



International Particle  
Physics Outreach Group

CERN Council  
December 2024

# IPPOG Collaboration Report

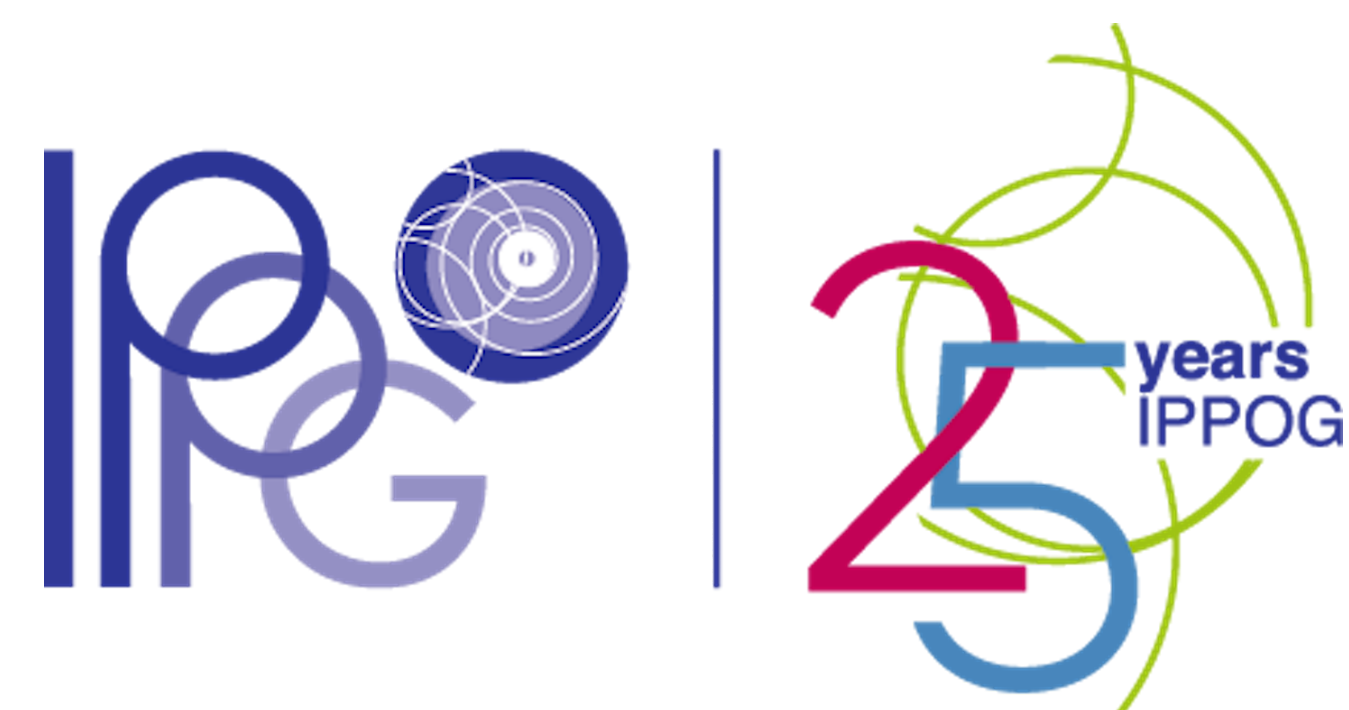
Claire Adam & Pedro Abreu (co-chairs)

