

Яков Овсійович Гегузін

(1918 – 1987)



«Наука обязана озарениям тех естествоиспытателей, которые, подобно поэтам и художникам, одарены талантом видеть»

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Yakov Evseevich Geguzin
Doktor of physics-mathematical sciences, professor

At the 1-st of august is 100 years from birthday of Ya.E. Geguzin – a scientist of mark, brilliant lecturer and teacher, bright popularizator of science, founder of department of crystal physics, where he create of well known scientific school in our country and abroad.

A number of new directions of investigations at the field of physics of real crystals are connected with Ya. E. Geguzin's name. He is one of founders of physics of sintering- huge sphere of fundamental and applied physics of solid bodies. At his pioneering works researched mechanisms and kinetic behavior of sintering processes in porous bodies which lead a foundation for technology of powder metallurgy. A considerable scientific contribution Ya.E. at physics of sintering was marked by international prize by Ya.I. Frenkel and by honorary diploma of international institute of sintering, where he was elected as a Honorary member. He was a member of editorial stuff of international journal "Powder metallurgy". His monograph "Physics of sintering" was two times editions at the USSR and was translated into German language.

Ya. E. Geguzin discovered and was the first one who investigated a number of physical affects and phenomenon's. They connected with:

1. Directional streams of disbalanced vacancies in metallic and ionic crystals. Results of these investigations were generalized at monographs "Macroscopic defect in crystals" and "Diffusion zone".
2. Mass transfer on surface and nearsurface layers of crystals. A number of fundamental overviews of this theme, book "Surface diffusion and spreading" under editorship of Ya.E. Geguzin and monograph "Processes of diffusion on crystal surface" (written with Yu.S. Kaganovsky) became the result of these investigations.
3. Processes forming of macroscopic inclusions in crystals and their behavior under action of external force field. Results of these investigations were generalized at monograph "Movement of macroscopic inclusions in solids" (written with M. Krivoglaz), the monograph has international acknowledgment and was published at USA.

Scientific concepts of Ya.E. Geguzin spread far from boundaries university and Kharkov and nourished a number of scientific groups not only at Ukraine but abroad. Scientific seminars devoted present-day problems of physics of real crystals furthered such spreading. These seminars on physics of sintering, radiation physics, processes of mass transfer on the surface of solids, processes in diffusion zone were very popular and collected the best specialists from many countries of the world.

Ya.E. Geguzin was excellent narrator and remarkable popularizator of science, he could narrate about complicated phenomenon so simple that literally everybody could understand. That is why his popular science books "Drop", "Why and how void disappears", "Sketches about diffusion in crystals", "Living crystal", "Bubbles" and his articles in journals

“Quant”, “Nature”, “Science and life” where famous in our country and abroad, they were published by many issues and translated into the English, German and Spain languages. Their weight and actuality are not lost up today. It is not accidentally that new popular science series “Masterpieces of natural scientific literature” based at 2014 began its publication from Ya.E. books. The series is opened by book “Drop”. Academician V.L. Ginzburg – laureate of Nobel prize - called this book “poem”. Moreover “Drop” such books already have been reissued: “Living crystal”, “Bubbles” and “Sketches about diffusion in crystals”. All books Ya.E. are inherit age of the most bright and nonstandard knowledge’s that unite educational and popularization intention.

Ya.E. was Teacher. He brought up 8 doctors of sciences, more than 40 candidate and more than 500 experts in physics. To teach and to teach up is possible only by setting own example – such was his principle. He was be able to be glad success of his pupils and colleagues. He also was able to admire by handsome poetic stanza and beautiful experiment. He endowed all of those who associated with him by skill to book at the world by king eyes of scientist and artist. Kharkov university was his native home. He was proud of the university and the department of crystals physics created by him and always increased their glory.

This issue of “Vestnik” is devoted to memory of Ya.E. Geguzin. All articles was written by his pupils or the persons who knew him and collaborated with him. All of them remember Ya.E. with gratitude and respect and his important role at their growing up and attitude to scientific researches. It is very pleasant that gwite young scientists sent their articles to that issue. One of them - A. Shkurmanov - graduated from chair created by Ya.E. only at 2014. But he already has defended candidate thesis, has PhD degree, he interests in properties of ultrathin nanowires. The second – O. Zaiceva - now only finishes the second year of physical department. She is fascinated by physics and she is co-author of the article about interesting peculiarities of interaction of two kinds of liquids with different density at low temperatures.