



REPORT ON THE THEME

Organisation, Support and Development of the JINR Educational Programme



Prof. Stanislav Pakuliak
UC Director
E-mail: pakuliak@jinr.ru

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WHAT IS JINR UNIVERSITY CENTRE?

A special JINR subdivision founded in 1991

Main activities are:

- Support of students training at JINR (about 400 students annually)
- Programmes for students from the JINR Member States
- International Schools, Practices and Programmes
- Outreach programmes for school students and teachers
- Training programmes for workers and engineers

In 2014-2018 UC is working within the first priority theme
Organisation, Support and Development of the JINR Educational Programme

Main objective is to support the continuity of generation of JINR scientific personnel



JINR UNIVERSITY CENTRE STAFF

- Department of educational research projects and programmes
- Department of development of educational programmes
- Scientific and engineering group
- Students and Postgraduates



TRAINING OF STUDENTS AT JINR

JINR-based departments at the universities



**Казанский
федеральный
УНИВЕРСИТЕТ**

**SAINT PETERSBURG
STATE UNIVERSITY**

We enable students and postgraduates from the Member States Universities to prepare their qualifying papers at JINR

RF GOVERNMENT DECREE

JINR is entitled to issue
Candidate of science (PhD) and
Doctor of science (Habilitation) diplomas
The system will be prepared by
September, 2019

УТВЕРЖДЕН
распоряжением Правительства
Российской Федерации
от 23 августа 2017 г. № 1792-р

П Е Р Е Ч Е Н Ь

научных организаций и образовательных организаций высшего образования, которым предоставляются права, предусмотренные абзацами вторым - четвертым пункта 3¹ статьи 4 Федерального закона "О науке и государственной научно-технической политике"

I. Научные организации

1. Объединенный институт ядерных исследований

ATTACHMENT OF DEGREE SEEKERS

- Since 2015
- 28 degree seekers now
(Russia – 17, Kazakhstan – 6, Belarus – 1, Ukraine – 1, Mongolia – 1, USA – 1)
- Attachment period is over for 5 people, who work on completing their theses