*On behalf of the IPPOG Collaboration*  
*[\[link\]](#)*

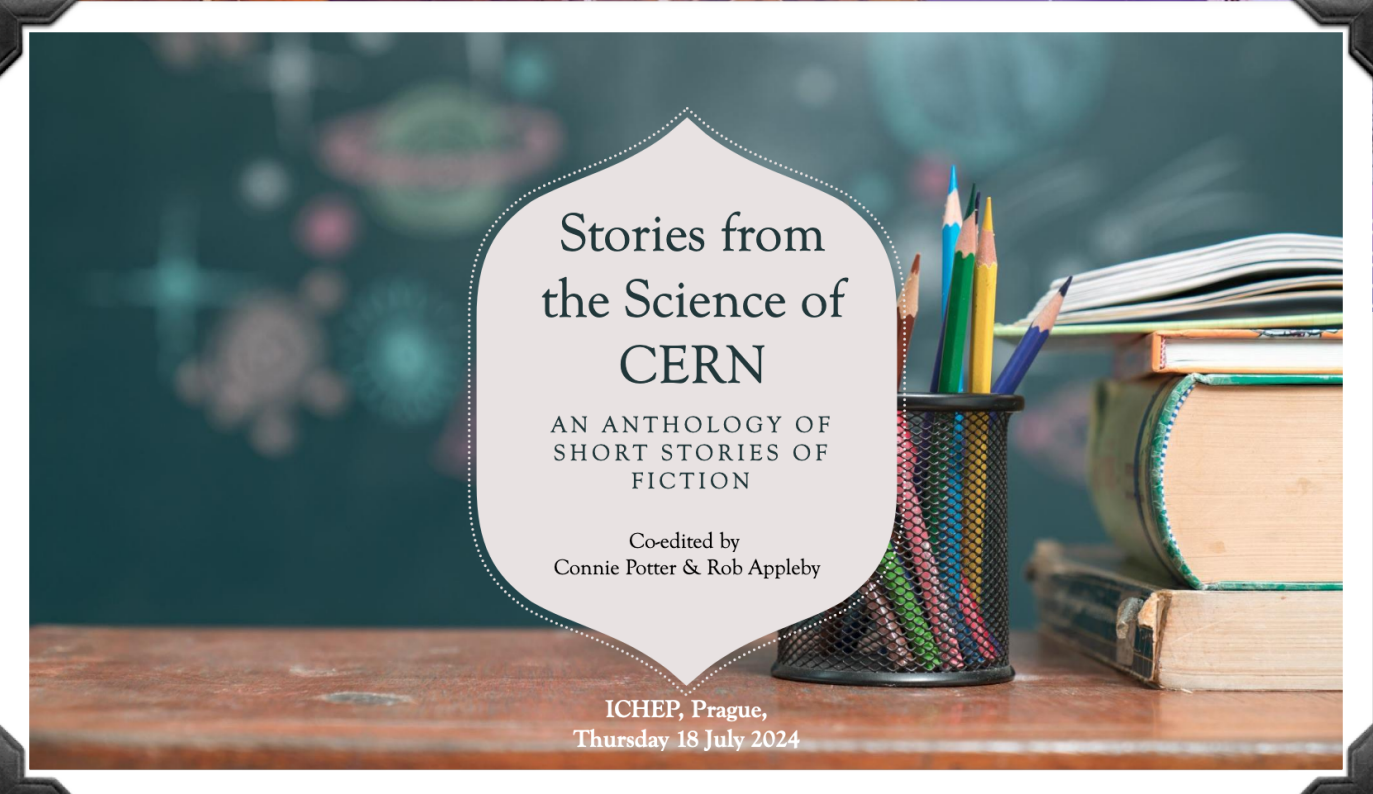
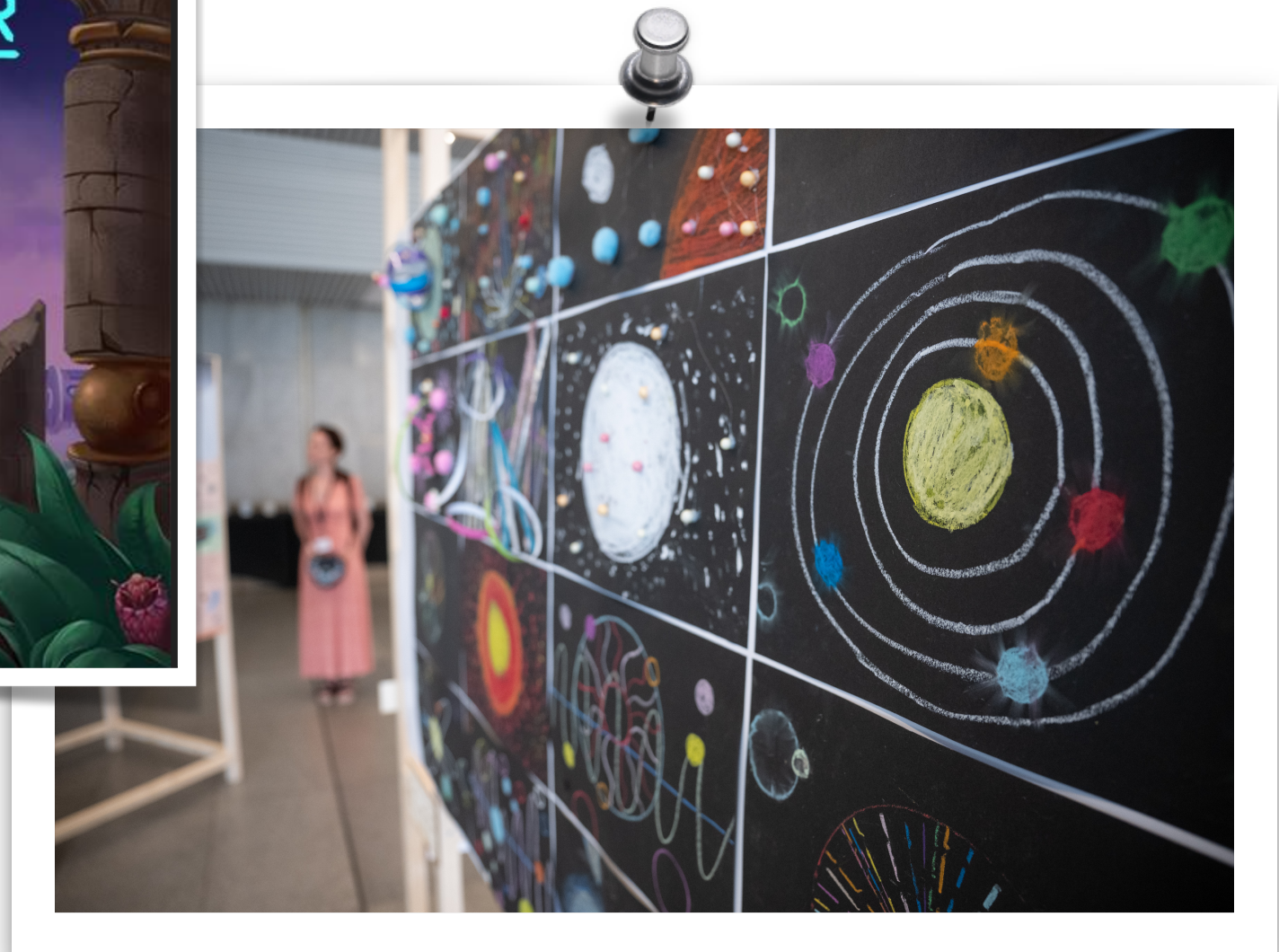
# Latest Report: March 2023

