

## WAYS OF PRESERVATIONS NUCLEAR KNOWLEDGE IN TAJIKISTAN

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Abstract. Is briefly resulted the past and the present conditions of organizations of knowledge

in the field of atomic and nuclear physics in Tajikistan. It is shown, that despite of today's weak material resources, at support IAEA and other intergovernmental contracts and the international funds, and also presence of rich intellectual fund of the republic, it is possible to reserve Nuclear Knowledge in Tajikistan.

It is known that attitude to nuclear knowledge considerably changes in the world. While developed countries, and particularly European Community countries, pay essential attention to fundamental investigations and begin to show the tendency to gradual turning of nuclear power engineering, many of developing countries have aspiration to development of knowledge in the field of the nuclear science and nuclear techniques.

The Republic of Tajikistan is not a nuclear country, but she uses achievements of nuclear science and technology in a number of manufacture branches. That is why the important problems for us are training of staff and preservation of nuclear knowledge. During the Soviet period we did not have such problems, as in that time well-educated specialists both in Central institutes of higher education and particularly in Chair of Nuclear Physics of the Tajik State National University (TSNU) were trained regularly and by plan.

Chair of Nuclear Physics of TSNU was established in 1961. In Chair of Nuclear Physics worked known Moscow physics in the field of physics of cosmic rays, who simultaneously worked in Pamir expeditions of Physical institute of the Academy of Sciences of USSR (PIAS). The research theme of Chair of Nuclear Physics down to 1975 has been devoted to researches in the field of physics of space beams. In the seventieth and the beginning of the eightieth years employees of Chair were engaged also in physics activation analysis and radiation physics. Sometimes scientific themes and training directions were changed. The reasons of changes were:

- need of national economy in experts of particular speciality (nuclear spectroscope analyzers, physicists of cosmic rays, experts on nuclear physical methods of element analysis, geophysicists, radiologists, etc);
- need for new research managers and new heads of chair.

For all period of it's existence the Chair was engaged in training of experts in different fields of nuclear physics jointly and in close cooperation with Laboratory of High Energies, Laboratory of Neutron Physics, Laboratory of Nuclear Reactions, and Laboratory of Theoretical Physics of the Joint Institute of Nuclear Researches (JINR), Dubna Moscow, the Moscow State University, MIPhI, INPh AS RU, FIAN RF and many other centers of science of Soviet Union.

After disintegration of the Soviet Union and rupture of scientific connections with other scientific centers on the one hand, and low financing and absence of own scientific and technological base on the other hand caused considerable decrease in training quality of nuclear physics specialists of different fields.

Starting since 2002 we began to re-profile directions of specialists' training in the Chair of Nuclear Physics of TSNU from fundamental field to applied field. Applied field includes

training of medical physicists, radiation ecology, dosimetry and radiation protection physics, who our country desperately needs.

Training of these specialists (physicists) is carried out according to classical program of universities, i.e. from 1<sup>st</sup> to 3<sup>rd</sup> years they study general subjects, higher mathematics and general physics, and from second semester of 3<sup>rd</sup> year students chose speciality in different chairs and during 2.5 years study special courses, pass special rates, perform term papers and degree works, pass a magistracy.

Chair of Nuclear Physics of TSNU presently trains specialists in medical physics, dosimetry, and radiation protection physics. Today our country has urgent need in these specialists as during the Soviet Union these specialists were trained in Center. All of them were visitants and after USSR disintegration a lot of them left Tajikistan.

In training specialists we also widely use the regional and interregional training projects of IAEA and other international organizations.

Only in 2003 more than 30 our oncologists, radiotherapists, radiologists, dosimeters, and etc were trained in training courses, fellowships, and scientific visits under projects of IAEA.

A lot of these specialists train their colleagues at the local level. Though training of nuclear physics specialists in the field of radiation protection, nuclear medicine, radiation ecology makes its first steps, but taking into account availability of high qualified teachers (doctors and professors), which were trained during the Soviet period, and IAEA assistance in this direction give us hope that in nearest future we can train the necessary amount of specialists for different fields of national economy of Tajikistan.

Despite of existing difficulties, our physicists within the framework of various international projects (ISTC, INTAS, etc.), also at support of presidential fund and joint agreements with JINR (Dubna), MSU are engaged in basic researches.

We concluded a number of interstate, interacademic, and interuniversity agreements and treaties with foreign countries, academies and universities in the field of education, science and personnel training.

The INIS Center was established at the Nuclear and Radiation Safety Agency of AS RT with support and assistance of IAEA.

All the above-mentioned factors in aggregate allow us to preserve knowledge in Tajikistan, particularly, in the field of fundamental nuclear physics, nuclear science and engineering.

## REFERENCES

- [1] General Conference resolution GC(46)RES/11B on “Nuclear Knowledge” (2002) and also SEC/NOT 1900(2002)
- [2] GC(46)RES/11 (Strengthening of the Agency’s Activities Related to Nuclear Science, Technology and Applications), Part B: Nuclear Knowledge (2002).
- [3] GC(47)RES/10 (Strengthening of the Agency’s Activities Related to Nuclear Science, Technology and Applications), Part B: Nuclear Knowledge (2003)