



This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement No 730871.



WP2: Training, Communication and Outreach for Accelerator Science: Report to the virtual Open Session

22 April 2020

Philip Burrows (Oxford University)

WP2 tasks

2.2 Internal and external project communications and outreach activities

2.3 Monitor provision for training in Europe and within a global context

2.4 Produce an introductory e-learning course on accelerator science



This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement No 730871.



2.2 Communication and Outreach

Daniela Antonio (CERN)

Summary of activities in Year 3

Internal communication

- Set up **ARIES Bulletin** (June 2019, March 2020)
- ARIES 3rd Annual Meeting **Poster**

Dissemination of ARIES results

- Dissemination of the [Editorial Series on Accelerator Science and Technology](#) (monographs)

Communication and Outreach

- 8 ARIES articles published in **Accelerating News**
- ARIES PIXE-RFQ and PoC project @ **CERN Open Days 2019**
- ARIES @ CERN institutional reports
- ARIES **social media** representation in partner channels
- 2nd ARIES Accelerator Communication and Outreach **Workshop**



Highlights



8 articles published in Year 3



1'425 Accelerating News subscribers



27'104 unique ARIES website visitors



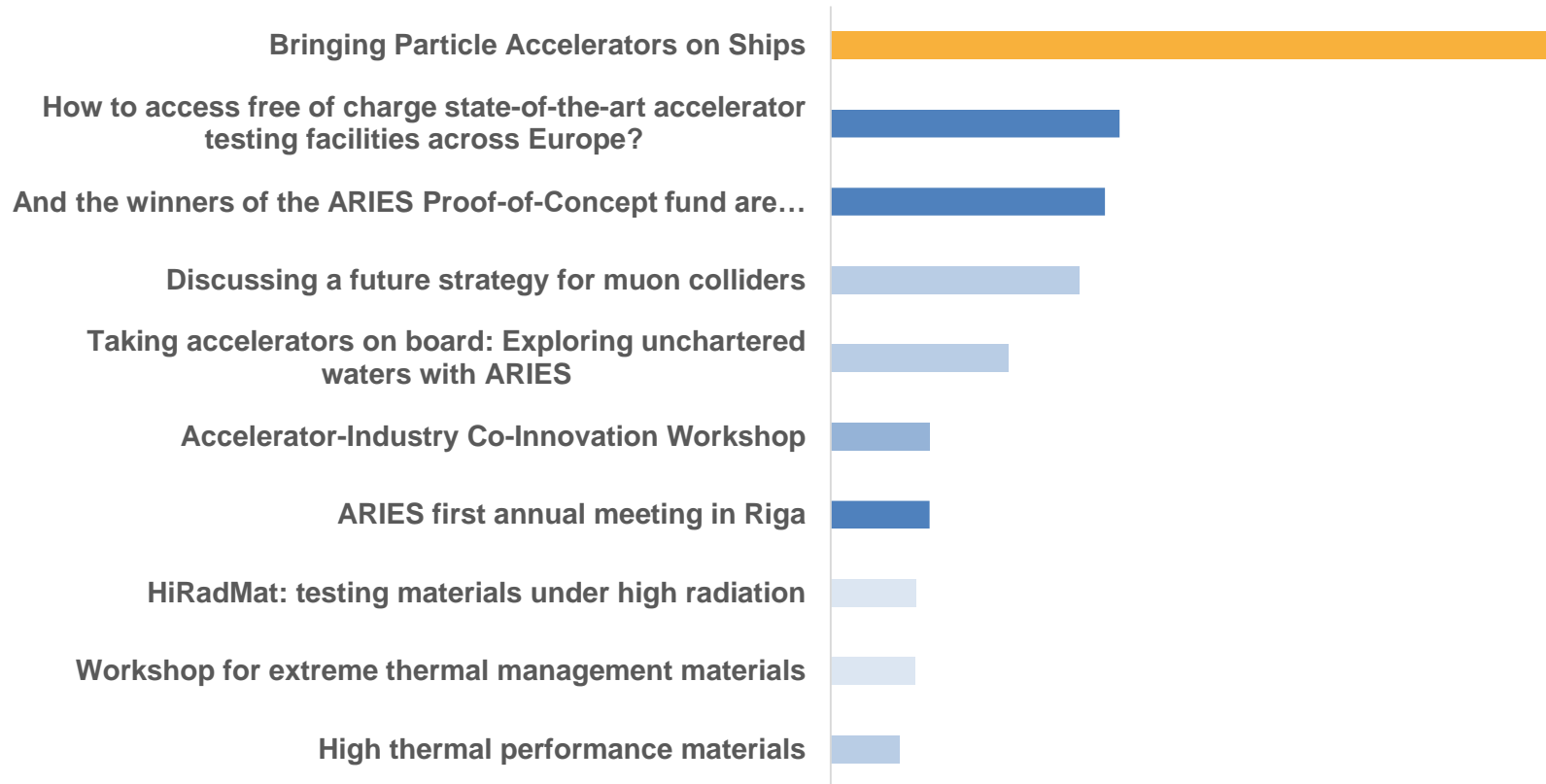
1'515'604 total ARIES website views



2nd ARIES ACO Workshop



Newsletter: ARIES @ Accelerating News



TOP10 ARIES articles published through Accelerating News.

ARIES @ CERN Communication Channels



^ CERN Open Days 2019

CERN Social Media >

CERN
151,200 seguidores
2 m • 🌐

Join the **#ARIESProjectEU** workshop on reliability, availability, maintainability and inspectability (RAMI) of particle accelerators! The workshop provides a platform for experts from **#industry**, particle accelerator laboratories and academi ...visualizar mais

Visualizar tradução

R.A.M.I.
Reliability, Availability, Maintainability, Inspectability

ARIES WP14: Promoting Innovation Presents: An Academic-Industry event on Reliability, Availability, Maintainability, and Inspectability

- Current and future challenges
- Approaches and developments
- Networking opportunities
- Tours of facilities available on 24th March 2020



APPLYING ACCELERATORS TO ENVIRONMENTAL CHALLENGES WITH ARIES

IGLUNA: BUILDING A DEMONSTRATOR MOON HABITAT IN ZERMATT

