



Developments by Belarusian scientists widely represented at recent exhibition in the Academy of Sciences

Science improving people's life and health

Milk from transgenic goats on a farm near Zhodino is helping our bio-physicists and pharmacologists produce a medicine imitating human lacto-ferrin, laboratory mice in distant California are using our synthesised 'anti-aging medicine', and our students are using supercomputers

By Irina Durova

Belarus' National Academy of Sciences has determined the most significant achievements of our domestic scientists in 2012. All have practical application and aim to improve our health and quality of life.

Physics leads the way

According to data from the Belarusian NAS, last year, domestic physicists found a way to use terahertz

irradiation to x-ray objects, began working with isolated photons, and helped with Large Hadron Collider tests. Interestingly, 6-8 physicists are annually the most cited of our Belarusian scientists.

Supercomputers fight modern day plague

Computer specialists and biochemists have used supercomputers to model four chemical compositions which could help battle AIDS. These block sections

of the virus' outer shell, allowing it to be 'attacked'. Belarus has generated the basic structure for making AIDS treating medicines.

Domestic drugs stand high

Chemists develop thin-film technologies for polarised 3D spectacles — used for watching 3D TV (RealD technology), Alginomax antacid for the elderly and first generation generic tumour fighting drugs Pemetrexid and Azacitidin.

Fairy-tale coming true

Jointly with Russian scientists, biochemists have succeeded in studying the delicate interaction of protein molecules, harnessing their connection to para-magnetic substances. Vital for the development of new generation drugs, the technology seems fantastical but, in future, it should be possible to transport capsules of medicine directly to affected human cells.

Stem cell in focus

Physiologists and bio-physicists have created a device to facilitate the transformation of stem cells into neurons: vital in treating circulation disorders in the brain. In addition, those preferring to be diagnosed in advance can have their genome of blood lymphocytes determined, helping diagnose the harmful influence of ecological factors on our health.

Schools remain loyal to tradition

Not yet planned to introduce electronic school diaries into Belarusian schools

"I see nothing wrong in this innovation but we aren't yet ready to introduce this system and I don't yet see sufficient advantages to warrant pushing its adoption," notes Education Minister Sergey Maskevich. He explains that all schools can register online to try out the technology, with some Belarusian schools having trialled the idea voluntarily to improve interaction with parents.

"The Ministry for Education is to introduce more IT into the learning process, where such innovation can be most useful," Mr. Maskevich tells us. Recently, textbooks in electronic form appeared on the website of the National Institute of Education and these will soon be accessible from any mobile device, anywhere, at any time.

City streets in current mobile traffic network

By Denis Ampilov

Mobile operator MTS discovers which Minsk streets are busiest for roaming Internet service

Nezavisimosti and Pobediteley avenues, alongside Yakub Kolas, Surganov and Moskovskaya streets are all hot spots for mobile Internet access but Kropotkin Street is the surprising winner. Almost 2km long, the narrow thoroughfare crosses the key city arteries of Masherov Avenue and Vera Khoruzhaya Street and is a hub of business activity. Restaurants and banks are found beside a large jewellery store and lingerie shop, the Polish Consulate, a hospital for contagious diseases and several office buildings.

MTS press secretary Tatiana Kurbat notes, "Where large crowds gath-



er usage always rises. While queuing at the bank or consulate, or waiting their turn at the hospital, people tend to log on. Cafes are also prime sites for online browsing, with mobile Internet proving more popular than the

use of traditional laptops."

A number of dormitories are also located in Kropotkin Street, with residents using their cell phones and 3G-modems creating the largest amount of traffic at the weekends.

Wi-Fi to become more widely available

By Andrey Alfimov

Around 400 new public Internet access points (using Wi-Fi technology) are to be installed in Minsk in time for 2014 IIHF World Championship

According to Sergey Popkov, Beltelecom's Director General, at present, 712 Wi-Fi access points are to be found in the capital. Over the next 18 months, their number is set to increase by 1.5 times, to meet the needs of participants and guests of the hockey tournament.

Wireless Internet access (using Wi-Fi technology) will be primarily available at sports complexes, Minsk hotels and other places of guest accommodation: in public areas and in rooms.

According to Mr. Popkov, the provision of free Wi-Fi access during the 2014 IIHF World Championship hasn't been decided. "As far as I understand, by the end of the year, a concept will have been developed on how we'll deliver services during the hockey tournament. Naturally, Beltelecom will be involved," explains Mr. Popkov.

Local news available

By Andrey Anikeev

Regional TV channels to broadcast in digital format using synchronous frequencies

The Ministry of Information and the Ministry of Communications and Informatisation of Belarus are exploring the possibility of regional channels broadcasting on synchronous frequencies. Low power transmitters would ensure that signals covered only a small area, notes the Deputy Information Minister, Dmitry Shedko. He hopes that the transition from analogue to digital broadcasting won't be accompanied by the loss of regional broadcasting, since local channels have good quality programmes which take part in the *Televershina* TV Contest. "People enjoy their local news programmes, which rarely feature in the national news, so we aim to preserve these during the transition to 'digital' broadcasting," the Deputy Minister asserts.

A new TV channel, Belarus 3, is to launch, 'making full use of the potential of the first digital multiplex', according to Mr. Shedko. Currently, the first multiplex includes seven television programmes (Belarus 1, ONT, Belarus 2, STV, RTR-Belarus, NTV-Belarus and Mir) and one radio programme (First National Channel of Belarusian Radio).

State programming is introducing digital television and radio by 2015, since other countries are completing the transition to digital broadcasting by July 17th, 2015.