ♦ Automatics, Electronics and Electrical Engineering,
 - ♦ Technical Computer Science and Telecommunications,
 - ♦ Biomedical Engineering,
 - ♦ Chemical Engineering,
 - ♦ Civil Engineering and Transportation,
 - ♦ Materials Engineering,
 - ♦ Mechanical Engineering,
 - ♦ Environmental Engineering, Mining and Power Engineering;

- **in the discipline of exact and natural sciences:**

- ♦ Computer Science,
- ♦ Mathematics,
- ♦ Chemical Sciences,
- ♦ Physical Sciences,
- ♦ Earth and Environmental Sciences;

- **in the discipline of social sciences:**

- ♦ Management and Quality Sciences,
- ♦ Sociological Sciences;

- **in the discipline of humanities:**

- ♦ Cultural and Religious Sciences.

We regard education in the AGH UST Doctoral School as an extremely important element on the path to the development of scientific research staff. Education is offered in Polish and English.

www.agh.edu.pl/szkola-doktorska-agh

Open AGH UST

Students are provided support by means of open academic e-textbooks, made available without any charges on the portal "Open AGH UST e-textbooks". They are high quality reviewed academic materials that are great help in studying subjects taught at AGH UST. E-textbooks can be used on laptops, tablets, e-book readers and smartphones, and they can also be modified and adapted to individual needs. Apart from open e-textbooks, students can also use open educational materials for exact sciences, made available on the portal "Open AGH UST resources". The authors of the materials are academic teachers, doctoral students, and the best students. Currently, the repository comprises nearly 100 open materials – courses, academic scripts, tests, exercises, presentations and simulations relating to over 100 academic disciplines. Using the resources is free of charge, and all materials can be copied, distributed, converted, and tailored to individual needs. Thanks to open resources and open e-textbooks, AGH UST has joined the Coalition for Open Education, and the global consortium of open universities – the Open Education Consortium.

Lifelong education

The AGH University of Science and Technology has a rich offer of additional training courses which are aimed at a very wide range of recipients. AGH UST units also offer **specialist courses** commissioned by production plants for their employees. The offer of these courses has no age restrictions.

Implementing the idea of lifelong education we want to reach the highest number of social groups. For many years, AGH UST has hosted the AGH UST Open University. A characteristic feature of the **Open University** is its interdisciplinary character, which follows from the first Polish Open Seminar organised at AGH UST by professor Walery Goetel, the participation of the representatives of all age groups, as well as lecturers from all kinds of schools of higher education all over Poland, institutes of the Polish Academy of Sciences, and other governmental departments. In particular, the subject area of lectures relates to the advances in physics, computer science, the humanisation of technology, the optimum use of environmental resources, health-promoting activities, and the popularisation of culture.

AGH UST JUNIOR

AGH UST JUNIOR is an educational project for children of pre-school and primary school age, and its aim is to raise interest in subjects related to exact and technical sciences. It encompasses a few parallel activities: study programmes for children in the AGH UST Junior Academy, science workshops, visits to the AGH UST Museum, and a multimedia platform. A part of the project is also a series of popular science books for children, whose authors are AGH UST scientists.

The field of study of Mechatronic Engineering, offered in English by the Faculty of Mechanical Engineering and Robotics, has been awarded accreditation by the American organisation ABET.

AGH UST was the first university in Poland and one of few in Europe to receive the ABET accreditation. The distinguished master programme is the only in the world Mechatronic Engineering in English with this prestigious certificate.

ABET is the most important and the most recognisable by students and employers accreditation for technical universities in the United States. Currently, more than 4,100 fields of study at 812 universities in 32 countries are holders of the certificate (including MIT, Virginia Tech, and Stanford University).

Unlimited opportunities for development

AGH UST is home to nearly 140 student special interest groups and 30 student organisations. Students who are members of the groups can broaden their knowledge, accomplish various projects, and develop their public-spirited passions, as well as passion for sports, arts, and journalism.

Student Special Interest Groups

AGH UST Student Special Interest Groups are the most efficient talent schools and a real “forge” of future academic staff. They gather young people who want to improve their skills and gain practical experience that cannot be improved or gained during lectures or classes. An important aspect is also an opportunity to participate in theoretical and experimental research conducted by AGH UST academic staff. Being part of special interest groups is a chance to gain competences valued by employers (independence, creativity, teamwork skills, resistance to stress, ability to work under time pressure) and to find a dream job – more and more companies start cooperation with special interest groups in order to recruit ambitious and passionate employees.

Student organisations

AGH UST Cycling Team
Academic Cavers’ Club
Academic Sailing Club
AGH UST Academic Sports Association
Academic Section of the Polish Red Cross
AGH UST BEST
Choir and String Orchestra “Con Fuoco”
AGH UST Krakow EESTEC
AGH UST Erasmus Student Network

AGH UST Media Centre

- AGH UST Student Newsletter
 - Student Radio1.7
 - AGH UST Krakow Student Photo Agency
 - Film and television production studio AGH UST MINE ESTIEM
- AGH UST IAESTE
Just Bridge
Kayak Club
Club of Tourism Organisers and Sympathisers
“Hawiarska Koliba”
Sports Club “Krabik”
Independent Students’ Union
AGH UST Representative Orchestra
Academic Section of the Mountaineering Club SAKWa
Karate Section Kyokushin UOS “Sokót”
AGH UST Society of Petroleum Engineers
AGH UST Student Ski Club FIRN
AGH UST Student Dance Club
University Board of Student Government
University Board of Doctoral Students’ Government
Association of Disabled Students
Student Special Interest Groups of Metallurgical Section
Student Special Interest Groups of Mining Section



Scientific conferences, debates, trainings, lectures, special interest groups and student organisations – AGH UST is a place that enables comprehensive development.

photo by Paweł Cegielski, AGH UST Krakow Student Photo Agency

AGH UST in rankings

Polish rankings

Ranking of Universities “Perspektywy 2020”

In the 2020 ranking by “Perspektywy”, regarded as the most important evaluation of Polish universities, AGH UST was ranked number 4 in the general classification, and number 2 in the category of technical universities. AGH UST also took first place among Polish technical universities in the categories of “Scientific potential”, “Study conditions”, “Publications”, and “Scientific effectiveness”.

