

## JINR Newsletter #15, 17 April 2024

Dear colleagues and friends,

The development of international cooperation at JINR is proceeding in various directions. Just recently, JINR and the National Academy of Sciences of Armenia signed an agreement on the creation of a Scientific and Technological Centre at the NASRA. Sharm El Sheikh is currently hosting a major symposium on neutron physics, organized by JINR along with the partners from Egypt and China. An IT school for Russian students took place in Dubna. As part of the modernisation of the CMS facility at the LHC, the Institute's scientists are working on a new HGCal calorimeter.

Find out about this and much more, from megascience to poetry competitions, in the latest issue of JINR Newsletter.



### Cooperation

#### JINR and Armenian National Academy of Sciences to open Scientific and Technological Centre

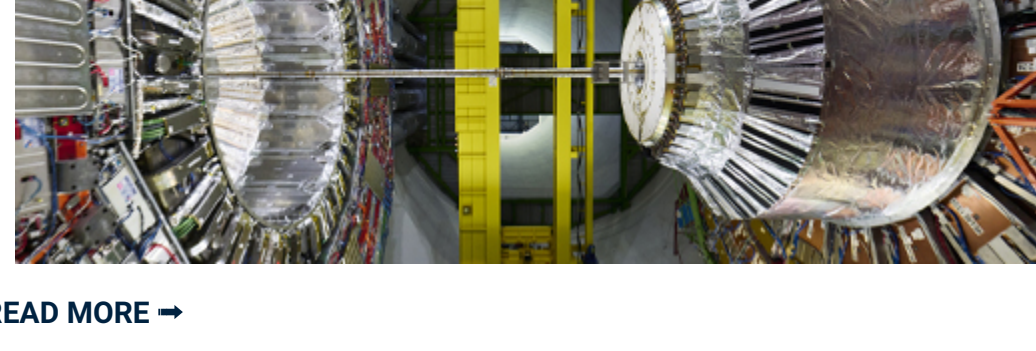
On 14 April, the President of the Academy Ashot Saghyan and JINR Director Grigory Trubnikov signed an agreement on cooperation in fundamental science, information technology, innovation, and education. As part of the agreement, JINR Scientific and Technological Centre, aimed at deepening cooperation between the parties, will open at the Academy.



[READ MORE →](#)

#### Important stage of JINR's participation obligations in modernisation of CMS facility at CERN completed

VBLHEP scientists are participating in the HGCal, a project to create a high-granularity calorimeter for the Compact Muon Solenoid of the Large Hadron Collider. It will increase spatial and temporal resolution and work more effectively in high luminosity. The Laboratory designed modules, created a test bench, and simulated the facility's commissioning.



[READ MORE →](#)

### Conferences

#### Jubilee International Seminar on Interaction of Neutrons with Nuclei - ISINN-30

The seminar started on 14 April in Sharm El Sheikh, Egypt, in a hybrid format. The reports presented during the first day of the event covered various topics, including cooperation between Egypt and JINR, results of JINR research, and topical issues of physics.



[READ MORE →](#)

#### MLIT hosted JINR Spring School of Information Technologies

On 15–16 April, 20 students from various regions of Russia presented preliminary results of their theses on the topics of JINR projects. Participants work in teams, which were formed at the Autumn School and consist of students, their scientific leaders, and JINR researchers.

[READ MORE →](#)

#### Registration for Nucleus-2024 extended

The LXXIV International conference Nucleus-2024: Fundamental problems and applications, which will take place at BLTP JINR on 1–5 July, has postponed the deadline for applications. You can register [via the link](#) until 22 April.

[READ MORE →](#)

### Flagship projects

#### Concept of HTS magnetic system of new Nuclotron

VBLHEP scientists Hamlet Khodzhibagyan, Mikhail Novikov, Siegfried Fischer, and Andrey Shemchuk presented a concept of the high-temperature superconductor (HTS) magnetic system of the New Nuclotron Synchrotron as part of the NICA Megascience Project. The article on the study was published in the Particles and Nuclei Letters journal.



