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Remembering the Scientific Alma Mater



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ABSTRACT

The article of the graduate of the MIIT University, now bearing the name of Russian University of Transport is dedicated to many generations of Kazakhstanis, who graduated from the University,

their professional achievements, and to contemporary forms of cooperation contributing to the development of new generations of transport employees of Russia and Kazakhstan.

Keywords: *MIIT University, transport history, transport education, Russian University of Transport.*

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The President of Russian University of Transport, Doctor of Science in engineering, Professor Boris Alekseevich Lyovin passed away on June 30, 2023. Telling my colleagues about the trip to Moscow and participation in the mourning events of farewell to Boris A. Lyovin, I realised that despite the sorrowfulness of the event, MIIT graduates keep in their souls the brightest memories of the days spent at the institute. The short but familiar and meaningful to all graduates abbreviation MIIT¹ makes the hearts of many thousands of its alumni in more than 70 countries around the world beat faster. Over the years, the name of the institute has changed several times, but for us, graduates, it will forever remain known as MIIT!

Boris A. Lyovin, after graduating from MIIT in 1973, went a path from a student to the rector of his Alma mater, and here took place his formation as a of a scientist: from a Ph.D. student to a D.Sc., professor. Until the last days of his life, being the president of Russian University of Transport (the current name of the university), despite a serious illness, he continued to contribute to university's development, which allowed the educational institution to take leadership positions in transport education and science not only in Russia, but also at the international level.

Using the example of MIIT graduates from Kazakhstan, in this article I would like to tell how national scientific specialists were trained as part of the training of engineering personnel for the Union republics during the Soviet period. Ph.D. school and doctorate at MIIT, subsequently transformed, with the direct participation of Professor B. A. Lyovin, into the Industry's Centre for Training of Scientific and Pedagogical Personnel, provided targeted training of highly qualified scientific personnel for all universities and research institutes of railway transport of the Soviet Union and in so called socialist-oriented countries. This work was continued in the post-Soviet period.

The University, having become an active participant in federal priority projects in the field of education and science, continues to be the coordinator of scientific, educational and methodological activities of transport universities and scientific organisations of the CIS.

¹ Abbreviation is derived from Russian spelling of Moscow Institute of Transport Engineers and has been unchanged for many years regardless of the official full name of the institute and then university. – Ed. note.

During the Soviet period, several thousand students from Kazakhstan studied at MIIT in different years, who then formed the backbone of the engineering, technical and economic departments, divisions and services of the Turkestan-Siberian, Karaganda, Kazakh, and subsequently Alma-Ata, West Kazakhstan and Tselinnaya railways. Only in 1965, more than a hundred students from Kazakhstan studied at MIIT in different faculties and courses, part of these students of 55 people on the group vignette is presented in Photo 1. Behind each person in this photo, you can see smart, purposeful, handsome 20–25-year-old boys and girls who have a whole life ahead of them, full of trials and errors, successes and failures... But in the eyes of everyone there shines intelligence and a desire to benefit society! Among them are future engineers, plant directors, heads of stations, depots, track maintenance sections, heads of railway departments, heads of various railway divisions, researchers, associate professors and professors of institutes. I hope that this group photograph will find its place and a worthy description in the museums of MIIT and the Kazakhstan Railway.

After the collapse of the Soviet Union, the national railway company Kazakhstan Temir Zholy JSC, the successor to three railways of Kazakhstan, the successor to three railways of Kazakhstan, continued training engineering and scientific personnel at MIIT.

Graduates of MIIT, employees at different railway departments, be it locomotive, wagon, track, traffic control, freight, power supply, bridge, communications, signalling, economic departments and facilities employees, have always differed from other graduates of transport universities in their deep theoretical and engineering knowledge conjugated with practical



Photo 1 [provided by the author].



operational and technical skills acquired as a student during educational and industrial internships. MIIT graduates of 1930–1960 include such chief executive officers, executives, managers as:

Radoman, Iosif Antonovich (1934 – hereinafter the year of graduation is indicated in parentheses), head of the track division of the Turkestan-Siberian railway in 1945–1949;

Manasov, Tolegen Mustafeyevich (1936), deputy head of the Turkestan-Siberian railway in 1938–1943;