PhD exams passed at

MIPT – Philosophy – 2, English – 1, Specialty – 2

LPI RAS – Philosophy – 1, English – 1, Specialty – 1

IF RAS – Philosophy – 1

INR RAS – Foreign language – 1

INTERNATIONAL STUDENT PRACTICE AT JINR



1st STAGE, June

South Africa



2nd STAGE, July

Bulgaria, Czech Republic, Slovakia,
Poland, Romania, Azerbaijan



3rd STAGE, September

Egypt, Belarus, Cuba, Serbia

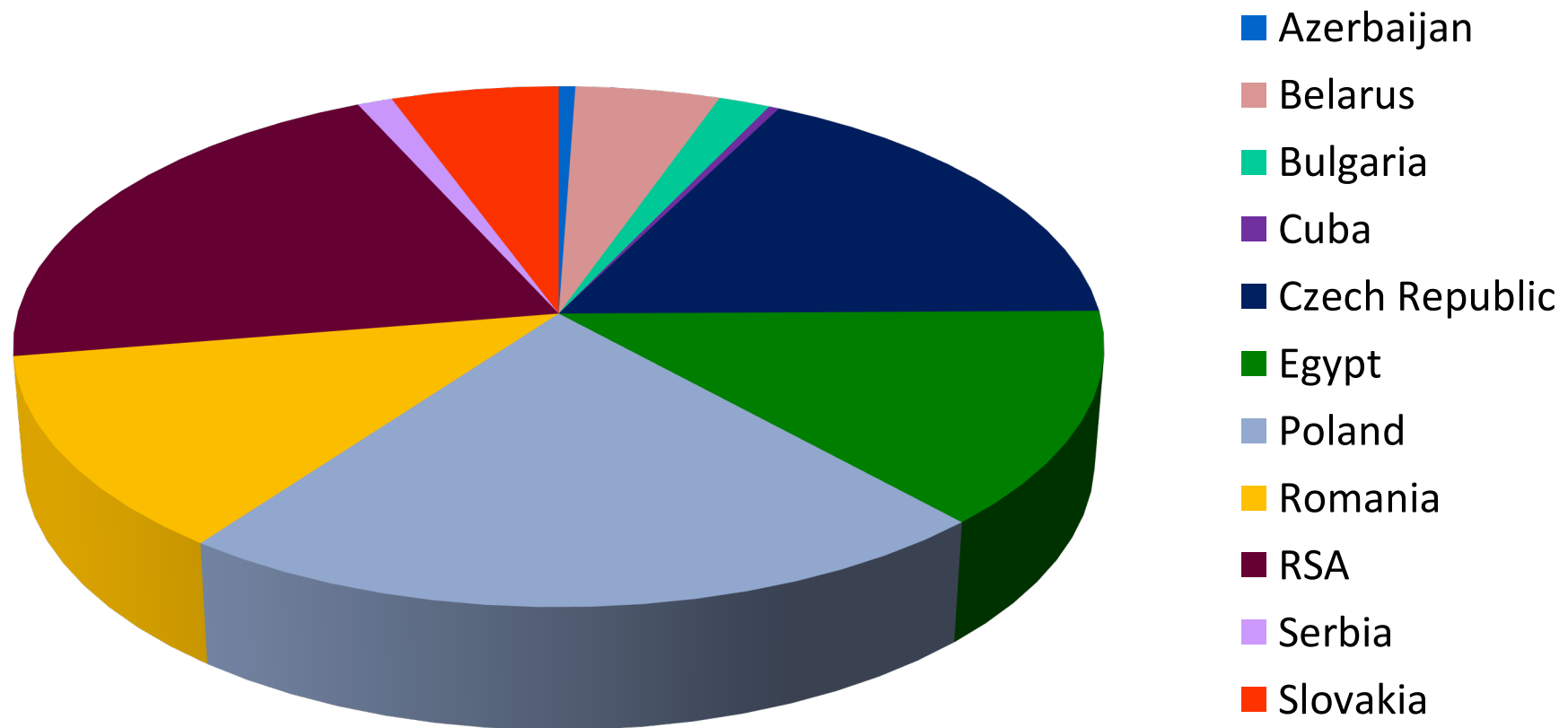
Practice participants

- build a picture of the JINR fields of research
- can work at the basic facilities of the Institute under supervision of the leading experts
- have an opportunity to choose a future research supervisor
- make fruitful contacts
- enjoy the Russian culture

Started in **2004**

Total number
of participants –
1442

PRACTICE PARTICIPANTS REPRESENTATION



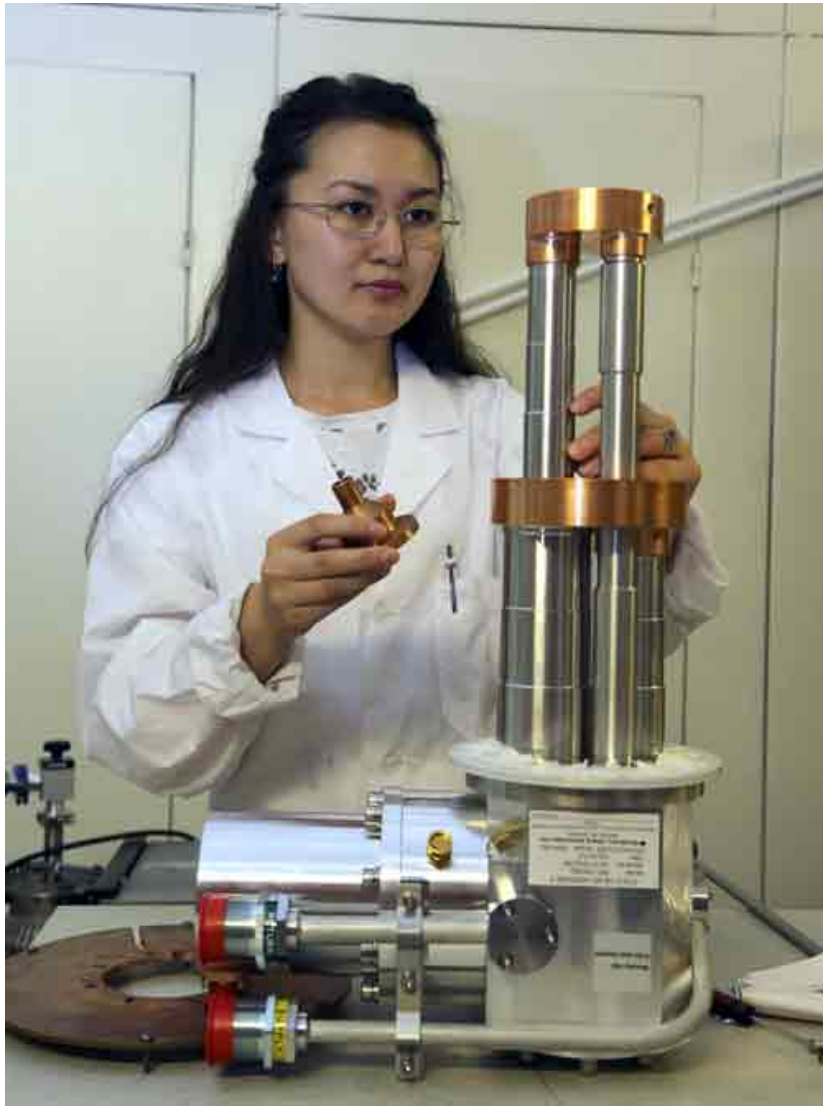
Total number of participants since 2004 – **1442**

