



## JINR Newsletter #44, 20 November 2024

Dear colleagues and friends,

Last week's key events were the Committee of Plenipotentiaries session and the JINR Finance Committee meeting, which took place in Minsk. Another highlight was the signing of a cooperation agreement between BLTP at JINR and the Institute of Theoretical Physics of the Chinese Academy of Sciences in Beijing.

Today, the 50 Years of Cold Fusion conference started in Yerevan, bringing together leading scientists from different parts of the world. Tomorrow, a seminar in memory of the prominent experimental physicist Lev Pikelner will take place in Dubna.

In the latest issue of the JINR Newsletter, you will also find outstanding scientific results, publications by the Institute's researchers, seminar recordings, archival photos, and much more!



### Governing Bodies

#### Unity of big science: Minsk CP session results

On 15–16 November, a session of the Committee of Plenipotentiaries of JINR took place to review the Institute's scientific results, personnel training, and social infrastructure development. CP members approved JINR budget for 2025 and elected new members of the Scientific Council. JINR researchers were honoured with state awards of Russia and Belarus.



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### Cooperation

#### Ambassador of Republic of Azerbaijan to Russia visits JINR

On 18 November, the Embassy delegation headed by Rahman Mustafayev discussed the issues of intensifying cooperation between Azerbaijan scientific institutions and JINR. Emphasis was placed on training highly qualified personnel for the republic.



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#### BLTP JINR and Chinese Institute of Theoretical Physics signed agreement

The document provides for the development of international cooperation in theoretical physics. The parties plan to hold scientific schools, conferences, meetings, conduct joint research, and exchange visits of scientists, students, and postgraduates.

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#### JINR and Belarusian State University discussed cooperation in Minsk

On 14 November, prior to the session of the Committee of Plenipotentiaries, Director of the Joint Institute Grigory Trubnikov met with Rector of Belarusian State University (BSU) Andrei Korol at the BSU. The parties discussed prospects for joint scientific projects and a double degree programme.

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### Conferences

#### 50 Years of Cold Fusion conference taking place in Yerevan

The international event held on 20–24 November celebrates the breakthrough in superheavy element synthesis. Participants from Europe, Asia, and America, including world-renowned scientists, are discussing the progress and prospects of this area of research.



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### Research

#### Membranes with silver nanoparticles and turmeric root pigment help suppress viral activity

Scientists from the Centre of Applied Physics of the Laboratory of Nuclear Reactions at JINR and colleagues from Armenia and South Africa created a material capable of suppressing viruses. It is promising for domestic and industrial water purification and medical applications.

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#### DLNP JINR developed new neutron cooling method

A senior researcher Sergey Dolya has proposed an efficient way to cool the neutron flux to ultralow temperatures. The patented technology opens wide opportunities for particle physics research. By using this method, the researchers will be able to accurately study neutron lifetimes and properties.

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### Publications

#### Review of Particles and Nuclei, Letters journal, #6 2024

The JINR Publishing Department has released the sixth issue of Physics of Elementary Particles and Atomic Nuclei, Letters, a journal constituting review articles by leading physicists from the JINR Member States and scientists from all over the world.

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### Books

#### S&T Library exhibition at VBLHEP: Particle detectors in high energy physics

On 11–29 November, the branch of the Science and Technology Library at the Laboratory of High Energy Physics at JINR is hosting the Particle Detectors in High Energy Physics exhibition. Readers will find books, articles from Russian and international journals, and lists of articles on specific detectors.

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### Announcements

#### Seminar in memory of Lev Pikelner

A seminar marking the 100th anniversary of the outstanding experimental physicist will take place at FLNP JINR conference hall on 21 November, at 2:00 PM. Lev Pikelner is recognised for his scientific leadership and significant contribution to the establishment of the scientific programme of the Laboratory of Neutron Physics.