Bostanov, Abdulkерim Suleymanovich (1938), head of the wagon division of the Kazakh railway in 1969–1976;

Moroz, Vladimir Ivanovich (1940), head of the logistics division of the Kazakh railway. in 1958–1969;

Timofeev, Petr Timofeyevich (1946), head of the Ural branch of the Orenburg railway in 1946–1955;

Bikbulatova, Nurezigan Mirgalievna (1946), deputy head of the planning and economic division of the Kazakh railway in 1963–1977;

Pushkov, Trofim Timofeyevich (graduation year unknown), head of the Karaganda branch of the railway in 1951–1957;

Shamshina (Kobzhassarova), Faina Vasilievna (1948), director of the Aktobe branch of Alma-Ata institute of railway transport engineers (AIIT) in 1977–1980;

Charykov, Vladimir Timofeyevich (1949), head of the labour, wages and safety division of the Kazakh railway in 1963–1975;

Rubinshteyn, Bertran Iosifovich (entered MIIT in 1940, in 1941, interrupting his studies, went to the front, after the war he graduated from the institute in 1950), from 1960 to 1993 he worked as the head of the Kustanai branch of the railway;

Kulenova, Fatima Kulenovna (graduation year unknown), head of the passenger division of the Kazakh railway in 1958–1971;

Bektasov, Shakhman Abdrakhmanovich (1950), director of the Alma-Ata Low-Voltage Equipment Plant in 1966–1988;

Stepanov, Sergey Dmitriyevich (graduation year unknown), head of the Pavlodar branch of the railway in 1954–1958;

Rodionov, Robert Alekseyevich (1951), deputy head of the locomotive division of the Kazakh railway in 1958–1965;

M u k h a m e d g a l i e v , L u k p a n Mukhamedgalievich (1953), deputy head of the

traffic control division of the Kazakh railway in 1971–1975;

Prmanov, Baizak Prmanovich (1953), head of the Kurort-Borovsky (1948–1950) and Atbasar (1953–1958) branches of the railway;

Khasenov, Satybay Khasenovich (1953), head of the Zhan-Arkinsky branch of the railway in 1948–1958;

Zhakishev, Temirgali Zhakishevich (1954), head of the cargo division of the Tselinnaya railway in 1977–1992;

Dolgoplov, Konstantin Konstantinovich (1955), head of the Tselinograd contract division in 1966–1972;

Iskakov, Gafut Nurlykhanovich (1955), head of the labour, wages and safety division of the Tselinnaya railway in 1977–1987;

Shiryaev, Anatoly Ivanovich (1961), deputy head of the Alma-Ata railway in 1987–1992;

Dzhumabaev, Serik Shagirovich (1962), chief engineer of the electrification and energy division of the Alma-Ata railway in 1971–1977.

This is far from a complete list of graduates from Kazakhstan who studied at MIIT in the 30–60s of the last century. Through the lines of this article, we appeal to the children and grandchildren of MIIT graduates with a request to provide the author or to mail to the editors information about their fathers and grandfathers, about their work and scientific activities.

About each of these railway employees, it is possible to write a separate article or even a book about the selfless work that laid the foundation for formation and development of the railway industry in Kazakhstan. First, the engineering skills of these people are based on the knowledge acquired at MIIT, organisational skills were developed during practical training and internships, work in Komsomol organisations, student construction teams and, of course, due to the close-knit student friendship in these half-starved times!

As an example, we can cite the history of student friendship established at MIIT in the post-war years between Shakhman Abdrakhmanovich Bektasov, former director of the Alma-Ata Low-Voltage Equipment Plant, and D.Sc. (Eng), MIIT Professor Vladimir Nikolaevich Pupynin, former head of the Department of Railway Energy Supply. They studied in the same group at MEIIT² from 1945

² Moscow Operational Institute of Transport Engineers intended to train engineers responsible for rail operations. – Ed. note.