Still enjoying the “25th Anniversary mood”...  
But also looking forward:

- The group was created to address public engagement, in very similar times (LHC preparation era)..
- The full HEP community can be very proud of the progress made in the last decades.
- And yet, the world has also changed a lot, we cannot relax...







## Education & Outreach Summary, ICHEP 2024

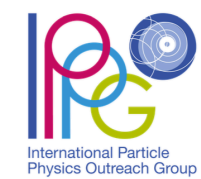
10 Posters plus 29 talks in 3 parallel sessions: 35 - 60 attendees  
With lots of discussion during and after the sessions  
Educational Activities, Art & Science, E&O Strategy, Visits, Games, Social Media  
**+ Panel Discussion on importance of E&O**

With many thanks to the LOC:  
Jiri Dolejsi, Barbara Trzeciak, Oldrich Kepka

**Dave Barney, Miroslav Myska & Connie Potter**



# Introducing IPPOG



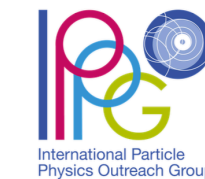
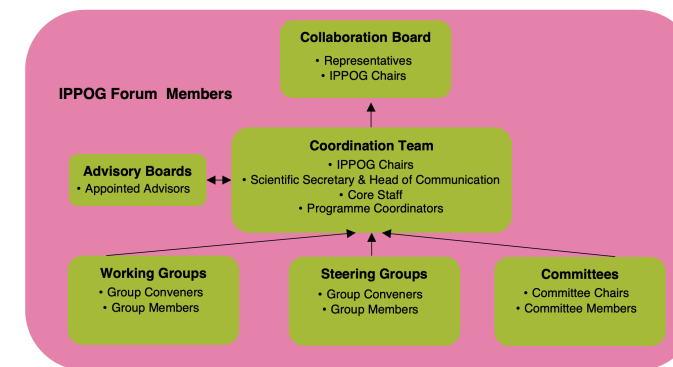
## Who we are

About IPPOG



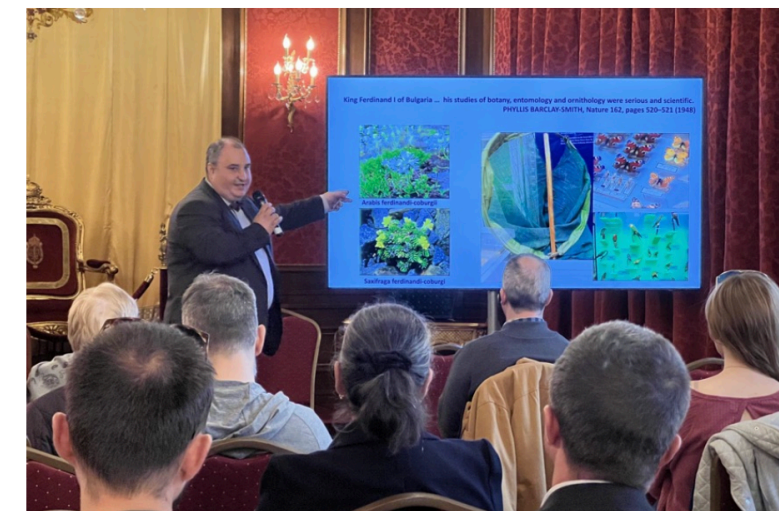

## How we do

IPPOG Organization



## What we do

IPPOG Activities



IPPOG spring meeting 2023 (Sofia, Bulgaria)



IPPOG autumn meeting 2023 (CERN)



International Masterclass (Italy)