IGLUNA is an educational project aimed at investigating the realisation of a human habitat on the moon. 18 student teams from all over Europe, coordinated by the Swiss Space Center, built several technology demonstrators for this habitat and tested them in June 2019 in the extreme environment of the Matterhorn

glacier (Switzerland) at 3800 metres. CERN contributed to IGLUNA by hosting the Critical Design Review in IdeasSquare in January 2019 and by providing two high precision radiation-monitoring systems, developed to track on-site radiation levels, such as during the operation of CERN's accelerators. CROME and HEH-Monitors were deployed outside and inside the glacier to measure open-air high altitude cosmic rays and thick ice shielding capability.

Francis Ongers, Director of Technology, Engineering and Quality Head of ESTEC, European Space Agency (left) with Eckhard Ehsen, CERN Director for Research and Computing.



CERN AND ESA COOPERATING ON RADIATION ENVIRONMENTS, TECHNOLOGIES AND FACILITIES

To improve sustainability of its benefits society. In of-Concept led activities, g projects. d by the es to reduce in oxides hausts of electron beam measurements in pollutants. of installing accelerator nding to ARIES also temperature reached a of samples, ing-up for collider

The collaboration agreement between CERN and ESA, signed in July 2019, addresses the challenge of operating in harsh radiation environments found in both particle-physics facilities and outer space. This first protocol of the CERN-ESA Cooperation Framework concerns radiation environments, technologies and facilities with potential applications in both space systems and particle physics experiments or accelerators. Two projects related to radiation testing in CERN facilities for ESA space missions have already achieved important results. In October 2019, four more projects started, with the aim of addressing assessment strategies for commercial off-the-shelf (COTS), in-orbit technology demonstrators, development of radiation detectors, monitors and dosimeters and simulation tools for radiation effects. These activities will continue and, as new challenges emerge, they will be dealt with under the coordination of the CERN-ESA Committee on Radiation Issues.

^ CERN Institutional Reports



SAVE THE DATE!

27-28 FEBRUARY 2020

2nd Accelerator Communication and Outreach Workshop



- **Location:** CERN
- **Date:** 27-28 February 2020
- **Objectives:**
 - Report on ARIES communication activities and contribution to deliverable 2.2
 - Report on strategy: gaps, goals and actions
 - Include 2 contributions to communication recommendations and strategy