to 1950, were assigned to different stations, but always kept in touch with each other and consulted on innovations in the electric power industry. Evidence of such relationships, established during wonderful student times, is a photograph (Photo 2) shot at the May Day demonstration in 1947 near Red Square (friends standing next to each other). They maintained close relations for more than half a century. Moreover, when choosing a profession for his nephew, Shakhman Agha insisted that he choose the specialty of electrician. We are talking about Bektasov's own nephew, Marat Sharipovich Shmanov, who entered MIIT's Faculty of Railway Electrification in 1961, graduated with honours in 1966 and was one of the first mechanical engineers of the electric locomotive industry in Kazakhstan. Marat Shmanov is one of those modest engineers who were not awarded state awards, but who stood at the origins of the electrification of the railways of Kazakhstan. Hundreds of such examples of student friendship and subsequent professional communication can be cited by graduates of our institute.

In subsequent years of dynamic development of the railways of Kazakhstan, graduates of MIIT of 1960–1990 made their engineering contribution to its development: Marat Sharipovich Shmanov, Karazhan Embergenovich Aydarkulov, Orman Kalymzhanovich Shudanov, Bolatbek Asimovich Moldasaliyev, Umbet Ayapov, Mynuar Kalmurzaev, Kambar Koruspayev, Kuanysh Rakhimovich Bazilov, Bolatbek Bekeuovich Dyusemaliev, Mukan Primbetov, Minuar Tursynbekovich Kalmurzaev, Kabdolda Bekzhanov, Marat Rakhimberlovich Dzhumabaev, Toyken Musaevich Kangereyev, Bekbolat Dosaev, Malik Myrzagalievich Kuderbekov, Nurlan Iskenderovich Altaev, Dyusenbay Tokimovich Almusin, Murat Utepbergenovich Zharilkaganov, Meiramaly Nuskenovich Uzenbaev, Anuarbek Sarsenovich Sagatov, Nurzhan Talipovich Baydauletov, Karlygash Sadykovna Shokanova, Lenat Nikolaevich Rakhmatullin, Kaipbek Akhmetov, Sagyndyk Gabdel-Nagimovich Gabdsattarov, Duisenbek Abdrambaevich Amanbaev, Tilek Gabdel-Nagimovich Gabdsattarov, Alizhan Tokbanovich Zakarin, Almasbek Yesenalievich Uikasbaev, Sansyzbai Seitanov, Kozhakhmet Nalibaev, Ukilya Gabdel-Nagimovna Gabdsattarova, Khalzhan Tashpolatovich Omarov, Serik Izmuhanovich Baytaev, Batyr Kuanyshevich Kotyrev, Erzhan Temirgalievich



Photo 2 [provided by the author].

Zhakishev, Alexander Hon, Zubaida Abdrasilovna Aspaeva, Sania Amanchina, Madina Gabdel-Nagimovna Gabdsattarova, Kabak Karazhanovich Aydarkulov, Zhanat Seyfulovich Ibraimbaev, Tyulbas Minuarovich Kalmurzaev, Turarbek Kurishbekovich Artykbaev, Mukhambet Anuarbekovich Sabetov, Shyngys Maratovich Daribaev, Asankhan Utenov, and many, many other engineers.

All these graduates rightfully called MIIT their Alma mater, who gave them a professional start. When alumni met, they remembered with trepidation and pride the rectors of the institute, Fyodor Petrovich Kochnev, Ivan Vasilyevich Belov, Vladimir Grigorievich Inozemtsev, Boris Alekseevich Lyovin, memorable especially demanding teachers, heads of MIIT departments.

I would like to mention some other MIIT graduates.

Temirgali Zhakishevich Zhakishev graduated from the faculty of «Operation of Railways» in 1954, worked on the Tselinnaya railway as a head of the cargo division, his son Erzhan Zhakishev graduated from the same faculty in 1994, took over from his father at the Tselinnaya railway, and then at the national company Kazakhstan Temir Zholy. Erzhan Zhakishev's son Meras, now a fifth-year student at the Institute of Management and Digital Technologies, is currently on operational practice and plans to continue the Zhakishevs' labour dynasty at the railway in 2024. The grandson of Temirgali Agha, son of his daughter, Aidar Kadyrov graduated from MIIT in 2018, and now works in Moscow at JSC United Transport and Logistics Company – Eurasian Railway Alliance (UTLC ERA).

