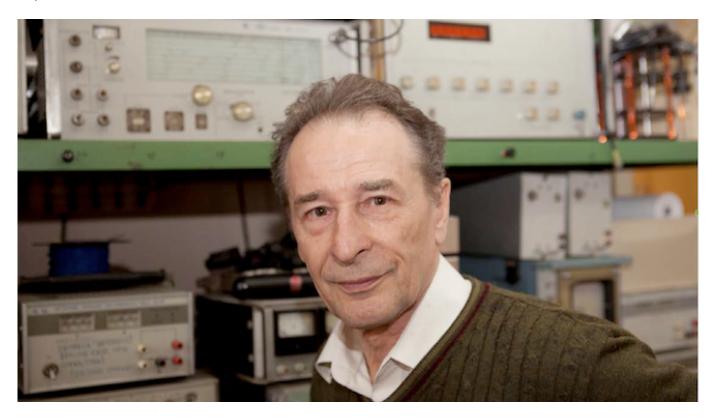


# Rampaging Pseudoscience Turning Russia into 'Medieval State' — Q&A

By Elizaveta Vereykina

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**Evgeny Alexandrov** 

The ongoing brain drain and lack of financing is not the only reason Russian science has suffered in the years since the fall of the Soviet Union. The increase in pseudoscience has been so strong that the Russian Academy of Sciences (RAS) has formed a body to deal with the influx, the Commission on Pseudoscience and Research Fraud.

The Moscow Times spoke with the chairman of the commission, Yevgeny Alexandrov, who is also the head of a laboratory at the Ioffe Institute in St. Petersburg, one of Russia's largest institutions for research in physics and technology.

#### Q: Does Russian science really need to be protected?

A: I wouldn't say we protect science. Our main goal is to protect the Russian state budget from plunder. Very often, under the guise of costly pseudoscience projects, millions of dollars go

nowhere. We inform the state that it's being cheated.

#### Q: What is pseudoscience?

A: Our commission defines pseudoscience as statements that contradict the fundamental laws of nature such as the law of conservation of energy or angular momentum. ... We monitor pseudoscientific reports or claims that are usually followed by attempts to get state funding under the mask of "scientific breakthroughs."

Fraud is committed mainly in the spheres of medicine and weaponry. Twice a year we release our own bulletin in which we report on all suspicious cases.

#### Q: What kind of cases do you deal with?

A: Almost on a daily basis we get requests to approve yet another "quantum bio-regulator" or "aura corrector." Recently we got a project that declared the invention of a "gravity gun" weapon.

In a recent bulletin we reported on Anaferon tablets. In an intense online ad campaign, it was described as an "immunity modulator" that allegedly cures flu. But it's a typical homeopathic fake.

In the medicine's accompanying notes, it's written that it contains 10-15 nanograms of the active ingredient per gram. For a scientist, that number means there is no more than just a molecule of the active ingredient in 100 million Anaferon pills.

## Q: Besides writing the commission's opinion on Anaferon in the bulletin, did you make any other attempts to stop its distribution?

A: Once a doctor prescribed Anaferon to me. I went to the head of the hospital and showed her a Wikipedia article about it, as well as the notes that come with it. All she could do was to exclaim: "Oh no, they cheated us!" Then I wrote a letter to the editor-in-chief of the media where it was advertised [Ekho Moskvy radio station], saying it's not good to promote medicine that has zero effect. I never got a reply, and the advertising continued.

### Q: Do you ever go to trial to expose such cases?

A: No, we just write letters back to pseudoscientists with our conclusions about their product. We also write to media, officials and scientific institutes.

In contrast, pseudoscientists file suits against us in court. Our biggest recent battle was against Viktor Petrik — the greatest pseudoscientist of our time. He demanded 6 billion rubles from us [in 2010] in [a St. Petersburg] court to compensate for "losses to his reputation."

In the 1980s, Petrik was sentenced to 11 years for burglary, robbery and extortion. Since being released, he has somehow proclaimed himself an academic of seven made-up academies, and in the 2000s he became very close to the Russian ruling elite, in particular to [former] State Duma speaker Boris Gryzlov.

All of his 100 patents are just repetitions of physical and chemical phenomena discovered long

ago.

We consider Petrik and Gryzlov's "Clean Water" [project, in which the men claimed to be able to turn radioactive waste into drinking water] to be pseudoscientific, and tried to prevent the State Duma from approving funding for it. They wanted to produce and install "nanocarbon sorbent" water filters all over Russia. The filters were called "Shoigu" [after the current Defense Minister Sergei Shoigu] and labeled with [ruling party] United Russia stickers.

[Petrik's company was eventually excluded from the government's clean water program after research showed the filters were in some cases making the water less safe to drink, and Shoigu and United Russia asked Petrik to refrain from using their names in his marketing — MT].

The pseudoscience commission, which includes chemists and physicists, has come to the conclusion that Petrik has nothing to do with science and is just a businessman.

It's insane, but Petrik was basically the main scientific adviser of the Russian parliament. Gryzlov's deputy Svetlana Orlova told us that the "whole Russian Academy of Science is not worth one Petrik."

### Q: Have you ever tried to inform President Vladimir Putin about these pseudoscientific claims?

A: Vladimir Putin knows about us and supported our work at the general meeting of the Russian Academy of Science in May 2012 with the words: "We have to get rid of everything that discredits the scientific community, reduces its authority. ... We shouldn't tolerate those who act like parasites on science."

I think we actually won the trial with Petrik thanks to Putin's support. Since that day, I have also noticed we have become more respected. At least some media answer our e-mails now.

### Q: You managed to stop the "Clean Water" funding project, but which costly pseudoscientific projects have managed to get state funding?

A: So-called "Torsion fields" have been widely discussed in Russia since the end of 1980. RAS has labeled them pseudoscientific many times, but our statements were ignored. In 2008, the Khrunichev State Research and Production Space Center launched the Yubileiny satellite, in which they installed an engine [along with other regular engines] based on those "torsion" technologies.

That engine [known as a "reactionless drive"] was supposed to take the satellite beyond the solar system. The idea contradicts the basic law of angular momentum.

The "torsion" engine weighed almost a ton — and every kilogram we launch into space costs \$10,000.

[In a debate after the launch, scientists concluded that the "torsion engine" had not had any effect on the satellite's orbit — MT].

RAS academics have many times expressed their concerns about increasing obscurantism in

our society. Why are occult mystics and healers still so popular in Russia? Because the media loves them! Take any newspaper or turn on the TV. [You'll see] shows, articles and advertising for healers who can allegedly cure fatal diseases, help people find husbands or wives, lift spells. They promise things doctors will never promise.

What's even more absurd is that these charlatans cooperate with our state. For example, in 2013 there was a conference, "Problems of Crime Investigations," organized by the Investigative Committee. The conference included a section dedicated to "non-traditional ways to obtain information from criminals." Hypnotists and occult mystics were introduced as being able to help investigate crimes by looking at victims' photos. What a medieval approach!

### Q: Are there any laws or initiatives proposed by the Russian government that you strongly disagree with?

A: Our parliament recently supported a ban on genetically modified organisms (GMOs) and I think our deputies simply have no idea what they are doing.

GMO-phobia is wrong and is used by populists. All agricultural products are genetically modified. Genetic science helps us to get necessary products much faster. Basically, mankind has managed to feed itself thanks to genetic engineering.

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