2.3 Training coordination

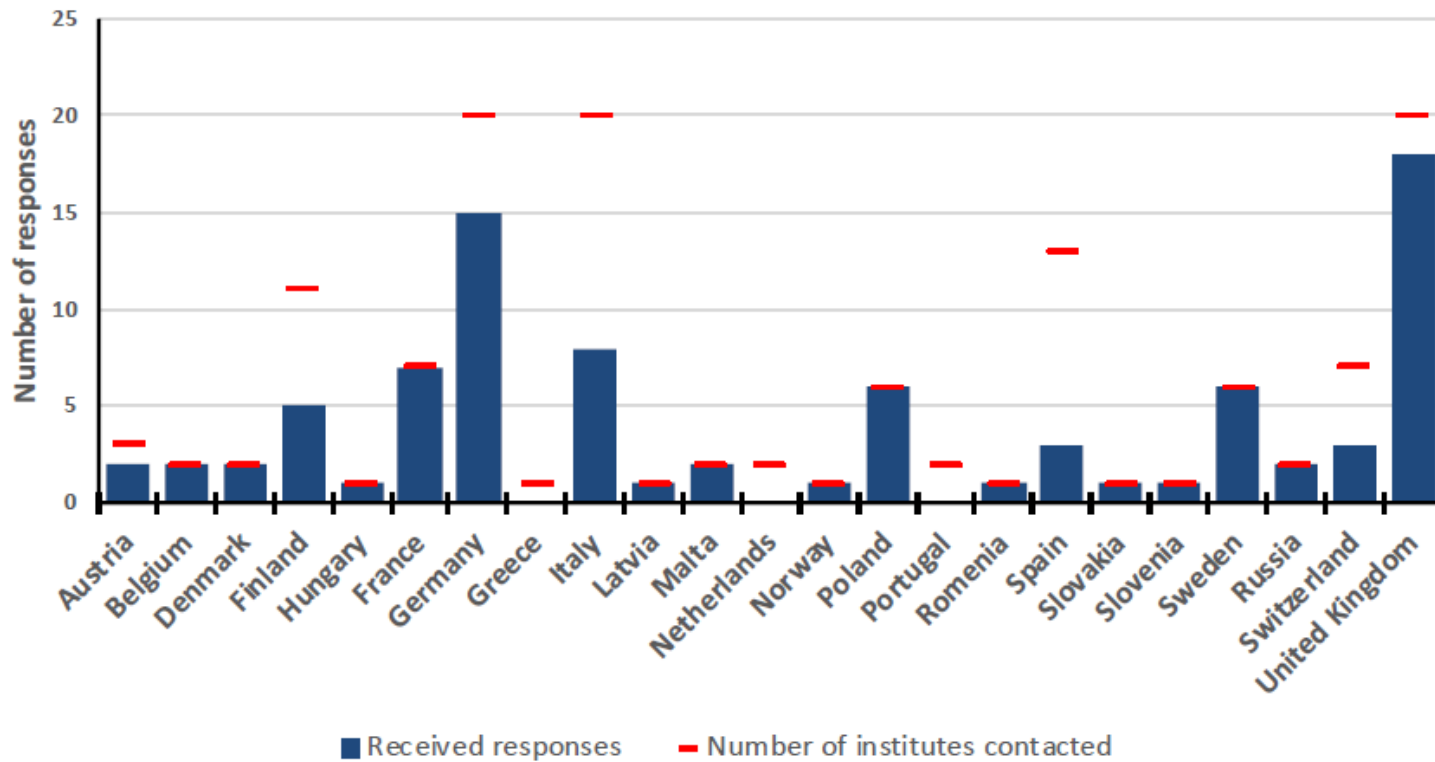
Ruthambara Yogi (ESS)

Survey of education and training

Information regarding survey

- Survey was launched in Nov 2019 using survey monkey tool
- Typical time to fill the survey was 15 minutes.
- Repeated follow up was done with the National contacts. Most of the national contacts have done a very good follow up with their colleagues.
- For some countries, the institutes were directly contacted as the negligible responses were received
- Finally the Survey data by beginning of April 2020 is used for the analysis