Ranking of Engineering Studies “Perspektywy 2020”

The ranking took into account 21 most popular disciplines of technical studies. According to the Ranking Jury, AGH UST offers the best engineering study programmes in Poland in three fields of study: Mining and Geology, Mechatronics, and Technical Physics.

“Forge of Chairpersons” 2019

AGH UST came third in the ranking “Forge of Chairpersons” organised by the daily “Rzeczpospolita”. The career analysis of 600 CEOs of the largest companies in Poland showed that 5.67% of the chairpersons are AGH UST graduates.

Ranking of Millionaires 2020

AGH UST takes first place in the Ranking of Universities 2020 based on the wealth of the richest people in Poland. According to the ranking by Pracownia 2033, AGH UST has educated 11 graduates whose wealth exceeds 100 million euros.

National Survey of Salaries

In 2019, AGH UST took second place with regard to the total earnings of graduates of technical universities in their first year of employment.

International rankings

AGH UST is in the lead among Polish technical universities in prestigious international rankings.

1st place

University Ranking by Academic Performance 2019–2020

1st place

CWTS Leiden Ranking 2020

1st place

CWUR – World University Rankings 2020–2021

1st place

Webometrics 2020

1st place

Nature Index 2020

2nd place

Transparent Ranking: the best universities according to Top Google Scholar

2nd place

US News Best Global Universities 2020

2nd place

QS World University Rankings 2021

3rd place

QS 2020: Quacquarelli Symonds – Emerging Europe and Central Asia



In the Academic Ranking of World Universities 2020, known as the Shanghai Ranking, which presents one thousand best universities in the world, AGH UST was classified within the rank range 701–800, taking first place among Polish technical universities, and third place in the general classification of Polish schools of higher education.

photo by Adrian Farnaus, AGH UST Krakow Student Photo Agency



photo by AGH UST Krakow Student Photo Agency

AGH UST graduates on the labour market

AGH UST graduates constitute highly qualified personnel, and their knowledge and skills are highly regarded by employers both in Poland and abroad. In their professional careers they place a lot of emphasis on dynamic development, and they hold prestigious positions in the economic sector and scientific research institutions.

It is a result of the system that has been developed and implemented by the AGH University of Science and Technology, taking into account the scope and process of education, students' aspirations, as well as employers' requirements, which are regularly verified. The tools used for measuring the needs of the market, as well as indexes, employment prospects and their derivatives encompass surveys among employers and a five-stage career monitoring process of first- and second-cycle graduates.

Every year, one of the highest percentages of surveyed respondents in Poland (ca. 86% of all graduates) guarantees that the obtained results do not contain a significant statistical error. AGH UST is one of few universities in Poland that conducts surveys among graduates of second-cycle programmes in a relatively short time after completing their education (within a maximum of six months), thus obtaining information related to their employment not long after graduating from the university.

Graduates, class of 2019:

- professionally active (employees, individuals running their own business, and those who continued their education) constituted 93.6%, of which 87.3% were individuals who found a job;
- 24.5% were offered employment and did not look for a job;
- the time of seeking employment for the remaining 66.6% did not exceed three months;
- 55.2% received more than one offer of employment (three, on average).

The results obtained in the previous years were at a similar level.

The surveyed respondents take up employment relatively early; 65.1% of the graduates of class of 2019 found a job still before completing their studies. Their position on the labour market is stable with an upward trend, and they belong to a professional group that employers look for, which was confirmed by survey results in the last six years. For 68.4% of the surveyed individuals, the most important aspect while choosing an employer was an opportunity for development, which attests to their professional ambitions. The second position on the list was the salary, with the result of 60.8%. For 16.4% of the respondents, the gross salary exceeded PLN 5,500. A majority of the surveyed graduates (67.4%) took up employment in Krakow – it is an upward trend. Krakow, which is usually thought of as the city of traditions, culture, and entertainment, in the last several years has become one of the largest centres of modern

and innovative industry, as well as scientific research institutions. Work abroad was not chosen by many (1.9%); it is a downward trend.

The realisation of professional ambitions and the improvement of economic status by AGH UST graduates is documented by the results of subsequent surveys taking place three years after graduating from the university. Results of monitoring professional careers of university graduates, class of 2016:

- 63.1% gained a promotion,
- 19.6% were employed at a managerial position,
- 90.1% enjoyed a pay rise in comparison to the employment obtained straight after leaving the university (a maximum pay rise was PLN 30,000),
- 38.5% had a salary that exceeded PLN 6,000.

