



PROSPECTS OF SCIENCE AND TECHNOLOGY DEVELOPMENT

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Abstract: *This article discusses the role of technologies that serve as the basis of today's science and technology. The article highlights the positive and negative aspects of the development of technology.*

Key words: *Technology, science, technique, development of scientific technology, innovation, nanosystem, nanomaterial.*

Today, nanotechnology is developing rapidly all over the world. Scientific inventions created in this direction allow achieve high efficiency and economy in many important fields such as economics, medicine, biology, ecology, aviation, radio electronics.

As a result of the attention paid to the development of the integration of science, education and production in our country, as a result of the support of intellectual potential, this modern direction of science is also developing consistently. The efforts of President Sh.Mirziyoyev to encourage the implementation of innovative projects and technologies in production serve to further expand the scope of development of nanotechnologies.

On the basis of a special program developed by the Academy of Sciences of the Republic of Uzbekistan in order to organize and develop works in this direction on a systematic basis, the Department of Thermal Physics, Chemistry and Physics of Polymers, Nuclear Physics, General and Inorganic Chemistry Institutes of the Academy of Sciences, National Institutes of Uzbekistan University, State Unitary Enterprise "Science and Development" of Tashkent State Technical University and other scientific institutions are implementing a number of promising projects in the field of nanotechnology.

Today, the industry of our increasingly developing country and modern production areas cannot be imagined without polymer products. To meet this need, there is a need to create nanosystems and nanomaterials industry based on coordination of scientific research and nanotechnological developments.

The main direction of research in the field of nanotechnology at the Institute of Polymer Chemistry and Physics of the Academy of Sciences of the Republic of Uzbekistan is directed to the implementation of these priority tasks. For this purpose, research is being conducted on the formation of nanoparticles and nanostructures in polymer systems, their creation, the study of their manifestation in the special properties of materials, and their effective use in practice. According to the institute, such basic research is already showing its high efficiency. Important results were achieved on a number of projects, in particular, it was reported that nanopolymer systems were isolated from natural and synthetic polymers.

It is known that agricultural crops are subjected to several chemical treatments against pests, insects and diseases. Such tools, which are currently used in practice, are mainly brought from abroad in exchange for foreign currency. In addition, along with their useful aspects, they have certain negative effects on the environment. Therefore, scientists



of the institute are conducting research on the production of such tools based on local raw materials and technologies. For example, the drug "Uzkhitan" extracted from silkworm cocoons is ecologically pure and effective. This invention, which shows the important features of nanotechnology, has successfully passed practical tests. The productivity of crops treated with "Uzkhitan", the characteristics of seed germination, resistance to diseases, pests and difficult climatic conditions have increased several times. This tool is completely harmless to nature and is absorbed into the soil. Currently, this drug is effectively used in the food industry and medicine.

Another important invention of our scientists is the "Polidef" tool, created on the basis of polymer systems, which plays an important role in cotton care. Such tools, which are produced abroad, have a negative effect on the environment, and dry unopened leaves. When "Polidef" is sprinkled, the bolls on the cotton do not dry out, and the soil is not damaged. Its results were clearly demonstrated in the experimental work conducted on farms in several regions of our country. The State Chemical Commission tested this invention and approved its production. It is included in the localization program of our country and is produced in the open joint-stock company "Fergana Azot".

The constant attention paid to the development of the field by the head of our state allows the creation and implementation of effective inventions in medicine as well. One of such important developments is the drug "SelAgripp" in terms of its pharmacological properties, which is not inferior to foreign drugs, and its price is several times cheaper. Currently, this drug, which is produced at the scientific production enterprise "Radiks" in our capital, is effective in the prevention and treatment of influenza. Our scientists these days

They are conducting research on the creation of types of "SelAgripp" used in the field of pediatrics.

Treatment of hard-to-heal wounds caused by burns is one of the urgent problems of medicine. Currently, in this process, film coatings imported from abroad are used in our medicine. Film coating created on the basis of local raw materials has several advantages in this regard. In particular, this tool is absorbed into the skin after being attached to the wound. Nanostructured silver particles contained in it allow quick and effective wound healing and strengthening of the patient's immune system. Specialists of the Republican scientific center of emergency medical care specially recognized the healing properties of this invention, which is used in the treatment of burn complications.

The high results of research in the field of nanotechnology have a good effect on the creation of anti-inflammatory drugs for the human body, which are used in the fields of dermatology, pulmonology and phthisiology.

In addition to natural polymers, the institute's research on promising directions for the use of synthetic polymers is also the basis of many important inventions.

As the cars we all love became a means of mass transportation, they started to pollute the environment and pose an environmental threat to it on a global scale. Because we can't fully dispose of broken and useless cars, let alone the toxic gases coming out of them.

The cellophane packets used by housewives are considered a real disaster for the environment, because nature does not have its own mechanism for the quick and complete



disposal of this product of the creativity of chemist technologists. Imagine tomorrow mass-produced convenient and practical nanomaterials with properties as hard as diamond that will not rust, wear, or decay. Now try to dispose of this product using simple and tested natural utilizers - rotting and decomposition.

In addition to ecology, the application of nanotechnologies has many specific household, ethical and other unresolved issues. Therefore, today nanotechnology, which is considered a product of science and technology development, does not have negative aspects.

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