Survey responses



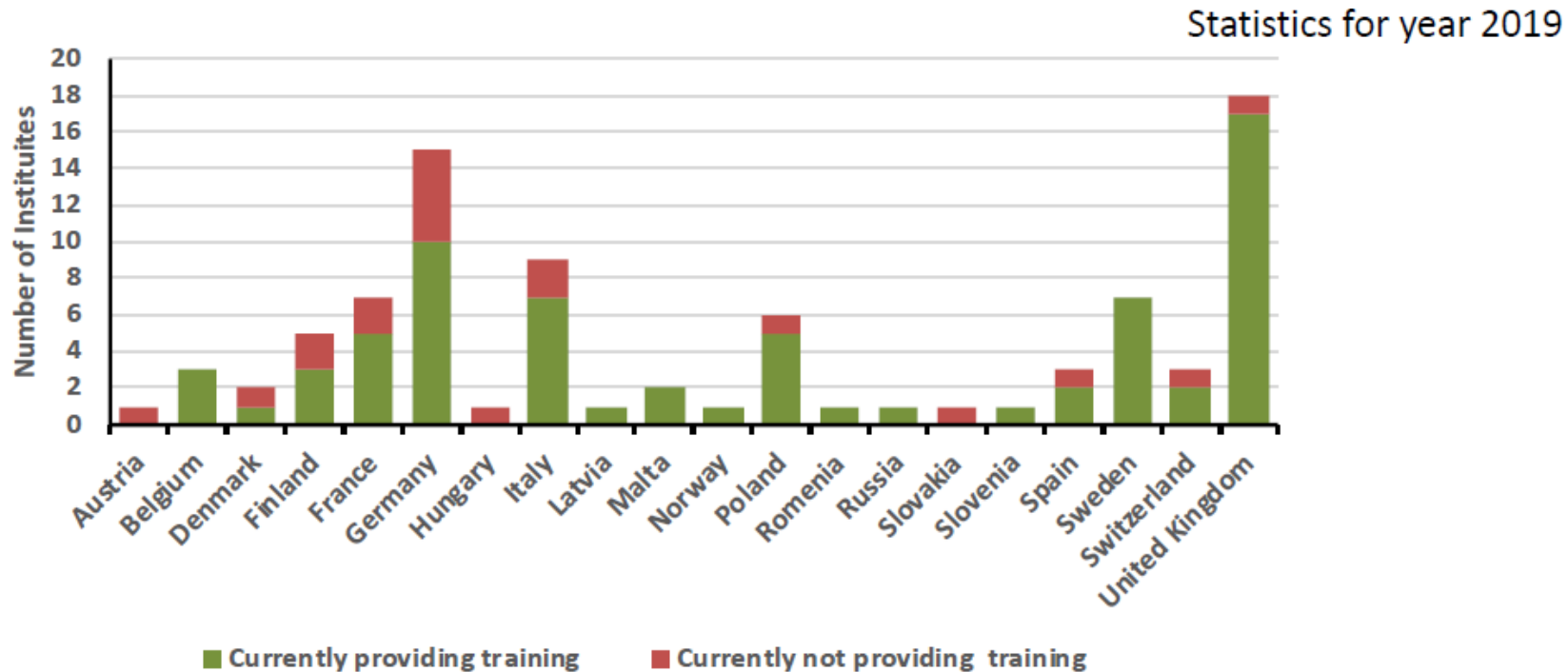
Survey was sent to:
more than 140 institutes in 23 Countries