Both for employers and graduates, the prestige and reputation of the university is an additional benefit. In the first place, companies recruit graduates from universities of a well-proven track record. For 83.1% of the surveyed employers, graduating from AGH UST is an additional asset. Undoubtedly, for a typical AGH UST graduate, the starting capital is knowledge and the completed field of study (77.2%), which creates a high probability of securing employment, and in consequence, a good chance for adequate professional development. It is a result of a forward-looking strategy and the consistent realisation of the university's educational policy and programme of education, which is confirmed by conducted surveys and published rankings.

Professional help in looking for jobs and specialists

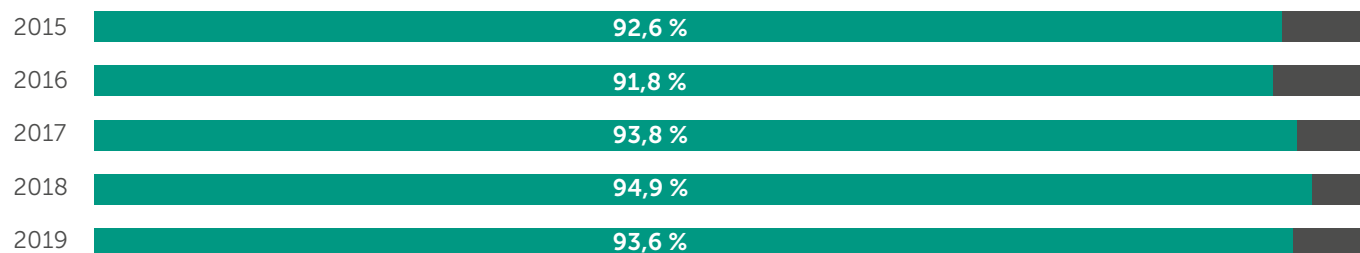
The AGH UST Career Centre is a university unit whose main objective is the establishment and maintenance

of collaboration between the university and the Polish economy. In this way, it complements the image of the university, whose quality of education translates directly into a high employment rate of AGH UST graduates and their competitive power on the labour market. The Centre's scope of activity encompasses the preparation of students for an effective job search, the promotion of the university and its graduates among potential employers, collaboration with Polish and international companies, obtaining job offers as well as offers of practical trainings and internships, running a database of people looking for a job, organising job fairs (two editions in a year), arranging presentations of companies and recruitment meetings at the university, organising lectures as well as workshops and trainings on subjects related to the labour market, collecting information about companies and employers' requirements, as well as collaborating with student organisations, universities and institutions of a similar profile in Poland and abroad. The AGH UST Career Centre offers individual, professional, and free-of-charge consultation meetings with specialists and experts, which can be attended by AGH UST students and graduates, as well as candidates for the university.

www.ck.agh.edu.pl/en

AGH UST runs its own Database of Job Offers and CVs – a platform that enables uploading CVs and job offers in two languages (Polish and English), as well as establishing a direct contact between an employer and the student or graduate whose curriculum vitae has been published in the database.

www.praca.ck.agh.edu.pl



Professionally active graduates (employees, individuals running their own business, and those who continued their education). AGH UST graduates, studies completed in years 2015–2019.



photo by Maciek Bernaś, AGH UST Krakow Student Photo Agency

Unique campus

One of AGH UST assets is a unique university campus, i.e. all buildings in which lectures, classes and research activities take place. It is also home to the university administration, student organisations, sports and recreational facilities, as well as the AGH UST Student Campus – all these are located in one district of the city of Krakow.

Location in the city centre

The AGH UST campus is located in the centre of Krakow. The distance between the AGH UST Main Building and the Main Market Square is only 1 kilometre, hence it is possible to walk the distance in a few minutes. Getting to the Main Railway Station in Krakow, thanks to an extensive network of trams and buses, takes only 10 minutes, and getting to the Krakow Airport in Balice – about 30 minutes.

Friendly infrastructure and safety

Within the area of the campus there are enough car parks and cycle racks, as well as places where students can relax and have a meal between classes. Most buildings are equipped with special lifts and ramps for wheelchair users, and the following improvements make it possible for our disabled students to take active part in the university life: audio loops, room labelling in Braille, and adjustable-height desks. The AGH UST campus is covered by a 24/7 security system, and any on-site actions concerning security have been specified in a special agreement signed by the university authorities and the Municipal Police Headquarters in Krakow.

Modern investments

In the course of the last decade, thanks to a number of construction and modernisation projects, the AGH UST campus has gained a very modern look. The most important developments include: Centre of Computer Science, Centre of Ceramics, AGH UST Academic Centre for Materials and Nanotechnology, a new building for the Faculty of Energy and Fuels, AGH UST

Most benches located around the AGH UST campus, as well as bollards separating pavements from roads, are a result of recycling. Dozens of tons of cast iron gained during the replacement of heating systems and those coming from the renovated buildings of the university and student houses are re-melted into iron castings and used for the needs of the so-called “small-scale park architecture”. Re-melting between two and four radiators provides enough material for one bench.



Swimming Pool, Education Centre, AGH UST Centre of Energetics, Teaching and Research Laboratory of Renewable Sources and Conservation of Energy in Miękinia, the Machine Room of the AGH UST Academic Computer Centre CYFRONET, in which there are maintenance rooms as well as computer rooms fully suitable for housing computers of high computing power and mass storage systems. At the same time, the extension of the Main Library has increased the comfort of using its resources and services thanks to the creation of a direct-access zone to some parts of the book collection. Some of the most recent projects have been the largest development in the history of the university – the modernisation of the student club STUDIO, a new building for the Department of Telecommunications, new facilities for the Faculty of Drilling, Oil and Gas, and the Faculty of Electrical Engineering, Automatics, Computer Science and Biomedical Engineering, as well as the construction of a new building for the Faculty of Physics and Applied Computer Science, and a modern multi-purpose sports hall.

