Yuriĭ Tsolakovich Oganesyan (on his sixtieth birthday)

V. L. Aksenov, A. M. Baldin, Ts. Vylov, V. P. Dzhelepov, V. G. Kadyshevskiĭ, M. G. Meshcheryakov, R. Poze, A. N. Sisakyan, I. A. Savin, and D. V. Shirkov

Usp. Fiz. Nauk **163**, 133–134 (May 1993)

Corresponding member of the Russian Academy of Sciences Yuriĭ Tsolakovich Oganesyan celebrated his sixtieth birthday on 14 April 1993. A prominent physicist, he is the Director of the G. N. Flerov Laboratory for Nuclear Reactions of the Joint Institute for Nuclear Research.

On graduating from the Moscow Engineering Physics Institute, Oganesyan began his scientific activity in 1956 at the I. V. Kurchatov Atomic Energy Institute. This was a time of rapid development of nuclear physics when the foundations of a new scientific field—heavy-ion physics were just being laid.

Being a student closest to Academician G. N. Flerov he made a big independent contribution to the development of this new direction both in the realization of original physical ideas, as well as in the development of the experimental basis of accelerators. From the very beginning of his activity Oganesyan proved himself to be a highly talented experimenter and an excellent organizer.

Starting in 1958 Oganesyan's scientific activity is associated with the Laboratory for Nuclear Reactions. In the following 35 years the construction of new heavy-ion accelerators: $U=300$, $U=200$, $U=400$, $U=400$M is indissolubly connected with his name. The high technical parameters of these accelerators established the leading position of the Laboratory for Nuclear Reactions among the scientific centers for heavy-ion physics.

At present Oganesyan leads the work on the creation of a cyclotron center involving accelerators and storage rings which will provide new broad possibilities for carrying out fundamental and applied research. Starting in 1960 along with work in the field of accelerator technology Oganesyan began to carry out experiments on the physics of the atomic nucleus. A series of papers on the investigation of the characteristics of the decay of excited compound nuclei with high angular momentum formed the basis of his candidate's dissertation (1962). Subsequently his scientific interests were associated with work on the synthesis of new heavy transuranic elements with $Z>100$, with a study of the characteristic properties of nuclei separated from the line of β-stability, with the study of the dynamics of the fission of nuclei and the investigation of the mechanism of interaction of complex nuclei. In 1967 the prize of the Lenin Komsomol in the field of science and technology was instituted for the first time. Oganesyan together with the group of young physicists led by him was awarded this prize for work on the studies of the special features of the formation and decay of heavy transuranic nuclei in reactions with heavy ions. The experimental investigations in the field of nuclear fission formed the basis of his dissertation submitted for the scientific degree of Doctor of physico-mathematical sciences (1969).

At the same time in the course of all the years the problem of the synthesis of transfermian elements, and the questions of the stability of heavy and superheavy nuclei remain the principal direction of his scientific research. Oganesyan made a definitive contribution to the work on the synthesis of elements with atomic numbers from 104 to 110 and to the investigation of the properties of their radioactive decay. He proposed and successfully applied a new approach to the solution of the problem of the artificial synthesis of heavy elements—the method of cold fusion of nuclei which turned out to be exceptionally fruitful, and obtained world-wide recognition and further development. One of the results of fundamental significance was the discovery of the high stability of the utmost heavy nuclei ($Z=104$–110) with respect to spontaneous fission, which opened up new prospects for a further development of work in this field of research.

Basically occupying himself with fundamental scientific problems Oganesyan always paid attention to applied research. With his active participation research was developed in the Laboratory on the interaction of heavy ions with different materials: polymers, metals and single crystals; methodologies were developed for obtaining track membranes made of materials more stable in aggressive media for the production of standard modules for the final purification of gaseous and liquid media. Investigations are being carried out on the production of ultrapure radioactive isotopes for medical purposes, in particular a radioactive preparation has been obtained based on the superpure isotope ^{237}Pu with an admixture of other plutonium isotopes lower than $3\cdot10^{-7}$ which made it possible to begin experiments on studying the metabolism of plutonium in a human organism.

Oganesyan devotes much attention to the training of young scientists, to the development of international collaboration in research on heavy-ion physics, to mounting joint experiments both at the accelerators of the Laboratory, and also in centers abroad. The traditional international schools-seminars on heavy-ion physics which are being regularly organized and carried out in Dubna under Oganesyan's direction have become widely known and highly valued.

An important characteristic feature of Oganesyan's scientific style is the combination of a high experimental mastery in mounting very subtle experiments with a brilliant physical interpretation of their results. These qualities of Oganesyan brought him wide reknown and authority both in Russia and abroad. He is a member of the Scientific Council of the Russian Academy of Sciences on nuclear

 1063-7869/93/050452-02$10.00

Yuriĭ Tsolakovich Oganesyan

physics, he is a member of the Council on nuclear physics of the European Physical Society, he participates in the work of the scientific councils of the JINR and of the national heavy-ion physics centers in France and the FRG. Oganesyan is a member of the board of editors of the European physics journals "Journal of Physics G," "Nuovo Cimento," "Particle Accelerators," "Nuclear Physics News," and of the Russian journal "Physics of Elementary Particles and the Atomic Nucleus."

For his outstanding research in the field of nuclear physics, Oganesyan has been awarded the State Prize (1975), and the I. V. Kurchatov Prize (1989), and his publications have received high government awards.

On his sixtieth birthday, Yuriĭ Tsolakovich Oganesyan is at the peak of his creative power, full of energy and wide scientific plans. His working day starts early in the morning and ends late at night, many tens of personnel enter daily into his study in order to discuss current problems, to obtain advice, to receive support. Due to Oganesyan's indefatigable energy even the complex years of sharp changes of priorities in economics and science in Russia the Laboratory for Nuclear Reactions has succeeded in retaining a high rate of production and level of scientific research, is constantly broadening its collaboration, and creates a program of research in tune with the world tendencies of development of nuclear physics.

From the bottom of our hearts, we wish Yuriĭ Tsolakovich Oganesyan good health, inexhaustible energy, and new creative successes.

Translated by G. Volkoff