

# International Particle Physics Outreach Group (IPPOG) Report



Expresso, Lisbon  
22 apr 2017

EXPRESSO

- **Brief history: started as a network called the European Particle Physics Outreach Group (EPPOG) in 1997.**
  - Sweden represented in the network (Erik Johansson from SU was the original representative) through Fysikersamfundet.
  - Tightly connected to CERN in the beginning, changed name to IPPOG a couple of years ago to reach out worldwide.
- **Transformed from a network into a formal collaboration last year, with membership fees.**
  - Members can be countries, laboratories or experiments.
  - Fees are low (1 kEuro/year), **medium (3k)** or large (5k), depending on the GDP and the size of the community.
  - This allows to go from ideas to action, to have the means to produce material and pay for critical organisational support.
- **Meet twice a year for 2.5 day long, intense, meetings.**

	Signing Organisation	Country/Lab/Experiment	Date signed
1	NIKHEF	Netherlands	22 Sep 2016
2	DESY for KET	Germany	23 Sep 2016
3	Physics Department of University of Oslo	Norway	21 Oct 2016
4	LIP	Portugal	1 Nov 2016
5	The Section for Elementary Particle and Astroparticle Physics of the Swedish Physical Society through the Swedish LHC Consortium	Sweden	1 Nov 2016
6	CHIPP	Switzerland	4 Nov 2016
7	Ministry of Education, Science, Research and Sport	Slovak Republic	15 Nov 2016
8	Institute of Atomic Physics	Romania	17 Nov 2016
9	Helsinki Institute of Physics	Finland	29 Nov 2016
10	FWO + F.R.S.-FNRS	Belgium	30 Nov 2016
11	CERN	CERN	19 Dec 2016
12	INFN	Italy	21 Dec 2016
13	CNRS/IN2P3	France	23 Dec 2016
14	The Henryk Niewodniczański Institute of Nuclear Physics Polish Academy of Sciences	Poland	29 Dec 2016
15	CoEPP	Australia	14 Feb 2017
16	The University of Notre Dame on behalf of QuarkNet	USA	14 Mar 2017

- The International Masterclasses (IMC) in Particle Physics is the flagship program for IPPOG.
  - Supported by in-kind contributions from CERN and from the German physics network Teilchenwelt.
- Masterclasses have grown from 2005 to 2017:
  - From 18 to 50 countries.
  - From 58 to 216 participating institutes.
  - From 72 to 314 different masterclasses.
  - From 3,000 to 15,000 participating high school students.
- New since last year, UN International Day for Women and Girls in Science: February 11.
  - Huge success, will continue this year.