SUMMER STUDENT PROGRAMME

Started in **2014**

Total number of participants – **191**

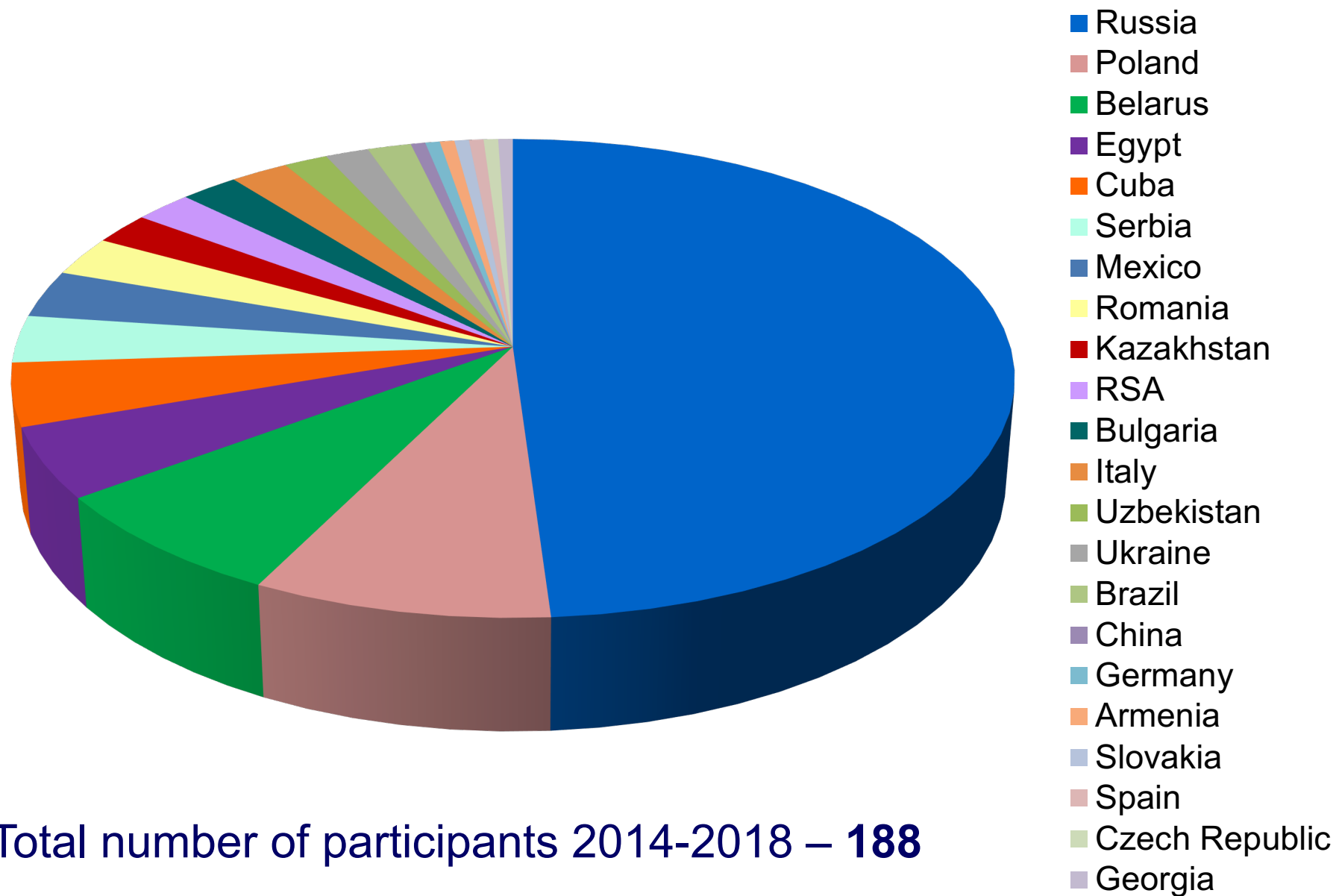
- Competitive selection
- Longer term (6-8 weeks)
- Advanced level of projects



