

# **ARIADNA Collaboration Meeting**

**Wednesday, 4 September 2024 - Friday, 6 September 2024**

**Joint Institute for Nuclear Research  
Programme**

# Wednesday, 4 September 2024

## Registration of in-person participants. Test connection for virtual attendees (09:00 - 10:00)

### Opening of Day 1 (10:00 - 10:45)

time	title	presenter
10:00	Welcome message from Chairs and Officials	REPRESENTATIVES OF JINR DIRECTORATE
10:20	Status of ARIADNA Collaboration	BELOV, Oleg (Joint Institute for Nuclear Research, Dubna, Int.)

### Session # 1 (10:45 - 12:00)

time	title	presenter
10:45	Ground experiments for modelling interplanetary spaceflight factors on NICA	PEREVEZENTSEV, Alexander (Institute of Biomedical Problems, RAS, Moscow, Russia)
11:10	Radiobiological research at NICA complex: Focus on DNA damage and repair	OSIPOV, Andreyan (Semenov Institute of Chemical Physics, RAS, Moscow, Russia)
11:35	Technological capabilities for tissue microenvironment analysis in the Scientific Research Center "Molecular Morphology" of the RUDN University	ATIAKSHIN, Dmitrii (RUDN University, Moscow, Russia)

### Coffee break (12:00 - 12:30)

### Session # 2 (12:30 - 13:20)

time	title	presenter
12:30	Relevant biological models for applied research at NICA	POPOVA, Nelli (Institute of Theoretical and Experimental Biophysics, RAS, Puschino, Russia)
12:55	Genomic Instability as a tool for radiation effects assessment in human cells	AROUTIOUNIAN, Rouben HARUTYUNYAN, Tigran (Yerevan State University, Yerevan, Armenia)

### Joint photo (13:20 - 13:30)

### Lunch break (Shuttle bus to Baryon restaurant) (13:30 - 15:00)

### Session # 3 (15:00 - 16:15)

time	title	presenter
15:00	2G HTS tapes irradiation pinning technologies development and radiation hardness studying	NOVIKOV, Mikhail (Joint Institute for Nuclear Research, Dubna, Int.)
15:25	The influence of ion irradiation on the superconducting properties of 2G HTS wires	DEGTYARENKO, Pavel (Joint Institute for High Temperatures, RAS, Moscow, Russia)

15:50	Development and realization of a method for continuous local magnetic and transport characteristics of HTS tape monitoring in an external magnetic field	POKROVSKII, Sergei (National Research Nuclear University MEPhI, Moscow, Russia; Joint Institute for Nuclear Research, Dubna, Int.)
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**Coffee break (16:15 - 16:45)****Session # 4 (16:45 - 18:00)**

time	title	presenter
16:45	Effect of neutron irradiation on critical parameters and magnetic state of the 2-nd generation YB2Cu3O7 HTSC tape	FEDOTOV, Alexander (Institute of Nuclear Problems, BSU, Minsk, Belarus)
17:10	Atom ordering of superconductor-interface-coating induced by low temperature electron+gamma-irradiations	IBRAGIMOVA, Elvira ((Institute of Nuclear Physics, AS RUz, Tashkent, Uzbekistan)
17:35	Structure disordering of high-temperature oxides under the influence of heavy ion beams	GAVRICHEV, Konstantin (Kurnakov Institute of General and Inorganic Chemistry, RAS, Moscow, Russia)

**Brief Summary of Day 1 (18:00 - 18:10)****Welcome reception for in-person participants (Baryon restaurant, Moskovskaya Str. 2) (19:00 - 21:00)**

# Thursday, 5 September 2024

## Opening of Day 2 (09:00 - 09:10)

### Session # 5 (09:10 - 10:50)

time	title	presenter
09:10	On ground accelerator experiments to study physical shielding from space radiation for radiation safety of current and future space missions	SHURSHAKOV, Vyacheslav (Institute of Biomedical Problems, RAS, Moscow, Russia)
09:35	Development of a digital track calorimeter for its use in proton computed tomography	ZHEREBCHEVSKY, Vladimir (St Petersburg University, Saint Petersburg, Russia)
10:00	Influence of heavy irradiation on the metabolism of technologically and biologically relevant microorganisms: biotechnological application perspectives. A review	GUTNOV, Andrey (North-Ossetian State University n.a. K. L. Khetagurov, Vladikavkaz, Russia)
10:25	Application of the tagged neutron method for measurement of elemental composition of the body in vivo	SAPOZHNIKOV, Mikhail (Joint Institute for Nuclear Research, Dubna, Int.)

