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70 years of the Faculty of Mining, Safety Engineering, and Industrial Automation of the Silesian University of Technology in Gliwice, Poland

On July 12th, 1950, in accordance with the Regulation of the Minister of Higher Education, the Faculty of Mining was established at the Silesian University of Technology in Gliwice. Defining its tasks and curricula, recruiting staff, attracting students, and work related to the preparation of new rooms and expansion of infrastructure were the first challenges for the newly created Faculty. Over time, the name of the Faculty has also evolved, and the Faculty of Mining, Safety Engineering and Industrial Automation has been in use since 2019.

Key words: *Faculty of Mining, Safety Engineering and Industrial Automation, Gliwice*

1. INTRODUCTION

In accordance with the Regulation of the Minister of Higher Education and Science of July 12th, 1950 on organisational changes in some universities,

on the basis of the decree of October 28th, 1947 on the organisation of science and higher education, the Faculty of Mining was established at the Silesian University of Technology in Gliwice in 1950 (Fig. 1).



Fig. 1. Regulation of the Minister of Higher Education and Science on the establishment of the Faculty of Mining of July 12th, 1950

The establishment of the Faculty, and thus mining studies, was contingent on the definition of tasks and curricula for all years of education. On this basis, the teaching load was proposed for individual internal units of the Faculty, which at the time consisted of chairs and departments. This required the coordination of the mining studies program at the Silesian University of Technology with the programs of the AGH University of Science and Technology and the Wrocław University of Technology, where a Faculty of Mining specialised in the exploitation of brown coal deposits was to be established. For this purpose, the Program Studies Committee was created which defined the framework and detailed the programs of engineering studies at the Faculties of Mining. Thus, in mid-June 1950, the basis was obtained for the Rector of the Silesian University of Technology to request the Minister to establish Mining Studies at the Silesian University of Technology [1].

2. HISTORY OF THE FACULTY

The Founding Act of the Faculty was signed on July 12th, 1950. The preparation of the act took four months, but the Ministry sped up the proceedings and, before the administrative procedures were completed, it was agreed to establish the Dean's Office of the Faculty of Mining on July 1st, 1950 and to entrust the function of acting Dean of the Faculty to prof. Józef Wąsowski.

The key challenge, however, was to attract students and staff for the Faculty. The academic authorities, in cooperation with student organisations and with the Vocational Education Department of the Ministry of Mining, organised a free "General Mining" course for students and employees of the Silesian University of Technology who were to become potential employees of the newly created faculty in the future. The course started on July 10th with the inaugural lecture *Mining in Poland. The Geology of the Polish Coal Basins* and lasted until July 19th, including lectures, seminars, and practical classes in mining.

The acquisition of the academic staff was gradual, along with the increase in the number of didactic classes. It was not until 1954–1956 that the Faculty entered its previously defined mode of operation. The Dean at that time was prof. Roman Dykacz. Over 70% of the positions of heads of chairs were taken by alumni of the AGH University of Science and Technology, but one cannot ignore the ties with the

Jagiellonian University, where the first professor of mineralogy and petrography was Jan Kühl.

Simultaneously with the commencement of the teaching activities of the Faculty, organisational work was carried out to include groups of student mining specialisations, educated at the Faculties of Mechanical and Electrical Engineering, in the structure of the Faculty of Mining. Ultimately, the students of these faculties were transferred to the Faculty of Mining in the 1951/52 academic year. In 1951, the defence of the first doctoral dissertation by Ph.D. Czesław Poborski was held at the Faculty.

It was decided to erect the building of the Faculty of Mining in a location where 50 years earlier there had been a large water reservoir – a pond, a remnant of the backwaters of the nearby Kłodnica river. The faculty was constructed on several hundred reinforced concrete piles (Fig. 2 and 3).

It was essential for the functioning of the Faculty's structure to obtain premises where it would be housed. In July 1950, the Ministry of Mining handed over the building located in the Market Square in Gliwice, where the Dean's Office of the Faculty of Mining and the Student House were established. In December 1952, the first two segments of the newly established Faculty of Mining at Plac Krakowski were made available to students and staff. The period of intensive expansion of the present seat of the Faculty took place in the years 1952–1955, which was related to the demand of the ministry of mining for highly qualified engineering staff. This resulted in the establishment of first-degree extramural studies in 1954, and evening vocational studies in 1955. The rank of the Faculty was systematically increasing, so that in 1958 the Ministry of Mining, organising the International Mine Construction Exhibition, located it at the Faculty of Mining. In 1959, the Faculty's technology hall was put into operation.

Further activities aimed at the development of the Faculty were related to the establishment of its two branches, in Rybnik and Dąbrowa Górnicza.

At the beginning of its operation, the Faculty was made up of 17 chairs. In the 1960s/70s there were 19, while the reorganisation of the Faculty's structure in 1969 led to the creation of 8 chairs as large research and teaching units composed of previous smaller chairs. Two of them, i.e., the Chair of Mathematics C and the Chair of General Chemistry, were separated from the Faculty. In 1972, another reorganisation took place which reduced the number of chairs to 6. These in turn gave rise to 7 research and teaching institutes. Currently, there are 6 chairs at the Faculty.



Fig. 2. Beginning of construction of the Faculty of Mining building (view of the Krakowski Square)



Fig. 3. Beginning of construction of the Faculty of Mining building – embedding of concrete piles

The name of the Faculty has also evolved. From the establishment of the Faculty from 1950 to 1991, the name of the Faculty of Mining was in operation. In 1991 the name was changed to the Faculty of Min-

ing and Geology. Another name change took place in 2019 and the Faculty of Mining, Safety Engineering, and Industrial Automation has been in use since then.

