



# The 6th International Workshop on Deep Learning in Computational Physics

July 6-8, 2022

JINR, Dubna

Website:

<https://dlcp2022.jinr.ru/>

We are pleased to invite you to participate to the DLCP-2022 – **The 6th International Workshop on Deep Learning in Computational Physics** which will be held in the Meshcheryakov Laboratory of Information Technologies (MLIT) of the Joint Institute for Nuclear Research (JINR) **on July 6-8, 2022**. **The workshop will be held in a mixed format:** face-to-face and remote. However, the poster section will be held in face-to-face only.

The workshop primarily focuses on the use of machine learning in particle astrophysics and high energy physics, but is not limited to this area. Topics of interest are various applications of artificial neural networks to physical problems, as well as the development of new modern machine learning methods for analyzing various scientific data, including big data.

**The working language is English.**

All relevant information on the workshop website: <https://dlcp2022.jinr.ru/>.

## Organizers

Joint Institute for Nuclear Research, Meshcheryakov Laboratory of Information Technologies (MLIT JINR, Dubna, Russia) and

M.V. Lomonosov Moscow State University, D.V. Skobeltsyn Institute of Nuclear Physics (SINP MSU, Moscow, Russia).

## The main topics

The list is not limited these themes.

### Track 1. Machine Learning in Particle Astrophysics and High Energy Physics

- Machine learning methods in particle astrophysics and high energy physics.
- Fast event generators based on machine learning for modelling of physics phenomena.
- Multi-messenger data analysis of experimental data.
- Application machine learning for data analysis in LHC, NICA, TAIGA and other experimental facilities.

### Track 2. Modern Machine Learning Methods

- Convolutional neural networks.
- Recurrent neural networks.
- Graph neural networks.
- Modern trends in machine learning.

### Track 3. Machine Learning in Natural Sciences

- Biology and bioinformatics.
- Engineering sciences.
- Climate prediction and Earth monitoring.

### Track 4. Machine Learning in Education

- Machine learning in High education.
- Outreach knowledge in machine learning.

## The workshop will feature:

- invited presentations – 30 minutes,
- regular presentations – 15 minutes,
- posters (only face to face) – A1 or A0 format, vertical arrangement.

## Program committee

A. Kryukov (SINP MSU, Moscow) — Co-Chair  
V. Korenkov, professor (MLIT JINR, Dubna) — Co-Chair  
E. Boos, corresponding member of the RAS (SINP MSU, Moscow)  
A. Demichev (SINP MSU, Moscow)  
V. Ilyin (NIC “Kurchatov Institute”, Moscow)

## Local organizing Committee

A. Kryukov (SINP MSU, Moscow) — Co-Chair  
V. Korenkov (MLIT JINR, Dubna) — Co-Chair  
D. Priakhina (MLIT JINR, Dubna) — Scientific Secretary

M. Plyashkevich (MLIT JINR, Dubna)	O. Rumyantseva (MLIT JINR, Dubna)
I. Sokolov (MLIT JINR, Dubna)	D. Stankus (MLIT JINR, Dubna)
O. Streltsova (MLIT JINR, Dubna)	T. Strizh (MLIT JINR, Dubna)
A. Vorontsov (MLIT JINR, Dubna)	T. Zaikina (MLIT JINR, Dubna)

## Important dates

Abstract submission — ~~June 22, 2022~~ **June 27, 2022**  
Notification of acceptance — June 29, 2022  
Registration — until July 4, 2022  
The Workshop — July 6-8, 2022  
Paper submission — August 9, 2022  
Notification of paper acceptance — September 6, 2022

## Registration and abstract submission

The registration and abstract submission should be done via the website.

**No fee for participation.**

## Proceedings

Selected articles will be recommended for publication in the scientific journal Numerical Methods and Programming (<https://en.num-meth.ru>) which indexed in RSCI. The journal is included in the Higher Attestation Commission (Russian Federation).

## We invite two types of submissions:

REGULAR PAPERS describe research not published or submitted elsewhere (10-12 pages).

SHORT PAPERS may be position papers, descriptions of research prospects, challenges, projects, ongoing works, or applications (5-9 pages).

## Place and transportation

JINR (Dubna, Russia). Directions to the meeting venue, information about trains and buses can be found on the conference website.

The workshop will be held face to face. However, given the epidemiological situation on COVID19, it will be possible to participate remotely too.

**The ZOOM link will only be sent to registered participants 2 days before the start of the workshop.**

## Accommodation

Information about accommodation can be found on the conference website.

The Organizing Committee will allocate rooms in the hotel "Dubna" (<http://www.hotel-dubna.ru>), but **Participants themselves must call and book a room**. While booking, participants **must indicate that they are from the DLCP 2022 conference** (the organizing committee sends a list of participants to the hotel).

## Contacts

All correspondence concerning the workshop should be addressed by e-mail.

**Conference e-mail:** [dlcp2022@jinr.ru](mailto:dlcp2022@jinr.ru).

## Sponsors