Karazhan Embergenovich Aydarkulov, a graduate of the Faculty of Engineering and Economics of MIIT in 1966, worked for a long time in the locomotive depots of the stations



Emba, Chelkar, at the West Kazakhstan Railway headquarters, his son Kabak Karazhanovich Aydarkulov graduated from MIIT in 1991 with a specialty, which is rare in Kazakhstan, «Locomotive Machine Engineering», and now also works on the railway.

Minuar Tursynbekovich Kalmurzaev, a graduate of the operational department of MIIT in 1966, worked for a long time at management positions at the Kazakh and Alma-Ata railways, then as the First Deputy Head of the Alma-Ata branch of the railway. His son Tulbas Kalmurzaev graduated from MIIT in 1991, worked in the system of JSC NC Kazakhstan Temir Zholy, his son Samir Kalmurzaev and daughter-in-law Diana Kalmurzaeva graduated from MIIT in 2015, his second son Minuar in 2020, Kalmurzaev's nephews Beknur and Rustem Kalmurzaev – in 2019 and 2020, respectively.

Nurzhan Talipovich Baydauletov, a graduate of MIIT in 1986, began his career in 1986 as a yardmaster, station duty officer at the Ekibastuz station of the Tselinnaya railway. Over the years, he held the positions of head of the Pavlodar branch of the railway, head of the Akmola railway, director of the Railway transport department of the Ministry of Transport and Communications of the Republic of Kazakhstan, Vice-Minister of Transport and Communications of the Republic of Kazakhstan, Chairman of the Board of Directors of JSC NC Kazakhstan Temir Zholy. He met his wife, Karlygash Sadykovna Shokanova, also a MIIT graduate, and started a family during their years of studying together at the institute.

From only one family, that of the director of the railway school Gabdel-Nagim Gabdsattarov and the teacher Tursyn Gabdsattarova from the Shubar-Kuduk station in the Aktobe region, which is rather far from Moscow, four of their children entered and graduated from MIIT in three engineering specialties: Sagyndyk Gabdsattarov (1987), Tilek Gabdsattarov (1989), Uakil Gabdsattarova (1992) and Madina Gabdsattarova (1994).

After 2000, Ainur Kuanysheva, Aizhan Bakaeva, Bauyrzhan Kazimbetov, Olzhas Akhmetov, Ardak Kazimbetov, Gulbanu Abdikerimova, Beket Akpan, Nurgul Kuanysheva, Gaukhar Bakaeva, Samir Kalmurzaev, Dina Kalmurzaeva, Aidar Kadyrov, Salima Kadyrova, Alexey Chernay, Aitpay Salikov, Birzhan Mukaev, Erbol Mukaev, Rauan Igembayev, Ilya Nekhodtsev, Erlan Ayupov, Almas

Tleukhanov, Dmitry Manuilov, Nurlan Maldynov, Zhylkaidar Zhumanov, Nursultan Bektas, Meirbek Bayjanov, Damir Khamitov, Adil Smagulov, Beknur Kalmurzaev, Zhumagul Kudiyarova, Arsen Turgumbayev, Rustem Kalmurzaev, Ruslan Guseinov, Olzhas Zhunisbek, and others entered the list of MIIT graduates.

The new generation of railway engineers from MIIT continues the work and traditions of the older generation in development of transport and logistics potential and establishment of transport engineering in the independent state. Many of them successfully work in joint ventures in Kazakhstan with participation of such large foreign companies as General Electric, Alstom, Siemens, Wabtec, Talgo, China Cosco Chipping, UTLC ERA, etc.

Professional scientists believe that Alma mater is not only the institute where they studied, but also the one where they began and developed their scientific activities. MIIT was and is to this day a forge of scientific and pedagogical personnel, therefore scientific specialists who have completed postgraduate and doctoral studies and defended candidate and doctoral dissertations in scientific councils also consider the university to be their Alma mater. Many graduates of the institute, after receiving engineering diplomas and having worked in the industry, then entered graduate school at MIIT to develop their scientific qualifications.

