

# ЮБІЛЕЇ, ПЕРСОНАЛІЇ

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## ANNIVERSARIES, PERSONALITIES



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### ACADEMICIAN EVGENY FEDOROVICH SHNYUKOV — 90th ANNIVERSARY

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*In March this year Evgeny Fedorovich Shnyukov, a prominent Ukrainian scientist in geology, geochemistry, lithology, mineralogy, sedimentary ore formation, and marine geology, has celebrated his 90th Anniversary.*



E.F. Shnyukov holds the titles of the Doctor of Sciences in geology and mineralogy (1966), Professor (1970), Corresponding Member of the National Academy of Sciences of Ukraine (NAS of Ukraine) (1978), Full Member NAS of Ukraine (1982); Member of the International Academy of Sciences of Eurasia.

E.F. Shnyukov served as a Deputy Director of the Institute of Geological Sciences (1968-1969) and the Institute of Geochemistry and Physics of Minerals of the UkrSSR Academy of Sciences (1969-1973), Director of the Institute of Geological Sciences and head of the Sedimentary Ore Formation Department (1977-1992), Director of the National Museum of Natural Science of NAS of Ukraine (1977-2008), Director of the Department of Marine Geology and Sedimentary Ore Formation (1992-2017), Honorary Director of the Center for Problems of Marine Geology, Geoecology and Sedimentary Ore Formation of the NAS of Ukraine (former Department of Marine

Geology and Sedimentary Ore-Formation), and Head of the Ukrainian Committee on Lithology.

He has received many awards, including the title of “Honored Scientist and Technologist of Ukraine” (1997), is the winner of the State Prize of Ukraine in the fields of Science and Technology (1989, 2000 for a series of works devoted to the World Ocean), the recipient of the Prize of V.I. Vernadsky (1982) and the Prize of P.A. Tutkovskiy (2016), of the gold medal “Leonardo da Vinci” from the International Academy of Sciences of Eurasia, among many others.

E.F. Shnyukov was born on 26 March 1930 in Arkhangelsk in the family of civil servants. He graduated from high school with the Golden Medal of Honour in 1948 in Odessa.

In 1948-1953 he studied at the Department of Geology of T.G. Shevchenko Kyiv State University.

After graduating with the honors degree in geology-geochemistry, he was accepted in the Postgraduate School of the Institute of Geological Sciences (IGS) of the Academy of Sciences of the UkrSSR. In 1958 E.F. Shnyukov defended his Candidate of Science (Ph.D.) dissertation, devoted to the study of the mineralogy of the Kryvyi-Rih iron ore basin and the iron-related minerals of the Ukrainian Shield. His scientific adviser was Professor Yu.Yu. Yurk, whose portrait can be always seen on Academician’s Shnyukov’s work desk as recognition of his deepest gratitude.

At the beginning of his scientific work, the main efforts of E.F. Shnyukov focused on the study of the genesis of the Kimmerian iron ores of the Azov-Black Sea province and manganese ores of the Nikopol basin. Later, results of the advanced and dedicated investigations in the fields of

geology, mineralogy, and geochemistry of the Azov-Black Sea iron-ore province were summarized in his thesis for the Doctor's of Science degree in 1965.

The expertise of E.F. Shnyukov is not limited only to the Kerch iron ore basin, but extends also to the geology and genesis of the whole Azov-Black Sea iron ore region. The most important scientific works in this field are: "Mineralogy of the Kerch basin iron-ore formation" (1960), "Manganese-iron ores of the Kerch basin" (1961), "Genesis of the Kimmerian iron-ore Azov-Black Sea province" (1965). Results of long-term manganese ore investigations have been published in numerous articles and in the monograph "Manganese ores of Ukraine" (1979).

