

JINR Newsletter #37, 2 October 2024

Dear colleagues and friends,

Several highlights in international cooperation have recently taken place at JINR. Minister of Science and Technology of Vietnam Huynh Thanh Dat visited the Institute. JINR also hosted meetings aimed at strengthening ties with South Africa and China.

A JINR delegation paid a visit to a number of Mongolian institutes as part of the celebration of the 50th anniversary of the Institute of Mathematics and Digital Technology. Another significant date last week was the 30th anniversary of Dubna University, with which JINR closely collaborates.

The latest issue of the JINR Newsletter features scientific publications, a podcast with the JINR Director, October's wallpapers for your smartphones, and much more!

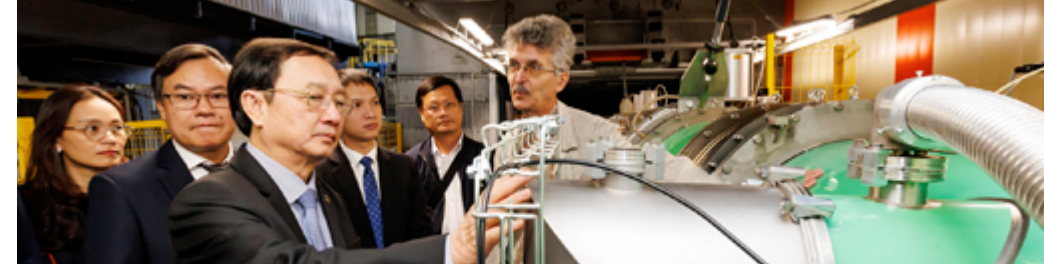
JINR Press Office



Cooperation

Minister of Science and Technology of Vietnam visited JINR

During the visit of a Vietnamese delegation led by Huynh Thanh Dat, the parties discussed personnel training for the future research reactor in Vietnam, involvement of Vietnamese employees in key JINR projects, and JINR support for the establishment of an accelerator complex in Hanoi.



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Round table of heads of RSA–JINR joint projects

The meeting took place at the Institute on 26 September. The leaders of mutual projects of JINR and scientific organizations and universities of the Republic of South Africa discussed the training of young South African personnel based on the existing projects as part of the RSA–JINR cooperation programme and plans.

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JINR at conference marking anniversary of Mongolian Institute of Mathematics and Digital Technology

On 19–22 September, a JINR delegation visited a number of institutes of the Mongolian Academy of Sciences (MAS). JINR representatives also participated in the conference dedicated to the 50th anniversary of the IMDT MAS. During the visit, a number of agreements on strengthening JINR–Mongolia cooperation were reached.

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Workshops

Cooperation prospects with Institute of Modern Physics of China discussed at JINR

VBLHEP JINR hosted the Workshop on Superconducting Resonators and Fast Cycling Magnets as part of the cooperation between JINR and the Institute of Modern Physics of the Chinese Academy of Sciences. The parties discussed the issues of creating new technologies and prospects for the development of the NICA and HIAF projects.



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JINR and China considered establishment of high-speed communication channel

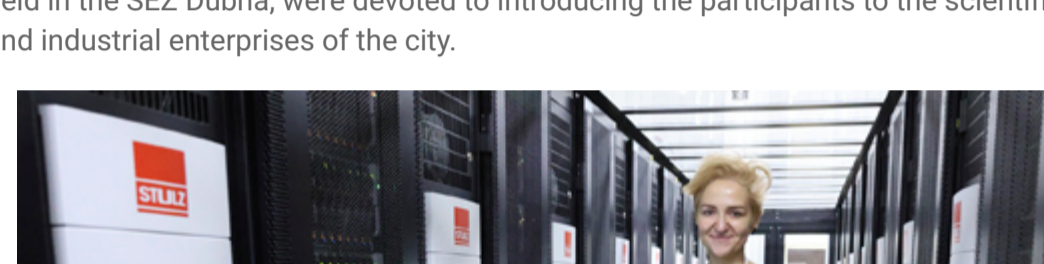
The JINR–China workshop took place in the Listvyanka Village to discuss methods of data processing and analysis in future HEP experiments. The creation of a high-speed communication channel between JINR and the Institute of High Energy Physics of the Academy of Sciences of China was considered a primary objective.

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JINR & Business

Participants of business incubator of Shanghai Cooperation Organization visited JINR

At the end of September, the final part of the SCO International Youth Acceleration took place in Moscow and the Moscow Region. The last two days of the programme, held in the SEZ Dubna, were devoted to introducing the participants to the scientific and industrial enterprises of the city.



