



## TO THE 100<sup>TH</sup> ANNIVERSARY OF PROFESSOR O.K. KOZMINYKH

V.O. Kozminykh, E.N. Kozminykh

Perm State Humanitarian Pedagogical University  
24, Sibirskaya Str., Perm, Russia, 614990

E-mail: kvoncstu@yahoo.com

Received: 22.02.2019

Accepted for publication: 14.04.2019

*In connection with the 100th anniversary of Professor Oleg Kozmich Kozminykh, the brief biographical data are presented herein. O.K. Kozminykh made a great contribution to the development of pharmaceutical education and science in the Urals being the leader of Perm Pharmaceutical Institute for more than 20 years. Based on documents and personal memories, the biographical essay is provided and general data of life as well as scientific, pedagogical and public activities of O.K. Kozminykh are summarized here.*

**Keywords:** Kozminykh, biography, pharmaceutical education and science, Perm Pharmaceutical Institute

## К 100-ЛЕТИЮ СО ДНЯ РОЖДЕНИЯ ПРОФЕССОРА О.К. КОЗЬМИНЫХ

В.О. Козьминых, Е.Н. Козьминых

Пермский государственный гуманитарно-педагогический университет  
614990, Россия, г. Пермь, ул. Сибирская, 24

E-mail: kvoncstu@yahoo.com

Поступила в редакцию: 22.02.2019

Принята к печати: 14.04.2019

*В связи с юбилеем – 100-летием со дня рождения – приведены краткие биографические сведения о профессоре Козьминых Олеге Козьмиче, который внёс большой вклад в развитие фармацевтического образования и науки на Урале и более 20 лет возглавлял Пермский фармацевтический институт. На основании документов и личных воспоминаний представлен биографический очерк и перечислены основные даты жизненного пути, научной, педагогической и общественной деятельности О.К. Козьминых.*

**Ключевые слова:** Козьминых, биография, фармацевтическое образование и наука, Пермский фармацевтический институт

In April 2019 the 100th anniversary of the outstanding scientist and teacher Oleg Kozmich Kozminykh (Fig. 1) is celebrated. He was a front-line soldier, a knight of Order of the Red Star, the Second World Patriotic War of the 2nd Degree, Order of the Red Banner of Labor. He devoted a significant part of his work to the development and improvement of pharmaceutical education and science in the Urals, working as the rector of Perm State Pharmaceutical Institute for two decades.

O.K. Kozminykh was born in Perm on April 16th,

1919 in the family of an employee. In 1940 he graduated from the Perm Pharmaceutical Institute with honors, and worked at the Pharmacology Department of Perm Medical Institute under the guidance of Professor A.K. Sangailo up to the pre-war conscription [1].

From November 13th, 1940 to September 26th, 1953 Oleg Kozmich Kozminykh served in the Red Army of the USSR. He participated in the Great Patriotic War of 1941–1945. As an officer of the medical service, he served as Chief of pharmacy rifle regiment, Chief of medical sup-

**For citation:** V.O. Kozminykh, E.N. Kozminykh. To the 100<sup>th</sup> anniversary of professor O.K. Kozminykh. *Pharmacy & Pharmacology*. 2019;7(2): 112-116. DOI: 10.19163/2307-9266-2019-7-2-112-116

© В.О. Козьминых, Е.Н. Козьминых, 2019

**Для цитирования:** В.О. Козьминых, Е.Н. Козьминых. К 100-летию со дня рождения профессора О.К. Козьминых. *Фармация и фармакология*. 2019;7(2): 112-116. DOI: 10.19163/2307-9266-2019-7-2-112-116

ply infantry division, Head of the army and front medical warehouses of the 2nd and 3rd Ukrainian fronts. O.K. Kozminykh served in the Armed Forces of Far Eastern military district (248th Separate cadet rifle brigade, 42nd rifle division of the 87th rifle regiment, 233rd rifle regiment of the separate Red Banner rifle division). He fought in the Armed Forces of Stalingrad, Don, Steppe fronts (24th and 65th Army, 233rd rifle regiment of the separate Red Banner Kremenchug-Znamenskaya rifle division; 284th mechanized brigade). He served in the southern group of troops, as well as in the Carpathian and the Urals military districts. Before the Stalingrad battle, until February 1943, he fought in the 233rd Red Banner Kremenchug-Znamensky rifle division. O.K. Kozminykh was fighting his way from Stalingrad to Vienna, he was a participant of the Stalingrad battle. At the front in 1943 he joined the Communist Party of the USSR. From 1944 to 1950 he served in military units in Bulgaria and Romania. As a result of severe front-line contusion, as well as after the disease of malaria, received in the Danube swamps of Romania, O.K. Kozminykh was treated several times in hospitals of Constanta, Bucharest, Odessa, Kiev and Proskurov.