Received complete responses from
90 institutes from 21 countries

TIARA survey: Input from 88 institutes from 13 countries



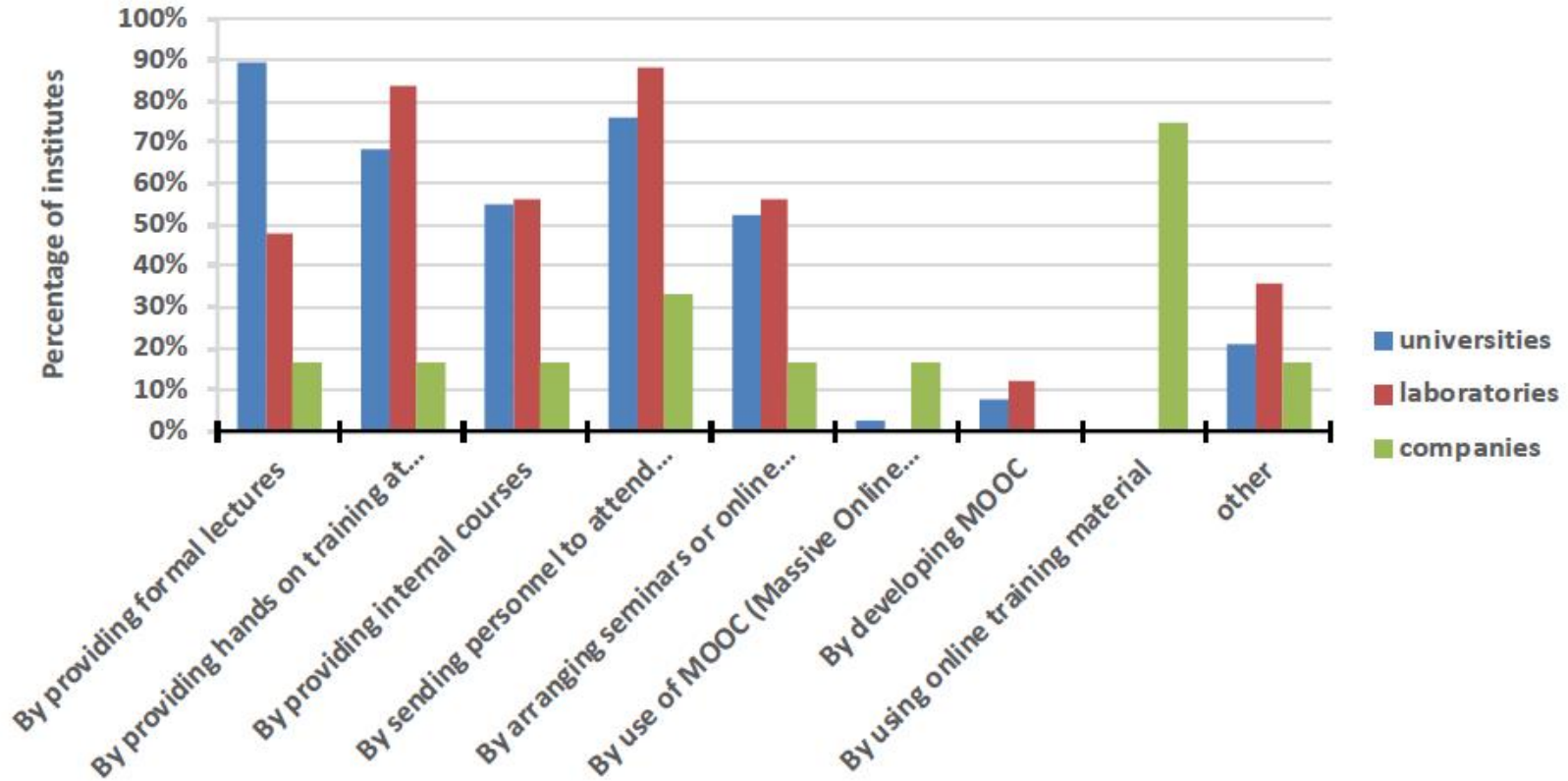
Institute training by country



Total 88% of the institutes provide training on some aspect in accelerator science.

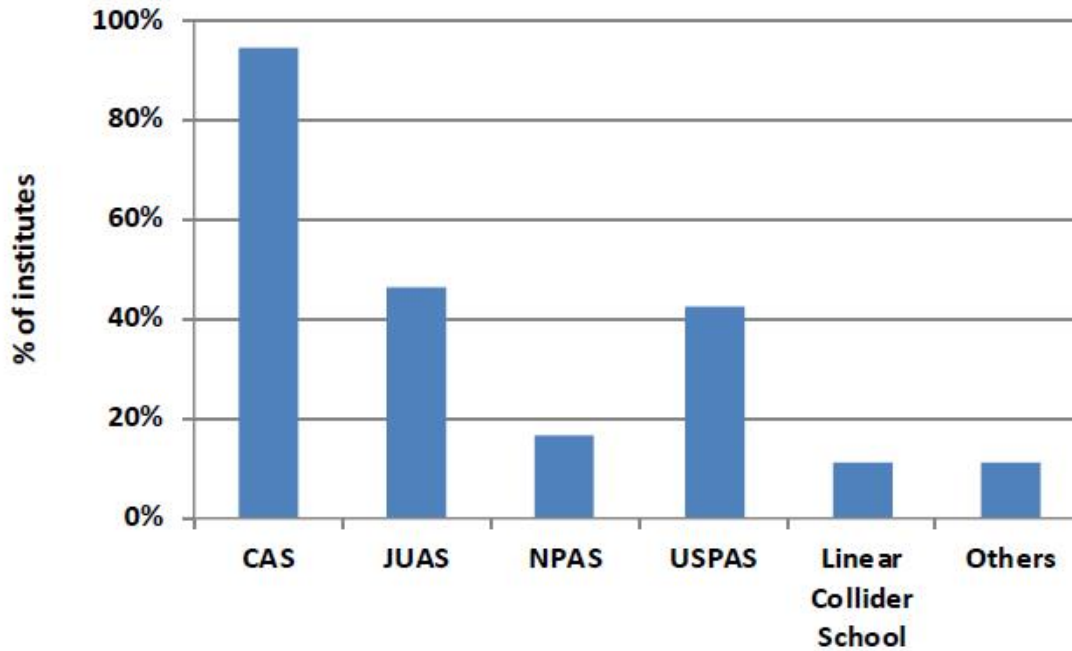
TIARA survey: 85% institutes provide training on some aspect in accelerator science.