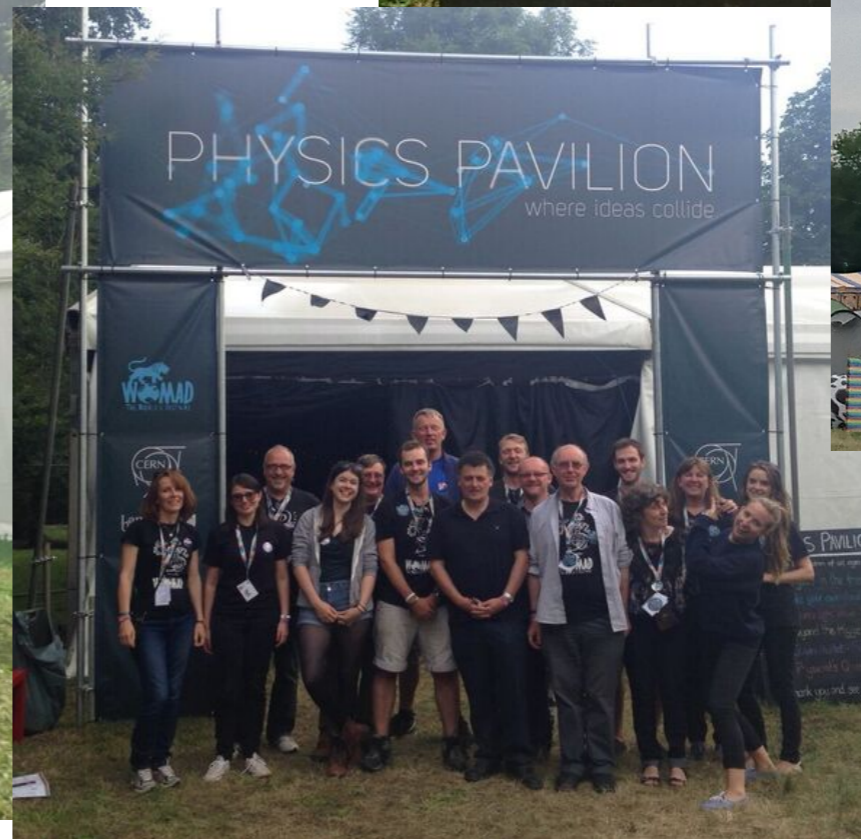
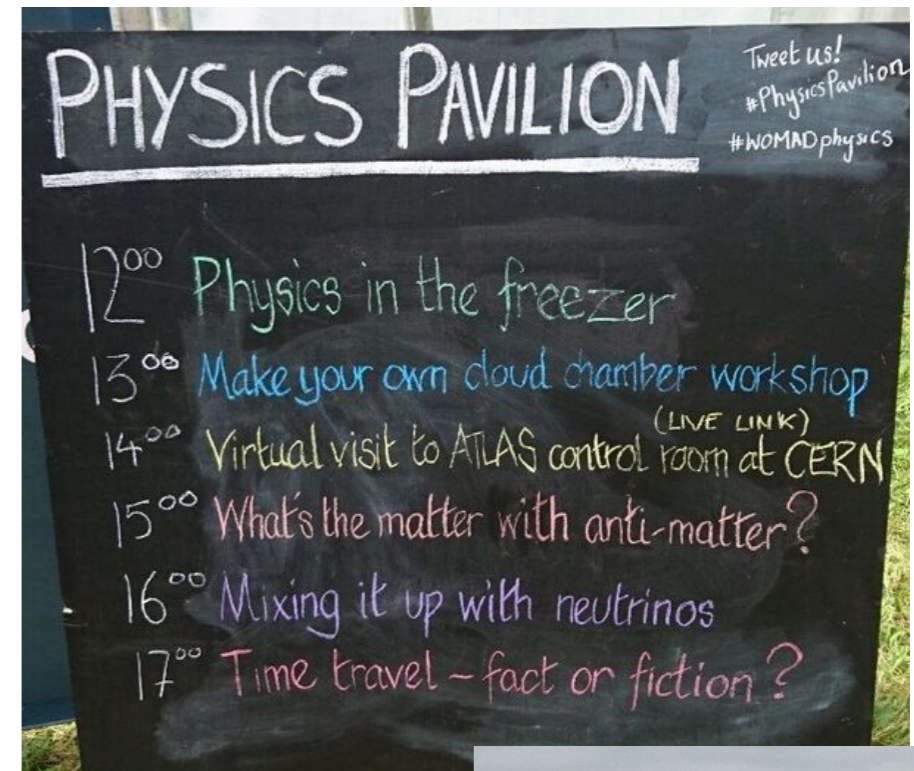
- Relatively new competition for high schools, submit a proposal for how to use some beamtime at the Proton Synchrotron at CERN to do an experiment.
  - The class gets to travel to CERN to do the experiment.
- We can probably advertise this a bit more in Swe, 2018 last year before LS2.

## 2017 Winners



Country	Number of applications	Country	Number of applications	Country	Number of applications
American Samoa	1	Hong Kong S.A.R., China	1	Portugal	22
Argentina	3	Hungary	4	Qatar	1
Australia	3	India	30	Romania	14
Austria	3	Indonesia	1	Russia	6
Bahrain	2	Iran	12	Serbia	9
Bangladesh	3	Ireland	2	Singapore	9
Belgium	1	Israel	10	Slovakia	7
Bolivia	1	Italy	121	Slovenia	2
Brazil	10	Japan	1	South Africa	6
Bulgaria	2	Jordan	2	South Korea	1
Canada	19	Kenya	1	Spain	81
Chile	3	Lebanon	1	Sri Lanka	1
China	4	Malaysia	1	Sweden	1
Colombia	3	Malta	1	Switzerland	8
Czech Republic	3	Mauritius	1	Thailand	3
Denmark	1	Mexico	7	Timor-Leste	2
Egypt	3	Montenegro	2	Tunesia	1
Estonia	3	Netherlands	18	Turkey	49
Ethiopia	1	New Zealand	5	United Arab Emirates	1
Finland	2	Norway	2	United Kingdom	77
France	8	Oman	1	United States	50
Georgia	1	Peru	1	Vietnam	1
Germany	26	Philippines	4		
Greece	32	Poland	22	Applications received:	741

- Got to listen to a success story about doing physics at music festivals.
- WOMAD (World Of Music, Art and Dance) visitors to the physics tent:
  - 4,500 in 2016, 5,400 in 2017.