Green architecture

The AGH UST campus has been going through the process of consistent and regular revitalisation for several years. 16 ha of green spaces have become a symbol of the university. The architecture of AGH UST buildings – monolithic, classical forms of simple, repeating lines – enforces the way of arranging plants, which fit into the picture created by the buildings, and reflect a well thought-out whole. Every year, green arrangements surprise with new set-ups, seasonal plants, and flower decorations. Campus flowers please the eye all year round – from early spring (crocuses, daffodils, tulips) to late autumn (hibiscuses, coneflowers, daylilies). Blooming bulbous plants, annual plants, biennial plants, perennials, shrubs and trees break the monolithic green, attract insects, and are interesting for photographers. They also create attractive colourful patches harmonising with the surroundings and neighbouring architecture. It is not coincidental that maroon roses can be seen in the neighbourhood of the brick-red building of the Faculty of Materials Science and Ceramics, and golden daylilies at the Centre of Energetics, whose facade is black, green and yellow.



photo from AGH UST archives



The AGH UST campus is an area of **40** hectares located between the streets of Mickiewicza, Reymonta, Buszka, Tokarskiego, Armii Krajowej, Gramatyka, Nawojki, and Czarnowiejska.

Shelter for birds, home for bees

Neat and with a lot of various plants, the AGH UST campus attracts more and more birds, which find here safe shelter. Thanks to collaboration with the Małopolska Ornithological Society, over 300 nesting boxes have been placed in well thought-out locations around the campus, while taking into account the birds' liking and the generic features of particular species. They are often not visible to an untrained eye, and those located on buildings have been additionally painted to match the colours of the walls. The installation of nesting boxes is part of many renovation projects, especially the thermal efficiency improvement of the buildings on which there are nests and strongholds of endangered bird species.

The area of the AGH UST campus, with its large number of honey plants, has also become a home of bees – a dozen or more hives are located in several places: on the roofs of the Faculty of Materials Science and Ceramics and the Music Studio "Kotłownia", as well as in the neighbourhood of Club STUDIO. In season, several dozen kilograms of honey can be collected.

Open-air art gallery

Walking around the campus, you can see erratic boulders and many intriguing modern sculptures on lawns and squares. Among the exhibits of the open-air collection, there are unique sculptures made by professor Bronisław Chromy, an outstanding Krakow artist and an author of many well-known works of art. One of the sculptor's masterpieces located within the boundaries of the AGH UST campus is a beautiful sculpture entitled "Couple".

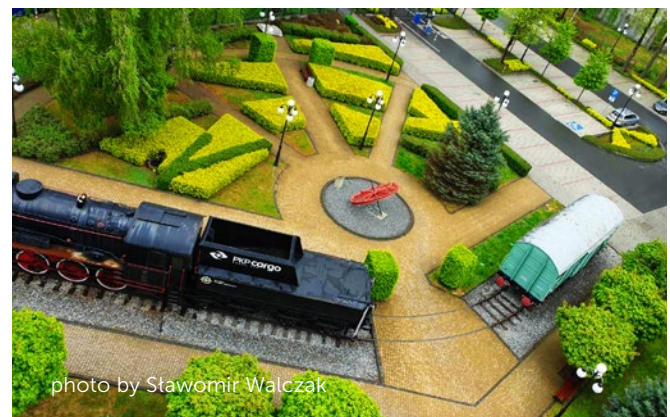
For over 10 years, AGH UST has been cooperating with the Academy of Fine Arts in Krakow, providing access to its infrastructure and offering sculpting material. In this

way, the Krakow's Academy of Fine Arts can educate the subsequent generations of young sculptors, as well as promoting and exhibiting their works of art. On each occasion, the location, position and lighting of individual sculptures are agreed on in order to bring out their unique shape and the artist's intentions.

Industrial sculptures

A crankshaft of a ship engine, a cable car and a chairlift seat, an underground locomotive powered by compressed air, an Alpina road header, wheels of winding engines, and a replica of drilling machinery – these products of human technological thought adorn the AGH UST campus and are gifts from companies and enterprises collaborating with the university. The so-called "industrial sculpture" draws our attention to the original forms of objects used in industry, which – when properly displayed – arouse our interest and let us look at them from a completely different perspective.

The AGH UST campus is also home to the famous AGH UST Locomotive (steam locomotive Ty2-559, series Ty2) and a goods wagon, as well as – the largest in Krakow and one of very few in Poland – an equatorial sundial, built with the use of an original wheel from a hard coal mine shaft.