# A solid Collaboration

## International Scientific Collaboration

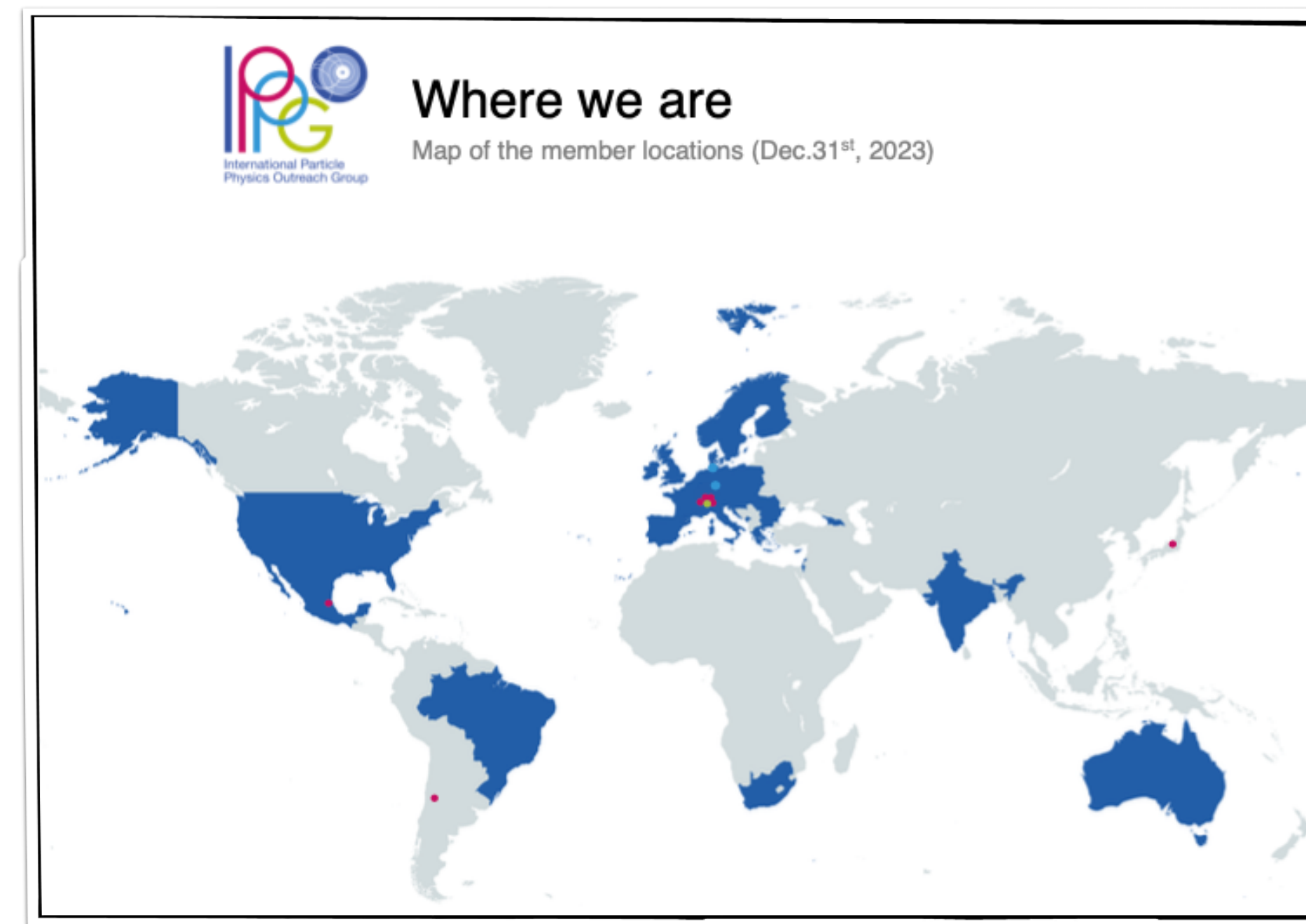
- Active researchers with experience in public engagement, experts in communication & education
- 34 countries, 7 experiments, 1 international lab (CERN) and 2 associate national labs (DESY, GSI)

## Organise Global Activities

- International Particle Physics Masterclasses
- Global Cosmics Portal & International Cosmics Day
- NEW in 2024: Resources Portal

## Support Local Activities

- Visit one country each year, to enhance HEP outreach visibility but also to foster transversal collaboration between projects / contributors
- Pool of volunteers and (limited) resources to support events



### IPPOG MAP

- Countries (Australia, Austria, Belgium, Brazil, Bulgaria, Cyprus, Czech Republic, Denmark, Finland, France, Georgia, Germany, Greece, Hungary, India, Ireland, Israel, Italy, Mexico, Montenegro, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, The Netherlands, United Kingdom, United States of America)
- CERN
- Associated members
- International Experiments (ALICE Collaboration, ATLAS Collaboration, Belle II Collaboration, CMS Collaboration, HAWC Collaboration, LHCb Collaboration, Pierre Auger Observatory)