For his service in the Armed Forces of the USSR during the Great Patriotic War and post-war labor merits Oleg Kozmich Kozminykh was awarded Order of the Red Star, World War 2, and Order of the Red Banner of Labor, as well as 13 medals of the USSR, including the following: "For Military Merit" for the defense of Stalingrad, for the capture of Budapest, Vienna, the liberation of Belgrade, "For the Victory over Germany in the Great Patriotic War of 1941–1945", "20 years of Victory in the Great Patriotic War", "30 years of Victory in the Great Patriotic War", "40 years of Victory in the Great Patriotic War", "30 years of the Soviet Army and Navy", "50 years of the Armed Forces of the USSR", "60 years of the Armed Forces of the USSR", "Victory in the battle of Stalingrad 1943–2003 (60 years)", as well as commemorative signs of a veteran of the Steppe and 2nd Ukrainian fronts, a veteran of the 53rd Army, a soldier of 1941–1945.

Here are a few lines from the records of personal memories: "At the end of the war, six years after joining the army in the autumn of 1946, I have got my first vacation and came home to Perm. Entering the Department of Pharmacology of the Medical Institute, a place of previous work, I was presented to the staff Head of the Department Professor A.K. Sangailo. I met a young assistant Lobantseva Emilia Mikhailovna. We became friends, visited theaters, movies, and soon the decision came to get married. All employees of the Department celebrated the wedding-party. Four days later we went abroad to the place of service. There I went about my daily life of a soldier: garrisons, moving from country to country. Our daughter was born in Romania. Finally in 1953 we insisted on transferring to Perm. Retired, I entered a PhD programme. All my further life got connected to pedagogical and scientific work..."

Scientific and pedagogical activities of O.K.



*Figure 1 – O.K. Kozminykh (1985)*

Kozminykh began after the war. Having retired from active duty, from 1954 to 1957, he studied the post doctorate (aspirant) course at the Department of Chemistry in Perm Pedagogical Institute the n. a. Molotov, where as his Chief Professor Nikolai Semenovitch Kozlov, he taught and performed scientific work at that time. N.S. Kozlov worked in Perm in 1946–1967. He was elected an academician of the Academy of Sciences of the Belarussian SSR in 1966, and in early 1967 he went to Minsk, heading the Institute of Physical Organic Chemistry of the BSSR Academy of Sciences [2, 3].

The main topic of research of Oleg Kozmich was the chemistry of quinoline and benzoquinoline derivatives. In December 1957, at the end of the post-graduate course, O.K. Kozminykh defended his thesis in the "organic chemistry" on the topic: "Catalytic synthesis of nitro-, amino- and sulfamido derivatives of 2-phenylquinoline and 2-phenyl-5,6-benzoquinoline" with the award of the degree of Candidate of Chemical Sciences. The supervisor of his thesis was Professor Kozlov [4].

In the period from 1957 to 1958 O.K. Kozminykh headed the research group of organic intermediates and dyes of the Central Laboratory of the Perm chemical factory n. a. S. Ordzhonikidze. He also worked as an assistant and associate professor at the Perm Agricultural and Pedagogical Institutes. In the late 50-s O.K. Kozminykh

studied some production aspects of the chemistry of organic aniline dyes, polymers and improved technological methods for obtaining a number of reagents (nitrobenzene, aniline).

From October 1958 to July 1959 Oleg Kozmich was a lecturer at the Chemistry Department of the Perm State Agricultural Institute. In the period from July 1959 to November 1962 O.K. Kozminykh worked as an associate professor of the Chemistry Department of the Perm State Pedagogical Institute. The founder of the scientific school of organic chemistry and the Head of research of the Department of Chemistry of the Pedagogical Institute was Professor N.S. Kozlov, who was the Head of the Department until 1967. Since late 50's N.S. Kozlov proposed a new direction: the study of catalytic condensation reactions of azomethines with *CH*-acids in the synthesis of nitrogen derivatives of linear and *N*-heterocyclic compounds. The development of this topic was started by the staff of the Department of Chemistry of the Perm Pedagogical Institute. N.S. Kozlov and his students – Z.A. Abramova, E.A. Britan, N.D. Zueva, B.I. Kiselev, O.K. Kozminykh, A.D. Nikolayev, V.D. Pak, S.Ya. Chumakov, I.A. Shur, etc. – found out that under the conditions of catalytic protonation a nucleophilic addition of *CH*-acids by azomethine bond of Schiff bases occurs there. As a result, various amino ketones, amino acid derivatives, substituted quinolines and their analogues were obtained [5, 6].