[READ MORE →](#)

#### Preparing LU-20 Accelerator for upcoming run at NICA

On 3–12 April, VBLHEP researchers carried out operational work with a beam of charged particles on the LU-20 Linear Accelerator, which is part of the injector complex of the NICA Accelerator Complex. As noted by Head of the Sector Konstantin Levterov, the results are positive.

[READ MORE →](#)

### Research

#### Method for studying characteristics of light readout systems in liquid argon

As part of DUNE (Deep Underground Neutrino Experiment), DLNP researchers Alexander Sebyun, Nikolay Arifimov et al. carried out comparative experiments of a full-scale light collection module for a liquid argon time-projection chamber. The study resulted in the development of a new method and was published in the Particles and Nuclei Letters journal.

[READ MORE →](#)

### Education

#### Young researchers celebrated 155th anniversary of Mendeleev's Table at JINR

For the 9th time, JINR Museum hosted the "Mendeleev readings" scientific and practical conference for schoolchildren aimed at popularising science. This year, the event was dedicated to the anniversary of the Periodic Table. The participants delivered reports and engaged in a lecture, chemical experiments, and an intellectual team competition.



[READ MORE →](#)

#### 13th Open Robotic Tournament CyberDubna-2024

The annual event, organized by JINR, took place on 13 April at the V. G. Kadyshchsky Physics and Mathematics Lyceum. 14 teams, comprised of schoolchildren from various cities, participated.

[READ MORE →](#)

### Announcements

#### Registration for Modern Radiobiology Problems opens

Tsytb Medical Radiological Research Centre invites master's students, residents, graduates, and young scientists to take part in the 23rd International Youth Scientific Educational Programme "Modern Radiobiology Problems". You can find information on registration [via the link](#). Applications are accepted until 10 May.



[READ MORE →](#)

#### Nuclear medicine conference and educational programme invite applications

Lebedev Physical Institute invites specialists, graduates, and students to participate in the 3rd International Scientific Conference "Innovative technologies of nuclear medicine and radiation diagnostics and therapy" and the 5th Youth Educational Programme "Innovative nuclear physical methods of high-tech medicine". Information on registration is available via the links: [conference](#) [educational programme](#)

[READ MORE →](#)

#### Call for applications for physics educational programme

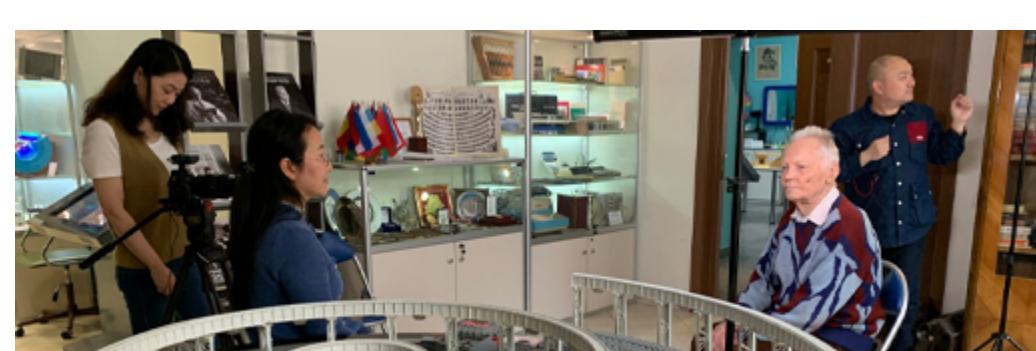
The National Centre for Physics and Mathematics invites students and young scientists to participate in the III All-Russian School for Students and Young Scientists in High Energy Physics, Nuclear Physics, and Accelerator Engineering. You can register [via the website](#). Applications are accepted until 26 April.

