

# USING ANIMATIONS TO INTRODUCE PARTICLE PHYSICS IN SECONDARY SCHOOL

### Animations should be used to

- enhance our lessons by varying the medium of learning
- grab the attention of the students
- encourage an excitement about particle physics

### TWO DIMENSIONS TO THE PROJECT

- Identify and organise useful existing animations
- Create storyboards for new animation which fit curricular goals

### WEBSITE



NEWS EVENTS MULTIMEDIA MENU



### Multimedia

Discover all the photos and videos of the CERN60 celebrations and download your posters, wallpaper and much more!



http://cern60.web.cern. ch/en/exhibitions/physic s/animations

CERN 60 > Multimedia > CERN exhibitions content > Physics > Animations

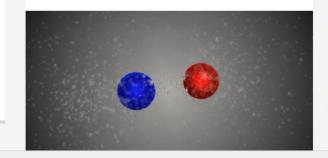
#### CERN60 RESOURCES

#### CERN EXHIBITION CONTENTS

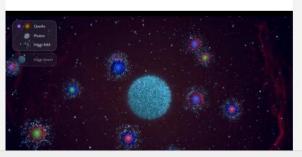
- Overview
- Physics
- LHC Accelerators
- Experiments
- Computing
- Knowledge Transfer
- History

### Animations

#### **Animation Forces**



#### Higgs Boson and Higgs Field



## PROJECT WORK SO FAR

### Classified Animations as follows;

- Usefulness (in class)
- Length
- Topic (curricular)
- Level (Beginners/Intermediate/Advanced)

### After discussion we identified

- Duplicates on the website
- The most useful ones for lesson plan ideas
- Some gaps in the animations to address common questions from our students

# FOCUS POINTS

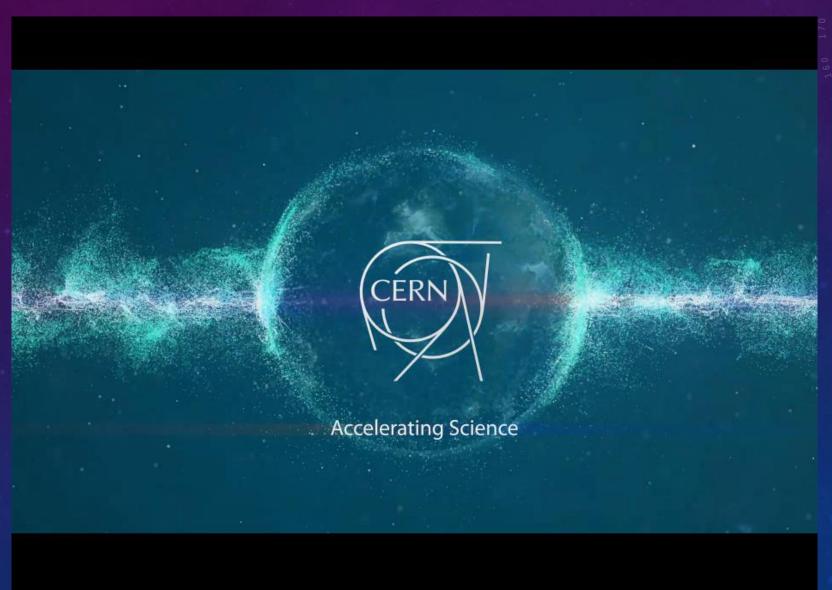
### **Animations need context for teaching!**

In each of the following áreas, we will build a short lesson plan to tie animation to relevant syllabus objectives.

We are going to focus on these areas

- 1. (Beginners) CERN Introduction
- 2. (Intermediate) Creating a new animation explaining the Standard Model
- 3. (Intermediate) Creating a new animation explaining the applications of particle physics in real world
- 4. (Advanced) Overview of Accelerator Science at CERN
- 5. (Advanced) Medical Applications of CERN Physics

# EXAMPLE



### RECOMMENDATIONS SO FAR

- Animations are difficult to find and often duplicated display all in the same page
- Animations have no description on them include 2 sentences which describe the content and length of this animation
- Animations must be downloaded before seeing them attach a small snapshot or link to Cern60 youtube channel instead
- More to follow...

If you have any ideas – please share!