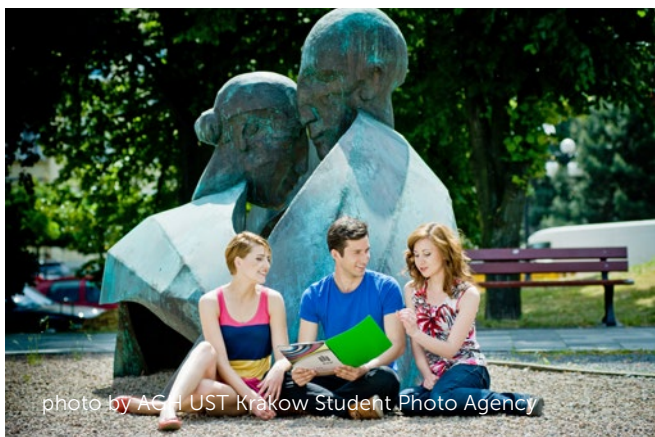


photo by AGH UST Krakow Student Photo Agency

AGH UST Student Campus

The AGH UST Student Campus is located between the streets of Reymonta, Buszka, Tokarskiego, Armii Krajowej, Nawojki, and Miechowska. Its dwellers can reach the university buildings in 10 minutes. Comfortable conditions are a great asset of the student houses – access to the Internet, special places for learning, TV rooms, and club rooms. The university cares about the comfort of the inhabitants of the AGH UST Student Campus, regularly refurbishing and modernising student houses. The student campus has its own sports fields (including a modern football pitch, and volleyball and basketball courts with artificial surfaces), and tennis courts. A very modern AGH UST Swimming Pool is another great asset. Close proximity of the Krakow Błonia Park and Park Jordana allows runners, joggers, cyclists, and roller skaters to spend time actively in the picturesque and green areas of the city. Throughout the year, the AGH UST Student Campus also offers places in comfortable hostels. Tourists can take advantage of an attractive offer, whose prices are equally attractive. In July, August, and September, the AGH UST Student Campus becomes the largest summer hostel in Krakow. A detailed offer of hostel accommodation is available on the website: www.taniehostele.pl

The AGH UST Student Campus offers nearly
7,500 beds
 in **20** student houses.



photo by AGH UST Krakow Student Photo Agency

“A city within a city”

- 20 student houses
- eating establishments
- shops and service-providing facilities
- student clubs
- a health centre
- a football pitch
- tennis courts
- volleyball and basketball courts
- a nursery school
- a crèche
- parcel lockers
- AGH UST Swimming Pool



photo by Jakub Kótczek, AGH UST Krakow Student Photo Agency



photo by Dawid Majewski, AGH UST Krakow Student Photo Agency

University without barriers

Since 2000, our university has been implementing the programme "AGH UST – a university friendly to disabled people", whose aim is to work out a complex solution to the problems of students with various disabilities. The methods and forms of education are adjusted to their individual needs, which result from a particular type of disability.

We pay special attention to the removal of architectural barriers, which increases accessibility to university facilities and makes it possible to take full advantage of the AGH UST offer for everyone who wants to develop and continue their education. We make sure that new buildings fulfil the highest standards of accessibility.

In 2019, within the framework of the competition "Accessible University", organised by the National Centre for Research and Development, AGH UST obtained funds for projects that will improve the university's accessibility with regard to the needs of people with disabilities.

Students with hearing difficulties can benefit from sign language interpreters free of charge. More and more AGH UST units have employees capable of communicating in sign language. Students who are partially sighted or hard of hearing can also attend specially-designed foreign language classes. In the laboratory of typhlo-informatics, blind and visually impaired students can use specialist equipment, and text-enlarging and reading software.

The university library enables students with various disabilities to use library resources in alternative forms. Students can also hire individual rehabilitation and educational equipment (for example, FM systems, dictaphones, enlargers, etc.). Psychological support is also available.

Moreover, disabled students can attend sports classes such as wheelchair fencing, and participate in exercises in a specially-designed gym and swimming pool. The university activities for disabled students are coordinated by the AGH UST Disability Support Office, which also supports the initiatives of the Association of Disabled Students, the first organization of this kind in Poland. The Office offers legal advice and helps students in contacts with the university authorities, as well as offering support in solving various problems. Students can also take part in adaptation camps, integration events, workshops and courses.

At the AGH University of Science and Technology
there are about **350**
disabled students.

Artistic and cultural face

The artistic and cultural activity, undertaken on many levels, creates the image of AGH UST as a technical university wide open to humanities.

Festivals and concerts

For many years, the university has supported a large number of cultural events organised in student clubs at the AGH UST Student Campus. Among the most original ones is the interdisciplinary festival "Synaesthesia. Music. Fine Arts. Words.", which combines concerts of well-known Polish artists, exhibitions, lectures, and a music competition. Other events include, for example, "Gwar (wszech)Świata" (English: Hubbub of the Universe), i.e. meetings with travellers, writers and journalists, and "Muzyczne Pogawarki" (English: Musical Chit-Chat), which is an opportunity for Krakow artists to present their output. On the other hand, "wzROCKowiska" (English: a ROCK ground) is an opportunity to watch the largest concerts on a big screen, and "Studio Kabaretu" (English: Sketch Studio) presents the latest trends in comedy arts, such as stand-up acts, ad-libbing, classical sketches, and all their possible variations.

AGH UST debates

An important element shaping the image of the university are AGH UST Debates, organised together with the monthly "Znak" since 2012, whose idea is to show tolerance and openness in a world dominated by conflict. The topics of the debates are usually controversial and cover subjects that are important to the society. The idea behind the debates is to present various points of view, and on the other hand, to show that "we can be different in a beautiful way". The invited guests, who often represent totally different values,

express their opinions without aggression and in the spirit of openness. 12 meetings that have taken place so far were participated in by nearly 50 guest speakers and an audience of almost 4 thousand people – the students of Krakow universities and the citizens of Krakow. The speakers have been, for example, professor Jerzy Vetulani, Rev. professor Michał Heller, Janina Ochojska, professor Jerzy Hausner, and Olga Tokarczuk. The meetings take place in special surroundings – in the assembly hall of the AGH UST main building. Each meeting is preceded by a music performance given by a DJ, and a short film.

