

Yuri Alexandrovich Lazarev

(1946 — 1996)

physicist,

one of the authors of Dubnium discovery – 105-th element
of the D.Mendeleev's periodic table of elements.



Yuri Lazarev came to Dubna in 1968, still as a 5th year student of the Physics and Mechanics Faculty of the famous Leningrad «Polytech». The academician Georgy Nikolaevich Flerov, then director of Laboratory of Nuclear Reactions of the Joint Institute for Nuclear Research, had decided to enrich his team with young people. Flerov left only two out of four invited students. This way, Lazarev linked his destiny to this laboratory, where he will have long and complicated way.

For about 30 years Yu. Lazarev conducted scientific research in the area of nuclear fission and synthesis of new superheavy nuclei. His contribution on these studies, particularly during the last years, was a key factor on the development of these topics, as recognized for many of his colleagues from different countries. Particularly significant were his work on the synthesis of the heaviest isotopes of elements 104, 106, 108 и 110, which led to discovery of new region of heavy nuclei stability.

Initially Yuri Lazarev scientific work was dedicated to the study of spontaneously fissioning isomers. He contributed to the construction of a new highly sensitive equipment for the registration of spontaneously fissioning transfermium nuclei. During the years between 1969 and 1972 a broad experimental material was obtained using this installation about the spontaneous fission of isotopes of elements 102, 103, 104.

In 1971–1973 the still young scientist developed a special apparatus to study prompt neutrons emission from the spontaneous fission of shortlived nuclei, produced in reactions with heavy ions. This apparatus allowed to obtain experimental information about the multiplicity of prompt neutrons from spontaneous fission of some isotopes of element 102. The analysis of this experiment results led to the discovery of very new features of the fission of low excited heavy nuclei. This cycle of investigations became the basis of Yu. Lazarev's Phd thesis which he brilliantly defended in 1979.



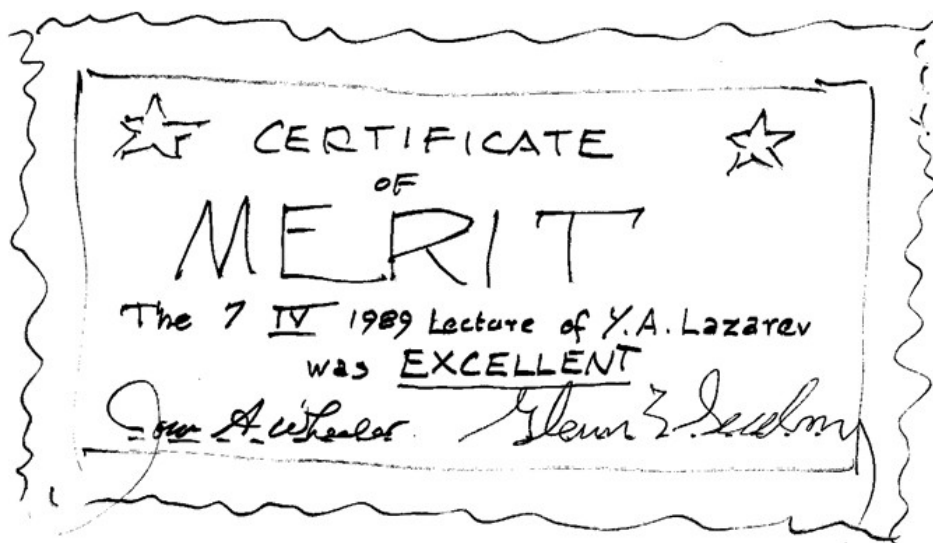
Yu. Lazarev and J.A. Wheeler (1989, Berlin).

For several years Yuri Lazarev worked on the monograph «**Heavy Ions and Nuclear Fission**», published by Plenum Press (New York and London) in 1985 as a big chapter in multivolume «**Treatise on Heavy-Ion Science. Extreme Nuclear States**» (in co-authorship with Yu.Ts.Oganessian, edited by D.A.Bromley). In this monograph, for the first time, it was studied the relationship between two fast developing areas of nuclear physics — physics of fission and physics of nuclear-nuclear interactions. As a results of the analysis of a huge amount of experimental and theoretical

information, the authors were able to present very important general conclusions and to suggest very perspective studies in this area. This work was highly respected among experts.

Everybody who knew Yu. Lazarev was impressed by his talent to talk brilliantly about scientific research in an interestingly and understandably way confirming the well known sentence — who thinks clearly speaks clearly. As early as 1974 he published the article in «Popular library of chemical element» , dedicated to the element 105 discovery. This new element was named Dubnium many years later. Even after his death, his work «Discovery of new region of superheavy nuclei stability» was recognized as one of the best among 300 popular science articles that sought a grant from International Foundation for Science for Russian scientists.

Yu.Lazarev talks on very prestigious conferences distinguished him not only as a high level professional with a deep knowledge, but also as a person with a brilliant erudition and broad culture. As a memory sign during the International Conference «Fifty Years Research Nuclear Fission» he kept very valuable handwritten document - «certificate», produced by prominent scientist John Archibald Wheeler and signed him together with nuclear physics patriarch, Nobel prizier Glenn T. Seaborg: «The 7 IV 1989 Lecture of Y.A.Lazarev was EXCELLENT».



During his years of studies and work Yu.Lazarev collected a very big scientific library — it contained many important monographs on physics, books about science history, popular science books, textbooks, reference books, dictionaries... Mostly all of them were given later as a present to colleagues, to JINR Educational and Scientific Center, to students, schoolchildren, physics teachers, translators.

This talented physicist, who even didn't reach 50 (he passed tragically Apr 15 1996 in Dubna) had many plans: he intended to complete extended version of mentioned monograph; he thought about teaching. But none of all are fated to be... His premature death was taken as a big loss by all his colleagues working on different continents, - it was received in Dubna many condolences from scientific centers of America, European countries, from Japan and Australia...

Warm memory about Yu.Lazarev till now unites all those, who respected him very much as a colleague and a friend.

Anna Girsheva
April 2006

Vladislav Domanov (FLNR): ...He was remarkable person — a knight of word and an expert at one's job. Ten years passed, but his works are still up-to-date, and Yuri's colleagues, completing their articles, carve out his name among references. It will live forever — because scripts never burn.

Jorge Rigol (USA): I knew Yuri Lazarev long before when in 1993 we started to work together. I had possibility to ask him many questions about nuclear fission problems. As I remember, ones he explained me during four hours their experiments on fission which they conducted. And he showed me a chamber and other experimental equipment. He was a master in explaining new ideas. I am pretty sure, he could be excellent university professor.

It was a real pleasure to work with him. I never worked with more calm, honest, polite, and at the same time extremely competent person, as he was. He was the same in laboratory, on meetings, on conferences. He didn't change when he spoke with French, American, Mexican scientists, or with technicians in LNR. He always kept his viewpoint, but nevertheless I never saw him irritated...

Stoicho Iliev (Bulgaria): I met Yuri Alexandrivich Lazarev long time ago, during his visit to Bulgaria, together with G.N.Flerov (1971)... His unique and comprehensive erudition was impressive and set an example for any educated person. This erudition along with excellent manners made Y.A. Lazarev as a standard for many others. His deep and thorough scholarship was impressive... His remarks often impressed me by their exactness and gave a chance to think about his extensive knowledge. I don't remember any case when he broke his word, he was and be a man of word for me.

Vyacheslav Rud (SINP MSU), Yu. Lazarev course-mate : ...It was a pleasure to know that even after 1996 his name was included in new articles author list, sometime — as a first, main author. Light of dimmed star...