In November 1962 O.K. Kozminykh was appointed the rector of Perm State Pharmaceutical Institute and worked in this position for 21 years. In 1973 he was approved as a professor. Oleg Kozmich devoted a lot of efforts and energy to the development and improvement of the Perm Pharmaceutical Institute. This small institute eventually became one of the largest pharmaceutical educational institutions in the country, the staff of teachers reached 260 people, at full-time, correspondence faculties and the faculty of specialization and improvement of pharmacists trained about 3900 students and listeners there. Two academic buildings and two dormitories were built. The training and production base was replenished with a nursery of medicinal plants, the student sports camp was created. Training of scientific and pedagogical personnel has improved, scientific production of the Institute increased [7, 8].

For merits in development of Pharmaceutical Institute and training of personnel O.K. Kozminykh was awarded Order of the Labor Red Banner, medals "For valiant work" and "Veteran of labour", memorable signs "For excellent progress in work of the Higher School", "Excellent health care organizer" and other awards. For many years of fruitful scientific and pedagogical activity and in connection with the 60th anniversary of his birth O.K. Kozminykh was awarded a diploma of the Presidium of the Supreme Soviet of the RSFSR. Oleg Kozmich was also repeatedly awarded by diplomas of the Perm Regional Committee of the CPSU and the Re-

gional Executive Committee, the Regional Committee of the Komsomol, the city Committee of the CPSU, the Central and regional committees of the Trade Union of medical workers, the Central and regional board of the society "Knowledge" of the RSFSR, the Russian Republican Council of the "Burevestnik" community. O.K. Kozminykh made presentations at scientific and methodological symposia, participated in the all-Union and national conferences and meetings as well. From 1983 to 1987 O.K. Kozminykh worked as a professor at the Department of Inorganic Chemistry at the Perm Pharmaceutical Institute.

For years at the Perm Pharmaceutical Institute Oleg Kozmich Kozminykh successfully carried out research work in the field of catalytic synthesis of quinoline and benzoquinoline derivatives, he studied the properties of liquid-phase catalysts based on vanadium and molybdenum oxides, supervised graduate students, advised applicants on candidate dissertations, participated in the preparation of candidates of sciences of sciences, advised applicants on PhD theses, participated in the training of Candidates of Sciences [5, 9, 10–12]. O.K. Kozminykh is the author of more than 70 scientific, educational and popular scientific works, including six author's certificates for inventions of the USSR. The inventions, which are authored by O.K. Kozminykh, are related to new technologically significant methods of obtaining of formaldehyde, acetaldehyde, and devoted to the results of the development of methods for preventing steel flooding, the creation of catalysts for oxidation reactions for chemical and technological purposes [11, 12].

A detailed review of the scientific work of Oleg Kozmich Kozminykh in May 1972 gave academician N.S. Kozlov, who had become the Director of the Research Institute of Physical Organic Chemistry of the Academy of Sciences of the Belarusian SSR by that time. He, in particular, wrote: "...the theme of a number of works by O.K. Kozminykh is the study of the conditions and mechanism of reaction of catalytic condensation of acetylene with Schiff's bases, obtaining reaction products as new compounds of a number of 2-phenylquinoline and 2-phenyl-5,6-benzoquinoline series, and the study of their properties."

According to the memoirs of professor Vladimir Georgievich Belikov (worked as the rector of the Pyatigorsk Pharmaceutical Institute, later named as Pyatigorsk Pharmaceutical Academy in 1965–1996; the article [13] is devoted to his memory): "...Kozminykh Oleg Kozmich, the rector of the Perm Pharmaceutical Institute, participated in the Great Patriotic War for many years, graduated from the same Institute. There he took post-graduate courses, defended his thesis, worked in various teaching positions, and from 1962 to 1983 was the rector. Despite being very busy with administrative activities, he was successfully engaged in research work on the study of physical and chemical properties of liquid-phase catalysts. In 1973 he was awarded a scientific



