

---

# Particle Physics for Kids

## Particle Physics

### for Teachers

---

Michael Gregory - [myfavouriteexperiments@gmail.com](mailto:myfavouriteexperiments@gmail.com)  
[www.scienceonstage.fr/michael-gregory](http://www.scienceonstage.fr/michael-gregory)



**Last time (May 2021)**

# Virtual Science Camps



from My Favourite Experiments to  
Particle Physics for Kids and beyond



Presented by Michael Gregory at IPPOG Meeting 19/05/21  
[myfavouriteexperiments@gmail.com](mailto:myfavouriteexperiments@gmail.com)

# Virtual Science Camps at IPPOG

---

Who am I?

What is a Virtual Science Camp?

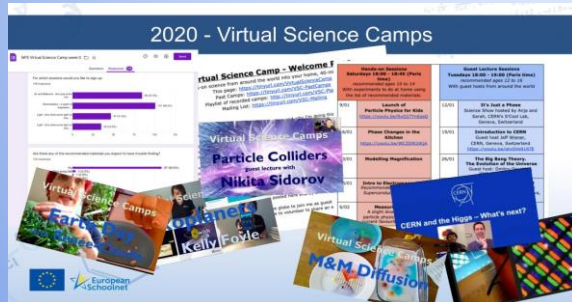
Why am I here?

What's next?

Who am I?

# My Favourite Experiments

Science is universal, but how we teach it varies greatly around the world. Since 2017, I've travelled through 44 countries, largely by bicycle, to meet teachers and share ideas.



# Africa 2023 - Morocco, Mauritania, Senegal

Approximately:

- 3 countries
- 4000 km
- 14 schools





# Experiments - World Tour

"Science Show" created in June 2022

## Compact way to share experiments

So far, I've performed in:

### 3 languages (English, French, Spanish)

**4 continents** (Europe, Asia, Africa, North America)

**15 countries** (France, Switzerland, Germany, Czech Republic, Slovakia, Kazakhstan, Slovenia, Serbia, Bulgaria, North Macedonia, Mexico, Spain, Morocco, Mauritania, Senegal)



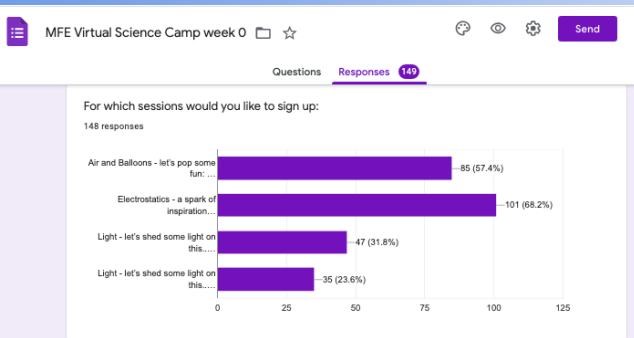
# Science on Stage and Scientix





# What is Particle Physics for Kids?

# 2020 - Virtual Science Camps and the Zoom Revolution



**Virtual Science Camp - Welcome Page**

Join science from around the world into your home, 40-minutes at a time.

This page: <https://tinyurl.com/VirtualScienceCamp>

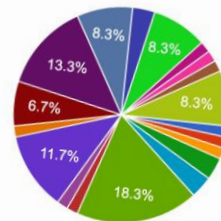
Past Camps: <https://tinyurl.com/VSC-PastCamps>

Playlist of recorded camps: <http://tinyurl.com/VSC-Playlist>

Mailing List: <https://tinyurl.com/VSC-Mailing>

What country are you in?

10 responses



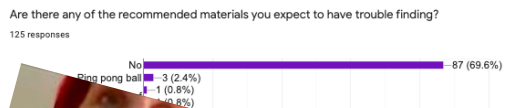
Virtual Science Camps

Particle Colliders

guest lecture with

Nikita Sidorov

lockdown, I'm...  
er before! My new...  
ere is welcome to...  
free of charge, of...  
aterials they have...  
riety of ages, with the...  
old). Target audiences...  
regularly.



Virtual Science Camps

Earth Day

with Renée-Claude

Virtual Science Camps

Exoplanets

with Kelly Foyle

CERN

CERN and the Higgs – What's next?

Virtual Science Camps

M&M Diffusion

# 2021 - Particle Physics for Kids

Two sessions per week Jan-April  
 Tuesdays - Scientist lecture or visit (from CERN, JINR, Perimeter)  
 Saturdays - Hands-on Session with experiments at home  
 Included ATLAS Colouring Contest  
 Presented as success story at IPPOG meeting May 2021

<b>Hands-on Sessions</b> <b>Saturdays 18:00 - 18:45 (Paris time)</b> <i>recommended ages 10 to 14</i> With experiments to do at home using the list of recommended materials.		<b>Guest Lecture Sessions</b> <b>Tuesdays 18:00 - 19:00 (Paris time)</b> <i>recommended ages 12 to 16</i> With guest hosts from around the world	
9/01	<b>Launch of Particle Physics for Kids</b> <a href="https://youtu.be/RxQ27Yn6asQ">https://youtu.be/RxQ27Yn6asQ</a>	12/01	<b>It's Just a Phase</b> Science Show hosted by Anja and Sarah, CERN's S'Cool Lab, Geneva, Switzerland
16/01	<b>Phase Changes in the Kitchen</b> <a href="https://youtu.be/WCZDlK2lKJA">https://youtu.be/WCZDlK2lKJA</a>	19/01	<b>Introduction to CERN</b> Guest host Jeff Wiener, CERN, Geneva, Switzerland <a href="https://youtu.be/otvOVs9197E">https://youtu.be/otvOVs9197E</a>
23/01	<b>Modelling Magnification</b>	26/01	<b>The Big Bang Theory. The Evolution of the Universe</b> Guest host: Dmitry Dryablov, JINR, Dubna, Russia
30/01	<b>Intro to Electromagnetics</b> <i>Recommended preparation for Superconductors Take Off!!!</i>	2/02	<b>Superconductors Take Off!!!</b> Science Show hosted by Gernot Scheerer, CERN S'Cool Lab, Geneva, Switzerland
6/02	<b>Measuring Sound</b> A slight divergence from particle physics to share my current favourite experiment.	9/02	<b>Neutrino Mysteries</b> Guest host: Mark Shirchenko JINR, Dubna, Russia
Two-week break for 2nd half of February Virtual Science Camps will resume early March schedule will be published early February			

# 2022 - Particle Physics for Kids re-run

Repeated partly thanks to  
encouragement & contacts  
through IPPOG

More amazing guest hosts than  
ever before!

**More than 50% of participants  
were teachers looking for new  
ideas...**



Why am I here again?  
What is  
Particle Physics for Teachers?



# Particle Physics for Teachers

Build on lessons learned from Particle Physics for Kids.

Focus on teachers and how to overcome barriers for bringing modern science into classrooms.

Open, free course, alternating sessions led by particle physicists and pedagogical sessions led by myself and guest teachers.

Large undertaking, I'll need help...

Teacher networks

Particle Physicists

# Looking for Guest Hosts

Could be anyone working in Particle Physics (researcher, student, communications, outreach, etc.) willing to share their work.

Join for 1-hour Zoom session.

If interest, can help plan curricular connections and/or attend pedagogical session. (I assume most guest will not be interested in dedicating time to this, but the invitation is always open.

# Join in the fun!

email

[myfavouriteexperiments@gmail.com](mailto:myfavouriteexperiments@gmail.com)

Webpage

[www.scienceonstage.fr/michael-gregory/](http://www.scienceonstage.fr/michael-gregory/)



**@myfavouriteexperiments**