

History and Activities of “Regional Geology and Minerals Survey” Chair

The “Regional Geology and Minerals Survey” Chair re-formed in 2019 is specialized on three specialties of geological sciences. It is the reunification of the “Historical and Regional Geology” (1949-2013), “Mineralogy, Petrology and Geochemistry” (1950-2013) and “Minerals Mines Search and Survey” (1952-2019) Chairs.

The first two chairs were reunited by the decision of the scientific council of the faculty in 2013 and the “Regional Geology, Petrology and Minerals Mines” Chair was established, which had operated only for five years. Associate professor Sh. Khachatryan was the head of the chair during that period.

In 2019 it was reunited with the “Minerals Mines Search and Survey” Chair and was re-formed into the “Regional Geology and Minerals Survey” Chair. Candidate of geological sciences, associate professor Shahen Khachatryan was elected the Head of the chair.

Of course, the history of the newly established chair has not started since 2019, it bears the history of all the three chairs, from whose union it has been formed.

The “Historical and Regional Geology” Chair was established upon the initiative of ASSR AS academician A. H. Gabrielyan in 1949. At first it was called the “Archeology and Historical Geology” Chair. Starting from 1980 it was recalled the “Historical and Regional Geology” Chair.

PhDs A.H. Gabrielyan (1949-1981), H.H. Sargsyan (1981-1997), G.P. Simonyan (1997-2005). E.Kh. Kharazyan (2005-2012) and A. Grigoryan (2012-2013) headed the chair.

PhD and ASSR honored geologist H.H. Sargsyan, associate professors A.V. Vardanyan, Hovh. H. Sargsyan, geologist-doctor of mining sciences K. M. Muradyan, geologist- candidate of mining sciences F. Hayrapetyan, lecturer S.V. Voskanyan have taught at the Chair. ASSR AS academician S.S. Mkrtchyan, associate professors H.M. Nazaryan and H. Gyoletsyan have worked at the chair for many years.

The “Historical and Regional Geology” Chair greatly contributed to the spheres of the development of geological science in Armenia, as well as to the development of geological

term-creation in the mother tongue. For many years it has been considered as the leading scientific unit of the study of the regional geology of Armenia.

The main directions of the scientific researches of the chair were the following: tectonics, seismic tectonics of the RA and adjacent territories, the layering of the territory of Armenia, the newest volcanology, the history of geological development and geological mapping.

The employees of the Chair have published more than 500 scientific articles, 30 monographies, 3 vocabularies and manuals. The most important monographies are the following: Gabrielyan A.A. “Третичные отложения Котайкского района Арм ССР” (Tertiary Deposits of the Kotayk Region of the Arm SSR) (Yerevan, 1947), Gabrielyan A.A. “Основные вопросы тектоники Армении” (The Main Issues of Tectonics of Armenia) (Yerevan, 1959), Gabrielyan A.A. “Палеоген и неоген Арм ССР” (“Paleogene and Neogene of the Arm SSR”) (Yerevan, 1964), Gabrielyan A.A, Sarkisyan O.A., Simonyan G.P “Тектоническая карта Арм ССР” (Tectonic Map of the Arm SSR) (Yerevan, 1968), Sarkisyan O.A., Simonyan G.P “Сейсмотектоника Арм ССР” (Seismotectonics of the Arm SSR) (Yerevan, 1981), Gabrielyan A.A, Sarkisyan O.A. “Геология Арм ССР” (Geology of the Arm SSR) (vv. 1, 2, 5, 7, Yerevan, 1960-1974), Gabrielyan A.A, Sarkisyan O.A. “Стратиграфический словарь СССР” (USSR Stratigraphic Dictionary) (M. 1982), Sarkisyan O.A. “Палеоген Севано-Ширакского синклиория” (Paleogene of the Sevan-Shirac Syncline) (Yerevan, 1966), Հ.Հ. Սարգսյան “Երկրաբանական տերմինների ռուս-հայերեն բառարան” (“Russian-Armenian Dictionary of Geological Terms”) (Yerevan, 1984), Հ.Հ. Սարգսյան “Հայաստանի ռեգիոնալ երկրաստեղծոնիկա” (“Regional Geotectonics of Armenia”) (1989)

The “Mineralogy and Petrography” Chair, which was later called “Mineralogy, Petrology and Geochemistry” chair, was established in 1950. Associate professor T.Sh. Tadevosyan headed the chair from 1950-1963, PhD S.I. Balasanyan headed the chair in 1963-1995, PhD R.G. Gevorgyan was the head of the chair in 1995-2009 and associate professor Sh.V. Khachatryan headed the chair in 2009-2013.