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#### JINR grants for Dubna teachers

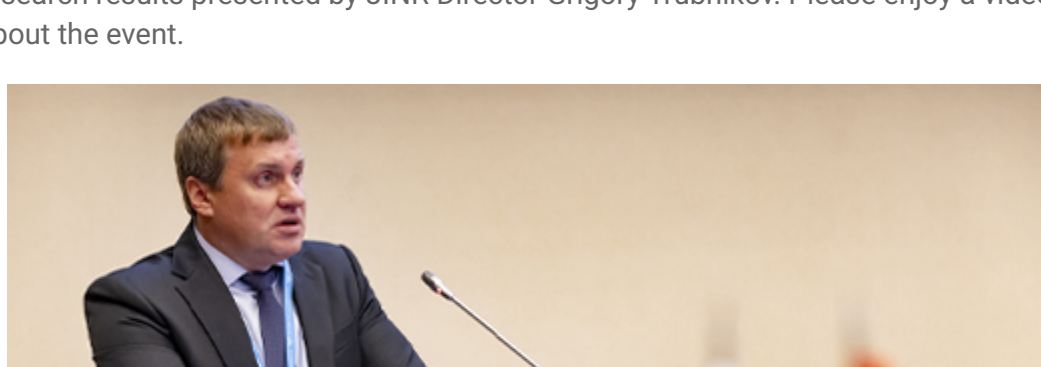
JINR announced an annual grant competition for school and additional education teachers to promote professional development and stimulate the creative activity of teachers specialising in subjects and technologies essential for potential future JINR employees. The application deadline is set on 14 February 2025 (inclusive).

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### Media

#### JINR Finance Committee met in Belarus

The Committee members discussed the 2025 budget and reviewed Institute's latest research results presented by JINR Director Grigory Trubnikov. Please enjoy a video about the event.



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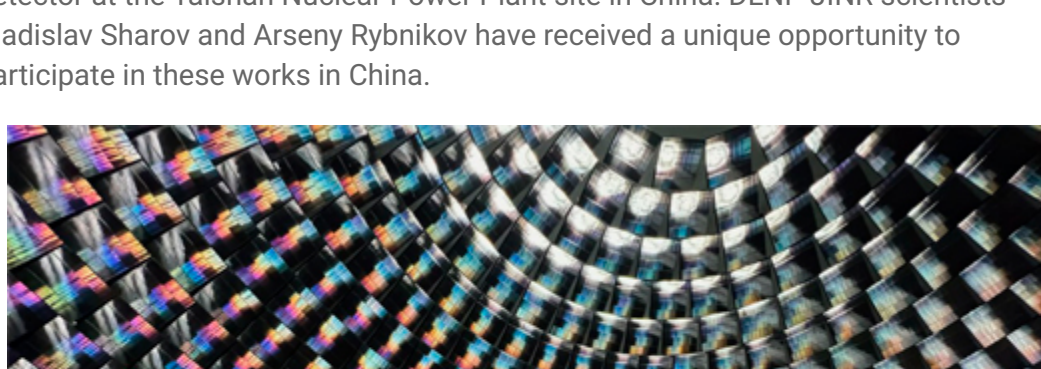
#### A day in JINR life

On 14 November, the JINR Telegram channel published a post featuring an archive photograph of an operator Ludmila Kartashova at the central processor of the BESM-6 Computer at MLIT at JINR taken exactly 45 years ago, on 14 November 1979. Please enjoy the photo and its description.

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#### TAO Detector assembly for JUNO Project reaches finish line

The final stage in the preparation of the TAO Facility came, the assembly of the detector at the Taishan Nuclear Power Plant site in China. DLNP JINR scientists Vladislav Sharov and Arseny Rybnikov have received a unique opportunity to participate in these works in China.



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#### Seminar recording

We invite you to watch recordings of seminars "Development of information systems for SPD Experiment"<sup>1</sup> by Fedor Prokoshin, "Gravitational waves. Part 2"<sup>2</sup> by Anton Baushev, and "DLNP Scientific and Experimental Department of multiple Hadronic Processes in CDF Experiment"<sup>3</sup> by Akram Artikov.

[WATCH<sup>1</sup> →](#)

[WATCH<sup>2</sup> →](#)

[WATCH<sup>3</sup> →](#)

#### Video about past week JINR events

We offer you to watch a video review of highlights from the life of the Institute.

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#### JINR Weekly Newspaper issued

A new issue of the JINR Weekly Newspaper #45 has been published. Please note that you can read an English version on the JINR Newspaper's website.