AGH UST Media Centre

AGH UST is home to a unique media and art project, gathering under one roof the largest student internet radio in Krakow – Radio1.7, the award-winning AGH UST Krakow Student Photo Agency, the professional film and television production studio AGH UST MINE, and the AGH UST Student Newsletter, whose publications are distributed around the campus. The centre combines the features of a production media house and a cultural centre, where over 180 people, including students of different Krakow universities, develop their creative passions.

Music Studio "Kotłownia"

The professional Music Studio "Kotłownia" (English: "Boiler House") was opened in 2014 in a fully refurbished building of a former boiler house at the AGH UST Student Campus. Apart from making studio recordings, both of



photo by Wojciech Korpusik

sound and picture, "Kottownia" is the seat and rehearsal place of the AGH UST Choir and String Orchestra "Con Fuoco", as well as the AGH UST Representative Orchestra. In the building, there are two recording rooms of different sizes and character – the larger one, of about 60m² of surface area and 5–7 metres in height, is equipped with a curtain system that enables changing the room acoustics; the smaller one is a typical room for recording speech, vocal music, and solo instruments. The master control room is completely insulated from the recording rooms and equipped with a reference audio system 5.1. An underground connection with Club STUDIO, which is in close proximity, makes it possible to record live concerts with the use of the recording studio equipment.

Student clubs

The Academic Cultural Centre Club STUDIO is one of the largest and most modern music clubs in Poland. The stage features national artists, as well as ones who are well-known around the world. The club also has a Mining and Metallurgical Brewery, whose refreshments can be tried during concerts and disco nights.

Club Zaścianek will welcome guests with a stronger beat. But fans of karaoke and collective singing events will also feel very at home here.

Club Gwarek often features blues and jazz performers, as well as young Krakow artists.

On the other hand, an ideal place for meeting friends is Club Filutek. Its interior decorations let you escape from the hustle and bustle of the city while dining in good company over a tasty meal.

Concerts given by the AGH UST Song and Dance Ensemble "Krakus" always receive a very warm welcome from the audience. The group has performed in all European countries, as well as in Asia, Africa, North America, and South America. "Krakus" has performed over 5,000 times, on many occasions winning prizes and awards at Polish and international music festivals.

Musical symbols of the university

AGH UST Choir and String Orchestra "Con Fuoco"

AGH UST mixed choir "Con Fuoco" was set up in November 2009, and the AGH UST String Orchestra was established in 2011. In the band's repertoire there are many pieces, from medieval psalms, through classical compositions of the Renaissance and the Baroque, to quadri- and even octo-syllabic arrangements of contemporary music.

"Con Fuoco", which takes part in international tours every year, has had many successes, taking top places in Polish and international competitions. The band has also recorded two albums: "Z ogniem" (English: With Fire) and "Ogień krzepnie" (English: Fire congeals).

The work of "Con Fuoco" has been appreciated by the Parliament of Polish Students, which in the plebiscite "Pro Juvenes 2016" awarded the band a prize in the category "Student culture".

AGH UST Representative Orchestra

The artists perform mainly popular and film music, as well as popular marches. The Orchestra's sound palette features the following instruments: flute, clarinet, saxophone, trumpet, trombone, French horn, oboe, bassoon, tuba, percussion instruments, and guitar. The make-up of the orchestra changes frequently, new members join in, and many university graduates, despite completing their studies, continue their musical adventure with the Orchestra.

The greatest musical success of the AGH UST Representative Orchestra was the first place in the category of concert competition at the WAMSB World Championships in Calgary, Canada, in 2019. The Orchestra was the only Polish band that took part in this prestigious competition.

AGH UST Song and Dance Ensemble "Krakus"

The oldest student folk group in Poland shows the original Polish folklore. Songs, dances and traditions presented in suites related to the following regions of Poland: Krakow, Silesia, Rzeszów, Łowicz, Nowy Sącz, Lublin, Kielce, Beskid, and Kashubia describe the beauty of these regions in a picturesque way. Since 1980, the Ensemble has had a children's section and a youth section. In 2013, preschool children joined in. In 2019, "Krakus" celebrated its 70th anniversary.



photo by Zbigniew Sulima

Sports champions

Sport, alongside education, science, and culture, is another important aspect of the university's activity. Several dozen various sport units, professional coaching staff, a sports hall, and a modern swimming pool make AGH UST attractive to everyone who is passionate about sport.

While taking care of the development of the academic community's physical activity, the university takes steps in order to promote a healthy lifestyle. The university structure comprises the AGH UST Department of Sport and Physical Education, the AGH UST University Club of the Academic Sports Association, and the AGH UST Swimming Pool.

The main task of the AGH UST Department of Sport and Physical Education is conducting and organisation of physical education classes. The AGH UST Department of Sport and Physical Education is also an organiser of sailing, kayaking, skiing, cycling, mountain trekking, water

sports, and windsurfing-kitesurfing camps, as well as organising alternative fitness-improvement classes for students with health problems, and carrying out training within the field of basic life support.

The AGH UST swimming pool is a modern sports and recreation complex located within the area of the AGH UST Student Campus. The complex holds a 25-metre swimming pool officially approved by the Polish Swimming Federation, a 25-metre swimming pool for swimming lessons and practice, a recreational swimming pool with hydro-massage, a jacuzzi, a water slide, and saunas (steam and dry), as well as a gym with modern TechnoGym exercise equipment. The AGH UST Swimming Pool offers activities and classes under the guidance of experienced instructors, for example, swimming lessons, aqua aerobics, fitness classes, medical massage, and martial arts. The building also holds a modern bowling alley, pool tables, a Play Centre for children, as well as a bar, a restaurant, and a shop with sports equipment.

