

Детекторная школа

Сергей Кононов

Местный оргкомитет

11 сентября 2020

Повестка

- Периодичность встреч
- Статус
- Идеи по тематике и формату школы

Task 7.4: School for young scientists on particle detection technologies

Task 7.4: Training and school for young scientists on particle detection technologies (BINP, CERN) M6-M18

An important result from the development and construction activities within WP7 is the training the next generation of particle and neutron detector experts in Russia but also at the involved European institutes. Skills will be passed between institutes involved in WP7 and WP5, which is invaluable experience for all involved and allows cross-over between the disciplines (e.g. with high energy nuclear detector physics, WP2 NICA).

Attracting and training young scientists in Russia for future experiments (at SCT or elsewhere) is a key objective for future research facilities. To this aim a school for young Russian scientists on particle detection technologies will be held at BINP. Young researchers will be trained in a variety of state-of-the-art particle detector technologies and related specialisations (on-detector electronics, data transmission, engineering aspects). The school will also include hands-on exercises on a variety of detector technologies. A patronage arrangement with the international European Committee for Future Accelerators (ECFA) Detector Panel will be negotiated.

Del. no.	Deliverable name	WP no.	Short name of lead participant	Type	Dissemination level	Delivery date
D7.2	School for young scientists on particle detection technologies	7	BINP	R	PU	M18 July 2021

Input from the meeting on detector school

20/02/2020 at DESY

Meeting page: <https://indico.cern.ch/event/940926/>

- List of interested institutions: **BINP (host)**, CERN, JINR, GSI, ESS, INFN
- Subject coverage:
 - Ion/nuclear physics
 - Particle physics
 - Neutron physics
- Audience: master and PhD students, young scientists
- Duration: 10 days
- Target date: March 2020 (probably will be delayed due to COVID-19)

Progress since February meeting

Gathering confirmations on participation and nominating representatives to constitute the international organizing committee (IOC):

BINP – Sergey Kononov, CERN – Lucie Linssen, Dominik Dannheim (?), GSI – Christian Schmidt, JLU Giessen – Michael Düren, Mustafa Schmidt, ESS – Richard Hall-Wilton, INFN Bari – Nicola De Filippis, INFN Lecce – Franco Grancagnolo, JINR – Otilia Culicov.

First IOC meeting is planned on **September 16 at 11:00 CEST** (16:00 NOVT).

Local organizing committee at BINP is formed and will gather next week for the first time.

Funds for the school from CREMLINplus grant were transferred to BINP (64.1 kEuro).

Plans

- Hold LOC and IOC meetings and make them regular
- Gather ideas for the school
- Define max number of participants
- Determine the scope and format
- Define the date
- Find lecturers
- Set up a website, Indico
- Announce and advertise
- Organise admission
- ...

Оргкомитеты

Местный оргкомитет

- Барняков А.Ю.
- Барняков М.Ю.
- Бобровников В.С.
- Кононов С.А.
- Кравченко Е.А.
- Кузьмин А.С.
- Соколов А.В.

Под вопросом:

- Логашенко И.Б.
- Игнатов Ф.В.
- Жуланов В.В.

Международный оргкомитет

BINP:	Sergey Kononov , Vitaly Vorobiev
CERN:	Lucie Linssen , Dominik
Dannheim (tbd)	
ESS:	Richard Hall-Wilton
INFN Bari:	Nicola De Filippis
INFN Lecce:	Franco Grancagnolo
GSI/FAIR:	Christian Schmidt , Jürgen Eschke
JINR:	Otilia Culicov
JLU Giessen:	Michael Dürren , Mustafa
Schmidt	

Пример проведения школы: EDIT

<https://indico.desy.de/indico/event/22513>

EDIT– Excellence in Detector and Instrumentation Technologies - is a school series under the auspices of ICFA. Previous instances were CERN 2011, FNAL 2012, KEK 2013, Frascati 2015, FNAL 2018.