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### Upcoming Events

#### Conferences

- **5 – 22 November. Stage 3 of International Student Practice in the JINR Fields of Research** for students from Foynt JINR, Dubna
- **18 – 21 November. Scientific School for Schoolchildren from Azerbaijan and Kazakhstan.** JINR, Dubna
- **18 – 22 November. 25th JINR Training Course "JINR Expertise for Member States and Partner Countries"** (JEMS-25). JINR, Dubna
- **19 – 24 November. 50 Years of Cold Fusion international conference.** Yerevan, Armenia
- **22 – 26 November. Autumn school on physics of quark-gluon matter.** JINR University Centre, Dubna
- **25 – 27 November. Workshop on physics performance studies at NICA (NICA-2024).** JINR, Dubna

#### Seminars

- **21 November. 11:00 AM. MLIT. "Senior field in cosmology with Lyra's geometry"** by Bijan Saha. "Properties of quasidensity probability functions of quantum system with electromagnetic interaction." Evgeny Perspelkin
- **21 November. 2:00 PM. FLNP. Seminar dedicated to the 100th anniversary of Lev Pikelner**
- **22 November. 10:00 AM. VBLHEP. "Colliders" lecture series. "Beam cooling methods in synchrotrons. Part 6."** by Anatoly Sidorin
- **22 November. 11:00 AM. DLNP. "Study of polarisation effects at accelerators using polarised target."** by Victor Kashevarov
- **22 November. 11:30 AM. VBLHEP. "Self-similarity and cumulative hadron production in heavy ion collisions at high energies"** by Mikhail Tokarev
- **25 November. 10:00 AM. VBLHEP. "Methods of adjusting and operating electron beam cooling systems" lecture series. "Measurement of transverse component of friction. Part 4"** by Pavel Lebedev
- **25 November. 11:00 AM. BLTP. Journal Club. "Ferromagnetic fragmented ground state in the pyrochlore Ho<sub>2</sub>Ru<sub>2</sub>O<sub>7</sub>."** by Pavel Maksimov
- **25 November. 3:30 PM. BLTP. "Skyrme ORPA analysis of features of nobelium isotopes"** by Vladimir Nesterenko
- **27 November. 11:00 AM. DLNP. "Studying gamma background variations using an LVD scintillation detector."** by Ekaterina Dobrylina

#### Culture

- **31 October – 24 November. Daily from 1:00 to 7:00 PM (except Monday).** JINR Mir Cultural Centre. Keep Your Balance photo exhibition
- **21 November. 6:30 PM. JINR Universal Public Library. JINR Cinema Club**
- **21 November. 7:00 PM. JINR Universal Public Library. Italian speaking club**
- **21 November. 7:00 PM. JINR Universal Public Library. Summer Reading List book club**
- **22 November. 6:00 PM. JINR Universal Public Library. English speaking club**
- **22 November. 7:00 PM. JINR Scientists' Club. Classical music concert**
- **23 November. 2:30 PM. JINR Universal Public Library. Lecture "Evolution in biology and linguistics: similarities and differences."**
- **24 November. 2:00 PM. JINR Universal Public Library. Interactive performance**
- **24 November. 5:00 PM. JINR Mir Cultural Centre. Instrumental duet**
- **26 November. 7:00 PM. JINR Mir Cultural Centre. Concert by pop singers**

#### For Kids

- **22 November. 6:00 PM. JINR Universal Public Library. "Fiction from the third desk" club meeting**
- **23 November. 5:00 PM. JINR Universal Public Library. "Let's READers" book club**
- **23 November. 6:00 PM. JINR Universal Public Library. Meeting of book club for teenagers**

#### Sports

- **21 November. 5:30 PM. JINR Sports Club. Kettlebell lifting tournament**
- **23 November. 10:00 AM. JINR Nauka Stadium. Table tennis tournament dedicated to 70th anniversary**
- **24 November. 10:00 AM. Dubna Climbing Gym. Climbing Festival**
- **24 November. 10:20 AM. JINR Nauka Stadium. Chess tournament dedicated to 70th anniversary**

[ALL JINR EVENTS →](#)