Another important direction of Academician Shnyukov's work is the study of the role of the mud volcanoes in the formation of the iron ore deposits. He was the first to bring to the attention the connection between the iron ore deposits and compensational "bulged-in" synclines that formed around mud volcanoes. These results were presented in the monographs including "Kimmerian iron ores of the compressive synclines in the Kerch peninsula" (1964), "Mud volcanoes and ore formation" (1971), "Mud volcanoes of the Kerch-Taman region. The Atlas" (1986), "Mud volcanoes of the Kerch-Taman region" (2005), «Mud volcanoes of the Black Sea region and their environmental significance» (2020).

Having developed and studied the metallogeny of land masses, the scientist was one of the first in Ukraine to develop geological research of the internal seas as well as of the World Ocean.

Under his direct supervision the first Ukrainian specialized research drilling vessel "Geochimik" was equipped, which allowed to drill down to 100 m depth with the sea depth of up to 30 m.

E.F. Shnyukov was the organizer and the director of the first specialized geological-geophysical expedition on the research vessel "Academic Vernadskiy" to the Indian ocean, the second specialized geology-geophysical expedition on the same vessel to the Atlantic ocean, complex international Black Sea expedition on the research vessel "Mikhail Lomonosov", expeditions on the vessels "Professor Kolesnikov" and "Kyiv" to the Atlantic and Indian oceans, Mediterranean Sea and Black Sea. During the years of 2000s, marine geological investigations in Ukraine were performed, in particular, because of enthusiastic E.F. Shnyukov's efforts, in the Black Sea on the "Professor Vodyanytskiy" and "Volodimir Parshin" vessels. Materials from these expeditions led to the discovery of a submarine massif of crystalline rocks (Lomonosov Ridge), tens of mud volcanoes, and hundreds of gas seeps suggesting the presence of oil and gas beneath the Black Sea. Results of these investigations have been summarized in a number of monographs, among which, for example, "Geological problems of the Black Sea" (2001), "Mineral treasures of the Black Sea" (2004), "Gas volcanism of the Black Sea" (2005, 2016).

The studies of Academician Shnyukov that began on land, extended to or were connected with the sea, marine geology, while the results of his sea expeditions were further developed on the continent. In 1993, he organized the expedition to the Black Sea on the research vessel "Ichtyandre" with



Oolitic iron ore sampling — E.F. Shnyukov, left (late 1950th; Kerch Peninsula)



In the mineralogical-petrographic laboratory (1979; India, Delhi)

an autonomous submarine “North-2” that submerges down to 2000 m. He personally took part in one of such dives, which allowed one to carry out a series of important observations, to build a geological scheme and the cross-section of the dive and subsequently to confirm them via dredging. In his monograph “Paleoisland arc in the Northern Part of the Black sea” (1997), based on the numerous sea studies and on a huge volume of factual material collected in the Crimean Mountains, Acad. Shnyukov with co-authors shows some convincing proofs of the similarity between the geology, petrography, metallogeny of the northern continental shelf of the Black Sea and those of the Crimean Mountains. They prove, as well, that Lomonosov Ridge is a part of Paleoisland arc in the northern part of the Black Sea.

E.F. Shnyukov participated in the activities of the international organizations — the International Geological Correlation Program of UNESCO, International Union of Geological Sciences, the International Association for the Genesis of Ore Deposits, etc. As a recognized expert in marine geology, Acad. Shnyukov represented Ukraine in the work of the United Nations Committee on the Peaceful Uses of the Sea-Bed and the Ocean (Geneva 1971, New York 1972, Paris 1985, 1987). He repeatedly led and was the member of the or-

ganizing committees of many congresses, meetings and symposia at the national and international levels, led the School of Marine Geology for experts from the countries of West Africa via UNESCO (Guinea, 1987). In 1999-2007 he organized and guided a series of international field seminars on geology and mineral deposits of the Kerch Peninsula and the Kerch-Taman province of mud volcanoes.

