



JINR Newsletter #32, 17 August 2023

Dear colleagues and friends,

One of the main priorities of the Joint Institute is the development of a partner network with scientific organizations of the world. In Vietnam, the expansion of JINR's participation in the creation of the scientific infrastructure of this country has been discussed recently. Russian partners are building new connections in staff training in the field of hydrogen energy and IT.

You can find the development of durable cement for radioactive waste storage, the study of magnetic properties of heterostructures, successes in the NA64 experiment, a new liquid scintillator among the scientific topics of this issue of the JINR Newsletter.

And certainly, the Institute is actively preparing to celebrate the 110th anniversary of the birth of Bruno Pontecorvo next week.

JINR Press Office



International cooperation

JINR scientists at 15th VINANST International Conference in Vietnam

On 9 – 11 August, in Nha Trang, Vietnam, the JINR delegation took part in the 15th Vietnam Conference on Nuclear Science and Technology (VINANST-15). At the round table, the parties discussed the results of JINR research and prospects for the development of cooperation between organizations.



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Research

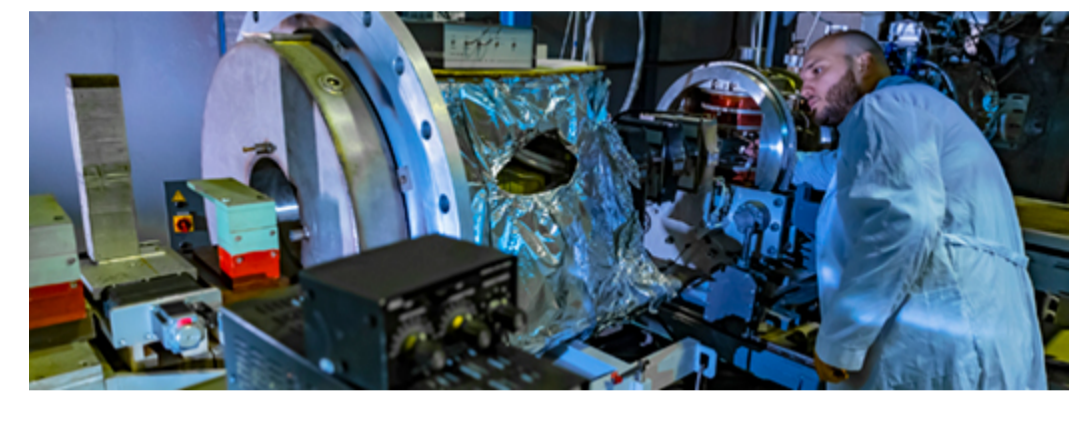
JINR specialists developing and studying compositions of durable cement for radioactive waste storage

FLNP JINR scientists are developing and studying cement-based materials for radioactive waste storage and recycling. As a result of experiments with the use of neutron radiography and tomography methods, they managed to determine the most durable cement matrices.

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FLNP JINR scientists discovered new magnetic phenomena in heterostructures

These studies can contribute to the development of spintronics, nanoelectronics, as well as quantum computing. The structures under study consist of thin layers of several materials, namely ferromagnets and superconductors. The obtained composites have demonstrated unusual properties of magnetic ordering in layered structures.



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Search for dark matter in NA64 experiment

Recently, CERN has successfully completed another data collection within the scientific programme to search for dark matter in the NA64 experiment. Scientists have conducted runs at the electron and muon secondary beams of the SPS accelerator. Participants of the collaboration continue to analyse the data and hope to get new interesting results.

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JINR scientists developed a liquid scintillator to search for neutrinoless double beta decay

A group of JINR scientists has developed and patented a tellurium loaded liquid scintillator with improved characteristics compared to the analogous. Now this scintillator can be used in large-scale experiments to search for neutrinoless double beta decay.

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Education

JINR and AFK Sistema agreed to train ten students for master's degree

Ten students of Dubna State University will study for a master's degree for free from September this year. They will improve their skills under the guidance of experienced professionals in the field of hydrogen energy. Their training will be the result of a lot of work by JINR and the Joint Stock Financial Corporation Sistema to train staff to participate in joint projects.



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Dedicated to 110th anniversary of Bruno Pontecorvo

Exhibition and film about Bruno Pontecorvo

On 22 August – 3 September, the Bruno Maksimovich exhibition will take place at the JINR Cultural Centre "Mir". The exhibition presents friendly caricatures by Mikhail Bilenky, photos of different years by Yuri Tumanov, and documents of the memorial office of the scientist. On the exhibition opening day, 22 August, at 6:30 PM, a documentary film "Bruno Pontecorvo" will be shown.