The history of the Faculty is also the history of its Deans. They are presented chronologically below. Starting with prof. Józef Wąsowski (1950–1951), through: prof. Roman Dykacz (1952–1962); prof. Tadeusz Zarański (1962–1964); prof. Waław Reguński (1964–1965); prof. Witold Parysiewicz (1965–1967); prof. Tadeusz Lasek (1967–1969); prof. Mirosław Chudek PhD (1970–1975) and (1985–1990); prof. Henryk Gil (1975–1981) and (1984–1985); prof. Włodzimierz Sikora (1981–1982), prof. Marian Kozdrój (1982–1984); prof. Bernard Drzęzła Ph.D. (1990–1996); prof. Marian Dolipski (1996–2002) and (2008–2016); prof. Krystian Probiez Ph.D. (2002–2008); ending with the current Dean, prof. Franciszek Plewa (2016–2020) and since 2020 [1–4].

3. THE FACULTY TODAY

Currently, scientific and research activities are carried out at the Faculty of Mining, Safety Engineering, and Industrial Automation (Fig. 4–6) in the field of sustainable mining, understood as the economically effective extraction of minerals, including advanced mining and information technologies. The Faculty develops knowledge in the field of obtaining raw materials in environmentally friendly conditions, for

the purposes of rational resource management consisting of the supply of raw materials in sufficient quantity for the efficient operation of the national economy. These activities are also related to: mechanisation, automation, and robotisation of mining processes; minimising interference to the environment

during the exploration and exploitation of mineral deposits; protection of unexploited and exploited mineral deposits by the maximum use of the deposit resources; the use of mineral resources in waste from mining and processes of mineral enrichment; and minimisation of the generated waste.



Fig. 4. View of the Faculty of Mining, Safety Engineering, and Industrial Automation (from the Rector's Office)



Fig. 5. View of the main hall of the Faculty



Fig. 6. General view of the Gliwice Campus and the Faculty of Mining, Safety Engineering, and Industrial Automation

The department also deals with issues of safety engineering, in particular the issues of public safety, occupational health and safety and fire protection, crisis management and cyber-security, as well as issues related to broadly understood automation and industrial IT, and electrical engineering and automation in mining.

The Faculty's research and teaching activities are currently focused on six departments, namely: Electrical Engineering and Industrial Automation, Mining Mechanisation and Robotisation, Safety Engineering, Geomechanics and Underground Construction, Mining, and Applied Geology.

The authorities at the Faculty currently include: the Dean of the Faculty – prof. Franciszek Plewa; Vice-Dean for Cooperation and Development – prof. Iwona Jonczy; Vice-Dean for Infrastructure and Organisation – prof. Krzysztof Filipowicz; Vice-Dean for Education – prof. Małgorzata Wyganowska.

The Faculty of Mining, Safety Engineering, and Industrial Automation is a forge of human resources for modern industry. It offers education for students in the form of 1st degree studies, 2nd degree studies, both full-time and extramural, and the education of Ph.D. students in the form of 3rd degree studies.

Education takes place in five programmes:

- Automatic Control and Industrial Informatics,
- Geodesy and Cartography,
- Geoengineering and Raw Materials Extraction,
- Safety Engineering,
- Reclamation and Management of Post-industrial Areas.

All study plans are adapted to European standards, based on the credit point system – ECTS (European Credit Transfer System), which allows students to complete part of their studies abroad.

There are active Student Scientific Clubs at the Faculty. Within the Clubs, students can pursue their interests related to the specialisation they are studying. The “Agrimensor,” “Bezpieczna Ściana,” “Bezpiecznik,” “El-Carbo,” “Gwarek,” “Konstrukcja i Eksploatacja Maszyn,” “Przeróbka Kopalni Stalych,” and “Silesian” Clubs participate in the Faculty's annual Scientific Club Conference, organise scientific trips, conferences, and seminars. The Science Clubs and Faculty staff actively participate in the cyclically organised Scientists' Night, which includes multimedia shows, laboratories, and lectures in various fields of science for children, adolescents, and adults. Students of the “Bezpieczna Ściana” (“Safe Wall”) science club regularly take first place in mining knowledge competitions organised annually in Krakow.

The Faculty of Mining, Safety Engineering, and Industrial Automation actively cooperates with schools in order to popularise technical education. We are happy to meet young people, we conduct popular science lectures in the “KNOWLEDGE → TECHNOLOGY → CAREER” series, in the field of, among others, mechatronics, electronics, mineral exploitation, geology, geodesy, and safety. We are open to visits by students at our Faculty, we make our laboratories available, we encourage everyone to visit the Museum of Deposit Geology and the Technology Hall.

For many years, the Faculty has been intensively cooperating with many companies active in the mining industry and other sectors of the national economy. The cooperation includes, among others, organisation of student internships and apprenticeships, joint research and development projects.

The Faculty’s activities are supported by the Social and Program Council, which is an advisory body expressing opinions on the quality of education and assessing the degree and adaptability of the Faculty’s graduates in their workplaces. The Social and Program Council also aims to analyse the state and create conditions for fostering direct connections between the scientific community and workplaces, regional authorities, industry institutes, and educational institutions.

Every year, the Faculty hosts cyclical Minerals Fairs, as well as scientific and technical conferences

and seminars. In December, during St. Barbara’s Day Celebrations, the St. Barbara’s Day Academy and Beer Feast take place.

These examples of such a broad activity of the Faculty of Mining, Safety Engineering, and Industrial Automation demonstrate the great commitment of the scientific and research staff as well as administrative and technical employees in its development, in improving their skills, in acquiring scientific knowledge, and at the same time in educating young engineers, emphasising the importance and the accuracy of the decision which led to its establishment 70 years ago.

References

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