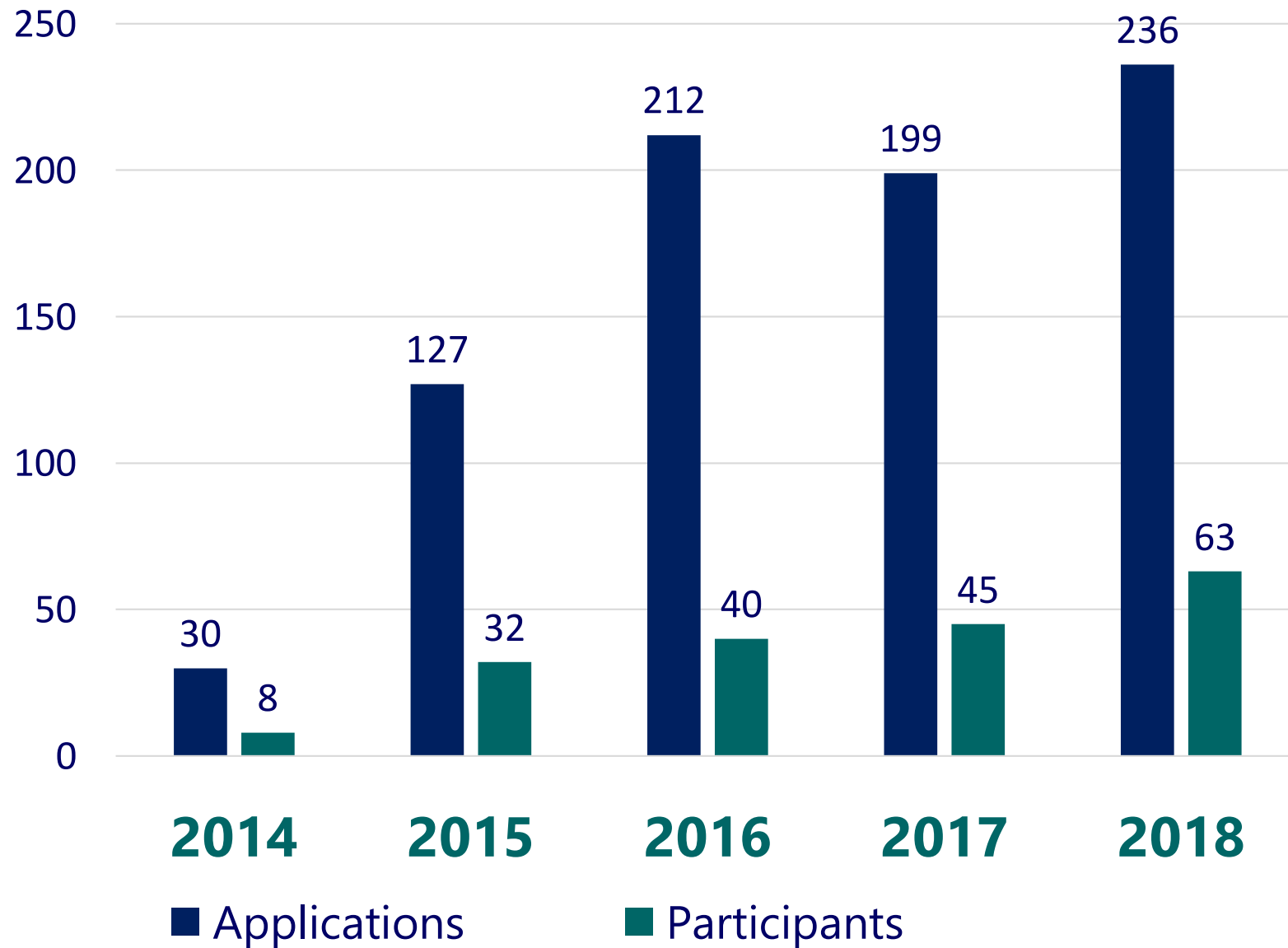
students.jinr.ru



JINR SSP PARTICIPANTS REPRESENTATION



SUMMER STUDENT PROGRAMME. STATISTICS



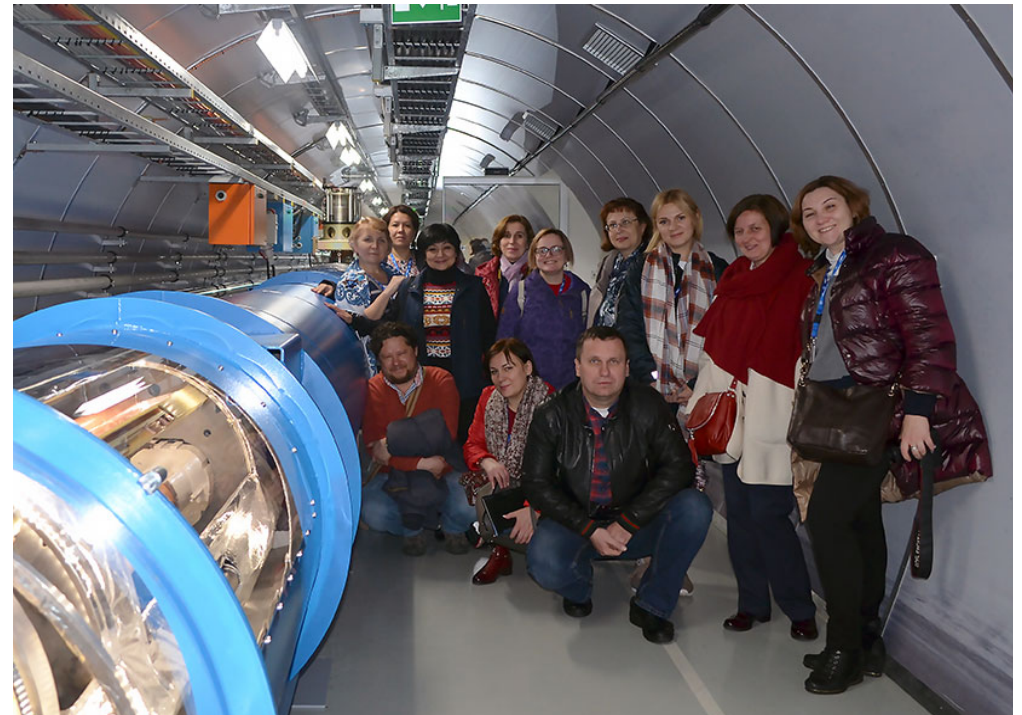
INTERNATIONAL SCIENTIFIC SCHOOLS FOR PHYSICS TEACHERS AT JINR AND CERN

What do we want to achieve?

- Raise and maintain the interest of students in modern science.
- Motivate students to study science and engineering at universities.
- Prepare the future generation of scientists & engineers.
- Show that **Science is alive!**

Basic components:

- Visits to experimental facilities;
- Lectures;
- Hands-on activities;
- Meetings with research physicists;
- Communication with colleagues from different regions.





INTERNATIONAL SCIENTIFIC SCHOOLS FOR PHYSICS TEACHERS AT JINR AND CERN. STATISTICS

Participants of 10 Schools at JINR

(including 3 Schools for Moscow teachers)

Russia	– 205 teachers	and 69 students
Bulgaria	– 14 teachers	
Belarus	– 6 teachers	and 3 students
Poland	– 5 teachers	
Ukraine	– 8 teachers	and 4 students
TOTAL	– 314 people	



Participants of 10 Schools at CERN

Russia	– 325 teachers
Kazakhstan	– 10 teachers
Ukraine	– 8 teachers
Belarus	– 5 teachers
Moldova	– 4 teachers
Armenia	– 3 teachers
Azerbaijan	– 1 teacher
TOTAL	– 356 people