Type of training

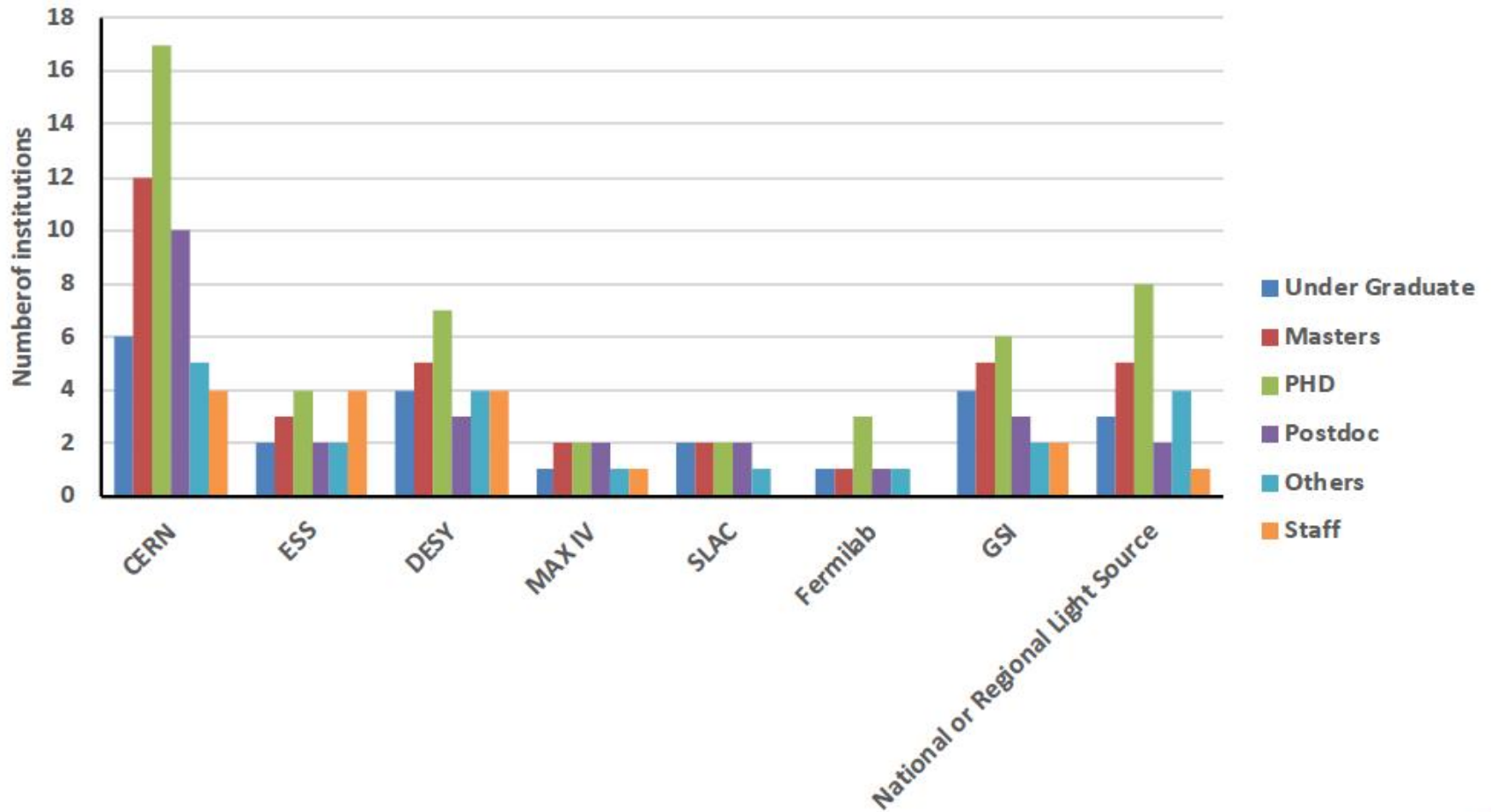


Accelerator schools

Accelerator school



Use of facilities for training





This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement No 730871.