Considerable scientific researches dedicated to the flame rocks of the territory of Armenia and the study of minerals mines connected with them have been conducted in the chair since the day of the establishment of the chair.

A number of authoritative scientists taught at the chair: academicians H.G. Maghakyan, R.T. Jrbashyan, S.S. Mkrtchyan, doctor-professor S.I. Balasanyan, H.H. Grigoryan, associate professor T.Sh. Tadevosyan, H.P. Gulumjyan, A.S. Shatvoryan, S.A. Isahakyan, H.I. Adamyan, M. Achikgyozyan, V.A. Adamalyan, Sh.H. Amiryan, R.A. Mandalyan, Gh. L. Galoyan, S.A. Arakelyan, M.R. Gevorgyan, etc. A number of monographies and scientific articles have been published in the chair.

The “Minerals Mines (MM) Search and Survey” chair was established in 1952. It was the demand of the time. Geological research works started greatly developing at the beginning of the 1950s, whose purpose was to create and provide the traditional and newly developing branches of industry of the republic with mining raw materials, i.e. non-ferrous metallurgy, building materials, chemical and food industries.

PhD B.M. Vardapetyan, geologist, doctor of mining sciences, honored figure of science and technique of the republic, was the first head of the chair, who has headed the chair for a long time (1952-1978). Then the chair was headed by geologist, doctor of mining sciences, PhD B.H. Bezirganov from 1978-1994. Geologist, candidate of mining sciences, associate professor R.S. Movsesyan headed the chair from 1994-2018.

R. Harutyunyan, H.H. Mkrtchyan, A.S. Avanesyan, H.H. Adamyan, R. Movsisyan, Q. Baghdasaryan, G. Navasardyan, G. Gareyan, S. Nersesyan, H.I. Movsesyan and V. Manukyan have taught at the chair. The Chair has paid great attention to the issues of alternation of generations, preparing prosperous young specialists and the chair has recruited young lecturers having scientific degrees.

During the activities of the chair the employees published numerous monographies, textbooks, educational and methodological manuals, methodical instructions, scientific articles, scientific-technical reports. Let's mention some of them: “Закономерности распределения медного оруденения на территории Арм ССР” (“The Regularities of Distribution of Copper Mineralization in the Territory of the Arm SSR”) (Vardapetyan B.S.,

1965), “Օգտակար հանածոների հանքավայրերի որոնում և հետախուզում” (Minerals mines Search and Survey) (Vardapetyan B.S, 1987), “Տեխնոգեն հանքահումքային ռեսուրսներ” (Technogenic Mine Raw Materials Resources) (Movsesyan R.S, methodical manual, 2006), “Հանքավայրերի երկրաբանատնտեսական գնահատումը որոնման փուլում” (Geological-Economic Assessment of Mines in Search Phase”) (Mkrtchyan H.H., methodical manual, 2006), “Բնապահպանական հարցերն ընդերքօգտագործման ոլորտում” (Environmental issues in Soil Use Spehre) (Nersesyan S.S, methodical manual, 2013), “Կառուցվածքային երկրաբանություն և երկրաբանական քարտեզագրություն դասընթացի կուրսային աշխատանքների մեթոդական ցուցումներ” (“Methodological Instructions for Term Papers of Structural Geology and Geological Mapping Training) (Avanesyan A.S, Movsisyan H.I, 2014), etc. It is possible to get acquainted with the complete list of publications of the last years of the employees of the chair from their personal pages placed in the YSU website.

“Regional Geology and Minerals Survey” Chair continues preserving the most important directions of the geological science, such as petrography, formation of metals, geotectonics, geological mapping, minerals mines searches and survey, geochemistry, regional geology and archeology. It is the only chair in Armenia, which is preparing specialists in geological sciences.

The mining industry continues being one of the most important branches of economy in Armenia and provides the demand for preparation of geologists-mineralogists. The growth of volumes of the mining and geological survey work conducted in the republic keeps topical the preparation of young personnel-geologists with the corresponding qualification and “Geological Extraction, Mineral Mines Search and Survey” specialty. Today the chair is preparing the geology bachelors and masters on the specialty of “Minerals Mines Geology and Survey”.

Specialists having scientific-productive and pedagogical experience conduct the educational process in the chair.

