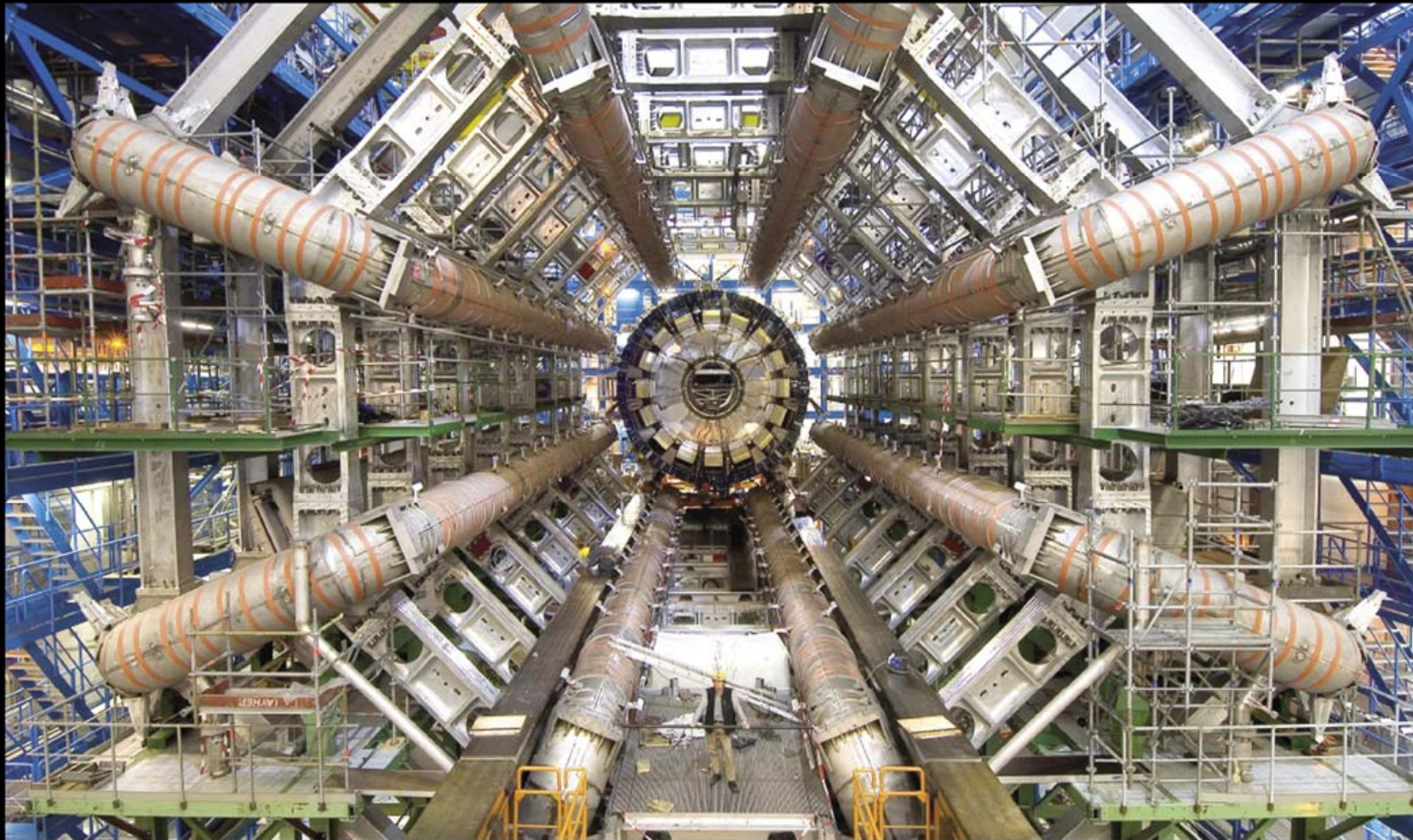




UK LHC resources

A TUNNEL TO THE BEGINNING OF TIME



Science & Technology
Facilities Council

ATLAS Detector, Large Hadron Collider, CERN

Looking down the course of the beamline, through the centre of the ATLAS detector: ATLAS is one of the four detectors along the 27km circumference of the tunnel of the Large Hadron Collider at CERN, Switzerland. The ATLAS detector is the size of a 5 storey building and weighs 7000 tonnes.

www.lhc.ac.uk



UK LHC resources

? WHAT HAPPENED IN THE BIG BANG?

What was the Universe made of before the matter we see around us formed? The LHC will recreate the conditions existing during the first billionth of a second.