E.F. Shnyukov is also known for his scientific organizational activity. In 1968-1973, he was Deputy Director of the Institute of Geological Sciences, and later – the Institute of Geochemistry and Physics of Mineral of the UkrSSR’ Academy of Sciences. In 1977-1992, he headed the Institute of Geological Sciences of the UkrSSR’ Academy of Sciences. He was the editor-in-chief of “Geological Journal” for many years. Now he is the editor-in-chief of the scientific journal “Geology and Minerals of the World Ocean”.

For over three decades, Acad. Shnyukov leads the Ukrainian Committee on Lithology, organizing regular conferences over various aspects of the sedimentary rocks formations in Ukraine and adjacent lands. The results of these conferences are published in the “Collection of Scientific Works of the Institute of Geological Sciences NAS of Ukraine”.

He has authored, coauthored, and edited over 700 scientific publications, including 50 books. He performs great work as a lecturer, his course “Marine geology and mineral resources” has been taught in the Krasnodar, Simferopol, Lviv and Kyiv Universities; he supervised over 35 PhD students. Together with his wife, a talented geophysicist Galyna Zabello, Dr. Shnyukov founded a true dynasty of the academic geologists. Their son Sergiy Shnyukov is well known petrogeochemistry professor, head of a department at the Geological Faculty of the Taras Shevchenko National University in Kyiv. Daughter Kateryna is a distinguished Doctor of Science in petrography and petrology, while granddaughter Elisabeth is an inspired geology student at the Kyiv National University.

Acad. Shnyukov made an important contribution to the development of the modern marine geology and the theory of the sedimentary ore formation, to the birth and growth of the Ukrainian school of marine geology and lithology. His name is connected to the studies of the processes of

mud volcanism, fluidogenic mineralogenesis, sedimentogenesis and sedimentary formation of the iron, manganese and other ores.

In the end of the 1980-s — beginning of the 1990-s, based on the latest scientific achievements of the Institute of Geological Sciences Academy of Sciences of UkrSSR, Academician Shnyukov managed to unite Ukrainian geological community and to organize efforts of the Institute staff towards creation of the reference guide in the new discipline – ecological geology (“Ecological Geology of Ukraine”, 1993). In this work, for the first time, systematically and in a multidisciplinary fashion the state of the geological environment of Ukraine (a country with heavy use of natural resources combined with diverse and often quite complex geological conditions) has been analyzed as a part of lithosphere and underground hydrosphere under the anthropogenic influence.

He is the author of the hypothesis of the formation of the sedimentary oolitic iron ores of the Kerch type, an expert in the geological structure and genesis of the whole Azov-Black-Sea iron ore region. He discovered new ore deposits and other mineral resources in the geographical regions of his studies, found gold deposits in Kerch Peninsula (Aktash and Zamorsk deposits). He is the discoverer of the Novoselivsk and Uzunlar iron ore deposits.

His monographs became textbook items on the following problems: formation of the sedimen-

tary iron and manganese ores, mud volcanoes, metallogenic studies of the bottom sediments of internal seas and the World Ocean, Black Sea geology and gas hydrates capability. He embraces a wide range of geological problems and represents a striking example of the fruitful union of science and practice.

He is an author of the following well-known books, some of which have gained wide recognition and have become bibliographically rare: “Peninsula Treasure” (1973), “World of minerals” (1986, 1991), “Pirates of the Black Sea” (1995), “Dangerous Black Sea” (2000), “Minerals and the World” (2008), “Treasures and mysteries” (1996), “The mineral wealth of the Black Sea” (2004), “Oolytes” (2008) and other.

One can write a lot about scientific investigations of Evgeny F. Shnyukov. Many successes of Ukrainian marine geology are due to the Academician Shnyukov’s activity. This year, long-term mud volcanoes studies of Evgeny F. Shnyukov have been published by Springer «Mud volcanoes of the Black Sea region and their environmental significance» (2020).

Nowadays, Evgeny F. Shnyukov is a wise teacher, caring father, loving grandfather, a friendly colleague, and an eccentric person who fully realized all his natural gifts.

The Ukrainian geological community sincerely wishes Evgeny Fedorovich further success, inspiration, strong health and happiness.