[READ MORE →](#)

### Media

#### Documentaries commemorating Wang Ganchang filmed at JINR by China Central News Documentary Film Studio

Alexey Zhemchugov (DLNP, JINR Management), Kirill Kozubsky (JINR Museum of History of Science and Technology), and VBLHEP Chief Researcher Vladimir Nikitin spoke about Wang Ganchang, one of the Institute's Founding Fathers, Academics of the Chinese Academy of Sciences, to the film crew of the China Central News Documentary Film Studio.



[READ MORE →](#)

#### Video dedicated to 11th anniversary of Venedikt Dzhelepov

In a fragment from the Joint Institute for Nuclear Research documentary filmed in 1986, the prominent scientist discusses the 1967–1984 modernisation of synchrocyclotron.

[WATCH →](#)

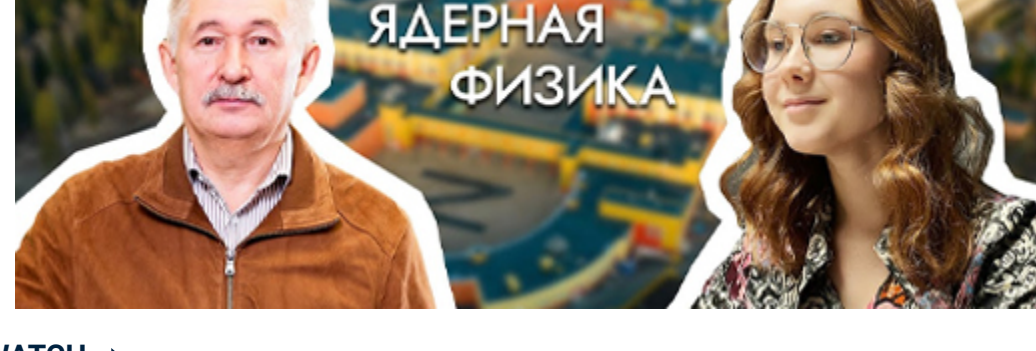
#### Poetry competition. Voting

We wholeheartedly thank all the talented participants of the last week's competition marking the Cosmonautics day and invite you to take part in the voting in [our Telegram channel](#).

[READ MORE →](#)

#### Interview with NICA Chief Engineer

Evgeniy Oryelzin told Tatyana Kyrkalova about the megascience project and its competitive advantages. From the conversation, you can also gain insight into the team selection process and the practical use of the research conducted at NICA.



[WATCH →](#)

#### JINR researcher on Mir TV channel

On 12 April, the channel crew was filming at the VBLHEP JINR site. Laboratory researcher Yuri Stepanenko told the crew about research within the NICA Megascience Project. The upcoming coverage will air on 8 May and will be dedicated to the 10th anniversary of the Eurasian Economic Union.

[READ MORE →](#)

#### DLNP lecture recording

We offer you to watch a recording of the "Kaizen planning system" lecture by Oksana Pliskovskaya.

[WATCH →](#)

#### Video about past week JINR events

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

[WATCH →](#)

#### JINR Weekly Newspaper issued

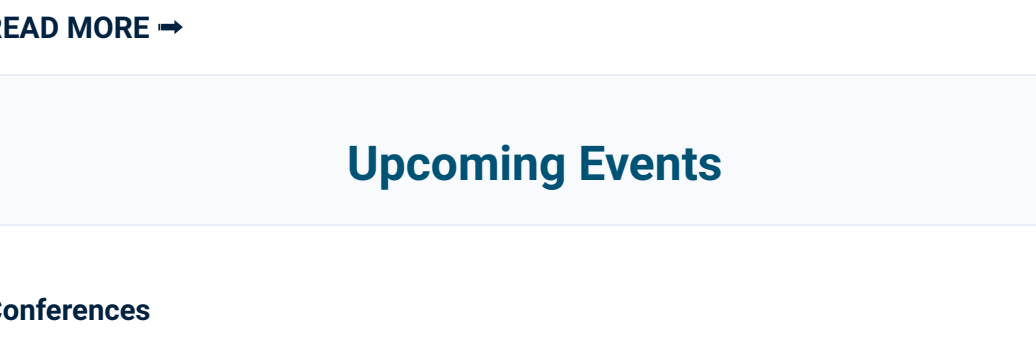
A new issue of the JINR Weekly Newspaper #14 has been published. Please note that you can read an English version on the JINR Newspaper's website.

