

INTERNATIONAL COSMIC DAY..... AGENDA 2019

Welcome to the International Cosmic Day (ICD) on November 6, 2019.

School groups from across the globe are getting together to ask questions like:

- What are cosmic particles?
- Where do they come from?
- How can they be measured?

Many groups worldwide took part in previous ICDs. We are looking forward to an interesting [International Cosmic Day](#) in 2019, too! Groups of scientists, teachers, and students will meet for one day to learn about cosmic rays and carry out an experiment with secondary cosmic ray particles.

Also this year, scientists from renowned collaborations will join the ICD and analyze their data regarding the questions addressed by the International Cosmic Day. They will present their data during the international exchange. The experiments that will be part of the program will be announced shortly on the website. Let us surprise you.

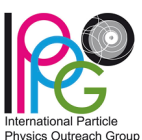
This document includes guidelines for the groups participating to the event. The institutions are free to implement these guidelines or plan their own events. For example, each institution can invite students or offer advanced training for teachers. The institutions can also choose if the event will be hosted at a school, a university or another institution.

The participating groups receive:

- a placemark in a Google Map displaying the location where the group meets and takes the measurements
- posters to announce the event
- a template for a press release
- certificates of participation for every student, teacher or organizer with an ICD booklet with all contributions after the event

We wish all participating groups an exciting ICD 2019!

Your ICD team



1 Announcement

We provide two posters:

- A general one: available at the homepage in the section "Poster", <https://icd.desy.de/e74122/>.
- A customizable template: available at the homepage in the section "Organization", <https://icd.desy.de/e12640/> (user: icd2019; password: v.hess12).

With the customized poster you can attract attention to the upcoming event at your institution. The template is a MS Word document that can be printed in A3 format. You should add your institute name and logo and the location of the event on the poster. The default font is "Corbel"; if this font is not available to you, you can use "Arial" as a replacement.

You are invited to put the posters everywhere where it will attract participants to your local event or the ICD in general. Besides, you are free to advertise the event to the public by additional means. For example, you can send around a press release about the event at your institution, invite local journalists, or provide public information on the website of your school/university. To this purpose, please feel free to use any content from the homepage <http://icd.desy.de>.

We will also provide a text for a press release, as soon as it is clear which scientific experiments will be taking part this year. We will inform you by e-mail.

2 Planning the Day

2.1 Introductory presentation

An expert should give the introductory presentation. The presenter will choose the appropriate level for the talk. It can cover topics such as:

- What are cosmic rays?
- Who discovered them and how?
- Who is doing research in astroparticle physics today?
- How will the group carry out their local experiment?

The presentation can either be given at the beginning of the day, or it can be split in one part in the morning and one part in the afternoon. It can also be complemented by a report from a scientist on a "big" experiment (e.g. the topic "IceCube – Wintering at the South Pole").

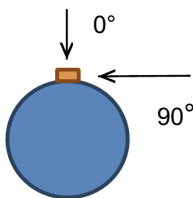
2.2 Measurement and Analysis

The goal of the ICD is to investigate the zenith angle dependency of particle showers induced by cosmic rays. We hope that all participants can carry out this measurement.

Alternatively, if you don't have access to your own Cosmic Ray Detector, you can instead analyse publically-available data. We provide public data on the learning platform [Cosmic@Web](https://cosmic@web.de), along with background knowledge, description of the experiments and data sets, and how it can be interpreted. For more details, please download the manual at <https://icd.desy.de/e12688/>

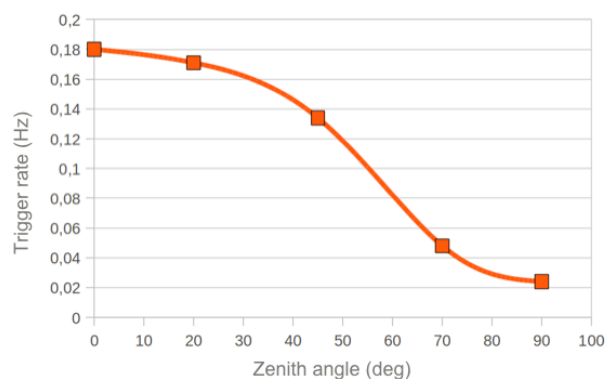
Each group will individually plan and carry out this investigation. Extending this measurement in order to investigate other aspects of particle showers is also possible. There are no restrictions on the schedule or on the setup used. It is important for the international exchange that at the end of the day the results are summarized and published in a diagram like the one shown below.

The goal is to measure the rate of air shower particles as a function of the zenith angle.



Please follow the convention: particles arriving perpendicular to the Earth's surface have a zenith angle of 0° ; particles arriving parallel to the surface are assigned a zenith angle of 90° .