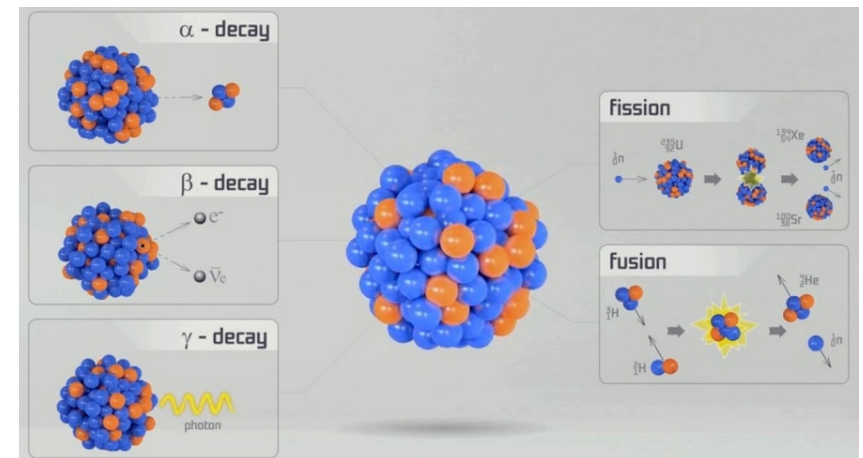
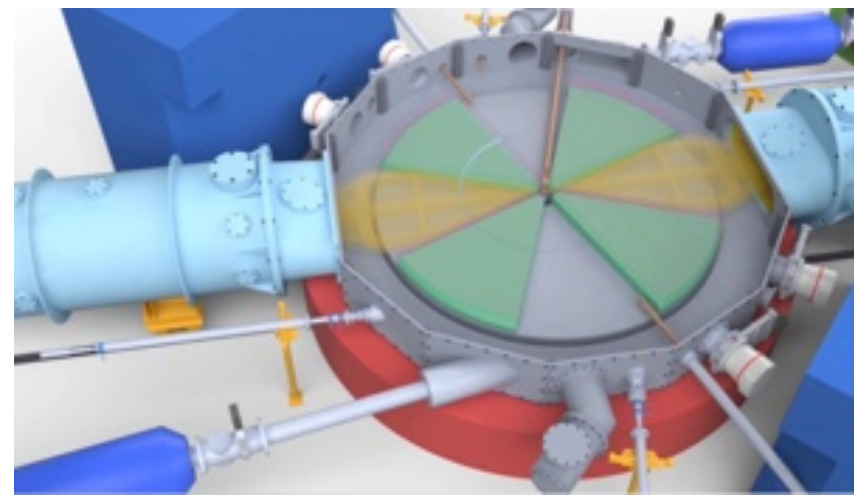
OUTREACH PROGRAMMES

- Festivals of Science & Days of Physics in Dubna
- Visits to the JINR labs (≈ 600 people in 6 months of 2018)
- 3D tours of JINR facilities <http://ucnew.jinr.ru/en/3d>
(new tours of LRB and VBLHEP will be available soon)
- Additional training of school students



OPEN RESOURCE EDU.JINR.RU

- Models of the JINR basic facilities
- Virtual Laboratory of Nuclear Fission
- 'NICA Mega-science project' video lesson
- Heavy Ion Physics Lectures