The scientific activities of the employees of the chair involve wide circles. The issues related to the RA regional geology, magmatism, tectonics, metals formation, minerals

mineral search and survey and geological-economic assessment are in the center of their attention.

The discussion of geological-protection issues related to the rational use of minerals, the legislative field of the spheres of the RA soil use and environment protection, metal minerals mining and wastes processing, as well as the elaboration of arrangements directed at their solution are especially in the center of the chair's attention. In this connection the work is also conducted in the direction of the modelling of tailing dumps as the assessment of quality and quantity of useful elements of the secondary raw materials, their economic assessment and clarification of industrial importance.

The employees of the chair are involved in the programs directed at the implementation of goals of the UN stable development. The chair also cooperates with the RA Ministry of Territorial Government and Infrastructures, other Ministries of Environment, the Armenian Orhus centers, the Institute of Geological Sciences of the RA NAS, public organizations and centers being engaged in mining and nature protection issues of the higher schools. Besides that the employees of the chair cooperate with separate international organizations, companies and experts.

The lecturers of the chair always participate in the processes of elaboration of sub-legislation acts and improvement of the RA legislation on soil, as well as they are members of different scientific and productive councils of the Republic of Armenia.

Employees of the chair participate in the international scientific consultations, conferences and forums organized in Armenia and foreign countries, i.e. in France, Russia, Belorussia, Ukraine, Italia, Iran, Sweden and Columbia, as well as in the international scientific grants of the Eurasian Fund, Copernicus, INTAS, MHTI.

Educational process:

The “Regional Geology and Minerals Survey” Chair has the following cabinets-auditoriums, where the professional trainings are organized|:

1. Office of the head of chair (room 216)
2. Cabinet of employees of the chair (rooms 318, 504 and 512)
3. MM search and survey cabinet (room 218)

4. MM structures survey methods cabinet (room 122)
5. The minerals mines survey and modeling, educational laboratory after Mher Julhakyan (room 325)
6. Structural geology and geological mapping cabinet after died student-freedom fighter Artur Parsadanyan (room 221)
7. Petrography studies and Shlikh laboratory (room 224)
8. Historical geology and archeology cabinet after H.H. Sargsyan (room 319)
9. Mineralogy cabinet (room 320)
10. Armenian Geology museum-cabinet after Arshaluis Gabrielyan (room 323)
11. RA Minerals Cabinet (room 324)

The taught subjects cover issues related to the regional geology, geological tectonics, magmatism, mine formation issues, minerals mines search and survey process, from mineral fields geological mapping to geological-economic assessment of mines.

“Structural Geology and Geological Mapping”, “Minerals Mines Search and Survey” trainings are considered as key subjects, which are finalized by the field educational-practical trainings. The educational practice on the “Structural Geology and Geological Mapping” subject is organized at the end of the second academic year, in July. Students pass their practice in Bjni and Marmarik experimental fields.

The practical trainings are organized at the cabinets and laboratories operating at the faculty, scientific-research centers, institutes, private mining companies and geological survey trips.

The following are included in the special trainings: “Mines and Mining Bodies Outlining”, “Mineral Mines Modeling”, “Technogenic Mine Raw Material Resources, “Mine Raw Material Economy”, the “Application of Geological-Information Systems in Geological Works” and the “Application of “Micromine” GGIS and GeoBank Systems in Mining Works” modules. The latter includes getting acquaintance with the working possibilities of Micromine (GGIS), Micromine FIELD MARSHAL, Micromine Geobank, Leapfrog Geo software having great demand in the IS sphere of organization and service of mining survey and operation work. It became possible due to the close cooperation and contracts

concluded between the Chair and the Australian Micromine and New Zealand Seequent companies.

In the matter of the preparation of future specialists-geologists the chair included in its educational trainings plan the following trainings: on issues related to magmatism, tectonics, archeology, metal formation, mines search and survey, their economic assessment, soil use nature protection and legal issues, trainings on geological-survey work and mine operation projects elaboration, expert, management and other trainings, which give the graduates an opportunity to easily find work under the conditions of today's market economy and to show high skills and knowledge in the corresponding working environment.

Career

The graduates with the qualification of geology prepared by the chair can work at the Geological Sciences Institute of the RA NAS, the RA Ministries of Environment, Territorial Government and Infrastructures, Emergency Situations, Agriculture, the bodies attached to the RA government, as well as in state geological survey organizations and numerous private mining companies. Their demand is also great in operating mines, as the geologists with this specialty work until the exhaustion of mines reserves and their closing. The graduates can successfully work both in Armenia and abroad.

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