

FROM THE FAMOUS PAST THROUGH THE PRESENT IN THE PROGRESSIVE FUTURE ...

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The National Technical University «Kharkov Polytechnic Institute» has dated back since its birth in 1885. Then it had another name - Kharkov Technological Institute.



Kharkov Technological Institute, 1887

It was the second educational institution of a similar scale in imperial Russia. The Technological Institute existed only in St.-Petersburg before this time. Kharkov was one of the major trade and industrial centres of Russia. The rough development of industry both in Kharkov and in other regions of the South of Russia, the presence of a railway communication with the main industrial centres of the country - all these things made our city the most acceptable for discovering the largest higher educational establishment in it – the Technological Institute.

In the autumn of 1885 the Institute was officially opened, the first students - 125 men appeared, regular studies began. The director was assigned. It was Professor of the St.-Petersburg Technological Institute, a great scientist in the field of mechanics and the strength of materials, the outstanding figure of Russian higher engineering school Victor Lvovich Kirpichev. The designing of Institute buildings and the guiding of construction was entrusted to the metropolitan academician of architecture R.R. Henrixen.

R.R. Henrixen was one of the pioneers in the '70s of the XIX century who was developing a new "rational" direction in architecture – the so-called «Brick style». The buildings of the Kharkov

Technology Institute are the earliest models of the construction in this style.

This style which arose as an original antithesis to academicism and classicism in architecture, carried in itself the features of democratism and healthy pragmatism. Not neglecting only the aesthetic functions of products of architecture, the supporters «of the Brick style» considered building material as indicative tools, its invoice, color, shape. Such material in this case was a brick.

«The Brick style» has appeared extremely convenient for the construction of educational and industrial complexes, where the main attention was given to the functionality of buildings. Therefore using this architectural style allowed the supplement of the first educational complexes by new



The destroyed building of the Technological Institute, 1945

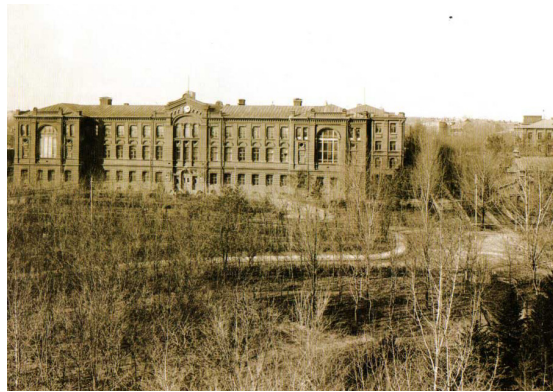
buildings sustained in the same style and organically inscribed in usual architectural medium. Many outstanding architects of that time had a hand in development and creation of new buildings of the Institute. Kharkov genius of architecture A.N. Beketov brought his contribution to construction of this Institute. Under his project in 1930 new educational complex was raised - as the new creation of modernity which completely answered the spirit of time. This pretty one of architecture was destroyed during the Great Patriotic War (1941-1945 years), and it should be recovered as well as many other houses, hospitals, schools all over Kharkov.

However today Kharkov Polytechnic Institute is saving its unique style in architecture, its uniformity and individuality: old buildings are in harmony and are cosily adjoined to the new modern ones. And they do not lose anything from such neighbourhood at all. The charm of these buildings is imperishable and mysterious, they prolong to live together with the students. As if there is a special breath in them. As if their walls were absorbing the expectations of many and many generations, radiating an energy and light, whose nature is not known for us, but which enriches us.

If the architects were creating unique appearance of a student's hostel, then the guiding of the Institute and the scientists of the Technological Institute headed by its first rector V.L. Kirpichev gave a lot of attentions to good ensuring an educational process and advancement of science within the walls of institute. By V.L. Kirpichev's diligence the Institute was completed with the qualified teachers, who were capable to solve actual problems of science and engineering, to join creative abilities to creative activity. He considered that «a motive power of higher educational establishment are the talents and knowledge of its professors». The names of the outstanding scientists, such as N.N. Beketov, A.M. Lyapunov, V.A. Steklov, V.A. Hemilian and others are thrown with an activity of the Institute in the first years.

Biography of our Institute can be briefly noted as:

- 1885-1933 years - Kharkov Technological Institute;
- 1933-1950 years - the Institute has three directions: Kharkov Chemical and Technological Institute, Kharkov Mechanical and Machine-Building Institute, Kharkov Electrical and Technical Institute;
- 1950-1999 years - Kharkov Polytechnic Institute;
- 1999-2000 years - Kharkov State Polytechnic University;
- 2000 year - National Technical University «Kharkov Polytechnic Institute» (NTU "KhPI").



The front view of the Main Building, 1906

It is not obviously possible to term the complete list of all names of scientists, due to which NTU "KhPI" has become famous. There are only some of them: V.S. Knabbe, L.D. Landau, P.P. Kopnyaev, I.M. Babakov, G.F. Proskura, P.P. Budnikov, M.F. Semko, A.P. Filippov, V.L. Rvachev, A.S. Berezhoj and many others.