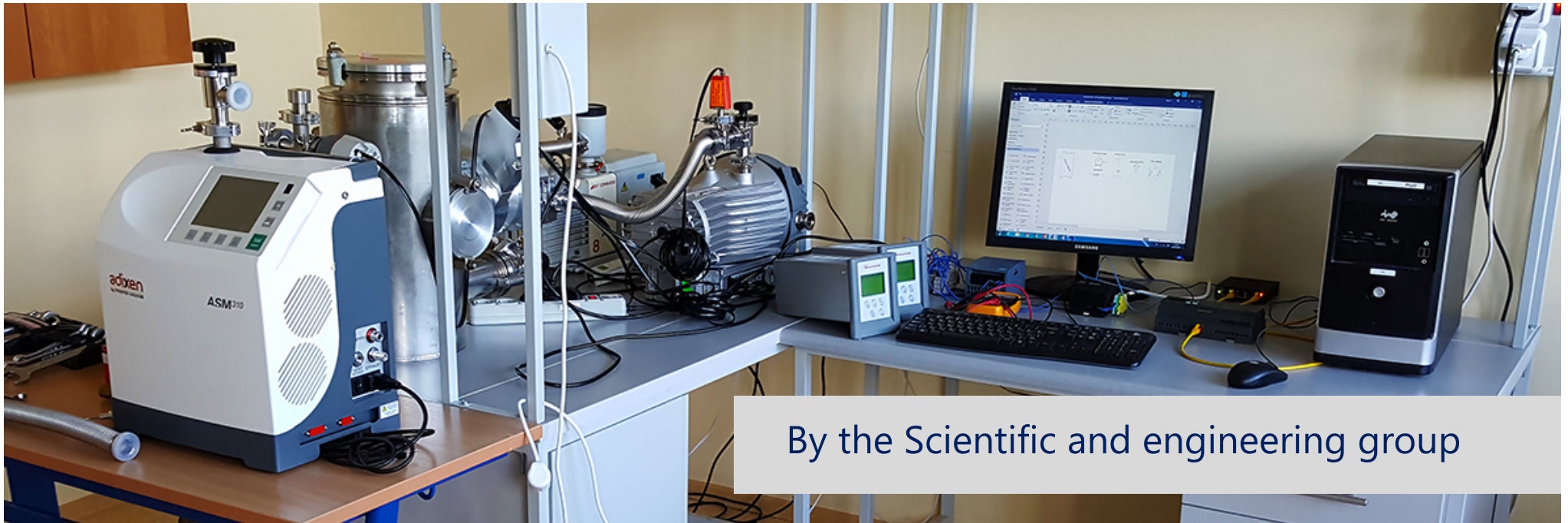


Developed and updated by the
Department of development of educational
programmes (headed by Yu. Panebrattsev)

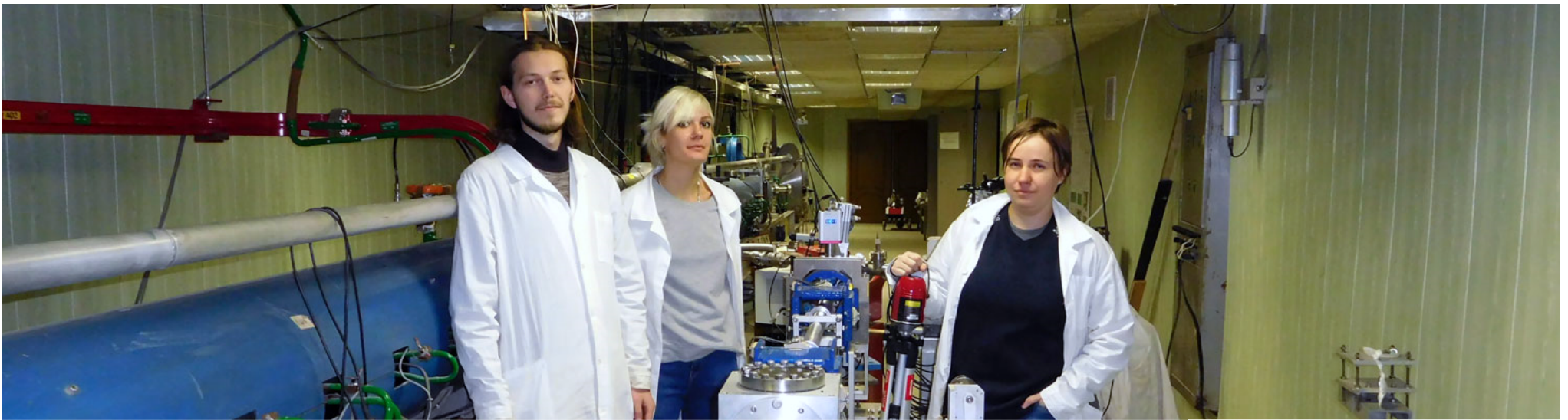


ENGINEERING TRAINING

- Basics of nuclear physics
- Radiation protection and safety
- Particle detectors
- Vacuum technology
- RF technology
- Magnets
- Electronics and automation



