

Dr. Dmitrii Torbunov

*Physics Department,
Brookhaven National Laboratory*

**Tuesday, August 9th, 2022
12:00 PM – 1:00 PM**

Register in advance for this meeting:

https://bnl.zoomgov.com/meeting/register/vJItceqqrTwuGcxwDhg_Vc hh-SOk4mJSmBk

After registering, you will receive a confirmation email containing information about joining the meeting.

Host: Meifeng Lin

Unpaired Image-to-Image Translation with Cycle-Consistent GANs for Bridging Data-Simulation Discrepancies

Abstract: Many experiments in natural sciences rely heavily on the results of scientific simulations. While the modern simulation frameworks can generate very high-fidelity data, there are still multiple inconsistencies present between the generated and the real data. Such inconsistencies severely limit the applicability of the simulation results.

We are developing a new DL approach to bridge the simulation-reality differences. Our approach relies on a generative network that takes a simulated sample as input and translates it into the domain of real data. During such a translation the generative network is responsible for removing all inconsistencies between the simulated sample and the real data. In this talk, we discuss our progress in implementing this approach for HEP LArTPC-based experiments and highlight some of the challenges that we have encountered.

Biography: Dmitrii Torbunov is a postdoctoral researcher in the Department of Physics at Brookhaven National Laboratory. He received his Ph.D. in Physics from the University of Minnesota in 2021. His research is focused on applications of Deep Learning methods to practical problems in High-Energy Physics.