National Technical University "KhPI", 2006

The employees and students remember and revere memory of teachers - creators, and the confirmation of this fact is recently passing the International conference at the NTU "KhPI" «The actual problems of an applied mathematics and mechanics», dedicated to the celebration of the 80-th anniversary of Academician of the NAS of Ukraine Vladimir Logvinovich Rvachev.

V.L. Rvachev is renown Ukrainian scientist in the field of mathematics, mechanics and cybernetics; Academician of the National Academy of Sciences of Ukraine, Ukrainian State Prize Winner in Science and Technology; Honoured Worker in Science and Technology of Ukraine; Professor; Doc.Sci. (Phys.-Math.); the major organizer of scientific activities; and the founder of the world renown scientific school in the method of R-functions. He is also Honorary Doctor of the National Technical University «Kharkov Polytechnic Institute». From 1969 to 1970 he was head of an applied mathematics faculty in the Kharkov Polytechnic Institute. And then he carried out the special lectures at this faculty at the post of professor for consequent years. His name is included in many encyclopaedias not only in our country, but also in many other ones of foreign countries. The problems affected still by great Descartes in his historical time were solved by V.L. Rvachev. It is the

inverse task of an analytical geometry consisting in the build-up of the equation of geometrical plant on its delineation. Due to this using of the new theory, which was created by V.L. Rvachev as the theory of the special class of functions (which was called by the first character of their family) - by R-functions, the problem of the build-up of basis functions for areas, practically of arbitrary shape for different variants of boundary conditions, was solved. It was allowed to solve the great variety of linear and nonlinear boundary value problems of mathematical physics. The application of the R-functions theory was carried out for problem solving of geometrical projection, for the tasks of a pattern clarification and many others. The discovery of the theory of R-functions put this great scientist near to such mathematicians, known for all century, as Descartes, Lagrange, Taylor, Hermite and others.

Since 1989 V.L. Rvachev takes a great interest in a new mathematical direction, namely, the creation of non-Archimedean calculus. In this calculus the Archimedean principle, which was for-



Members of International Conference, NTU "KhPI", October 23-26, 2006

ulated for segments, is substituted by the axiom about existence of the greatest number. V.L.Rvachev obtained some very interesting outcomes after the application of non-Archimedean calculus, namely, the outcomes are obtained in the field of physics of long-distance space. Probably, the future use of this new theory is waiting for its followers.

There are more than 500 scientific papers, including 17 monographs, several Author's Certificates consisting in the scientific archive of the Academician V.L.Rvachev. He was the creator of the large scientific school including more than 70 Candidates, 20 Doctors of Sciences and 2 Corresponding Members of the NAS of Ukraine.



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nic Institute apply the theory of R-functions to the problem solving of mechanics.

V.L. Rvachev has had the highest authority not only among his pupils and colleagues, but also among known scientists in many countries of the world. He frequently performed at International conferences, he was invited to read course of the lectures under the theory of R-functions in many science centres of the former Soviet Union and in foreign countries too: Hungary, Poland, Germany, the USA and others. When he was 52, he became a real member of the Ukrainian Academy of Sciences.

National Technical University «Kharkov Polytechnic Institute» together with The Institute for Mechanical Engineering Problems NAS of Ukraine carried out the International conference «The Actual problems of an applied mathematics and mechanics» in October 23-26, 2006. More than 80 scientific reports were presented during the conference work by many scientists: from Ukraine (Kubenko V.D., Pervezchikova O.L., Dejneka V.S., Kurpa L.V.), Russia (Alexandrov V.M., Goryacheva I.G., Kravchenko V.F.), Poland (Awrejcewicz J.), Italy (Amabili M.), Germanium (Adrianov J.), Serbia (Hedrih K.), Canada (Pierre C.). The memorial board devoted to the memory of Academician V.L.Rvachev was opened under the initiative of Head of the NTU "KhPI" Tovazhnyanski L.L. in October 23, 2006.



The memorial board devoted to the memory of Academician V.L. Rvachev

The tight cooperation with the Academician V.L. Rvachev has defined a principal scientific direction of development of an applied mathematics faculty, which for the last 10 years is managed by his pupil - Professor; Doc. Sci. (Tech.) Lidija Vasilievna Kurpa. Due to her gains and V.L.Rvachev's support for 6 years, 7 post-graduate students of applied mathematics faculty successfully have protected the candidate theses, in which they used and explicated the theory of R-functions for a solution of different boundary value problems of mathematical physics. And today many post-graduate students and employees of Kharkov Polytech-

The employees of the NTU "KhPI" and pupils of V.L. Rvachev will save in their hearts the bright memory of this greatest man for ever. Due to such people, our Institute is famous for the unique history, secular traditions and modern achievements.