

JINR Newsletter #10, 19 March 2025

Dear colleagues and friends,

The Joint Institute continues to develop advanced scientific infrastructure. The expedition to deploy the Baikal-GVD Neutrino Telescope is finishing, and the facility is expected to reach a volume of 0.7 km³ upon its completion. This week, a meeting chaired by the Plenipotentiary Representative of the Russian Government at JINR took place at the project's coastal centre at Lake Baikal.

The second cycle of the IBR-2 operation started. The user programme of the research reactor was resumed as well: scientists, including external users, will have a chance to conduct their experiments this spring.

Read about a new robot for studying soil using the tagged neutron method, an article dedicated to Nikolay Govorun's anniversary, scientific achievements of JINR employees, and much more in the new issue of the JINR Newsletter.



Flagship Projects

Baikal-GVD Project's development discussed at meeting of Russian Ministry of Science and Higher Education

On 17–18 March, representatives of various Russian institutes and universities reviewed the progress of Baikal-GVD during a workshop on the shore of the world's deepest lake. The Ministry's Head noted the importance of the neutrino telescope as a unique megascience facility.



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Research

End of test cycle at IBR-2 Reactor after three-year shutdown

The IBR-2 team is discussing the successful operation of the research reactor and accepting applications for the March and April cycles. If you would like to access IBR-2 to conduct your experiment this spring, you can find more details on the facility's [website](#).



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Discrete heat exchanger for refrigerator for dissolving He³ in He⁴

The exchanger's design, created by a junior researcher of the Laboratory of Nuclear Reactions at JINR Vladimir Trofimov, was patented. Congratulations on receiving the state registration!

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TANGRA Collaboration works on project of neutron soil analyser

A compact unmanned transport platform will now aid JINR researchers and representatives of Dubna's Diamant company in employing tagged neutron method to analyse elemental composition of soil. The device helps cover larger territories and requires no sample collection and preparation.

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Anniversaries

Nikolay Govorun, creator of JINR information and computing infrastructure

18 March marked the 95th anniversary of the birth of the outstanding mathematician and programmer Nikolay N. Govorun. Please enjoy an article about his life and great contribution to science and consider visiting the photo exhibition at the JINR Scientists' Club dedicated to Nikolay Govorun.



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Publications

Most stable structural phase of biocompatible zirconium dioxide found

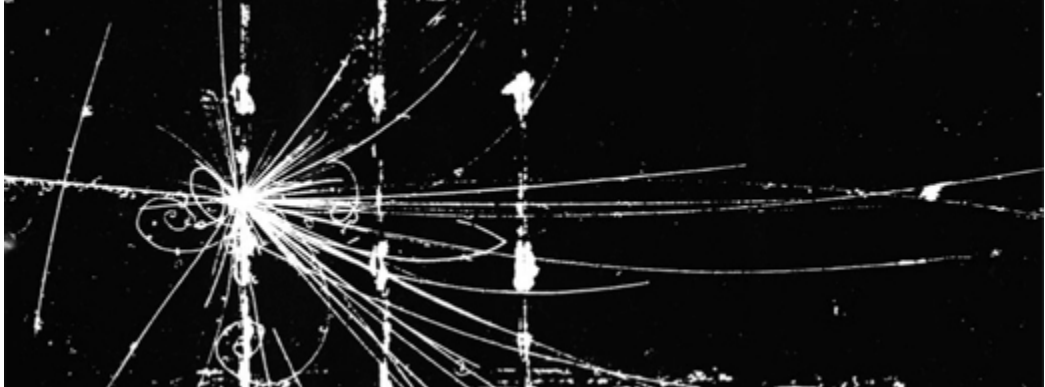
Researchers from FLNP JINR and scientific centres of Tajikistan and Portugal compared different zirconium dioxide phases and discovered that the monoclinic phase is the most stable one. Their findings deepen the understanding of the fundamental properties of ZrO₂, a widely used dental material and means of generating green energy.

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Media

A day in JINR history

Every week, the JINR Telegram channel shares archival photos of the Institute. We invite you to look at a photo of a two-metre propane bubble chamber event, taken 48 years ago, in March 1977.



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Baikal Expedition chronicles

The annual expedition at Lake Baikal continues: DLNP JINR employees are building the deep underwater Baikal-GVD Neutrino Telescope. You can read about the scientists' everyday life at Lake Baikal in the diary of a senior researcher Bair Shaibonov.