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Research

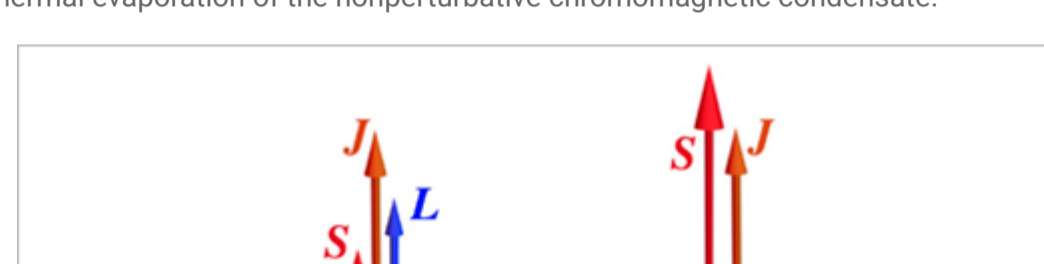
Leptonic and semileptonic decays of mesons in the domain model of QCD vacuum

The article by a senior researcher of the Laboratory of Theoretical Physics at JINR Vladimir Voronin was published in *Physical Review D*. Please follow the link below to find out more about the research results.

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Negative Barnett effect, negative moment of inertia of gluon plasma, and evaporation of chromomagnetic condensate

The research was conducted by BLTP JINR physicists together with their colleagues from Russia, France, and Sweden and published in *Physical Review D*. In the work, the authors numerically confirmed that the origin of the Negative Barnett effect is the thermal evaporation of the nonperturbative chromomagnetic condensate.



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Common cryogenic concept for various superconducting magnets of NICA Collider

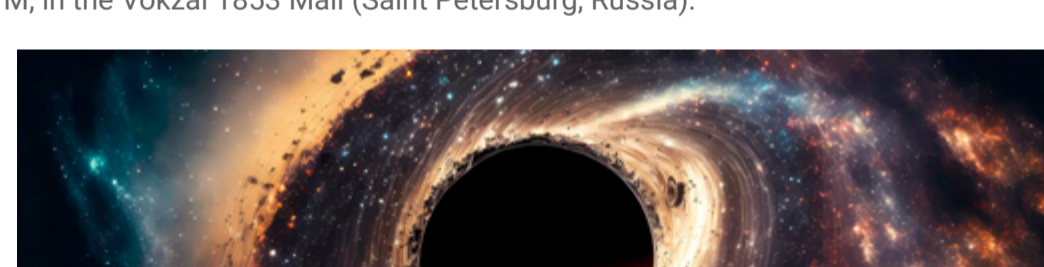
The article by VBLHEP JINR scientists devoted to the specifics of the cryogenic method, design features of NICA superconducting magnets, and test results was published in *IEEE Transactions on Applied Superconductivity*. You can also find a brief information about the status of the NICA Megascience Project in the paper.

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Announcements

Lecture of DLNP researcher on black holes

Everyone interested is welcome to join the lecture entitled "Black Holes: Amazing Objects of the Universe" by DLNP JINR Deputy Director and Head of the JINR Neutrino Programme Dmitry Naumov, which will take place on 13 October, at 3:00 PM, in the Volkzal 1853 Mall (Saint Petersburg, Russia).



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Art. Brilliance. Innovations competition

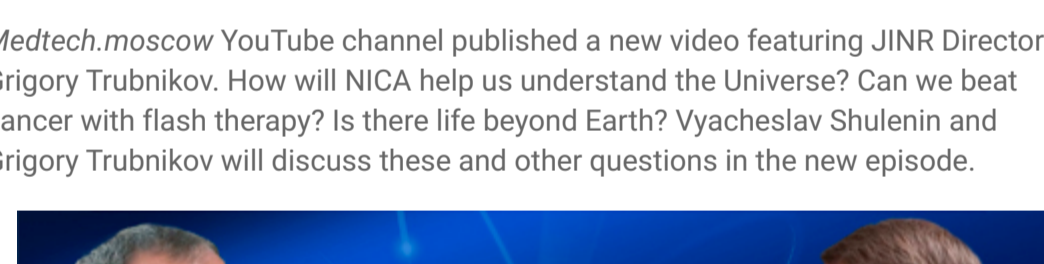
Artists and scientists are welcome to participate in a competition dedicated to the synergy of creativity and science. There are three categories: 3D/2D animation, painting drawing, and sculptural composition. You can [submit](#) your entry until 9 October.

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Media

JINR Director in #ProScience podcast

Medtech.moscow YouTube channel published a new video featuring JINR Director Grigory Trubnikov. How will NICA help us understand the Universe? Can we beat cancer with flash therapy? Is there life beyond Earth? Vyacheslav Shuleinin and Grigory Trubnikov will discuss these and other questions in the new episode.



[WATCH ON YOUTUBE →](#)

[WATCH ON VK →](#)

JINR congratulates Dubna University on its anniversary

27 September marks the 30th anniversary of Dubna University. Since the beginning of its history, the university has been actively cooperating with JINR. To celebrate the memorable date, former students of the university working at JINR prepared a video.

