Update: Science Gateway Education
CERN Science Gateway progress (June 2022)
Science Gateway Education

Labs
Discover your inner scientist

Science Shows
Explore the stories of discoveries

Online Learning
Engage online to find out more

TSF Sept 2022 | sciencegateway.education@cern.ch
Labs
Update

• LEGO Foundation, working on implementing Learning through Play elements + evaluation of activities in lab workshops

• Testing new activities with very young audiences (4-6 year olds) with CERN‘s kindergarten

• Ordering new equipment
CERN-Solvay Education Programme

Guillaume Durey
### The Solvay Education Programme

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
<th>Reach</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Online social media educational videos</strong></td>
<td>$10^6$ views</td>
<td>to trigger STEM interest</td>
</tr>
<tr>
<td></td>
<td>• Reach: $10^6$ views per year via CERN channels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td><strong>Online course for high-school students</strong></td>
<td>$10^4$</td>
<td>to develop interest in STEM</td>
</tr>
<tr>
<td></td>
<td>• Reach: $10^4$ participants per year from around the world</td>
<td>participants</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td><strong>On-site camp for high-school students at CERN</strong></td>
<td>$10^2$</td>
<td>to build confidence &amp; transform STEM interest</td>
</tr>
<tr>
<td></td>
<td>• Reach: $10^2$ participants in total from around the world</td>
<td>participants</td>
<td></td>
</tr>
</tbody>
</table>
Level 1: Short-form educational videos

- Tiktok-style short videos, first-person view, vivid colors, released on all of CERN’s SM platforms

- Making a connection between a simple « do-it-yourself » experiment and the research or technologies of CERN to make them more accessible

- Build a hovercraft which glides like the CMS detector
Get a feel for multipolar magnets with fridge magnets
Make an optical fiber with a leaky bottle

- A dozen videos a year
Accompanied by online supporting information for educators
Level 2: Long-form explainer videos

- Online course for high-school students aged 14-19 made of 15-20 min long explainer videos

- Explaining advanced high-school / early undergraduate topics in an accessible way to provide a physics background relevant for the technologies and the science at CERN

- Luminescence, electromagnetism, superconductivity, radioactivity...

- Six interactive videos a year
  Self-grading quiz and certificate
  Successful participation required for level 3
Film studios!
Level 3: On-site camp for highschoolers

- Bringing a selection of motivated high-school students aged 16-19 from around the world to CERN

- 7-day camp for 30 students, once a year, first camp in Oct 2023, applications in Jan

- Lectures, site visits, social events & work with CERN scientists on modern research topics in hands-on working group sessions
Movie time!
A balloon hovercraft & the CMS detector?!
Let’s discuss!

youtube.com/CERN

www.solvay-education-programme.web.cern.ch

guillaume.durey@cern.ch
Science Shows

• Introducing scientific topics in a theatre-like style

• Showcasing awe-inspiring experiments & phenomena

• Popular educational offer, both onsite and online
Science Shows

2-3 times per day, 6 days per week

30-45 minutes of fun and learning

Presented by CERN volunteers
Science Shows: Current status

- **Two shows in testing phase:**
  - Seeing the invisible
  - Seize the Data!

- **Two shows in update/development:**
  - (existing) Fun with Physics
  - Electromagnetism

- **Two more shows planned:**
  - Quantum physics
  - Open questions (for very young groups)
Science Shows: Short Example
Thanks for your attention!

Let’s discuss