



Joint Institute for  
Nuclear Research



JINR Association of  
Young Scientists and  
Specialists



Devoted  
to the 110<sup>th</sup> anniversary  
of Bruno Pontecorvo

# AYSS-2023

## Closing remarks

L. Kolupaeva and A. Nezvanov on behalf of the Organizing Committee

# AYSS-2023 Participants

- ❖ 240 on-site participants: 133 external + 107 JINR young scientists.
- ❖ 12 countries: Armenia, Azerbaijan, Belarus, Cuba, Egypt, India, Kazakhstan, Russia, Serbia, South Africa, Syria, Vietnam.
- ❖ 45 scientific institutes and universities + 7 JINR laboratories.



# AYSS-2023 Program Committee

- ❖ Co-chairman: Grigory Trubnikov
- ❖ Co-chairman: Dmitry Naumov
- ❖ Grigory Shirkov (JINR Direction)
- ❖ Aleksandr Cheplakov (VBLHEP)
- ❖ Olga Derenovskaya (MLIT)
- ❖ Grzegorz Kaminski (FLNR)
- ❖ Sergey Kulikov (FLNP)
- ❖ Ekaterina Lesovaya (LRB)
- ❖ Valentin Nesterenko (BLTP)
- ❖ Evgeny Yakushev (DLNP)

# AYSS-2023 Organizing Committee

- ❖ 14 members:
  - 12 are the JINR AYSS members;
  - 5 are the members of the JINR AYSS Council (2023/2024).
  
- ❖ Liudmila Kolupaeva (DLNP)
- ❖ Alexander Nezvanov (FLNP)
- ❖ Olga Korotchik (ICD)
- ❖ Ekaterina Kolosova (CPED)
- ❖ Anastasia Kruglyak (FLNP)
- ❖ Vasilisa Lenivenko(VBLHEP)
- ❖ Mariia Mardyban (BLTP)
  
- ❖ Marina Mishchenko (DLNP)
- ❖ Igor Pelevanyuk (MLIT)
- ❖ Evgeniya Pronskikh (LRB)
- ❖ Dmitry Pugachev (FLNR)
- ❖ Anna Rybakova (UC)
- ❖ Veronika Smirnova (FLNP)
- ❖ Rostislav Sotenskii (DLNP)

# Huge thanks to our helpers (juri, moderators etc)

Dina Badreeva

Eyvaz Teymurov

Aidos Akzhunusov

Egor Magdich

Inga Zinkovskaya

Andrey Bezbakh

Sergey Merts

Kirill Gikal

Nikolay Anfimov

Savina Maria

Nesterenko Valentin

Davydov Evgeniy

Airiyan Sasha

Hovik Grigoryan

Yan Busha

Oleynik Danila

Olga Derenovskaya

Dmitry Dryablov

Dima Ponkin

Sergey Merts

Maxim Bulavin

Nikita Fedorov

Khudoba Vratislav

Sergey Rozov

Vladimir Zhaketov

Vladimir Chausov

Ekaterina Lesovaya

Grzegorz Kaminski

Arnaud Rousseau

Evgeniy Mardyban

Varvara Maslova

Regina Kozhina

Alexey Vorontsov

Pavel Nekhoroshkov

Bulat Bakirov

Pavel Maksimov

Igor Lyashko

Roman Evseev

Alexander Balandin

Olga Reshetova

Anastasia Zlobina

Olga Dmitrieva

Otilia Kulikov

Natalia Zaikina

Anastasia Suschevich

Maria Pilipenko

Eleonora Yamaleeva

Elena Puzynina

Anna Zubova

Alexander Baydatsky

Daria Konova

Elena Dubovik

Alexander Madumarov

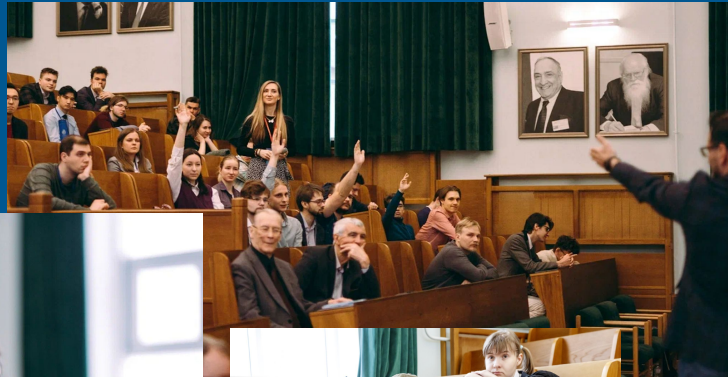
Alexey Chetverikov

Anastasia Shabashova

Victor Yushanhai

# How it was: Plenaries

- ❖ 11 plenary sessions on extraordinary topics.