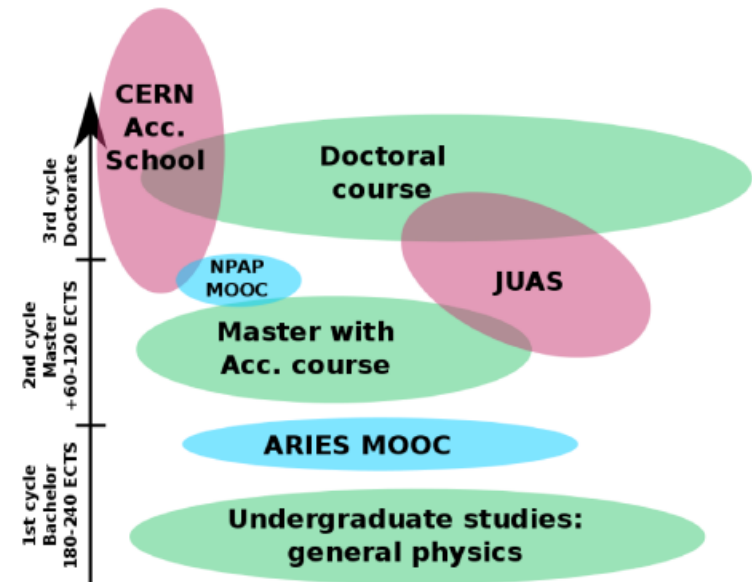


2.4 MOOC status report

Nicolas Delerue (CNRS & Université Paris-Saclay)

Reminder

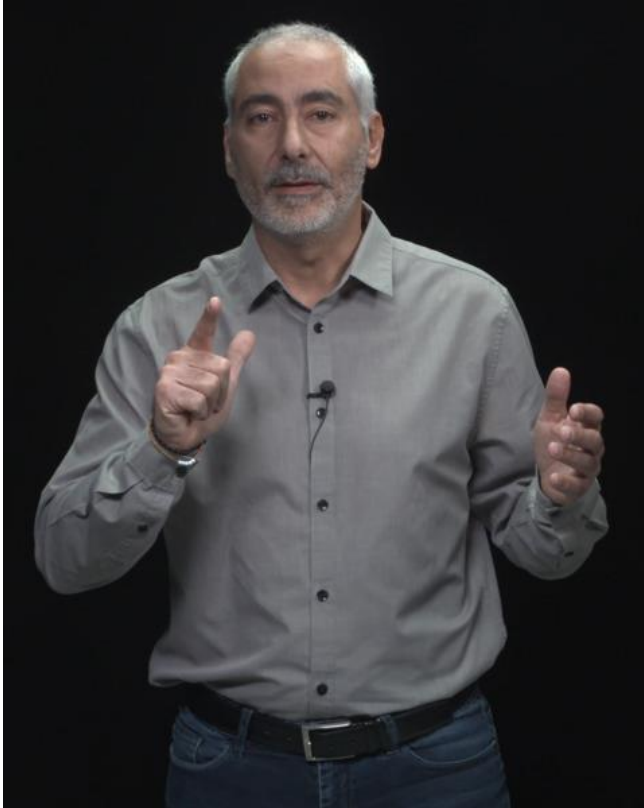
- This Massive Open Online Course aims at raising awareness on Accelerator Science and Technology among University students.
- Complementary to JUAS, CAS and University courses.
- It is organised in 2 modules:
 - an introductory module
4 topics of 1 hours each
 - an advanced module
6 topics of 1 hours each



Progress

- Pedagogical engineering done by University Paris-Sud (now University Paris-Saclay).
- Recording was done for 2 topics (Electromagnetism and Relativity).
- These topics are ready in test mode (ARIES deliverable 2.4).
- Final review meeting was cancelled due to the lockdown in France and had to be done by email.
- The two other topics (introduction and applications) are progressing and the recording should take place before the end of the year.

Screenshots from the Relativity module



http://particle-accelerators.eu/?page_id=108

Milestones & Deliverables for WP2

Tasks

2.2	Internal and external project communications and outreach activities	
2.3	Monitor provision for training in Europe and within a global context	
2.4	Produce an introductory e-learning course on accelerator science	

Milestones

MS10	Project website launched	2.2	M6	Oct 2017
MS11	Meeting to agree MOOC platform and academic structure and content of e-learning course	2.4	M12	May 2018
MS12	Workshop on training activities in Europe in a global context	2.3	M24	April 2019

Deliverables

D2.1	E-learning course	2.4	M36	April 2020
D2.2	Final report on coordination of communication/outreach activities	2.2	M37	May 2020
D2.3	Final report on coordination of training activities	2.3	M39	July 2020

Milestones & Deliverables for WP2

Tasks

2.2	Internal and external project communication and outreach activities	
2.3	Monitor provision for training in Europe and Africa in a global context	
2.4	Produce an introductory e-learning course on accelerator science	

On track

Milestones

MS10	Project website launched	2.2	M6	Oct 2017
MS11	Meeting to agree MOOC platform and academic structure and content of e-learning course	2.4	M12	May 2018
MS12	Workshop on training activities in Europe in a global context	2.3	M24	April 2019

Deliverables

D2.1	E-learning course	2.4	M36	April 2020
D2.2	Final report on coordination of communication/outreach activities	2.2	M37	May 2020
D2.3	Final report on coordination of training activities	2.3	M39	July 2020