Each group decides at how many different angles measurements are taken. The results should be presented in a graph and a short concluding paragraph. Additional information on the setup and data acquisition can be provided.



2.3 Discussion and Social Media

You will find a timetable at <https://icd.desy.de/e35439/>. In this timetable you can see which groups are active at what time.

Since one of the goals of this project is to allow school students to compare and discuss their results with other students all over the world, we have created this timetable showing simultaneously participating institutes. This will help you to get in contact with each other. If you did not already do this, we would kindly ask you to add the time information to the registration form at <http://indico.desy.de/indico/e/icd2019>.

Video Call

We propose international video calls during the day.

Goal of the call is:

- To present your school/institute/country to the others.
- Show and describe the detector you are working with (e.g., with your webcam).
- Give, in a few sentences, an intermediate report on your results.
- If possible: Show some results on a single PDF slide.

To motivate the purpose of the calls, it would be nice if the organizers could tell their students how scientific collaborations work together in practice and how they exchange their results. Please prepare the students that the calls will be held in English. In the past, it worked out well to nominate some motivated students in advance to present the results for their group.

Also, scientists from renowned collaborations will present their data regarding the questions addressed by the International Cosmic Day, during the international exchange. The experiments that will take part to the program will be announced shortly.

The procedure of video calls is being reconsidered. There will also be an appointment for a test call. More information about how and when the video call will be held will come later per e-mail.

Social Media

During the ICD we will have a contest: "Best Cosmic Selfie: take a selfie of your group with your detector or your nicest Cosmic Ray plot. Post it on Facebook or Instagram and use the hashtag **#CosmicDay**. The best one will get a prize!".

ICD Booklet

As in the past years, we want to collect all measurement results in a booklet. The goal is to store all results in one document. The booklet will contain:

- The general announcement poster.
- A picture of the Google map.
- A short presentation of all the participating schools/institutes.
- The presentation of the results of all participating groups and of the renowned experiments.
- Summary of the event.
- Additional information about school projects, relevant links, interesting websites and further material.



To compile this booklet, we kindly ask everybody to

- design a one-page PDF (A4: 21 cm x 29,7 cm) with pictures, comments or notes, and their measurement result. It will allow other groups to compare their own results and on the next day all groups around the world can see all results. In case you have different (larger) groups, you can send multiple result pages.
- provide a single slide (A4: 21 cm x 29,7 cm) presenting your school/institution. If you don't provide this slide, we will not generate one for you, so it's up to you.

If you want, you can also use the ICD2018_template_booklet as layout of the page. Feel free to modify the position and title of the boxes.

If you want to use a group picture, please make sure that the participants agree to its use and publication in the booklet.

If you have ideas for the booklet or links to further material please let us know!

We will compile the booklet as soon as we receive feedback from all participating groups. Therefore, please:

- send us the PDFs for the booklet
- or write us, that there will be no contribution to the booklet from your group.

The booklet will be available online. A link will be shared. The link will be sent to all organizers. The organizers can then forward this link to their participants (students, teachers, scientists).

Please send the PDFs to icd@desy.de preferably until two weeks after the ICD.

4 Closeout

Every participant should get a certificate and the ICD booklet. The ICD Team needs the number of participating students, teachers and scientists.

We provide every organizer with a MS Word document for the certificate. We will send the template for the certificates as soon as you provide us the number of participants (i.e. students, teachers, scientists) in your institution. This number is very important for us to assess the success and range of the ICD.

Every organizer can hand out a personalized certificate to the participants at the end of the event. Please pass on this certificate either as a printed version or as a pdf file, not as an open MS Word file. The template is a MS Word document that can be printed in A4 format. You should add the name of the student and the name of the venue. The default font is "Corbel"; if this font is not available to you, you can use "Arial" as a replacement.

The booklet is a nice conclusion of the event. The students have their own contribution and can compare it with that of the other groups. They can re-think the topic and can continue to deal with it after the day. Therefore, we ask you to forward the finished booklet.



5 Checklist

It's the same list as the one you can find at the webpage under "Organization"
<https://icd.desy.de/e74139/>.

Have you

- posted the general or your customized announcement poster?
- announced the event via other channels (e.g. using the template for press release)?
- checked your place marker at <https://icd.desy.de/e25775/>?
- checked entry in the timetable at <https://icd.desy.de/e35439/>?
- got the video call set up?
- got the permission to implement photographs of students in the booklet slides if you want to use such (this permission is not requested by us, but is meant for you to be on the safe side)
- participate in selfie contest and use the hashtag **#CosmicDay**
- sent number of participating students, teachers and scientist to icd@desy.de?
- handed out the certificates?
- sent a slide with your results and a slide about your school/institute to icd@desy.de?
- forwarded the link to booklet?

Please feel free to contact us (icd@desy.de) in case you have any further questions.