AGH UST students represent the university at the most important championships in Poland and abroad, and professional athletes can enjoy individualised programmes of study, as well as scholarships for sporting achievements. Professionalism and the highest level of physical fitness are confirmed by the most significant successes of the AGH UST Academic Sports Association in the course of the recent years.

Additionally, students who are members of the university sport units can also use external sports facilities. These are, for example, a sailing marina, a rowing marina,

Sports facilities

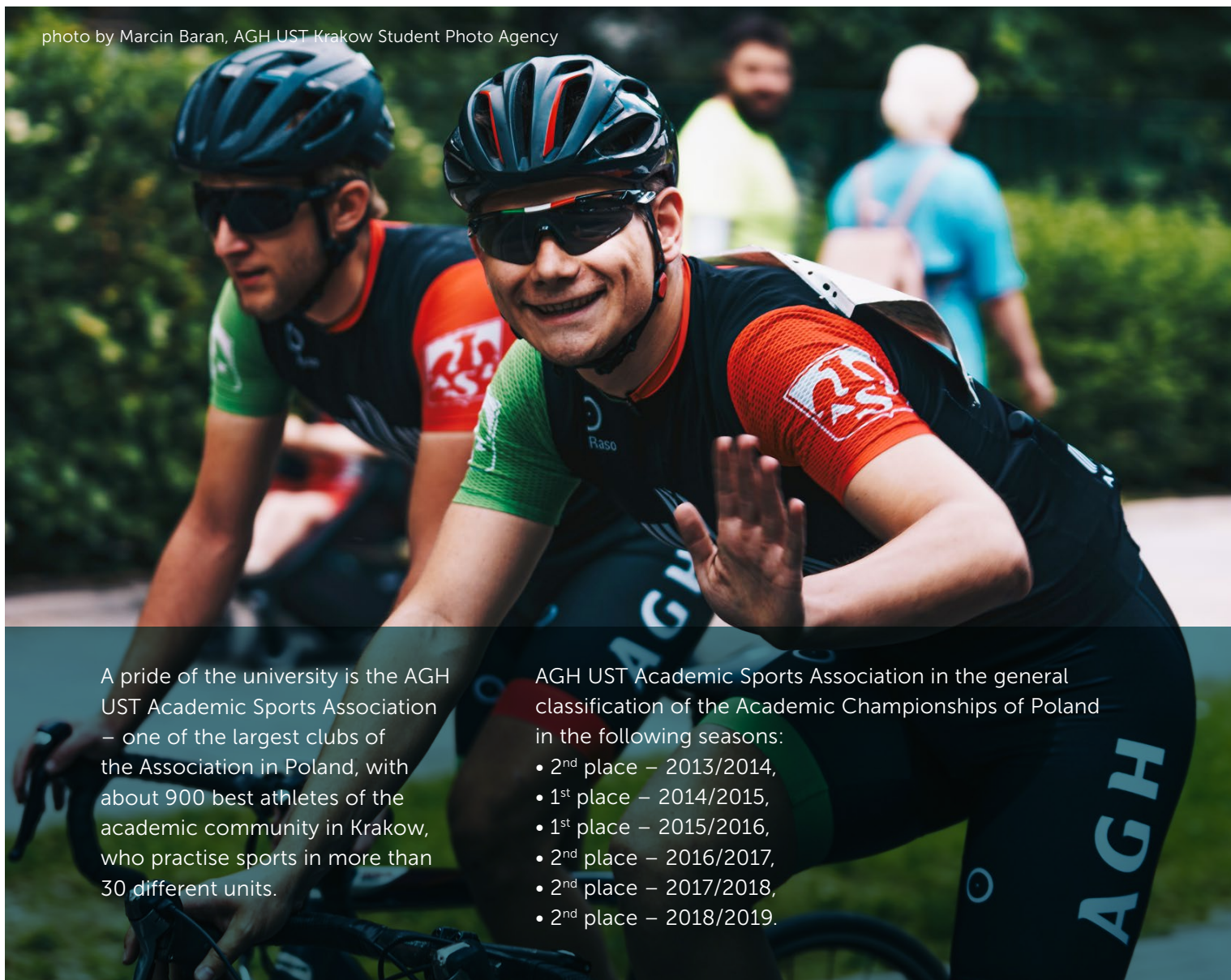
- sports complex of the AGH UST Department of Sport and Physical Education:
 - ♦ two modern sports halls,
 - ♦ two gyms,
 - ♦ room for aerobics and exercising to music,
 - ♦ steam sauna;
- AGH UST Swimming Pool:
 - ♦ swimming pools (for training and competitions, for swimming lessons and practice, for recreation),
 - ♦ modern gym;
- football fields, volleyball and basketball courts;
- tennis courts.

a horse riding centre, a fencing hall, a judo hall, courts and fields for beach sports, tennis courts, and ski slopes.