Milestones & Deliverables for WP2

Tasks

2.2	Internal and external project communication and outreach activities	
2.3	Monitor provision for training in Europe and Africa in a global context	
2.4	Produce an introductory e-learning course on accelerator science	

Milestones

MS10	Project website launched	2.2	M6	Oct 2017
MS11	Meeting to agree on a platform and academic structure and content of e-learning course	2.4	M12	May 2018
MS12	Workshop on training activities in Europe in a global context	2.3	M24	April 2019

Deliverables

D2.1	E-learning course	2.4	M36	April 2020
D2.2	Final report on coordination of communication/outreach activities	2.2	M37	May 2020
D2.3	Final report on coordination of training activities	2.3	M39	July 2020

On track

Completed

Milestones & Deliverables for WP2

Tasks

2.2	Internal and external project communication and outreach activities	
2.3	Monitor provision for training in Europe and Africa in a global context	
2.4	Produce an introductory e-learning course on accelerator science	

On track

Milestones

MS10	Project website launched	2.2	M6	Oct 2017
MS11	Meeting to agree on platform and general structure and content of e-learning course	2.4	M12	May 2018
MS12	Workshop on training activities in Europe in a global context	2.3	M24	April 2019

Completed

Deliverables

D2.1	E-learning course	2.4	M36	April 2020
D2.2	Final report on coordination of communication/outreach activities	2.2	M37	May 2020
D2.3	Final report on coordination of training activities	2.3	M39	July 2020

In progress

News from WP5

School on High Gradient Wakefield Accelerators: <http://cas.web.cern.ch/schools/sesimbra-2019>

High Gradient Wakefield Accelerators, 11-22 March 2019, Sesimbra, Portugal



RELATED LINKS

[Indico page](#)

[Photo album](#)

[Hotel Do Mar](#)

DOWNLOADABLE

[Programme](#) (with links to lectures)

[Poster](#)

CONTACTS

[Participants contact info](#)

[Lecturers contact info](#)

[Main](#) [Overview](#) [Lectures](#) [1 minute slides](#)



News from WP5

Simon van der Meer Early Career Award in Novel Accelerators

(sponsored by the European Network for Novel Accelerators through the EU project ARIES)

The Simon van der Meer Award is being established in 2019 to recognize outstanding early career contributions (theoretical, experimental, computational or technical) in novel accelerator science. It is sponsored by the European Network for Novel Accelerators (EuroNNAc) which is part of the EU project ARIES. EuroNNAc is coordinated by DESY, CERN, Ecole Polytechnique, University of Oxford, INFN Frascati and CEA.

The Simon van der Meer Award will be awarded every two years at the European Advanced Accelerator Concepts workshop (EAAC). Eligible candidates must be within 12 years of the completion of their first university degree or equivalent, excluding career breaks (e.g. maternity or paternity leave, adoption). There is no restriction as to nationality. The research recognized could be either a single piece of work, or the sum of contributions. The award recognizes one individual researcher and consists of a stipend of € 3000 and a certificate citing the contributions of the recipient.

The announcement of the Award Winner will be made at the EAAC19 workshop on Elba.

Mr. Spencer Gessner (CERN) has been awarded.

Extra material

University of Liverpool activities

Particle Colliders - Accelerating Innovation, 22 March 2019 - <https://indi.to/AcclInnovate>
Accelerators for Science and Society, 28 June 2019 - <https://indi.to/AccSciSoc>

<https://www.cockcroft.ac.uk/archives/6116>, CI summary

<https://youtu.be/Z8CoXfnHp98>, video from local TV

New educational resource: Teaching Times, *The Science of Star Wars: Creative Physics Learning In a Galaxy That Isn't Far Far Away*, March 29th 2020

CERN Courier, *Outreach feels the force*, CERN Courier, Vol 60, Nr 1, Jan/Feb 2020

Metro, *Star Wars: From The Force to R2D2, does the science hold up?*, December 19th 2019

IOP PAB Group Newsletter, *How Star Wars Fantasy is Shaping Science Fact*, December 2019

Frankfurter Rundschau, *Star Wars und die Wirklichkeit*, January 15th 2020

Welt, *Science-Fiction in der Realität*, January 6th 2020

BBC Mundo, *Star Wars: ¿cuánto es ciencia y cuánto es ficción en la exitosa saga?*, December 23rd 2019

EconoTimes, *Star Wars: From The Force to R2D2, does the science hold up?*, December 22nd 2019

Generation Star Wars, *Star Wars and The Rise of Accelerator Science*, December 16th 2019

CORDIS, News, *The Force is strong with EU-funded research*, December 15th 2017