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**SAVING THE FUTURE WITH BIOTECHNOLOGY
(ЗБЕРЕЖЕННЯ МАЙБУТНЬОГО ЗА ДОПОМОГОЮ
БІОТЕХНОЛОГІЙ)**

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В статті розглядаються загальні положення і основні досягнення біотехнології.

***Ключові слова:** збереження природних ресурсів, відновлювальна сировина, переваги синтезованої сировини.*

In the article general statement and main achievements of biotechnology are discussed.

***Keywords:** preserving natural resources, renewable raw materials, advantages of synthesized raw materials.*

Two decades into the 21st century, the field of biotechnology has left a trail of noticeable contributions to humankind.

In a nutshell, biotechnology applies the usage of living microorganisms and biosystems to develop or improve natural conditions such as soil and water to support further food production.

In fact, the most exciting biotechnology advances of recent times are occurring at the microscopic level (and smaller!) within the membranes of cells.

After decades of basic research into decoding the chemical and genetic makeup of cells, biologists in the mid-20th century launched what would become a

multi-decade flurry of research and breakthroughs. Their work has brought us the powerful cellular tools at biotechnologists' disposal today [1].

To meet the demands of the current and future population, preserving natural resources is crucial. Water is a critical resources for humankind.

Water pollution is one of the main environmental hazards we face today. It occurs when toxic pollutants of varying kinds (organic, inorganic, radioactive, etc) are directly or indirectly discharged into the streams, rivers and sea without adequate treatment.

Biotechnology is stepping in to save the day with natural solutions to reduce or clear the pollutants. Several types of biotechnological treatments have been implemented throughout the world.

Second theme for biotechnologist to work with is science. Science is galloping forward and we are on the cusp of the next generation of medical breakthroughs that will benefit patients and society for decades to come.

Biotechnology could also help to tackle large national issues such as healthcare. Protecting future medical breakthroughs by promoting smart public policy and rational public discourse requires all of them to do their part to educate the public and elected officials about what they do, the risks and benefits it involves and what is needed to bring the next generation of new cures and treatments to the people who need them most.

Biotechnology is focused on comprehensive and sustainable solutions to improve patient access to medicines, while maintaining a steadfast commitment to investing in the hard work of innovation. And to succeed in this endeavor, it is critical for other segments of the healthcare system to keep pace with the innovations occurring across industry [2].

One of the biggest applications of biotechnology is in the energy production sector. New industrial and environmental biotechnology advances are helping to make manufacturing processes cleaner and more efficient by reducing toxic chemical pollution and greenhouse gas emissions.

Additionally, renewable biofuels from algae and other cellulosic materials decrease greenhouse gases while reducing our dependence on oil. Bioplastic is another product that is available today and can substitute for petroleum-based plastics, replacing waste destined for a landfill with biodegradable, compostable consumer products [3].

Biotechnology adds an entirely new dimension of technology development in the bioeconomy.

Now we're in a new industrial revolution, bringing the bioeconomy to the forefront of technology and economic growth where we're combining biotechnology with chemical and physical technologies to revolutionize the world.

Finally, modern biotechnology has much to offer, it already has marked its presence in medical, industrial, environmental, agricultural, forensics and many more areas directly touching the lives of human beings and is making a significant difference too.

Література:

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2. <https://archive.bio.org/TransformingHealthcare>
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