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About Bruno Pontecorvo's hobbies

The DLNP Group of Scientific Communication has prepared a series of publications on Pontecorvo's biography. In this article you will learn about the members of the Pontecorvo family, namely his wife and three sons.



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Exhibition of S&T Library dedicated to 110th anniversary of Bruno Pontecorvo

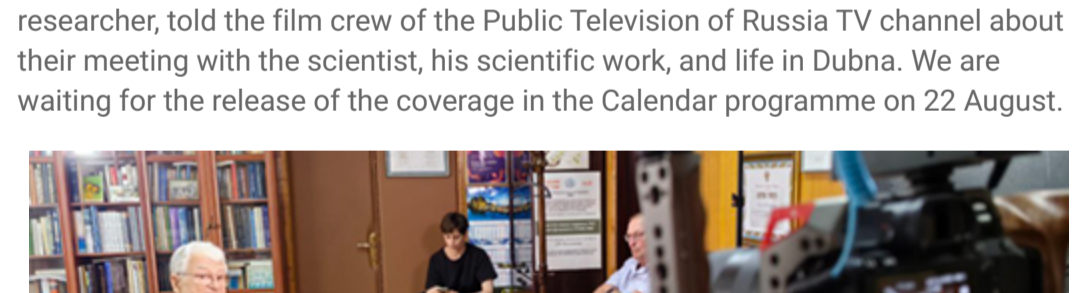
At the exhibition you can find scientist's works, namely selected works, scientific articles in journals and collections, preprints, works on the history of physics, popular science articles, his memoirs, autobiographical notes, and much more! The exhibition runs from 21 August to 1 September.

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Media

Filming coverage about Bruno Pontecorvo

On 16 August, FLNR Scientific Leader Yuri Oganessian and the author of the book "Life and ideas of Bruno Pontecorvo" Mikhail Sapozhnikov, a VBLHEP chief researcher, told the film crew of the Public Television of Russia TV channel about their meeting with the scientist, his scientific work, and life in Dubna. We are waiting for the release of the coverage in the Calendar programme on 22 August.



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Publications

New issue of Particles and Nuclei, Letters journal

The issue of the review journal Particles and Nuclei, Letters journal #4 has been published with results of the original theoretical, experimental, scientific-technical, methodical, and applied research.

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Announcements

Closing ceremony of exhibition at Cultural Centre "Mir"

On 20 August, at 4:00 PM, a traditional summer art exhibition by an artist Vlad Kravchuk will be closed in the exhibition hall of the JINR Cultural Centre "Mir". You can meet and talk with the artist, share your impressions about the exhibition, and make plans for further creative meetings in Dubna!



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Sports

Reconstruction of JINR Sports Club

The reconstruction of the JINR Sports Club is in full swing. Specialists have installed the lighting system. Now they are installing new ventilation, heating, video surveillance equipment, as well as a fire safety system.

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Upcoming Events

Conferences

- [24 – 30 August, 21st Lomonosov Conference on Elementary Particle Physics, MSU, Moscow](#)

Seminars

- [21 August, 11:00 AM, BLTP, "The first map of the Milky Way in neutrinos" by Chitta Ranjan Das](#)
- [24 August, 11:00 AM, VBLHEP, "Slow control for MPD TPC LV and HV systems based on CAEN Equipment" by Youmna Ghoniem](#)

Culture

- [17 August, 7:00 PM, JINR Universal Public Library, Summer Reading List book club: discussing a book "Dragon" by Evgeny Schwartz](#)
- [18 August, 6:00 PM, JINR Universal Public Library, English speaking club](#)
- [18 August, 6:30 PM, JINR Universal Public Library, "Fiction from the third desk" club meeting](#)
- [18 August, 6:30 PM, JINR Universal Public Library, Dubna intellectual games' club](#)
- [22 August, 6:30 PM, JINR Universal Public Library, "Fiction from the third desk" club meeting](#)
- [22 August, 6:30 PM, JINR Cultural Centre "Mir", Screening of a documentary film "Bruno Pontecorvo"](#)
- [22 August, 7:00 PM, JINR Universal Public Library, Genealogical club's meeting](#)
- [24 August, 7:00 PM, JINR Universal Public Library, Hairpin book club](#)

Sports

- [20 August, 10:00 AM, JINR Nauka Stadium, Table tennis tournament](#)

[ALL JINR EVENTS →](#)