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Baikal-GVD Project on Russia-1 TV channel

Please enjoy a video about the progress of the Baikal-GVD Neutrino Telescope's construction.

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Seminar recording

We invite you to watch a recording of the seminar "Neutrino mass and oscillations: results and prospects" by Yuri Kudenko.

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Weekly JINR Newspaper issued

A new issue of the Weekly JINR Newspaper #10 has been published. Please note that you can read an English version on the JINR Newspaper's website.

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Upcoming Events

Governing Bodies

- [24 March. Meeting of JINR Finance Committee. JINR, Dubna](#)
- [25 – 26 March. Session of Committee of Plenipotentiaries of the Governments of the JINR Member States. JINR, Dubna](#)

Seminars

- [20 March, 11:00 AM, DLNP. "Development of device for monochromatisation of X-ray radiation for calibration of pixel semiconductor detectors" by Truong Hoai Bao Phi](#)
- [20 March, 12:00 PM, VBLHEP. "Iron ore separator based on the tagged neutron method" by Yuri Rogov. "Leakless thermal stabilisation system and thermometry system for TPC detector at MPD Facility" by Alexander Fedotov](#)
- [20 March, 3:30 PM, BLTP. "Ball lightning: a mystery of modern science" by Maxim Dvornikov](#)
- [21 March, 11:00 AM, FLNP. "Calculation model and static parameters of the IBR-2M Reactor" by Jacob Ydovin](#)
- [21 March, 11:00 AM, VBLHEP. "Deuteron as a relativistic system" by Serge Bondarenko](#)
- [21 March, 11:00 AM, MLIT. "Random forest regression and Shapley additive explanation for effective dose rate estimation in high-energy neutron fields based on Bonner spectrometer measurements" by Konstantin Chizhev](#)
- [24 March, 11:00 AM, BLTP. Journal Club. "Orbital magnetisation as the origin of the nonlinear Hall effect and its implications" by Kaushal Kumar Kesharpu](#)
- [25 March, 11:00 AM, FLNP. "Development of cryostats for nuclear physics research" by Aleksandr Chernikov](#)

Culture

- [21 March – 21 April. Daily from 1:00 to 7:00 PM \(except Monday\). JINR Mir Cultural Centre. JINR scientists' art exhibition](#)
- [19 March, 7:00 PM, JINR Mir Cultural Centre. "Universe of Bach" piano concert](#)
- [20 March, 7:00 PM, JINR Universal Public Library. Hairpin book club](#)
- [21 March, 6:00 PM, JINR Universal Public Library. English speaking club](#)
- [21 March, 6:00 PM, JINR Universal Public Library. JINR Cinema Club](#)
- [21 March, 7:00 PM, JINR Scientists' Club. Piano concert](#)
- [22 March, Ratmino Resort Hotel. Nowruz](#)
- [22 March, 1:00 PM, JINR Universal Public Library. Lecture at Edge of Earth quest](#)
- [22 March, 6:00 PM, JINR Mir Cultural Centre. Concert "Neoclassics: world masterpieces"](#)

For Kids

- [21 March, 6:30 PM, JINR Universal Public Library. Meeting of book and discussing club for teenagers](#)
- [22 March, 5:00 PM, JINR Universal Public Library. "Let's READers"](#)
- [22 March, 6:00 PM, JINR Universal Public Library. "Fiction from third desk" club meeting](#)

Sports

- [19 March, 6:30 PM, JINR Nauka Stadium, 26th JINR Sports Games. Darts](#)
- [20 March, 8:00 PM, JINR Sports Club, 26th JINR Sports Games. Football. Semifinal](#)
- [22 March, 11:00 AM, JINR Nauka Gym. Volleyball tournament](#)
- [22 March, 12:00 PM, JINR Nauka Stadium, 26th JINR Sports Games. Archery](#)
- [23 March, 10:00 AM, JINR Nauka Stadium, 26th JINR Sports Games. Basketball](#)
- [23 March, 10:30 AM, JINR Sports Club, 26th JINR Sports Games. Kettlebell lifting. Stage 3](#)
- [23 March, 11:00 AM, JINR Nauka Stadium, 26th JINR Sports Games. Chess](#)
- [23 March, 11:30 AM, JINR Nauka Stadium. Basketball competition in 3x3 format](#)
- [26 March, 10:00 AM, JINR Nauka Stadium, 26th JINR Sports Games. Volleyball](#)
- [26 March, 8:00 PM, JINR Sports Club, 26th JINR Sports Games. Football](#)

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