

International Particle
Physics Outreach Group

14th IPPOG Meeting – CERN

Particles 4 U

H.P. Beck, S. Goldfarb, B. Gulejova

EPS Call in February 2017

Dear Council Delegates,

As we discussed at Council 2016, the Executive Committee would like to use the ideas and experience from EPS Council members to propose and develop new activity projects with high impact. Indeed the review group on EPS strategy submitted at Council an Action Plan with various recommendations in relation to communication, internal and external cooperation, presence in Brussels, membership and funding. It requested also to regularly measure the success of EPS activities. Much has been undertaken by the Executive Committee in the past year, but now it is also the responsibility of the delegates to pick up the challenge.

For the first time, 60 to 90 minutes will be set aside in the 2017 EPS Council agenda to allow delegates (EPS Divisions and Groups, Member Societies, IM and AM Delegates, and Action Committees) to present original ideas for new projects.

Scope

Projects in any field of EPS main stream can be submitted, including (but not limited to) scientific excellence, education, communication and outreach, publication, diversity, etc. Projects to enhance current EPS programmes such as Physics for Development, Young Minds, etc. are also welcome. They should start in the first half of 2017 and are limited in time, with possibility of extension if very successful.

Budget

Euro 30,000 will be allocated in the 2017 budget to finance these projects. Up to Euro 5,000 per project will be allocated.

Application for funding

The application should be no longer than 2 A4 pages.

It should include:

- a concise description of the project/activity

- the expected outcome
- the partners and their roles
- the target audience for the activity

The projects will be reviewed by the Executive Committee

Duration and reporting

Accepted projects will be implemented during 2017, with a report to Council in 2018.

The **deadline for applications is 15 March 2017. Please send applications directly to David Lee (d.lee@eps.org).**

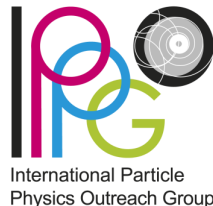
Thank you. Best regards

David LEE

2 14th International Particle Physics Outreach Group Meeting, CERN

EPS Secretary General

2 Nov 2017



Proposal submitted on 5th March 2017



INTERNATIONAL PARTICLE PHYSICS OUTREACH GROUP

Creating tools showcasing particle physics presence in every-day lives

Proposal to Call for new EPS activity projects 2017

Introduction / Motivation

International Particle Physics Outreach Group (IPPOG) is a global network of scientists, researchers, science educators, explainers and communication specialists active across the globe in outreach for particle physics. They come from 4 IPPOG Members prominent national and international professional physics centres, societies and laboratories engaged in particle physics research, and from major particle physics experiments. IPPOG's principle aim is to maximise the impact of education and outreach efforts related to particle physics, including new discoveries in all areas of particle physics research to young people and to convey to the public that the beauty of nature is indeed becoming understandable from the interactions of its most fundamental parts: the elementary particles.

IPPOG aims to contribute to the global efforts in strengthening the cultural awareness and understanding and support to particle physics and related sciences, in raising scientific literacy and to better-informed society, and in developing the next generation of researchers. This is being done by:

- Strengthening the sustainability, reproduction and growth of outreach activities in particle physics and related disciplines through the provision of reliable and regular dissemination forums and information exchange for science institutions and laboratories as well as for individual scientists engaged in science outreach and informal science education world-wide;
- Raising standards for outreach and informal science education initiatives by proposing and implementing strategies designed to share lessons learned and best practices for outreach in particle physics and related fields;
- Providing explanatory materials for helping disseminate results from particle physics and related subjects.

Today it becomes more and more apparent how important it is to open and transparent dialogue between society and science, and that tools and methods used to start and maintain such dialogue must be revised and developed. Indeed, many outreach activities at research centres, universities, museums often attract only those people who are already interested in the topic and already understand the basic and fundamental relevance of science. New paths for teaching and learning must thus be explored, without compromising the established ways [2]. Finding ways to teach but further involves engaging with young and very young pupils and students and of course, teachers, who have great potential to act as active multipliers of teaching out to hundreds of their students. Fostering programs engaging them in the methods and tools used in fundamental science and raising their curiosity and interest in science is well deserving investment in the future. Regardless that few of these young students become one day scientists themselves, all of them will find their place in society, and it is an honour to be ambassadors when they start discussing the scientific approach to acquire knowledge and basing decisions upon it: are reflections involving knowledge over beliefs. Paving ways to reach out further can be done through engaging with artists, musicians, celebrities, and through looking for the synergies and common points of science and these other aspects of the society. Opening the door to the 'unconverted', non-traditional audience has the potential for creating high impact of the image of science in the society.