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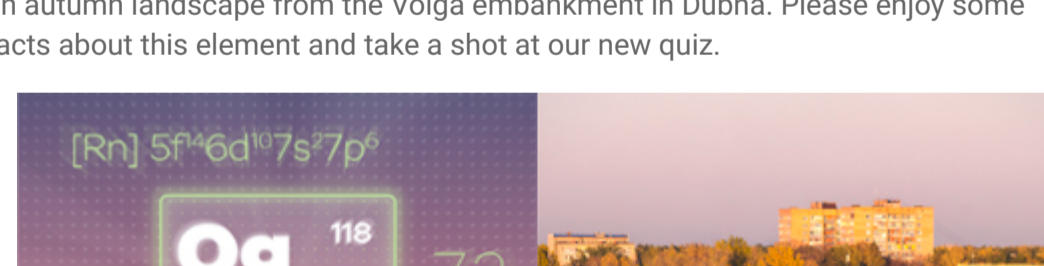
A day in JINR life

On 27 September, the JINR Telegram channel published a post featuring an archive photograph with Alexei N. Sissakian taken exactly 49 years ago. Please enjoy the photo and some details about the scientific life of the outstanding researcher.

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October wallpapers for your smartphones

This month's JINR Telegram wallpaper features element 118, oganesson (Og), and an autumn landscape from the Volga embankment in Dubna. Please enjoy some facts about this element and take a shot at our new quiz.



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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 #38 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

- **30 September – 4 October**. 15th International School and Workshop on Few-Body Systems. Khabarovsk, Russia
- **7 – 11 October**. JINR Autumn School of Information Technologies. MLIT, Dubna
- **7 – 11 October**. Scientific student practice. Control processes in scientific projects, participation of students in scientific researches. JINR, Dubna
- **7 – 11 October**. Introduction for the plenipotentiaries' offices and officers responsible for liaison with JINR. JINR, Dubna
- **8 – 10 October**. 13th Collaboration Meeting of the BM@N Experiment at the NICA Facility. VBLHEP JINR, Dubna

Seminars

- **3 October**. 11:00 AM. DLNP. Dissertation Council. "Direct measurement of the solar pp-neutrino at the Borexino Detector" by Oleg Smirnov
- **3 October**. 11:30 AM. VBLHEP. Dissertation Council. "Magnetic field measurement system for superconducting quadrupole magnets of the NICA Booster" by Andrey Shemchuk
- **3 October**. 12:30 PM. BLTP. "Perturbative analysis of the Hayashi-Shirafuji theory of relativity" by Vyacheslav Vandeev
- **4 October**. 11:30 AM. VBLHEP. "Modern problems of biosecurity and counteracting use of current and potential biological weapons" by Sergey Zavriv
- **7 October**. 11:00 AM. BLTP. Journal Club. "Strong and tunable coupling between antiferromagnetic magnons and surface plasmons", "Correlations of the current density in many-body Landau level states" by Kaushal Kumar Kesharpu
- **8 October**. 2:00 PM. MLIT. "A Graph Neural Network model for the reconstruction of particle tracks detected at the MPD Experiment of the NICA Project" by Yauheni Talochka. "A new physics beyond the velocity of light and numerical study on cosmology" by Mahendra Goray
- **9 October**. 11:00 AM. DLNP. "Reduced cross sections of electron and neutrino charged current quasielastic scattering on nuclei" by Anatoly Butkevich
- **9 October**. 11:00 AM. BLTP. "Multi-loop calculations in $\varphi^4 + \varphi^6$ theory" by Aleksandr Trenogin

Culture

- **2 – 27 October**. Daily from 1:00 to 7:00 PM (except Monday). JINR Cultural Centre "Mir". Exhibition of wood art
- **4 October**. 6:00 PM. JINR Universal Public Library. English speaking club
- **4 October**. 7:00 PM. JINR Scientists' Club. "Malyavin & Arkhipov. Adepts of red" lecture
- **5 October**. JINR Universal Public Library. Lecture on Miyazaki's symbolism
- **5 October**. 7:00 PM. JINR Mir Cultural Centre. Concert programme "For the Music Day"

For kids

- **4 October**. 4:00 PM. JINR Universal Public Library. Times and Epochs children's history project
- **5 October**. 5:00 PM. JINR Universal Public Library. Let's read books
- **5 October**. 6:00 PM. JINR Universal Public Library. Meeting of book club for teenagers
- **6 October**. 12:00 PM. JINR Mir Cultural Centre. Children play

Sports

- **5 October**. 10:00 AM. JINR Nauka Stadium. Volleyball tournament
- **5 October**. 12:00 PM. JINR Sports Club. 21st weightlifting tournament in memory of Yuri V. Masloboev

[ALL JINR EVENTS →](#)