



Oleg Novitsky of Belarusian origin

# Star trek of Oleg Novitsky

Not only his relatives, but his friends, classmates, teachers and acquaintances awaited the moment with bated breath. Along with members of the international crew, they counted down to the launch, watching in awe as the rocket finally ascended into orbit. Breathing once more with relief, we've seen that nothing is impossible for our people. Oleg is one in a long line of Belarusians in space.

On October 25th, Oleg's rocket docked with the International Space Station. Over five months, he'll be working with Russian Yevgeny Tarelkin and American Kevin Ford, conducting over 50 scientific experiments relating to medicine, industry and education. In their free time, the crew plans to photograph and film the Earth's surface and hopes to create an Internet blog.

During a press conference with the main crew of the MKS-33/34, Oleg admitted that, as a

child, he was afraid of the dark, so would make himself gaze at the star-filled sky to overcome his fear. Perhaps, his childhood dream was born from those moments, which must have inspired a yearning to see what lay among those twinkling stars. Before launch, he told us, "I'm sure that many unforgettable feelings lie ahead; it's frightening to imagine being at the very top of this huge and powerful rocket!"

Belarusians have a special attitude and long tradition regard-

ing space exploration. Before Oleg Novitsky, Belarusians Piotr Klimuk and Vladimir Kovalenok visited the cosmos and the first female astronaut, Valentina Tereshkova, had Belarusian origins. Our country aims to actively explore the universe, having recently launched its own satellite; in late August, the Information Processing Centre received its first pictures. Belarus now has an independent system of remote Earth sensing. "The launch of the Belarusian satellite is wonderful for

our country, demonstrating our ultra-modern technologies and showing that Belarus is among the prestigious space powers," emphasises the Director of the Centre of Information Technologies of the Belarusian State

University, Yuri Vorotnitsky.

Belarus is preparing its national space programme for 2013-2017, led by the Presidium

of the National Academy of Sciences. Space communications are a priority of the new document.

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Launch at Baikonur

## Truly satisfied by the countryman's success

**Piotr Klimuk, pilot cosmonaut and twice Hero of the Soviet Union:**

When I learnt that Belarusian Oleg Novitsky would be going into space, I was delighted: our ranks have swollen! Before meeting him, I followed his professional success with interest, as he is my countryman. In our sphere, news spreads fast. It was nice to hear that someone from Belarus is held in such high regard, with trust placed in him. From the earliest, I couldn't help feeling that he'd go far.

Star City bid farewell to Oleg Novitsky as he set off to Baikonur. Alongside the military attaché, I wished him good luck on behalf of all Belarusians and on behalf of the Belarusian diplomatic mission in Moscow. It wasn't just a spir-



itual meeting but a pleasant professional and personal conversation between two like-minded individuals. It was also an opportunity to give a symbolic gift to my countryman: a small Belarusian flag. Oleg promised to take it with him. I think

it's a worthy symbol to orbit the Earth and will make a good exhibit for a museum in Belarus one day.

Oleg and I agreed that Russia and Belarus are working hard to make life more comfortable for those on Earth, using space technology. Recently, Minsk joined the 'space club', launching its own BKA spacecraft for remote Earth sensing. More than a month has passed since its launch from Baikonur and it's now fully operational, transmitting photos of the Earth's surface and changes to the atmosphere.

It's a pity that I didn't manage to fly to Baikonur this time. My colleague Vladimir Kovalenok and I

are honorary citizens of the city. They are enjoying surprisingly clear, sunny and warm days, with only light frosts at night, so it's a real spectacle to see the sky cut by the rapid launch of a rocket.

It's always a personal choice to become an astronaut. You need passion, since it's a dangerous occupation. You also need to train hard to make your dream come true. Society's attitude influences our young people's dreams and ideals, making them unafraid of difficulties and more eager to seek out challenging paths. Boys need icons like Chkalov, Korolev and Gagarin to aspire to; they are good models of determination and courage.

**Vladimir Kovalenok, pilot cosmonaut and twice Hero of the Soviet Union:**

I've been waiting for this event for a long time: finally, a third Belarusian has entered space! To tell the truth, I wanted to be at Baikonur and watch the launch of the Soyuz TMA-06M, which carried Oleg Novitsky and his colleagues to the International Space Station. I was eager to wave them farewell, holding my breath in anticipation before feeling the breath expelled from my lungs in a shout of 'Let's go!'. I watched from Moscow, as I didn't manage to fly to the cosmodrome; urgent official matters called me.

Two weeks ago, a large team of experts travelled to Baikonur. Every flight into space is an exam for hundreds of scientists, engineers, technicians, doctors and all those involved. It is the final stage of pre-launch for cosmonauts and astronauts. For specialists this is the detachment of the Soyuz TMA-06M with the Soyuz-FG carrier rocket while this is an acquaintance with the ship in normal mode for the crew (testing its communication and navigation devices and the location of cargo which is to be delivered to the In-

ternational Space Station. They rehearsed various possible scenarios which may be encountered in space — such as the 'manual' coupling of the spaceship to the International Space Station.

I met Oleg not long ago and our chat dispelled any doubts I may have had: our boy is a real Belarusian! He'd reach the stars if it meant hacking through thorns; he'll succeed in everything.

I'm so pleased that there are now three of us: Belarusian astronauts. It's better to go fishing and raise a



glass for Belarus and space when there are three of us. The future is growing before our eyes!

## Long-term prospects for applying genetic knowledge



Over 400 scientists attend forum in Minsk

By Veronika Yulianova

**About a hundred leading experts in the field of genetics and biotechnology — from Belarus, Russia, Ukraine, Kazakhstan, Poland, Latvia and elsewhere — recently gathered in Minsk for the international forum, discussing problems and prospects in their sphere for the coming century**

Although genetics is traditionally considered to be a fundamental science, it has inspired application in many industries, explains the Director of the Institute of Genetics and Cytology, Alexander Kilchevsky — a corresponding member of the National Academy of Sciences.

In recent years, close collaboration with doctors has allowed DNA markers to diagnose our aptitude to suffer from various diseases: cardiovascular, diabetes, bronchial asthma and, even, individual reactions to drugs. Already, more than 60 genes have been 'mastered' and more than 6,000 people have been diagnosed. It is a step to-

wards personalised medicine.

A DNA bank is being created, forming a genetic portrait of the modern Belarusian population. Particularly, the DNA of athletes from 12 national teams has been taken, with 20 genes studied to discover musculoskeletal characteristics, alongside genes which may be responsible for endurance and speed.

Genetic studies also aim to raise crop yields and quality, via efficient selection (including transgenic). It is a global trend which is ignored at our peril. Belarusian scientists have already created seeds which show resistance to disease and insects (including the Colorado potato beetle). Potatoes, rape seed, cranberries and clover have been modified, with work continuing.

"We want our work to reflect global demand, so we're carrying out various projects jointly with agricultural and medical institutions, notes Mr. Kilchevsky, who is keen to see ideas put into practice. By 2020, an impressive \$500m of biotechnological products should be produced.