# A busy Collaboration

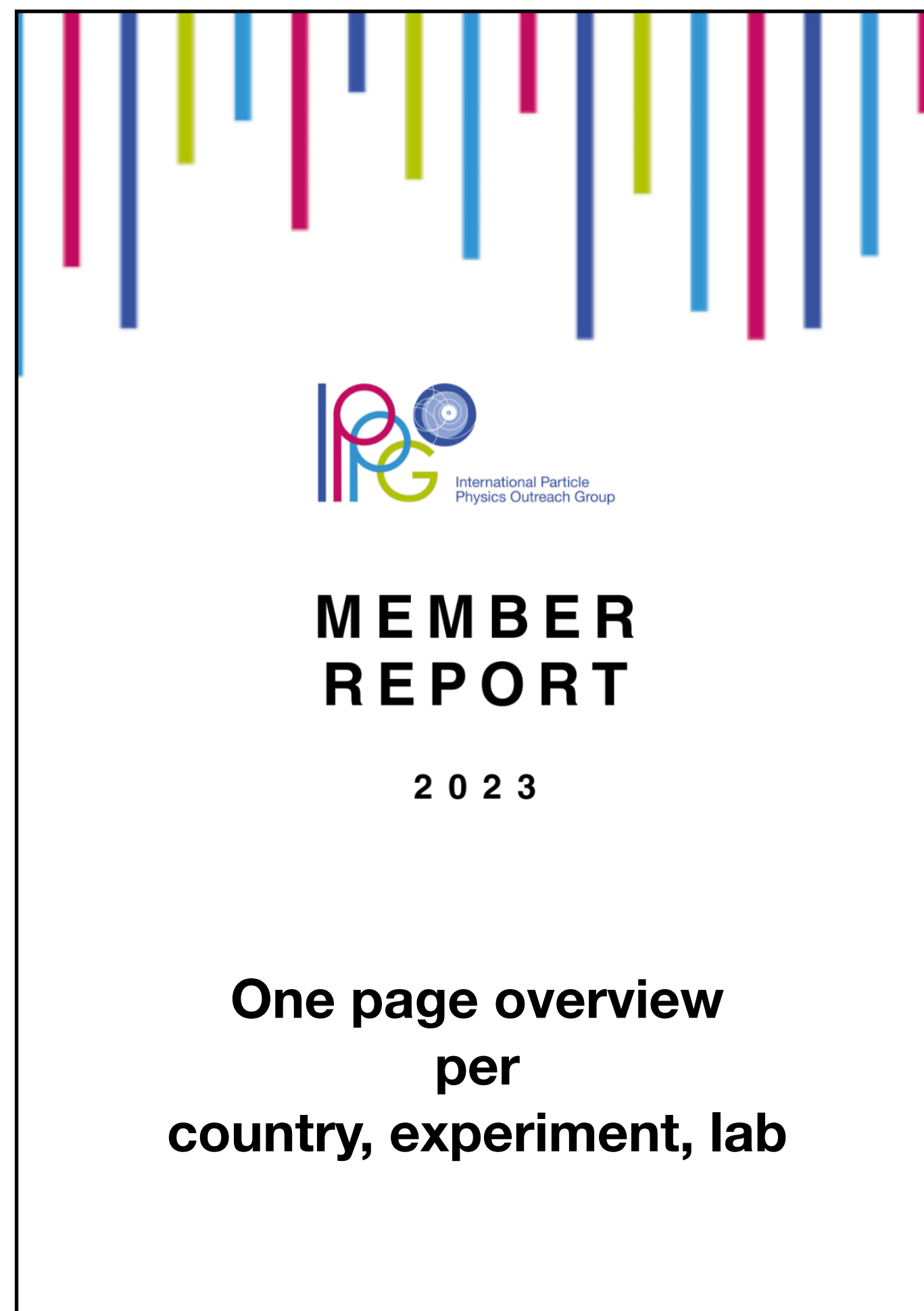
November 2024 Meeting: 80+ participants

- Activities coordinations meetings and reports
- Reports from the Chairs, scientific secretary, communication and finance officers.
- News from Collaboration members: this time Belgium, France, CERN, Finland.
- Interactions with partners: this time, Quarknet in the US
- Success stories: projects of all kinds, from games to cosmic pianos
- Collaboration Board

Theme of the panel discussion: Open Science







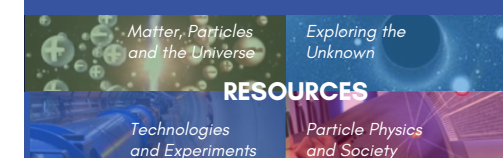
Reports and Proceedings  
<https://ippog.org/publications>



### About IPPOG

The International Particle Physics Outreach Group is a network of scientists, educators and science communication specialists whose mission is to bring particle physics and science in general to the public.

In 2016 the network became a formal collaboration with countries, experiments and international labs as members, and national labs as associated members.



### A worldwide collaboration

+ 40 countries, experiments and labs around the world share experience, disseminate resources and support projects to foster High-Energy Physics global outreach.

*Learn more about the current members*



### How can your country become a member?

1. Contact a few motivated people willing to engage in particle physics outreach.
2. Identify an institutional body that can sign IPPOG's Memorandum of Understanding.
3. Choose your representative in the collaboration.



*Get a seat at the table, get a voice*

### Contact

[info@ippog.org](mailto:info@ippog.org) <https://ippog.org>

### Brochures

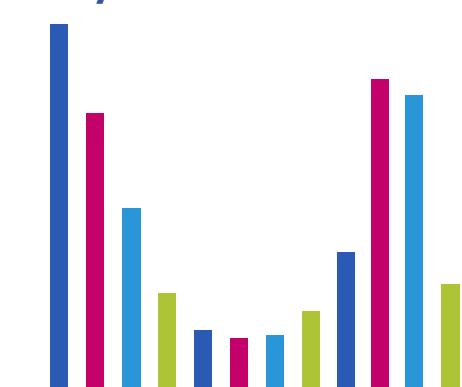
<https://cds.cern.ch/record/2903880>

### Countries, experiments, labs

### JOIN



International Particle  
Physics Outreach Group





# A healthy collaboration

After 8 years of steady growth, it was time to consolidate the internal IPPOG components:

- Review the “coordination team” and “working groups” tasks, manpower and priorities
- Strength the “Forum”, which gathers experts nominated by the collaboration members for their expertise and capacity to participate in discussions
- Address the need for an “author list” (tricky issue in a domain where a wide range of contributions mix).