# How it was: Parallels

- ❖ 32 blocks of parallel sessions with 149 oral talks in 9 topics that match JINR scientific themes.



# How it was: Poster session & welcome reception

- ❖ 78 poster reports at JINR International congress center on Monday





# How it was: Social & Evening Events

- ❖ Sunday: Aida Avanesyan piano concert at the JINR Club of Scientists.



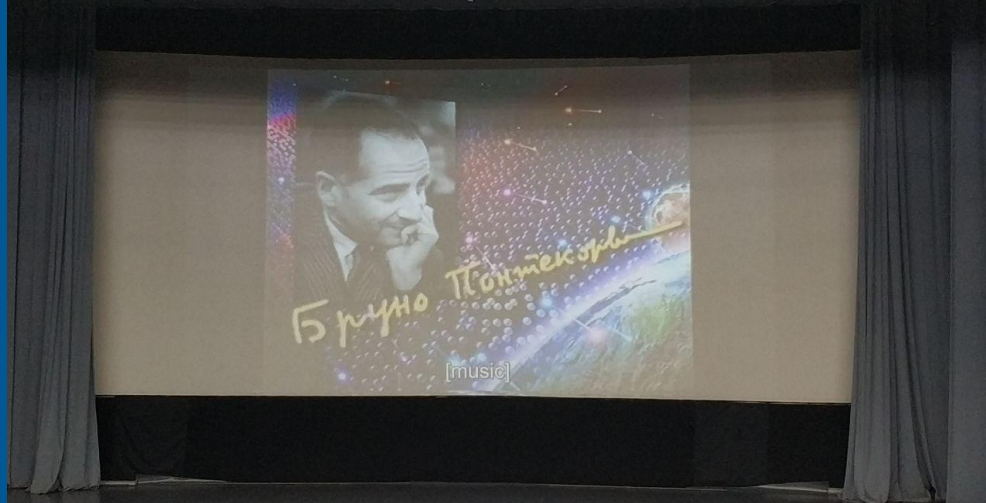
# How it was: Social & Evening Events

- ❖ Tuesday:
  - The scientific and entertainment quest;
  - the scipop lecture “In the dark” at the Blokhintsev library.



# How it was: Social & Evening Events

- ❖ Wednesday:
  - The movie about Bruno Pontecorvo at the JINR Cultural Centre “Mir”



# How it was: Social & Evening Events

- ❖ Thursday: conference dinner and JINR rock-band “People on the Moon” performance.



# Special morning social events

- ❖ Special Q&A events in the morning (starting 8:30 am).
- ❖ Participants from different countries told about education and academia in their states:
  - Tuesday: Cuba
  - Wednesday: Serbia and Republic of South Africa
  - Thursday: India
  - Friday: Vietnam



# Special meeting

- ❖ ... of international participants with JINR International Department and University Center representatives.



# Proceedings

- ❖ Proceedings will be published in “The journal of Physics of Elementary Particles and Atomic Nuclei, Letters”.
- ❖ All papers are subject to refereeing.
- ❖ Submission deadline – **November 12, 2023**
- ❖ All proceedings are supposed to be submitted via indico page ([submission](#), [instruction](#))

# Path towards collaboration

- ❖ This conference is a first step on the way of creating interdisciplinary, inter-institutional collaborations.
- ❖ The AYSS-2023 goals and functions correspond to the new JINR Communication Strategy (Dr. Suleymanov's report on Tuesday).
- ❖ As part of the conference and excursions, participants took a closer look at the place where their theses can be written and search for scientific supervisors or places to work.
- ❖ Many people reached out to the organizers to get them in contact with the corresponding people to have a personal excursion and a conversation on possible cooperation.



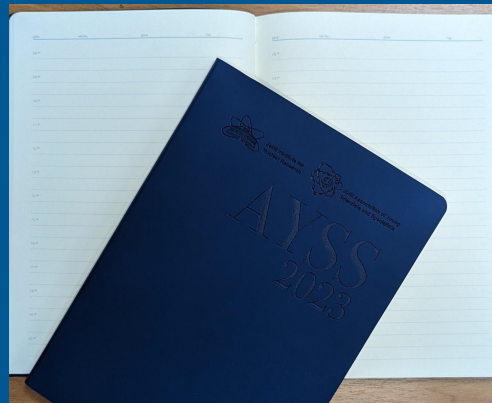
# JINR programs for students and postdocs

- ❖ International Student Practice at JINR  
(3-year BSc's - 1-year PhD's) [link](#)
- ❖ INTEREST  
(3-year BSc's - 1-year PhD's) [link](#) - do science @ JINR remotely!
- ❖ Start Programs for students  
(3-year BSc's - 1-year PhD's ) [link](#)
- ❖ It's possible to do your thesis or diploma at JINR.