During the Soviet period, all research, design and survey activities on the railways in Kazakhstan were carried out under the supervision or with participation of all-Union research institutes. On three Kazakhstan's railways, engineering and research work was carried out by employees of railway design institutes and design bureaus. More significant projects, for example, organisation of operation of heavy trains on the Ekibastuz–Tselinograd section in 1985–87, were carried out under the leadership of scientists from Moscow. A group of scientists from VNIIZhT and MIIT under the leadership of the rector of MIIT, D.Sc. (Eng), Professor V. G. Inozemtsev developed the control system, traction, and braking processes in these trains and participated in the first trip of a super-heavy train weighing 43 thousand tons (6,5 km long) on February 19, 1986, from the station Ekibastuz. These scientific experiments and communication between scientists during the testing process encouraged local engineering

personnel to develop their own scientific potential. The former head of the Tselinnaya railway Nigmatzhan Kabataevich Isingarín, who prepared and defended his dissertation as a candidate [Ph.D.] of economic sciences under the guidance of MIIT professors V. A. Dmitriev and A. D. Shishkov was the first to set such an example.

The urgent need for broad and high-quality training of highly qualified scientific personnel increased with the opening of the Alma-Ata Institute of Railway Transport Engineers (AliIT) in 1976. Increasing cargo and passenger transportation on three Kazakhstan's railways, coordination of interaction at the junctions with neighbouring railways required appropriate scientific research and development of recommendations. The training of students at the institute was to be carried out by trained scientific and pedagogical specialists with relevant academic degrees, which were sorely lacking in Kazakhstan.

Therefore, within the framework of the targeted training program and agreements between MIIT and AliIT in the 1970–1980s, the following persons from the Republic were selected, trained and defended their Ph.D. theses: Aldanysh Nurumov, Galina Shilina, Anuarbek Sabetov, Bolat Ospanov, Onlasyn Maulenov, Aigul Burambaeva, Ramazan Nurgaliev, Murat Kukeev, Vladislav Klenov, Amangeldy Malgazhdarov, Serik Khasenov, Vladimir Sokaev, Valery Igin, Sugirali Sarbaev, Bolat Kobzhasarov, Saule Bekzhanova, Sarakul Ismagulova, Satpay Kabakbaev, Elena Khristovskaya, Bolat Zhardemov, Serzhan Shudanov, Zhaksylyk Askarov, Anarkhan Kurazov and the author of these lines.

It is noteworthy that from the Aktobe branch of AliIT alone, more than 12 people studied at MIIT graduate school in the period from 1982 to 1992, and this was thanks to the efforts of the director of the branch, a graduate of MIIT graduate school in 1980, Anuarbek Sabetovich Sabetov.

In the period from 1995 through 2000 at MIIT, after full-time doctoral studies, Kazakhstanis defended four doctoral dissertations (B. M. Kuanyshev, B. B. Zhardemov, A. K. Omarbekov, V. N. Igin) in different councils empowered to accept dissertations. The dissertations examined various topical scientific problems of the railway industry of Kazakhstan, ranging from studies of modelling the process of

failures and restoration of rolling stock equipment in real operating conditions, factor planning to determine the norms and boundaries of fuel consumption regulation based on stochastic optimisation of nominal fuel consumption for traction of trains to analysis of conditions of railway stations and nodes for stability of processes of self-organisation and management in the structure of developing railway stations and nodes.

Separately, it is necessary to talk about graduates who graduated from MIIT, worked on the railway, then returned to Alma mater to obtain scientific qualifications. We are talking about D.Sc. (Economics), Professor Aldanysh Arystangalievich Nurumov, graduate of the Faculty of Engineering and Economics (1965), graduate school (1973); Ph.D., Associate Professor Serzhan Ormanovich Shudanov, graduate of the Faculty of Civil Engineering (1994), graduate school (1997). Serzhan's father, Orman Kalymzhanovich, also graduated from MIIT in 1969, and worked his way up in the track division from a foreman, a master to the head of the track section of the station Chelkar of the West Kazakhstan Railway and worked as the head of the track section for 28 years before retiring. For his work on the railway, he was awarded the Order of the Red Banner of Labour, the Badge of Honor, a few medals, and the «Honorary Railwayman» badge. It is very remarkable that the son continued the galaxy of MIIT students at a new level.