- IPPOG wants to create a single resource for material for outreach and public presentations.
  - The current (old) version of this is hard to navigate through, and contains a lot of rather strange material.
- Involved high school teachers from the CERN Summer program in curating the material, and providing feedback for how this portal can help high school teachers.



- Two new members voted in during the CB:
  - The Belle II experiment and Brazil.
- Besides the fees, laboratories and experiments provide in-kind contributions.
  - CERN provides 0.5 FTE from one fellow, this is our scientific secretary (invaluable).
  - The current fellow will give a speech in front of the UN assembly on “science for peace” this week.
- Discussion about formalising the CERN in-kind contribution to the coordination of the European/African/near East part of the International Masterclasses (0.5 FTE).

	Country/Lab/	Fee	Money
1	ATLAS	0	
2	Australia	1	
3	Belle II	0	
4	Belgium	3	
5	CERN	5	5
6	Finland	3	
7	France	5	
8	Germany	5	
9	Italy	5	
10	Norway	3	
11	Poland	3	
12	Portugal	1	
13	Romania	1	
14	Slovak	1	
15	Sweden	3	
16	Switzerland	3	
17	The	3	
18	USA	5	
	<b>Total</b>	<b>50</b>	<b>5</b>



IPPOG Collaboration

Addendum No. 6

13



INTERNATIONAL PARTICLE PHYSICS OUTREACH GROUP

### Addendum No. 6

01 November 2017

to the

**Memorandum of Understanding (MoU) for the International Particle Physics Outreach Group (IPPOG) Collaboration**

on

**Participation of the ATLAS Collaboration**

**Considering that:**

IPPOG is a network of scientists, researchers, science educators, and communication specialists from across the globe, whose mission is to maximize the impact of education and outreach efforts related to particle physics and to stimulate the younger generation to pursue careers in science, technology, engineering and mathematics.

ATLAS is one of the four major experiments at the Large Hadron Collider (LHC) at CERN. It is a general-purpose particle physics experiment, run by an international collaboration, and designed to exploit the full discovery potential and the huge range of physics opportunities that the LHC provides.

**First Scientific Collaboration to sign**

### IPPOG MEMBERSHIP

Done in 2 originals and signed by the undersigned authorised representatives:

For the ATLAS Collaboration

Karl Jakobs

Spokesperson

Date and Place: 01.11.2017, CERN

For the IPPOG Collaboration

Hans Peter Beck

IPPOG Chairperson

Date and Place: 01.11.2017 CERN

Steven Goldfarb

IPPOG Chairperson

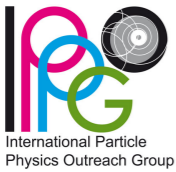
Date and Place: 01.11.2017 CERN

## IPPOG Monetary Budget for 2017

Category	Subcategory	Cost (k€)
Infrastructure	Web Development	20
Activity Support	Masterclasses	5
	Cosmic Rays	2
	Other Projects	2
Communication	Print Material	2
	Online Material	2
	Translation	3
General Support	Travel & Fees	6
	IPPOG Meeting Expenses	3
	Office Expenses	2
Contingency		3
Grants	EPS project activity	3
<b>Total</b>		<b>53</b>

## Proposed IPPOG Monetary Budget for 2018

Category	Subcategory	Cost (k€)
Infrastructure	Web Development	20
Activity Support	Masterclasses	5
	Cosmic Rays	10
	Other Projects	2
Communication	Print Material	5
	Online Material	4
	Translation	3
General Support	Travel & Fees	3
	IPPOG Meeting Expenses	3
	Office Expenses	1
Contingency		0
<b>Total</b>		<b>56</b>



## Intense 2½ days



Explaining Particle Physics Hot Topics to a Lay Audience

Beauty and Physics

Ideasquare

IPPOG and gravitational waves

Bringing Masterclasses to New Countries

Beamline for schools 2017 and call for 2018

Reaching new audiences at non-science festivals

Broadening the physics scope of Masterclasses

Inspiring success stories

Exhibitions and Event Highlights

Masterclasses 2018

Collaboration Board

MoU Addenda

Country highlights

Budget 2017 + 2018

Masterclass in a Box

Portraits

An inside view from IPPOG

Physics for everyone – What is Spin ?

Global Cosmic Rays

IPPOG Meeting #12, CERN, 10-12 November 2016



**Backup**