

IFJ PAN Particle Physics Summer Student Programme 2022 Information Set #5

1 PPSS Programme

Detailed programme for the first week is here: <https://ppss.ifj.edu.pl/program.php>

IFJ PAN Particle Physics Summer Student Programme 2022

Hour	Monday 4/07/2022	Tuesday 5/07/2022	Wednesday 6/07/2022	Thursday 7/07/2022	Friday 8/07/2022						
08:45 - 09:00	Organizational - Polish		Particle Accelerators (all participants)	ROOT Exercise 1-2 gr. A	Event Selection - Introduction dr Maciej Trzebiński main lecture hall + Zoom						
09:00 - 09:15	Safety Training (local polish-speaking participants) mgr Joanna Niejadik	High Energy Physics Experiments Hands-on Training (all participants) dr hab. Krzysztof Woźniak main lecture hall + Zoom	dr Maciej Trzebiński main lecture hall + Zoom	ROOT Exercise 1-2 gr. B	ROOT Exercise 1-2 gr. C	ROOT Exercise 1-2 gr. D					
09:15 - 09:30				Projects - Consultations (remote participants) Zoom			High Energy Physics Experiments Hands-on Training gr. A & B DD & KW	High Energy Physics Experiments Hands-on Training gr. C MT & KW 0108	High Energy Physics Experiments Hands-on Training gr. D BZ Zoom		
09:30 - 09:45										MSD	Photo Projects - Consultations (local participants)
09:45 - 10:00	Safety (polish)	Safety (foreign)	MSD	PP/FO/SA	MSD	4402	0108	Zoom			
10:00 - 10:15									10:00 - 10:15 BZ 10:15 - 10:30 MW 10:30 - 10:45 DA 10:45 - 11:00 AM 11:00 - 11:15 IS	DD & KW	MT & KW 0108
10:15 - 10:30	Welcome (all participants) main lecture hall + Zoom	HEP Experiments - Summary (all participants) dr Krzysztof Woźniak main lecture hall + Zoom	Particle Physics Classes gr. A RS	ROOT Exercise 1 gr. B KW	ROOT Exercise 1 gr. C TW	ROOT Exercise 1 gr. D ML	ROOT Exercise 2 gr. A PP/FO/SA	ROOT Exercise 2 gr. B MSD			
10:30 - 10:45									Particle Physics - Introduction part 1 (all participants) dr hab. Paweł Małecki main lecture hall + Zoom	Particle Physics - Introduction part 3 (all participants) dr hab. Paweł Małecki main lecture hall + Zoom	ROOT Exercise 1 gr. A 0108
10:45 - 11:00	lunch break	break	break	break	break	break	break	break			
11:00 - 11:15									Particle Physics - Introduction part 2 (all participants) dr hab. Paweł Małecki main lecture hall + Zoom	break	break
11:15 - 11:30	Computer Setup (Linux, C++, ROOT) (local participants) main lecture hall	Computer Setup (Linux, C++, ROOT) (remote participants) Zoom BZ, ML	ROOT Exercise 1 gr. A 0108	Particle Physics Classes gr. B & C MSD	ROOT - Consultations MSD RS/DD	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS			
11:30 - 11:45									lunch break	Start of LHC Run 3 - transmission from CERN afterwards - BBQ (local participants) -)	ROOT - Consultations MSD RS/DD
11:45 - 12:00	Statistical Methods in Particle Physics (all participants) dr hab. Marcin Wólczyński main lecture hall + Zoom	Closing Words (all participants) main lecture hall	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS			
12:00 - 12:15									lunch break	lunch break	lunch break
12:15 - 12:30	Statistical Methods in Particle Physics (all participants) dr hab. Marcin Wólczyński main lecture hall + Zoom	Closing Words (all participants) main lecture hall	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS			
12:30 - 12:45									Statistical Methods in Particle Physics (all participants) dr hab. Marcin Wólczyński main lecture hall + Zoom	Closing Words (all participants) main lecture hall	ROOT - Consultations MSD RS
12:45 - 13:00	Statistical Methods in Particle Physics (all participants) dr hab. Marcin Wólczyński main lecture hall + Zoom	Closing Words (all participants) main lecture hall	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS			
13:00 - 13:15									Statistical Methods in Particle Physics (all participants) dr hab. Marcin Wólczyński main lecture hall + Zoom	Closing Words (all participants) main lecture hall	ROOT - Consultations MSD RS
13:15 - 13:30	Statistical Methods in Particle Physics (all participants) dr hab. Marcin Wólczyński main lecture hall + Zoom	Closing Words (all participants) main lecture hall	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS			
13:30 - 13:45									Statistical Methods in Particle Physics (all participants) dr hab. Marcin Wólczyński main lecture hall + Zoom	Closing Words (all participants) main lecture hall	ROOT - Consultations MSD RS
13:45 - 14:00	Statistical Methods in Particle Physics (all participants) dr hab. Marcin Wólczyński main lecture hall + Zoom	Closing Words (all participants) main lecture hall	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS			
14:00 - 14:15									Statistical Methods in Particle Physics (all participants) dr hab. Marcin Wólczyński main lecture hall + Zoom	Closing Words (all participants) main lecture hall	ROOT - Consultations MSD RS
14:15 - 14:30	Statistical Methods in Particle Physics (all participants) dr hab. Marcin Wólczyński main lecture hall + Zoom	Closing Words (all participants) main lecture hall	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS			
14:30 - 14:45									Statistical Methods in Particle Physics (all participants) dr hab. Marcin Wólczyński main lecture hall + Zoom	Closing Words (all participants) main lecture hall	ROOT - Consultations MSD RS
14:45 - 15:00	Statistical Methods in Particle Physics (all participants) dr hab. Marcin Wólczyński main lecture hall + Zoom	Closing Words (all participants) main lecture hall	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS			
15:00 - 15:15									Statistical Methods in Particle Physics (all participants) dr hab. Marcin Wólczyński main lecture hall + Zoom	Closing Words (all participants) main lecture hall	ROOT - Consultations MSD RS
15:15 - 15:30	Statistical Methods in Particle Physics (all participants) dr hab. Marcin Wólczyński main lecture hall + Zoom	Closing Words (all participants) main lecture hall	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS			
15:30 - 15:45									Statistical Methods in Particle Physics (all participants) dr hab. Marcin Wólczyński main lecture hall + Zoom	Closing Words (all participants) main lecture hall	ROOT - Consultations MSD RS
15:45 - 16:00	Statistical Methods in Particle Physics (all participants) dr hab. Marcin Wólczyński main lecture hall + Zoom	Closing Words (all participants) main lecture hall	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS	ROOT - Consultations MSD RS			
after 16:00									Statistical Methods in Particle Physics (all participants) dr hab. Marcin Wólczyński main lecture hall + Zoom	Closing Words (all participants) main lecture hall	ROOT - Consultations MSD RS