**As of today, the IPPOG forum  
counts 182 members**

**<https://ippog.org/ippog-forum>**



# More space on [ippog.org](http://ippog.org) for Working Groups material

Working Group

## Outreach of Applications for Society

This working group focuses on collecting and making available engaging stories about concrete examples of successful applications for the benefit of society from (particle) physics and related sciences. Out of a wide range of working documents and even more ideas, the stories available so far are:

- Unraveling Cosmic Mysteries: The collaboration between International Space Station and CERN
- Superconductivity – quantum mechanics at work
- Medipix detectors, from colour X-ray imaging to education
- Muography - Invisible particles help to reveal invisible structures
- Searching for hidden cavities inside the Sun pyramid in Mexico
- Einstein's Relativity in Action – the GPS Navigation System knows it
- Positron Emission Tomography: Can crystals used in particle detectors save lives?
- Accelerators to reduce pollution of maritime traffic

Priority for ICHEP 2024

Working Group

## Explaining Particle Physics to the Public

IPPOG forum members regularly discuss how to explain complex particle physics topics to the public. This specific working group took up the challenge to extract, from a long tradition, a wide range of working documents and even more ideas, the following stories:

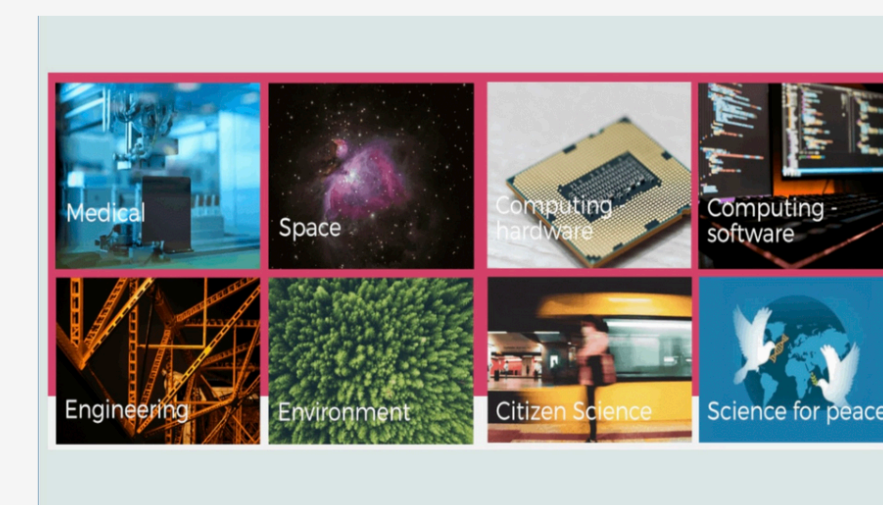
- We enter the Scalar Era
- Precision counts

Priority for EPPSU 2025



## Particle Physics Tapas

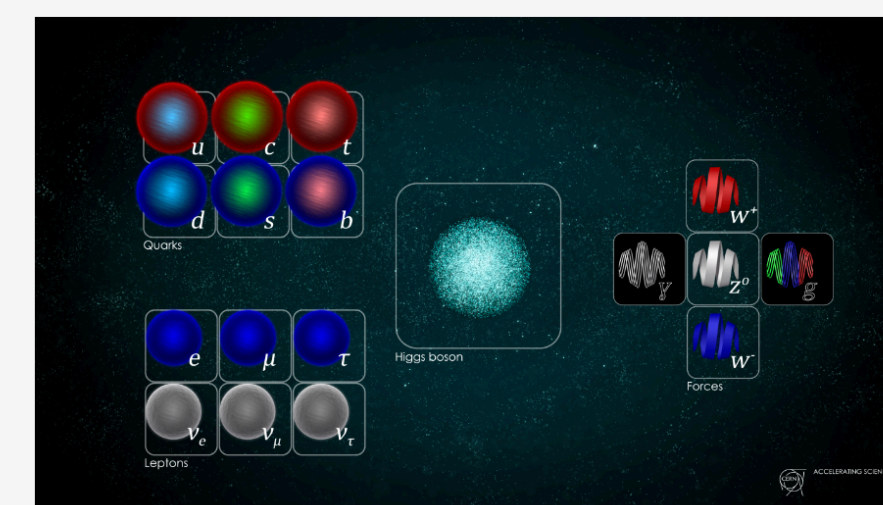
Any thirst or hunger for particle physics? Here are a few stories prepared by members of the IPPOG community and working groups



08 July, 2024

### Benefits of fundamental research for society

Concrete examples of successful applications for the benefit of society from (particle) physics and related sciences. Compiled and presented by the IPPOG working group on "outreach of application for society"



08 July, 2024

### Particle Physics Open Questions

A series of short texts addressing the complex underlying questions and concepts of particle physics, prepared by the IPPOG Working Group "Explaining Particle Physics to the Public"

Communicate the importance of particle physics



# Partners & Neighbouring Fields

IPPOG started with the LHC, but the scientific scope of the collaboration was always intended to be broader:

- The Pierre Auger Observatory and HAWC are members of the Collaboration
- Neutrinos will be the main topic of the next collaboration meeting, that will take place at Fermilab (May 2025)
- Cross links with APPEC, NuPEC and the Gravitational Waves collaborations were initiated before Covid. Discussions are re-opening.
- The new Masterclass on particle therapy reinforces links with nuclear and medical physics.