# Closing remarks from Program Committee

# The best talks at parallel and poster sessions

- ❖ As usual, we will award the best talks at parallel and poster sessions chosen by respectful juri.



The best reports of AYSS-2023

The best oral talk in Theoretical Physics  
section:

Maxim  
Zakharov

“A method for numerical solution of a non-stationary  
Schrödinger equation based on Lee-Trotter-Suzuki  
formula”

The best oral talk in Theoretical Physics  
section:

Garima  
Punetha

“Effect of magnetic field on Dual QCD Quark-hadron phase  
transition”

The best oral talk in Theoretical Physics  
section:

Vyacheslav  
Saiko

“Production of heavy neutron-rich nuclei with the magic number  $N=126$  in the multinucleon transfer reactions induced by radioactive beams”

The best oral talk in Mathematical  
Modeling and Computational Physics  
section:

Daniil  
Kolotinskii

“Dynamical properties of dust particle chain structures  
study using numerical simulation”



The best oral talk in Mathematical  
Modeling and Computational Physics  
section:

**Alexander  
Oleynichenko**

“Tools for high-accuracy ab initio relativistic modeling of  
excited states and spectra of actinide molecules and  
impurity ions in solids”

The best oral talk in Information  
Technology section:

Daria  
Priakhina

“Prototype of a software complex for creating digital twins  
of large-scale distributed computer systems for  
megascience projects”

The best oral talk in Life Science section:

Daria  
Shamina

“Clustered DNA double-strand breaks formation under the influence of ionizing radiation with different physical characteristics”

The best oral talk in Life Science section:

Yersultan  
Arynбек

“Light Induced Release of Neutrophil Extracellular Traps”

The best oral talk in Life Science section:

Albina  
Nizamieva

“Analysis of radiation damage to the tardigrade Dsup protein by small angle X-ray scattering”

The best oral talk in Applied Research section:

Matshidiso  
Manabeng

“Investigate the impact of Zinc Oxide nanostructures morphology on Perovskite Solar Cell performance synthesized by the hydrothermal method”

The best oral talk in High Energy Physics  
section:

Maksim  
Kleimenov

“Expected neutrino rates from point-like astrophysical  
sources in Baikal-GVD”

The best oral talk in High Energy Physics  
section:

Artem  
Vasyukov

“Study of exotic tetraquark states in B-meson decays at  
the ATLAS experiment”



The best oral talk in High Energy Physics section:

Dim  
Idrisov

“Centrality determination method in nuclear collisions by using hadron calorimeter”

The best oral talk in Experimental  
Nuclear Physics section:

Petr  
Parfenov

“Feasibility study for anisotropic flow measurements of  
identified charged hadrons with fixed-target mode of the  
MPD experiment at NICA”

The best oral talk in Experimental  
Nuclear Physics section:

Aizat  
Daribayeva

“DRS4 signal/noise classification algorithms”

The best oral talk in Experimental  
Nuclear Physics section:

**Nikita  
Lashmanov**

“Development of a TOF neutron spectrometer in the  
BM@N experiment”

The best oral talk in Particle Accelerators  
and Nuclear Reactors section:

**Nabil  
Abed**

“Investigation of the possibility of modeling the thermal effect of plasma on the Tokamak divertor using a frequency-pulse electron beam”

The best oral talk in Condensed Matter  
Physics section:

Mikhail  
Avdeev

“Polyacrylamide polymer brushes synthesized with  
“grafting through” approach: scaling factor and  
characterization”

The best oral talk in Condensed Matter  
Physics section:

Olga  
Lis

“Investigation of the crystal structure and optical  
properties of Bi-activated strontium aluminates”

The best Poster report:

Inna  
Kolesnikova

“Pharmacological correction of radiobiological effects of protons with the drug «Cerebrolysin» ”



The best Poster report chosen by  
participants vote:

Darya  
Voitenko

“Mathematical model of the effect of high molecular  
hyaluronic acid cross-linked derivatives on skin fibroblasts”

Person who asked the largest amount of questions during the conference

**Bulat  
Khamidullin**

Hope to see you in future at other  
JINR and AYSS events!

# Your AYSS-2023 Organizing Committee with the best wishes!

- Liudmila Kolupaeva (DLNP)
- Alexander Nezvanov (FLNP)
- Olga Korotchik (ICD)
- Ekaterina Kolosova (CPED)
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