title of Professor. Oleg Kozmich was actively engaged in social activities. He was awarded Order of the Red Star and Order of the Red Banner of Labor, five medals, and a number of other awards of the Ministry of Health of the RSFSR. Many times I have been in Perm at the meetings and as a reviewer, visited the Kozminykh's, their family house. Oleg Kozmich was very friendly to me. He is a true Permian, who loves his small country homeland. He showed me a lot of historical places. I was particularly impressed by the Kungur cave, located about 100 km from Perm, with underwater lakes and various labyrinths. Many other interesting places in Perm have been also shown to us, and wherever we have been, including the house of teachers, we were greeted by true hospitality, friendliness, goodwill. Oleg Kozmich is a very kind person, and none of my requests to him (and also to me) remained unanswered. Reviews of articles and dissertations, all these in the most benevolent form, not excluding critical remarks, were performed in the shortest possible time ...” [14].

Since the end of the 70-s O.K. Kozminykh devoted considerable time to writing and publishing educational and methodical collections and manuals for the study of the inorganic chemistry course for students of the Perm Pharmaceutical Institute. By 1986, 13 methodological elaborations comprising more than 600 pages had been prepared and published.

Oleg Kozmich carried out active public work. He

was elected the Deputy of the Perm City Council of People's Deputies (1973–1977) more than once, for twenty years he was a member of the Leninsky District Committee of the Communist party of Perm (1963–1983). O.K. Kozminykh took an active part in the work of the regional Committee of Trade Unions of Medical Workers (he was a member of this regional Committee in 1964). He was a member of the editorial Board of the Journal “Pharmacy”, the Central Office of the all-Union Scientific Society of Pharmacists of the USSR, a member of the Methodical Commission on Higher Education of the Ministry of Health of the USSR.

In 1987 O.K. Kozminykh got retired. There are personal memories of Oleg Kozmich about the pedigree of his family since 1794 (he kept records since the pre-war years), which are collected by us for a separate edition. After a serious and long illness on March 29th, 2003 at the age of 83, Oleg Kozmich passed away. The bright memory of Oleg Kozmich Kozminykh has been preserved by many former students, teachers and employees, military and civilian people, relatives and friends. Even during his lifetime he was devoted to separate sections in books [1, 2] and articles [15, 16]. In memory of Oleg Kozmich Kozminykh, an obituary was published in the “Chemical and Pharmaceutical Journal” [17]. The details about this also appeared in his works [18, 19]. The full list of publications by O.K. Kozminykh was presented earlier in the memorable article [20].

## REFERENCES

1. Uchyonye Permskoj gosudarstvennoj farmacevticheskoy akademii. Biograficheskij spravochnik [Scientists of the Perm State Pharmaceutical Academy. Biographical Reference Book]. Perm: Publishing House «Typography «Book», 1997: 72. Russian.
2. 40 let Permskomu gosudarstvennomu pedagogicheskomu institutu [40 years of the Perm State Pedagogical Institute]. Ed. Chumakov SYa, Pavlyuchenkov VS. Perm: PPI. 1961: 110. Russian.
3. Serganina VA, Yurashevich NI, Gusak KN, Kacherovskaya FB. Bibliograficheskij ukazatel' nauchnyh trudov akademika AN BSSR NS Kozlova (k 80-letiyu so dnya rozhdeniya [Biobibliographic index of scientific works of academician of the Academy of Sciences of BSSR NS Kozlov (to the 80th anniversary of his birth)]. Academy of Sciences of the Byelorussian SSR, the Institute of Physical Organic Chemistry. Minsk: «Science and Technology» Publ. 1987:105. Russian.
4. Kozminykh OK. Kataliticheskij sintez nitro-, amino- i sul'famidoproizvodnyh 2-fenilhinolina i 2-fenil-5,6-benzohinolina. [Catalytic synthesis of nitro-, amino- and sulfamido derivatives of 2-phenylquinoline and 2-phenyl-5,6-benzoquinoline]. Dissertation Candidate of Chemical Sciences (organic chemistry). Molotov. 1957: 232. Russian.
5. Kozminykh OK, Chumakov SYa, Shur IA. [Catalytic condensation of Schiff bases with ketones of fat series]. Catalytic transformations of organic compounds. Scientific notes. Perm Pedagogical Institute. 1965;32: 44-9. Russian.
6. Kozlov NS. 5,6-Benzohinoliny [5,6-Benzoquinolines]. Minsk: «Science and Technology» Publ. 1970: 136. Russian.
7. Kozminykh OK, Zalesov VS, Sofronova IP. K 50-letiyu vysshego farmacevticheskogo obrazovaniya na Urale [To the 50th anniversary of the higher pharmaceutical education at the Urals]. Pharmatsiya. 1969; 5:5-9. Russian.
8. Yakovleva LF, Kozminykh OK. [The higher pharmaceutical education at the Urals]. Pharmatsiya. 1979; 1:45-8. Russian.
9. Kozminykh OK, Makarevich NA, Ketov AN. Issledovanie okisleniya etilovogo spirta v rasplave  $KVO_3 - V_2O_5$  [The investigation for oxidation of ethanol in  $KVO_3 - V_2O_5$  melt] Izvestiya vysshikh uchebnykh zavedenij. Khimiya i khimicheskaya tekhnologiya. 1973;16(5):723-5. Russian.
10. Makarevich NA. Issledovanie svojstv rasplava  $KVO_3 - V_2O_5$  i okisleniya v nyom alifaticeskikh spirtov [Investigation of the properties of the  $KVO_3 - V_2O_5$  melt and oxidation of aliphatic alcohols by it]. Abstracts of the Dissertation of Candidate of Chemical Science (inorganic chemistry). The Perm State Polytechnical Institute. Perm. 1974: 22. Russian.