By the Scientific and engineering group



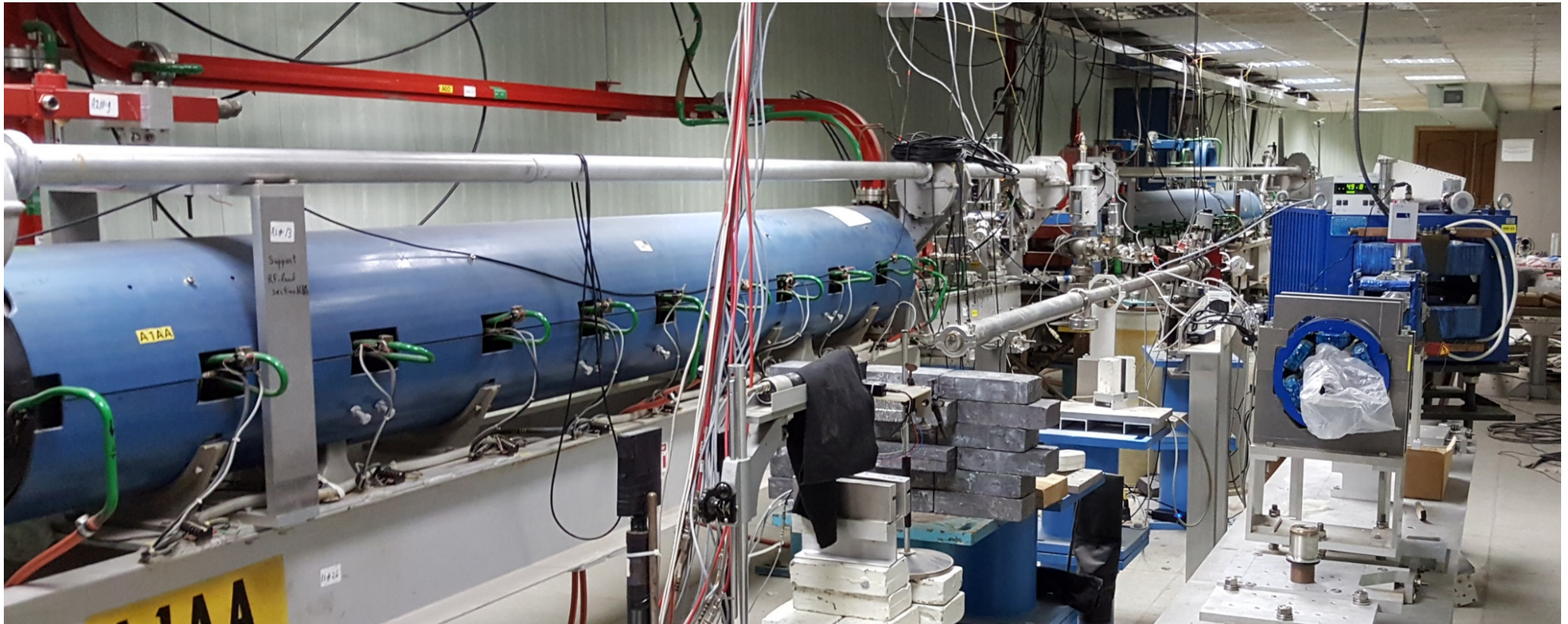
SCIENTIFIC AND ENGINEERING GROUP LINAC 200 electron accelerator

Bunch current	15 mA
Bunch width	2 μ s
Repetition rate	1–10 Hz
'Training' beam energy	22 MeV



SCIENTIFIC AND ENGINEERING GROUP

Future plans: Series of training courses at Linac-200



- Accelerator and beamline operation
- Beam diagnostics
- Magnet optics
- Detector response to the electron beam and gamma rays

THE UC BUDGET

	2014	2015	2016	2017	2018
JINR UC budget, κ\$	990	1035,8	1363,1	1638,3	2080
Including AYSS budget, κ\$	-	-	465,5	535,5	633,3
Budget increase %	-	4,6%	31,6%	20,2%	27%

Grants to support young JINR staff members (rubles)				
Year	Scientific staff with degree	Scientific staff/ specialists	Workers	Budget increase, %
2016	22900	15300	7700	
2017	27500	18400	9300	20,3%
2018	32300	21700	10900	17,5%

NEW THEME

UC propose to open the new theme for the period 2019-2023

"Organization, Support and
Development of the JINR Human
Resources Programme"



THANK YOU FOR YOUR ATTENTION