

Modern technologies

Grodno State University is Belarus' first to use QR coding

By Nina Litvinova

A small black-and-white tile mosaic recently appeared on the façade of the major building of the Yanka Kupala Grodno State University. The sophisticated pattern is far from being a building decoration. It is a QR code, giving access to the university's information site.

In simple terms, anyone passing by with a contemporary smartphone or mobile phone with a high-definition video camera can scan the code to link directly to the university's recently created website — finding the location of its other buildings, reading news, and gaining contact information and other data.

Grodno State University is the first Belarusian higher educational



Project developer Yevgeny Nevgen scans the QR code of Yanka Kupala Grodno State University

establishment to launch the innovation, which was proposed and implemented by Yevgeny Nevgen, a third year student with the Mathematics and Information Department. Assistance was given by the University Management Centre and University Rector Yevgeny Rovba. Yevgeny has also developed a mobile version of the university website.

"Contemporary technologies are being actively launched at our university," notes University Pro-

rector Yuri Voitukevich. "The university 'computer fleet' boasts over 1,700 machines, while the number of corporate network users exceeds 20,000. We have several Internet access channels; the broadest reaching 20Mbps. We're now working on offering Wi-Fi to our educational buildings and hostels and plan to further develop the QR project."

According to Yelena Razova, the Head of the University Management Centre, which is supervising

the project, a QR tourist support system is to be developed. Special sites around Grodno marked with QR codes will allow anyone to link directly to a specially created tourist site containing information on local sights and their history.

Temporary QR systems are also being set up for short term festivals and forums around Grodno — such as the Republican Festival of National Cultures, which culminates in the city.

'Electronic nose' with great sensitivity

By Svetlana Savkova

Belarusian State University of Informatics and Radioelectronics creates unique nanosensor, with application for space aircraft and submarines

The nanosensor 'electronic nose' can chemically analyse the air, detecting even the most infinitesimal amounts of gases; it is far more sensitive than foreign rivals while being compact — being a tiny, convenient chip.

Its sphere of application is wide, with the military most keen to see it developed. "Nanosensors are an important component of space aircraft and submarine security," emphasises Gennady Gorokh, who heads the BSUIR's Chair of Micro- and Nanoelectronics.

The device can warn of oncoming failure by 'smelling' the scent of an overheated cable. Moreover, nanosensors can be used in medicine, diagnosing disease by testing expired breath. They can also recognise fake drugs and perfumes. The device costs at least \$20,000 abroad, while that produced in Belarus is significantly cheaper.



QR provides key to information

Interesting solutions found

By Galina Gromova

Belarus presents scientific projects at China International Innovation Fair in Guangzhou

The Belarusian delegation has taken part in the China Guangzhou International Innovation Fair and the 14th Guangzhou Convention of Overseas Chinese Scholars in Science and Technology at the invitation of the Union of International Scientific and Technologi-

cal Co-operation of the Chinese Province of Guangdong and CIS countries.

Representatives of the Belarusian National Technical University, AGAT SYSTEM JSC and Gomel's State University have taken part in the fair and forum, as well as attending seminars on sci-tech co-operation and talks with partners.

Belarus has presented its scientific projects at a separate stand, within that of Belarus, Russia and

Ukraine; the stand has proven popular with local and central Chinese authorities. The new party leaders, alongside the city administration of Guangzhou, are keen to focus on innovative development, with Guangzhou becoming a major innovative centre for the country, alongside Beijing, Nanjing and Shenzhen. Collaboration with CIS member states' research institutions will be a vital element in implementing this strategy.



Naroch Lake impressive in winter

Black swift is bird of the year

By Olga Belyakova

In choosing a bird of the year ornithologists take into account several criteria: the species should be widely recognisable and found countrywide, yet be in need of help via the Bird of the Year campaign

This year, ornithologists plan to more thoroughly study the spread and habitat of black swifts in Belarus, developing a plan of action to preserve them. "At present, our population of black swifts is found primarily in cities, living under roofs and in the cracks of high-rise buildings," notes Ruslan Shaikin, who specialises in ecological education with the ABP-BirdLife Belarus Public Association. "Numbers in Belarus remain quite stable but it's

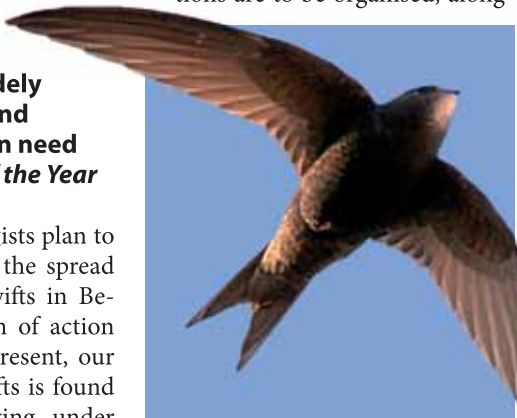
vital that we support this trend."

For *Black Swift — Bird of the Year 2012*, seminars and exhibitions are to be organised, along-

ing people to put up bird boxes for nesting. "Following international experience, we'd like to make and hang boxes able to accommodate several bird families," continues Mr. Shaikin. "These 'multifamily' boxes have partitions, so each resident feels at home."

Around 140-160 thousand pairs of black swift reside in Belarus. These spend most of their life in the air and are the fastest birds, able to fly up to 112kmh.

The *Bird of the Year* campaign is held annually in Belarus, aiming to spread information on various local species of birds and their habitats. Previously, the curlew, great white heron, fray goose, great gray owl, house martin, oriole, white wagtail, stork, house sparrow and nightingale have been given the honour.



Black swift is bird of 2012

side contests for the best drawing, poster and photo of the bird. Ornithologists plan to attract the public's attention towards environmental problems, while encourag-

Seven maps about flora

By Tatiana Chumakova

National Academy of Sciences' Institute of Experimental Botany compiles atlas of plant biodiversity at Narochansky National Park

The three year project is the first of its kind in Belarus and across the CIS, being highly praised by foreign experts. Rare plants have been examined and mapped, while assessing their botanical importance. A suitable level of recreational burden has been determined for Narochansky National Park, as well as for other similar locations in need of protection.

In total, seven maps have been compiled, characterising rare plants

by habitat, importance and number. The maps should allow us to make a more informed choice regarding the preservation of flora biodiversity in the Naroch Lake area and accentuate the need for zoning to protect particular sites within this national park.

Ten zones have been identified containing plants in most need of protection — including those in the Golubye Oзера (Blue Lakes) botanical area, the Nekasetsk River floodplain and Cheremshitsa marshes.

105 of the Red Book's 274 plant species grow in Narochansky National Park, as do around 20 plants protected in Europe. Most of the rare plants in the Republic grow in the Narochansky and Belovezhskaya Pushcha national parks.