Tutors: BZ - dr Bartłomiej Zabiniński, MW - dr hab. Marcin Wólczyński, DA - dr David Alvarez, AM - dr hab. Adam Matyja, IS - dr Iwona Sputowska, RS - dr Rafał Staszewski, AT - prof. dr hab. Adam Trzupek, DD - dr Dominik Derendarz, ML - dr Maciej Lewicki, MT - dr Maciej Trzebiński, TW - dr hab. Tomasz Wąchata, AM - Adam Matyja, KW - dr hab. Krzysztof Woźniak, PP - Pragati Pate, FO - Ferhat Ozturk, SA - Sergio Arbio

group A: Mateusz Andrzejewski, Julia Kocorowska, Karolina Papacz, Konstantinos Papadopoulos, Eleni Papadimitriou, Konstantinos Papadimos, Nazmul Hasan Shadin, Nadre'ja Śniegocka, Nikolaos Vassakis, Xaw'or Wang
group B: Agata Bjak, Bartłomiej Brudnowski, Szymon Janur, Ho Sang Lee, Filip Maas, Ricardo Parra Payano, Alicja Plichta, Clotilde Prat, Szymon Sławinski, Gabriela Szczępanik
group C: Harsh Aggarwal, Georgios Alexandris, Sabik Arya, Aneta Bień, Ruken Çiçi, Aleksandar Gacic, Priyanshu Gupta, Antadna León Quiros, Patrycja Malinowska, Karol Sowa
group D: Marouane Benhassi, Aryan Borkar, Ishan Gupta, Stefan Horodenski, Suchasni Jena, Tomasz Kazulak, Sara Mohamed Abdelfattan, Pontus Pandurevic, Can Süslü, Adam Swinarski