Despite having good sports facilities, AGH UST still cares about their development. In 2020, within the boundaries of the AGH UST Student Campus, the university started building a multi-purpose sports hall, which is an answer to the growing needs of the academic community and numerous sport units of the AGH UST Academic Sports Association. The new, 5-storey building will be primarily used for watching and playing sports. The hall will be able

to combine simultaneous training sessions of professional units with sports games of volleyball, handball, and basketball First League. Among other facilities, the building will have a sports room with a stand for 600 people, including a field for team games and badminton courts. In addition, the building will also have a fitness centre, rooms for gymnastics, and health and recovery rooms for athletes, such as saunas and massage rooms, as well as squash courts. The total usable floor space of the building will exceed 7,000 m². On a part of the roof there will be a green terrace.

photo by Marcin Baran, AGH UST Krakow Student Photo Agency



A pride of the university is the AGH UST Academic Sports Association – one of the largest clubs of the Association in Poland, with about 900 best athletes of the academic community in Krakow, who practise sports in more than 30 different units.

AGH UST Academic Sports Association in the general classification of the Academic Championships of Poland in the following seasons:

- 2nd place – 2013/2014,
- 1st place – 2014/2015,
- 1st place – 2015/2016,
- 2nd place – 2016/2017,
- 2nd place – 2017/2018,
- 2nd place – 2018/2019.



photo by Piotr Kędziora, AGH UST Krakow Student Photo Agency



Bonds for the rest of life

The words "AGH UST" open many doors and make us feel that wherever we are, we can be sure that a helping hand will be given to us by a graduate of the AGH University of Science and Technology.

The AGH UST family is scattered all over the world. But this does not stop university graduates from maintaining contact, both personal and professional. On many occasions, a meeting place after many years is the university they graduated from.

Bonds, besides knowledge, are the most precious value from the period of study. They can take many forms: from friendship to love for the rest of life. These special relationships are shaped not only at the university, but also within the framework of practical trainings, internships, trips, special interest groups, cultural events, sports competitions, tavern get-togethers, balls, excursions, etc.

The AGH UST Alumni Association, established in 1945, is the oldest university organisation of this kind in Poland. Within the scope of its activities, the AGH UST Alumni Association organises, for example, the re-matriculation ceremony of graduates 50 years after the beginning of their studies – we are the only university in the academic world that can be proud of this tradition.

The AGH UST Alumni Club, established in 2015, links together the graduates of first-, second-, and third-cycle studies, as well as postgraduate courses, and its aim is to develop and strengthen the bonds between the university and the graduates. The members of the club can enjoy special discounts, and follow current news and events at AGH UST thanks to the newsletter.

AGH UST Campus

Publisher:

**Department for Information and Promotion
AGH University of Science and Technology
in Krakow**

Editors:

Katarzyna Wrzosczyk

Barbara Jezierska

Grażyna Śliwińska (pp. 35–36)

pp. 38–40 are based on texts by Paweł Myśliwiec

Translation from Polish and proofreading:

Grzegorz Kłopotowski

Graphic design, typesetting and print preparation:

Jacek Łucki, NBI Media

Production:

Mariusz Karpiński-Rzepa, NBI Media

ISBN 978-83-66364-68-4

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-Hutniczej im. Stanisława Staszica w Krakowie
Krakow 2020**








photo by Adam Frączek,
AGH UST Krakow Student Photo Agency

1. Rector's Office
2. Faculty of Mining and Geoen지니어ing
3. Faculty of Metals Engineering and Industrial Computer Science
4. Faculty of Electrical Engineering, Automatics, Computer Science and Biomedical Engineering
5. Faculty of Computer Science, Electronics and Telecommunications
6. Faculty of Mechanical Engineering and Robotics
7. Faculty of Geology, Geophysics and Environmental Protection
8. Faculty of Mining Surveying and Environmental Engineering
9. Faculty of Materials Science and Ceramics
10. Faculty of Foundry Engineering
11. Faculty of Non-Ferrous Metals
12. Faculty of Drilling, Oil and Gas
13. Faculty of Management
14. Faculty of Energy and Fuels
15. Faculty of Physics and Applied Computer Science
16. Faculty of Applied Mathematics
17. Faculty of Humanities
18. AGH UST Academic Centre for Materials and Nanotechnology
19. AGH UST Centre of Energetics
20. Main Library
21. Walery Goetel School of Environmental Protection and Engineering
22. Department of Foreign Languages
23. Department of Sport and Physical Education
24. AGH UST Swimming Pool
25. Centre of e-Learning
26. AGH UST Academic Computer Centre CYFRONET
27. AGH UST Centre for IT Solutions
28. Centre for Organisation of Studies
29. Centre for International Students
30. Education Centre
31. Admissions Centre
32. UNESCO Chair for Science, Technology and Engineering Education
33. AGH UST Student Campus
34. University Board of Student Government
35. Career Centre
36. Centre for Transfer of Technologies
37. Administration and Business Cooperation Department
38. Krakow Centre of Innovative Technologies INNOAGH
39. Centre for Project Management
40. Department of International Relations
41. Disability Support Office
42. AGH UST Museum
43. Geological Museum of the Faculty of Geology, Geophysics and Environmental Protection
44. AGH UST Press
45. Academic Cultural Centre, Club STUDIO
46. Student Club Gwarek
47. Student Club Zaścianek
48. Student Club Filutek



Purpose of facilities:

- research and teaching facilities
- student houses at AGH UST campus
- service outlets


-  information point
-  AGH UST main gate
-  AED
-  canteen
-  bus stop
-  city bike station
-  AGH/UR name of bus stop


Join us at AGH UST!

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Mobile app for AGH UST students

"Welcome to AGH UST" is a mobile app made for all international students and candidates for AGH UST, and its main aim is to help people move around the university campus.





AGH University of Science
and Technology in Krakow, Poland