## Coffee break (10:50 - 11:20)

### Session # 6 (11:20 - 12:35)

time	title	presenter
11:20	Interaction of NICA heavy ion beams in a wide energy range with condensed matter	HAROUTUNIAN, Vachagan (Alikhanyan National Science Laboratory, Yerevan, Armenia)
11:45	The Raflon material is the result of using radiation. Production of the Raflon membrane by heavy ion bombardment	SLESARENKO, Sergey ("Quantum R" LLC, Moscow, Russia)
12:10	The ion beam modification of biocompatible polymer	ALI, Mohammed (Helwan university Cairo, Egypt)

## Lunch break (Shuttle bus to Baryon restaurant) (12:35 - 14:00)

### Session # 7 (14:00 - 15:40)

time	title	presenter
14:00	Relativistic nuclear technologies. It's history and perspectives	ZAKHARCHENKO, Yuri (RCC Science, Moscow, Russia)
14:25	Modeling and experiment on the subcritical stand "Yalina" consisting of the thermal and booster assemblies	SOROKIN, Vladimir (State Scientific Institution "JIPNR-Sosny", NASB, Sosny, Belarus)
14:50	Research of accelerator driven systems at JINR	KHUSHVAKTOV, Jurabek (Joint Institute for Nuclear Research, Dubna, Int.)

15:15	Experimental substantiation of the need to study the radiation properties of materials after irradiation with a beam of charged particles with an energy > 1 GeV/nucleon	YUDIN, Ivan (Joint Institute for Nuclear Research, Dubna, Int.)
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**Coffee break (15:40 - 16:10)****Session # 8 (16:10 - 17:25)**

time	title	presenter
16:10	First results of determination of absorbed dose irradiated samples during of Run8 2022-2023 years	PEREZ, Marcela (Higher Institute of Technologies and Applied Sciences, Havana, Cuba)
16:35	Measured intensity and absorbed dose of irradiated samples during of Run8 2022-2023 years	PUKHAEVA, Nelli (Joint Institute for Nuclear Research, Dubna, Int.)
17:00	Development of an ionization chambers and study of various glasses for MCP	KASUMOV, Yuriy (North-Ossetian State University n.a. K. L. Khetagurov, Vladikavkaz, Russia)

**Brief Summary of Day 2 (17:25 - 17:35)**

# Friday, 6 September 2024

## Opening of Day 3 (09:00 - 09:10)

### Session # 9 (09:10 - 10:25)

time	title	presenter
09:10	Assessment of the perspectives of accelerator driven subcritical reactor	PARAIPAN, Mihaela (Joint Institute for Nuclear Research, Dubna, Int.; Institute of Space Science, Magurele, Romania)
09:35	Intense lithium beam acceleration for accelerator-driven neutron source based on inverse kinematic reaction	TAKAHASHI, Kazumasa (Nagaoka University of Technology, Nagaoka, Niigata, Japan)
10:00	LETASUR target for ADSR project	TRAN, Toan (Joint Institute for Nuclear Research, Dubna, Int.; Institute of Physics of the VAST, Hanoi, Vietnam)

### Session # 10 (10:25 - 11:15)

time	title	presenter
10:25	Creation of highly filled composite materials based on ultra-high molecular weight polyethylene for comprehensive protection against ionizing radiation	NOVOKSHONOVA, Lydmila (Semenov Institute of Chemical Physics, RAS, Moscow, Russia)
10:50	The effect of $\gamma$ -irradiation on microstructure and diffuse reflectance of polytetrafluoroethylene	SMOLYANSKY, Alexander (Semenov Institute of Chemical Physics, RAS, Moscow, Russia)

## Coffee break (11:15 - 11:45)

## Visit to NICA Complex (Shuttle bus to Veksler and Baldin Laboratory of High Energy Physics of JINR) (11:45 - 13:35)

## Lunch break (Canteen of Veksler and Baldin Laboratory of High Energy Physics) (13:35 - 14:45)

## Transfer back to JINR International Conference Center (14:45 - 15:00)

## Round table discussion - JINR International Conference Centre (15:00 - 16:30)

## Closing reception - JINR International Conference Centre (16:30 - 17:30)