Now exploring more topics and more agreements...  
Feel free to contact us !



IPPOG and spin-offs  
from particle and nuclear physics

Yiota Foka (GSI/CERN)

on behalf of

IPPOG\*

IMC Steering Group

WG Outreach of Applications for Society

\*IPPOG International Particle Physics Outreach Group  
IPPOG Author-List: <https://cds.cern.ch/record/2903278>



We are made of astroparticles

Categories: Categories in the Category:Creedaks ▾



December 5, 2024 1:24 pm Ippog Brazil



# Requests from the community

- **Question from an ICHEP2024 participant:** “**How** can colleagues who want to get started know more about these inspiring projects ?”
- **Question from the Management:** “There are good and not so good projects. **How** can we help to improve the overall quality and support better some of them ?”
- **Question from the younger generation:** “**How** can my contribution and the skills that I gain by doing outreach be taken into account in my career ?”
- **Worries for all:** “**How** does generative AI change the whole picture ?”



## New “Resource Portal” Activity created last week.

Will concentrate on a wider dissemination of success stories from the entire community. Can co-organise open workshops & trainings, etc (if support is found).

# Meanwhile, news from the world

---





18 September, 2024

## International Cosmic Day 2024

Exciting News! Get ready for the cosmic celebration of the 13th International Cosmic Day on November 26, 2024!



24 June, 2024

## Colors of Ostrava 2024: A Celebration of Music and Culture with IPPOG's Support

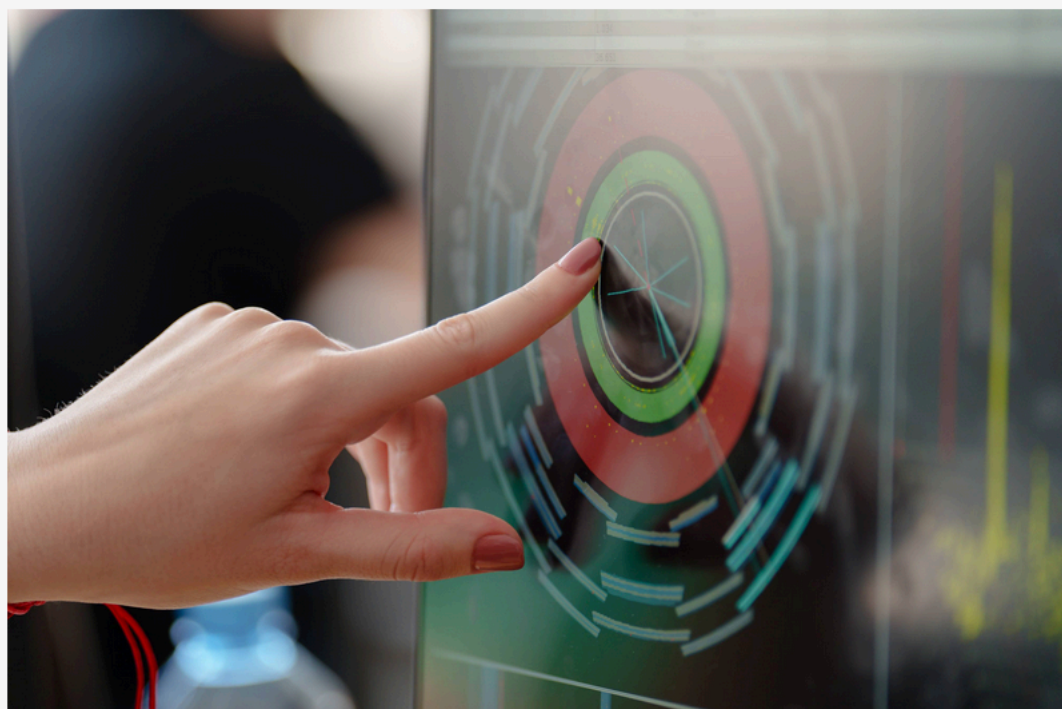
This year, the famous **Colors of Ostrava festival** returns to the historic industrial setting of Dolní Vítkovice in Ostrava, Czech Republic. From July 17th to July 20th, 2024, music lovers and cultural enthusiasts from around the world will gather to experience one of Europe's most dynamic and diverse festivals.