[READ MORE →](#)

### Sports

#### JINR employee wins Russian National Swimming Championships

Archimedes Swimming pool coach Maria Alikina won Masters swimming, setting a record among Russian swimmers. Overall, members of the 105th element swimming club have won 4 gold, 1 silver, and 3 bronze medals and set two national records. Congratulations to the athletes!



[READ MORE →](#)

### Upcoming Events

#### Conferences

- **14 – 18 April.** 30th International Seminar on Interaction of Neutrons with Nuclei: "Fundamental Interactions & Neutrons, Nuclear Structure, Ultracold Neutrons, Related Topics" (ISINN-30)
- **23 – 25 April.** 13th Collaboration Meeting of the MPD Experiment at the NICA Facility

#### Seminars

- **18 April 11:30 AM.** VBLHEP: "Study of higher harmonics in high-voltage network of power supply systems of Nuclotron and Booster accelerator facilities" by Oleg Naumov
- **19 April 3:30 PM.** FLNR: "Development of electromagnetic on-line separators for studying properties of superheavy nuclei" by Andrey Popoko
- **22 April 11:00 AM.** BLTP Journal Club: "Thermal Hall effect incorporating magnon damping in localised spin systems" by Pavel Maksimov
- **23 April 3:00 PM.** MLT: "Enstove at JINR. Status and prospects" by Alexander Mozbenko. "Nonseparable Schrödinger equation in discrete variable representation" by Sara Shafiqzadeh
- **23 April 4:00 PM.** BLTP: "Partial condensation of mobile excitons in rhomboedral graphene multilayers" by Igor Blinov
- **24 April 3:00 PM.** MLT: "Modelling of QAOA algorithm operation on the quantum computing simulator Circ by Yuri Pali

#### Culture

- **21 March – 21 April.** Daily from 1:00 to 7:00 PM (except Monday). JINR Cultural Centre "Mir". "Enchanted by science" exhibition
- **23 April – 19 May.** Daily from 1:00 to 7:00 PM (except Monday). JINR Cultural Centre "Mir". Fine arts exhibition
- **18 April 7:00 PM.** JINR Universal Public Library. Hairpin book club
- **19 April 11:00 AM.** DLNP. "Checkups of some use for scientist" project. Goal setting and planning. Lecture 5
- **20 April 2:00 PM.** JINR Universal Public Library. Total dictation
- **20 April 4:00 PM.** JINR Universal Public Library. Bibliomight 2024
- **20 April 4:00 PM.** JINR Cultural Centre "Mir". Reporting concert by children's dance troupe
- **21 April.** Moscow Trip by JINR Scientists' Club
- **21 April 5:00 PM.** JINR Cultural Centre "Mir". "The Frog Princess" musical performance
- **23 April 6:30 PM.** JINR Universal Public Library. Improv communication activities workshop
- **23 April 7:00 PM.** JINR Cultural Centre "Mir". "Juvo and Avos" rock opera
- **23 April 7:00 PM.** JINR Universal Public Library. Genealogical club's meeting

#### Sports

- **20–21 April 3:00 PM, 11:00 AM.** JINR Nauka Stadium. JINR Open Chess Tournament
- **22 April 11:00 AM.** JINR Yacht Club. Track and field run in memory of L. N. Yakutin

#### For Kids

- **19 April 6:00 PM.** JINR Universal Public Library. Meeting of book and discussing club for teenagers
- **20 April 2:00 PM.** JINR Universal Public Library. Children's research project "Archimedes Pear"

[ALL JINR EVENTS →](#)