MIIT had such a wonderful aura that young people met there, became friends, fell in love and started families. So, Vladimir Tembulatovich Sokaev and Larisa Mikhailovna Jumok from Irkutsk, who came to graduate school from Aktyubinsk, got married, defended their theses and went on assignment, having received the blessing of the head of graduate school B. A. Lyovin, to the Aktobe branch of AliIT.

I, who underwent a scientific internship, studied in full-time graduate school and attended doctoral studies, and worked at MIIT in the period from 1986 to 1998, also remember the names of my mentors, who gave me a start in science and determined the direction of scientific activity. This is D.Sc. (Eng), Professor Igor Petrovich Isaev, head of the Department of Electric Traction, D.Sc. (Eng), Professor of the same department Anatoly Vladimirovich Gorsky, his student, D.Sc. (Eng), Professor Alexander Alekseevich Vorobiev. I defended my doctoral



dissertation in the new dissertation council 08.00.28 dedicated to «Organization of production (technical sciences)», organised in 1998 under the chairmanship of Boris A. Lyovin. On the part of the MIIT scientific community, I was given great confidence to be the first to present scientific work to this council.

Naturally, my daughters also studied at MIIT: Ainur Kuanysheva graduated from the operational department, Aigul Kuanysheva graduated from the MIIT gymnasium and entered the Faculty of Engineering and Economics. My wife, Zhanyl Kuanysheva, during the period of my studies and work at MIIT, worked at the teaching staff division of MIIT human resources department.

Three young people from Kazakhstan (Aigul Kuanysheva, Nurgul Kuanysheva, Beket Akpan) in 2008 entered the MIIT school-gymnasium organised in 2003 (director Galina Ivanovna Loginova), based on the results of final gymnasium exams they entered MIIT. Subsequently, two of them graduated with honours from the institute and work in the railway industry.

Separately, I would like to write about cooperation in the post-Soviet period between MIIT and the Kazakh Academy of Transport and Communications (KazATK) in training of scientific and pedagogical personnel. In accordance with the agreement on scientific cooperation between two educational institutions, in the period 2006–2019, more than 50 people studied full-time graduate and master's programs at MIIT. Only in 2006–2010, 17 people from KazATK arrived at MIIT for full-time graduate studies, of which 14 graduate students successfully defended their theses on time. The painstaking work of training, carrying out scientific work with the completion of dissertation research took place thanks to the control and tireless support of Kazakh graduate students personally from the rector of MIIT, Professor B. A. Lyovin and the heads of specialised departments.

The topics of dissertation research touched upon the state of reliability analysis, train traffic

safety, optimal operation of the track and rolling stock, automation devices, signalling systems, signalling and communications, taking into account the digitalisation of the industry, and many other scientific issues using the example of technical devices and facilities of railway enterprises in Kazakhstan.

To expand cooperation, in 2015, within the framework of international academic mobility, an agreement on double-degree training of master's students was signed between two universities. Senior students of KazATK, who studied according to mutually agreed upon curricula in Almaty, after studying during a semester in Moscow and defending master's theses at the relevant specialised departments, obtained MIIT diplomas. Unfortunately, close ties between two universities were reduced due to privatisation of KazATK. I hope that the industry's need for qualified personnel will require continuation of this cooperation.

In Kazakhstan, there is a large category of people who, having received professional scientific and technical knowledge and education at MIIT, have become competent engineers and scientists, and continue to work for the benefit of the industry. This basic knowledge allowed many of them to achieve professional and career growth. The high title of a MIIT graduate imposes enormous responsibility on everyone when performing professional duties and gives them pride when achieving results. In the soul of each of them there is a glowing light, lit in Alma mater, which is carefully stored in memory and passed on to the next generation of Kazakhstani railwaymen.

On behalf of all generations of MIIT graduates from Kazakhstan, I express my deep gratitude to our living mentors from MIIT, let us remember the teachers who have passed away. The bright memory of them lives in the hearts and memories of tens of thousands of their students from Kazakhstan.

We wish the current generation of managers, teaching staff, employees, and students of our Alma mater success and prosperity in educating a new generation of MIIT students! ●

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