12 September, 2024

## World Wide Data Day (WWDD) 2024 Set for November 14

On November 14, 2024, students from around the globe will participate in the LHC World Wide Data Day (WWDD), **a 24-hour event that offers high school students a unique opportunity to analyse data from the Large Hadron Collider (LHC).**



03 April, 2024

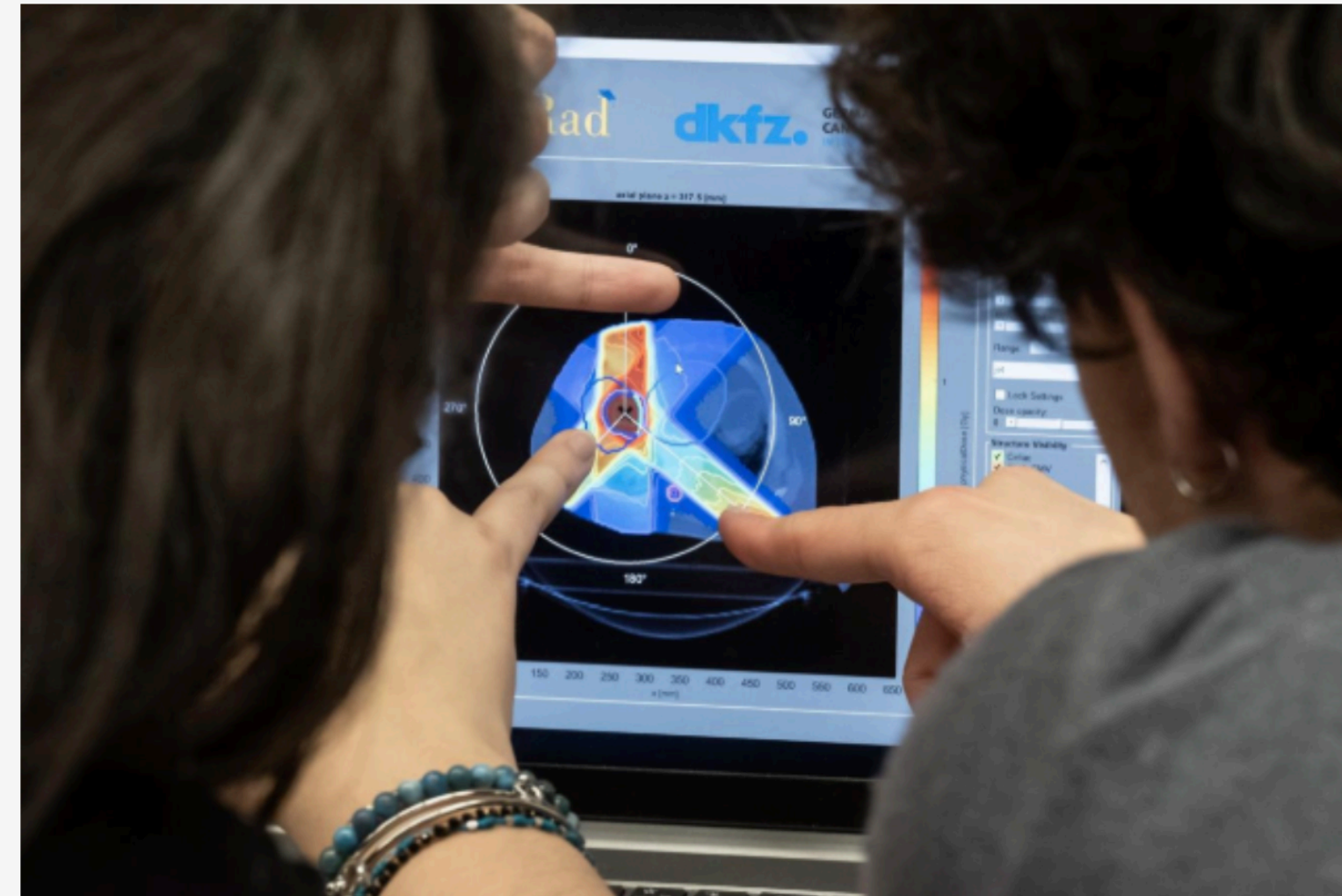
## International Masterclasses 2024

The International Masterclasses 2024 have concluded few days ago. We reflect on nearly seven weeks of a packed schedule.

News on <https://ippog.org>



1st prize: **Stefano Marcellini from Bologna.** Title of the series (5 photos): **Hands on Particle Therapy.**



Photograph: Stefano Marcellini

2nd prize: **Joseph Wataka and Lydia Roos from Nairobi:** ATLAS Master Class in Kenya.



Photograph: Joseph Wataka and Lydia Roos from Nairobi, Kenya.



Photograph: E. Maurice and S. Pieyre from Polytechnique

# Winners of the 1st edition of the IPPOG Photo Contest

3rd prize: **E. Maurice and S. Pieyre from Polytechnique, alongside Cecilia Uribe Estrada from Mexico,** clinch the third place ex-aequo.




Photograph: Cecilia Uribe Estrada from Mexico

<https://ippog.org/news/recognising-winners-1st-edition-ippog-photo-contest>



# Conclusion

- After 25+ years of experience and 8 years of Collaboration growth, the discussion shifts from “**Why** do we need public engagement ?” to “**How** can we support it better ?”
- IPPOG is, of course, only one piece in the jigsaw puzzle and has limited resources... However, its structure is unique and robust. We believe that its know-how is relevant for the current discussions.
- You are all more than  to discuss **How** with us