11. Kozminykh OK, Makarevich NA, Ketov AN, Kostin LP, Burnyshev VS. Sposob polucheniya acetal'degida [Method for the synthesis of acetaldehyde]. USSR Patent No. 352874, applied on 22.06.1970, published on 30.10.1972. Byulleten Izobretenij. 1972; 29. Russian.
12. Kozminykh OK, Kosheleva MV, Dolbilkina EV, Ketov AN, Kostin LP, Makarevich NA, Kozlov NS. Sposob polucheniya formal'degida. [Method for the synthesis of formaldehyde]. USSR Patent No. 413139, applied on 3.04.1972, published on 1.07.1974. Byulleten Izobretenij. 1974; 4. Russian.
13. Borovsky BV, Larsky MV, Frolova OO. To the 90th anniversary of birthday of professor V.G. Belikov. Pharmacy & Pharmacology. 2015;3(5(12)):73-9. DOI: 10.19163/2307-9266-2015-3-5(12)-73-79. Russian.
14. Belikov VG. Vospominaniya o vydayushchihsya lyudyah, ostavivshih glubokij sled v moej zhizni. [Memories about outstanding people who left a deep mark in my life]. Memoirs. Pyatigorsk. 2011: 110. Russian.
15. Oleg Kozmich Kozminykh. Pharmatsiya. 1979; 4: 76-7. Russian.
16. Sboeva SG., Loskutova EE, Lagutkina TP. [A chronicle of the Russian pharmacy. XX century]. All-Russian scientific society of pharmacists. Moscow: «Chemistry and Business» Publ. 2000: 304. Russian.
17. To the Memory of O.K. Koz'minykh (1919 – 2003). Pharmaceutical Chemistry Journal. 2003; 37(7): 395.
18. Biograficheskij slovar'. Professora i prepodavateli Permskogo gosudarstvennogo pedagogicheskogo universiteta (1921–2003) [Biographical Dictionary. Professors and lecturers of the Perm State Pedagogical University (1921–2003)]. Ed. Prof IS Kapzugovich. Perm: «Knizhnyi Mir» Publ. 2003: 471.
19. Uchyonye Permskoj gosudarstvennoj farmacevticheskoy akademii. Biograficheskij spravochnik [Scientists of the Perm State Pharmaceutical Academy. Biographical Dictionary]. Perm: PPA Publ. 2007: 101.
20. Kozminykh VO. Koz'minyh Oleg Koz'mich – pedagog i uchyonyj (k 95-letiyu so dnya rozhdeniya) [Kozminykh Oleg Kozmich as the teacher and scientist (to the 95th anniversary of his birth)]. Izvestiya vysshikh uchebnykh zavedenij. Povolzhskij Region. Estestvennye Nauki. Penza: Penza State University. 2014; 4(8): 133-55.

## AUTHORS

**Vladislav O. Kozminykh** – Doctor of Chemical Sciences (organic chemistry), Professor of the Natural Science Faculty of the Perm State Humanitarian Pedagogical University. E-mail: kvoncstu@yahoo.com, kvoncstu@mail.ru

**Elena N. Kozminykh** – Candidate of Chemical Sciences (organic chemistry), Doctor of Pharmaceutical Sciences (pharmaceutical chemistry), Professor of the Natural Science Faculty of the Perm State Humanitarian Pedagogical University. E-mail: lena.kozminih@yandex.ru