EDIT is devoted to young researchers, in their graduate studies or in their first year as post docs, seeking to acquire a deeper knowledge on the major aspects of detectors and instrumentation technologies for particle physics. The school comprises lectures and four courses with hands-on experiments, including beam tests, on silicon sensors, silicon systems, calorimetry and gas detectors.

EDIT-2020 took place at DESY in Hamburg, Germany on February 17-28, 2020. **60 participants attended.**



EDIT-2020
Excellence in Detector and Instrumentation Technologies
School for Young Researchers

17-28 February 2020
DESY, Hamburg

EDIT is a school devoted to young researchers, in their graduate studies or in their first year as post docs, seeking to acquire a deeper knowledge on the major aspects of detectors and instrumentation technologies for particle physics.

The school comprises lectures and four courses with hands-on experiments, including beam tests, on:

- Silicon sensors
- Silicon systems
- Calorimetry
- Gas detectors

International Advisory Committee:
P. Burrows (Oxford), A. Cattaui (CERN), L. Feld (Aachen),
J. Incandella (S. Barbara), P. Krizan (Ljubljana),
J. Maier (DESY), W. Ostroff (Tokyo), E. Rammberg (FNAL),
H.-C. Schultz-Coulton (Heidelberg)

Local Organising Committee:
R. Dienert, J. Dreyling-Eschweiler, D. Eckstein,
I. Henning, I. M. Gregor, K. Krüger, I. Metzger-Pellmann,
O. Schäfer, F. Seifert (Chair), M. Stanitzki

Deadline for Applications: 25 August 2019
<http://edit2020.desy.de>

2020
EDIT

DESY

Формат EDIT-2020

- 10 дней занятий в будние дни, социальная активность в выходные
- Лекции в первый и последний день, а также по утрам все остальные дни

Lectures

- 1.Detector Development at DESY *Ties Behnke (DESY)*
- 2.Tracking: Basic Principles *Nick Styles (DESY)*
- 3.Calorimetry I-III *Erika Garutti (Hamburg), Martin Aleksa (CERN), Katja Krüger (DESY)*
- 4.Particle Identification: *Peter Krizan (Ljubljana)*
- 5.Silicon Detectors I-III: *Doris Eckstein (DESY), Norbert Wermes (Bonn), Petra Riedler (CERN)*
- 6.Photodetectors: *Wataru Ootani (Tokyo)*
- 7.Gaseous Detectors *Eraldo Oliveri (CERN)*
- 8.Cryogenic Noble Gas Detectors *Stefan Söldner-Rembold (Manchester)*
- 9.Electronics and Signal Processing *Christophe de La Taille (Palaiseau)*
- 10.Trigger and DAQ *Hans-Christian Schultz Coulon (Heidelberg)*
- 11.Detectors: Great Concepts and Glorious Failures *Ingrid-Maria Gregor (DESY / Bonn)*

Hands-on Courses

There were four parallel courses, each lasting two days, after which students rotated. Follow the links to find leaflets with more information on the courses:

- 1.Silicon sensors [Leaflet 1](#)
- 2.Silicon detector systems [Leaflet 2](#)
- 3.Calorimeters [Leaflet 3](#)
- 4.Gas detectors [Leaflet 4](#)

Идеи

Лекции

- Обзор по детекторам в ИЯФ
- Трековые детекторы
- Калориметрия
- Кремниевые детекторы
- Нейтронные детекторы
- Идентификация частиц
- Фотодетекторы
- Газовые детекторы
- Электроника, триггер и сбор данных

Эксперименты

- Полупроводниковые детекторы (кремниевый, германиевый - имеются)
- Сцинтилляционный спектрометр (сравнение разных сцинтилляторов)
- Рентгеновская установка (PHΥWE)
- Газовые детекторы (модернизировать или позаимствовать)
- Тестовый пучок?
- Другие