[1] <http://ippog-web.cern.ch/>

[2] Viewpoint article by Hans Peter Beck in CERN Courier 03/17 <http://cerncourier.com/cws/article/cern/67712>

"Art is based on very clear, mathematical principles like proportion and harmony. At the same time, physicists need to be inventive, to have ideas, to have some fantasy." Fabiola Gianotti, IGCERN

Project/Activity

From experiences within the IPPOG community we know, that offering an engaging, interactive, challenging, enriching and creative activity, which is of mutual interest to all stakeholders (organiser, participants and even broader audience), leads to interest and success. Great example of such activity is **competition**. Taken into account that hands-on activities are more and more popular and demanded by teachers and students, this is an important aspect we want to include as well. Moreover, as mentioned above we aim to reach further from STEM students/teachers by opening the door to different disciplines, such as **Arts, Music, Architecture, Graphics** and others.

Thus, we propose to launch a competition for students and teachers to create educational/teaching tools about particle physics showcasing how science is present in their lives. This could be in **object prototype, a lesson plan, an activity (e.g. game), an experiment, or even a piece of art**. Indeed, any **creative activity involving science and arts (music, video, drama)** will be of high interest to be reopened to the creativity of the participants, as long as the educational aspects there. There would be two categories, one for students and one for teachers. It should not be limited only to physics (or STEM) students and teachers, but be open to broader disciplines, as long as the chosen topic relates to particle physics. Work in teams would be allowed.

There would be several winners and prizes. These could be a visit to CERN (few days), an offered place at summer schools organised by IPPOG members, such as CERN partners like Creations [3] and others who organise such events for students and teachers [4] (e.g. Inspiring Science, Discover the Cosmos, Go-Lab), books, T-shirts, etc. Winning teachers would participate to the Inspiring Science Education International Summer Academy 2018, part of the ongoing effort to establish a **European Science Education Academy** supported by the EPS.

Expected outcome

- The educational/outreach materials, which would be placed and used in the schools around the world to multiply the impact. The best results of their work would be published on the IPPOG website (including the IPPOG resources database). The contest website will be created as part of IPPOG website [1] (existing infrastructure of Inspiring Science for uploading the results and feedback).
- Raising the interest to broader audience, reaching further from the students and teachers already interested in physics/science building new community.
- Collecting the feedback from the participants about their view of science and the ways which could change the public opinion to create dialogue with representatives of broader public.

Partners and their roles

IPPOG members, IPPOG coordination team (Chairpersons: Hans Peter Beck, Steven Goldfarb; Scientific Secretary: Barbara Brunt-Gulejova); other partners as mentioned above (Creations, etc.).

Target audience

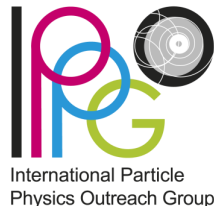
Students and teachers from diverse fields beyond STEM, like Arts, Music, Architecture, Graphics, etc.

Budget use

5000 euros would be used mostly for the prizes, the working time of the organisation in the competition including creating competition website.

[3] <http://creations-project.eu/creations-summer-school/>

[4] <http://ise.eur.org/>



Proposal accepted on 28th April 2017

Dear Hans Peter,

I am pleased to inform the project Creating tools showcasing particle physics in every day life has been retained for funding. The EPS has agreed to provide Euro 3000.

By accepting the grant, you undertake to provide a publishable summary of the project no later than 31 January 2018.

In the attached form, we request that you provide us with the bank coordinates of the institution that is responsible for implementing the project.

Best regards David

Particles4U Competition

European Laboratory for Particle Physics



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The IPPOG Particles4U Competition



Particles4U

Particles4U is a competition for young students and teachers, sponsored by the European Physical Society (EPS), and organised by the International Particle Physics Outreach Group (IPPOG). We at IPPOG are scientists, communicators, and educators engaged in particle physics outreach around the world. But, sometimes, we need the help of experts, and that is where you come in...

Particles4U Competition

The Challenge

If you are a student or teacher in primary or secondary school with a passion for particle physics, then we have a challenge for you. Create an educational, fun, and inspiring tool showcasing how elementary particles are present in our everyday lives. This could be an **object, prototype, lesson plan, activity, game, experiment**, or even a **work of art**. Use your creativity! Just make sure to include an educational aspect - something that will get the message across that **science is a fundamental part of our lives**.

Eligible Participants

There are two categories: one for **primary level students (age 12 and under) and their teachers**, and one for **secondary level students (age 13 and up) and their teachers**. Individuals, groups, classrooms, and even groups of classrooms from anywhere in the world are welcome to participate. This includes aspiring artists, musicians, and writers, as well as math and science wizards. Your goal is to teach the rest of the world how particle physics is everywhere and how it affects our lives in many ways.

The Awards

The top two teams in each category will win:

- A visit from an IPPOG particle physicist, who will present the latest research in the field and answer your questions (in your local language whenever possible);
- A special gift from CERN and an award certificate for each individual, in recognition of their achievement;
- A genuine working particle detector for each winning classroom, for measuring cosmic ray muons.

How to Apply

Please complete the [application form](#) by **7 January 2018** including the following:

- A written description of your creative contribution, including its goals and intended audience;
- Images and/or Video which can help us to better understand its usage and capabilities;
- Any other supporting material that you think is relevant.

We look forward to seeing your creative ideas!

Contact Us

For any questions or help with your project, please contact the IPPOG team at ippog.info@cern.ch.

To be officially launched following the meeting

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