2 First Day of the Programme

2.1 Local, Polish Speaking Students

We will meet on Monday at 8:45 in the main lecture hall. If your agreements are not yet signed and were not sent to IFJ PAN, please bring them with you. Starting from 9:00 you will attend the Safety Training (in Polish only). First part of the training should finish around 11:00. Afterwards you will move to the main lecture hall when a second part of the training (in English) will happen. From that moment all lectures and classes will be common for all local participants.

2.2 Local, Non-polish Speaking Students

We will meet on Monday at 10:30 in the main lecture hall. Please bring two copies of your cooperation agreements (if you forgot, there will be possibility to print them at IFJ PAN). At 11:00 you will start a safety training session. As a part of the mandatory safety training, you

are expected to get familiar with these materials:
https://ppss.ifj.edu.pl/materials_2022/PPSS_Health_and_Safety.pdf.

2.3 Remote Participants

We will meet on Monday at 10:00 in this Zoom room:

- <https://cern.zoom.us/j/68212319772?pwd=SjJYQXQ4QmduQlFyY3FTQ3NielBCUT09>
- Meeting ID: 682 1231 9772
- Passcode: 188146

You will have opportunity to meet with your future tutors and learn more about projects. I encourage you to actively participate and ask questions!

Presentations are uploaded here: <https://ppss.ifj.edu.pl/materials.php>.

Please keep in mind standard code of conduct when connecting via Zoom:

- keep your microphone and camera off by default,
- • wait with your question until tutor is free,
- unmute your microphone only when speaking (asking question),
- do not interrupt other participants,
- share your screen in a moment you want to illustrate the problem / question; switch off sharing immediately after (otherwise the sharing is blocked).

Please note that you can lower down the volume, if you are bothered by other's questions.

2.4 All Participants

From 12:00 a common part will start with a *Welcome* session. Local participants will already be in the main lecture hall, from where we will transmit the lectures via Zoom:

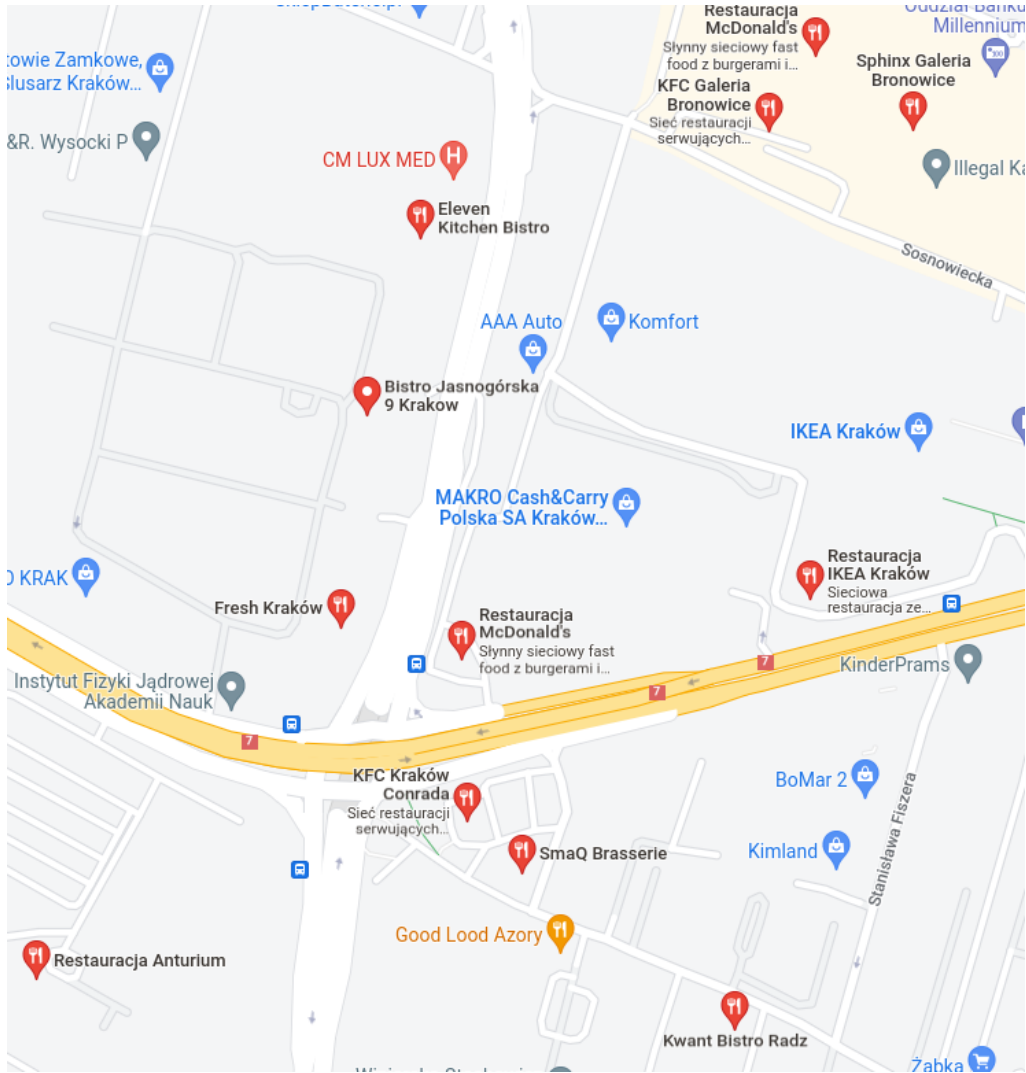
- <https://cern.zoom.us/j/66330909592?pwd=UkFsVzkybXlUczZEazl6Zys2V1VlZz09>
- Meeting ID: 663 3090 9592
- Passcode: 00000000

This room will be used for the whole week for remote lectures and exercises (except tutor presentations as mentioned in the section above).

3 Lunch Breaks

Unfortunately, the canteen at IFJ PAN is still closed. Therefore, you have 2 options to have lunch:

- bring your own food (microwave will be available),
- got to one of local restaurants:



4 BBQ

Depending on the weather, we plan to organize BBQ on Monday or Tuesday. I will sent you the exact information tomorrow.

5 IFJ PAN PPSS Alumni Conference

IFJ PAN PPSS Alumni Conference will be organized on 9–10 July. Attendees of current PPSS edition are invited to join since this event is especially for you!

Participants of previous editions of PPSS Programme will talk about their scientific work as well as their careers. In the first day there will be a discussion session about Msc. and PhD. studies, scientific career etc. Afterwards, on Saturday afternoon a social event will be organized – an excellent occasion to meet with you older colleagues dan discuss!

Tentative agenda is available here: https://ppss.ifj.edu.pl/conference_programme.php.

6 Hypatia

Hands-on training require running Hypatia software which uses Java. Please download Hypatia (use direct link from this pdf or one given in <https://ppss.ifj.edu.pl/materials.php> under

‘Exercises’) in advance and make sure it opens on your computer.

7 Computers, Linux, C++, ROOT

If you are a Mac user, please make sure that you have a C++ compiler and can run ROOT (see below). You may also consider installing Linux on your machine. If you are a Windows user we ask you to have a Linux system as well. This can be done by either:

- installing Linux next to Windows,
- installing a virtual machine with Linux on it.

For both cases there are tons of ‘how-to’ available on the Internet. When configuring, please reserve at least 30 GB of space for Linux partition. There are many Linux distributions available – choose the one you like the most¹!

¹If you do not know what to choose, try Ubuntu.