? WHAT KIND OF UNIVERSE DO WE LIVE IN?

Many physicists think the Universe has more dimensions than the four (space and time) we are aware of. Will the LHC bring us evidence of new dimensions?

The Universe started with a Big Bang— but we don't fully understand how or why it developed the way it did. The Large Hadron Collider will let us see how matter behaved in the first tiny fraction of a second. We have some idea of what to expect— but also expect the unexpected!

A computer simulation of a collision between two protons in the LHC, showing the particles as coloured tracks. It shows the production of a mini-black hole which immediately decays into many particles.

? WHY DO PARTICLES HAVE MASS?

Why do some particles have mass while others don't? What makes this difference? The search for the Higgs Particle will help us understand this.



? WHERE'S THE ANTIMATTER?

Yes, antimatter is real and the LHC will make it! Both matter and antimatter were created in the Big Bang, but we only see matter now. What happened to the antimatter?

? WHAT IS OUR UNIVERSE MADE OF?

96% of our Universe is missing. Some of it may be stuff that scientists call 'dark matter'. Can the LHC find it?

BIG QUESTIONS: BIG EXPERIMENT

THE LARGE HADRON COLLIDER, CERN

www.lhc.ac.uk



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UK LHC resources

**THE
LITTLE BOOK
OF THE
BIG BANG
A BIG SCIENTIFIC ADVENTURE**

Everything you want to know about the **LARGE HADRON COLLIDER** but were afraid to ask



UK LHC resources





UK LHC resources



LHC PROJECT SIMULATOR

LARGE HADRON
COLLIDER

21ST CENTURY
TIME MACHINE

TAKE 5

Q&A
VIDEO

THE BIG
QUESTION
[POST 16]

LHC
TODAY

CURRICULUM
LINKS

CONTACT
US

WELCOME

If you want to learn about the greatest physics experiment in history, you've come to the right place. This is for inquisitive 14-19 year olds and their teachers.

THE PARTICLE DETECTIVES

LHC Experiment Simulator



START

Do you like a challenge?

This is one of the biggest - to find out what the universe is made of, how it started and why it's like it is. Join us on a journey where real science is as strange as science fiction.





UK LHC resources



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Formed by Royal Charter in 2007, the Science and Technology Facilities Council is one of Europe's largest multidisciplinary research organisations supporting scientists and engineers world-wide. The Council operates world-class, large scale research facilities and provides strategic advice to the UK government on their development. It also manages international research projects in support of a broad cross-section of the UK research community. The Council also directs, coordinates and funds research, education and training.



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ROCK IN 11 DIMENSIONS: WHERE PHYSICS AND GUITARS COLLIDE!

How rock music may reveal big answers to big questions about the big bang



- Teacher trips to CERN (RSLCs)
- Teachers@CERN
- STFC SiS Fellowships



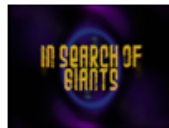


UK LHC resources



Films | Latest Films | About

Featured Films: The Science behind the Large Hadron Collider



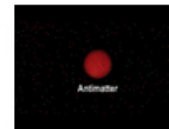
In Search of Giants



Hunting for Higgs



Sizing things up



The Matter with Antimatter



The Mystery of the Missing Mass



B is for Beauty

Deep beneath the ground in Geneva, thousands of scientists from all over the world are working together to build the biggest, most complicated machine in the world. It's part of the most ambitious scientific experiment of all time: The Large Hadron Collider (LHC) at CERN. These films reveal the scientific questions at the heart of the experiment and what scientists hope to achieve once the machine is switched on later this year.



UK LHC resources

CERN Podcast - Windows Internet Explorer
http://www.cernpodcast.com/

CERN PODCAST

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ITUNES
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SUBSCRIBE
FeedBurner
CONTACT
Email CERN Podcast
TAG CLOUD
CERN Charles Jencks Dark Energy Dark Matter doctor who John Barrowman Kevin Eldon LHC Newsround Peter Higgs Photos Quentin Wilson Religion Simon Munnery Super Strings torchwood Victor Stock video

BLOGROLL
CERN
Dr. Brian Cox
Science and Technology Facilities Council
Yada Yada

THE VERY REVEREND VICTOR STOCK
Category: CERN | Leave a Comment

Recently, Dr. Brian Cox was invited to take part in a discussion entitled 'Is Physics The Final Religion?' at the University of Cambridge. The discussion was held in the presence of the Very Reverend Victor Stock, the Dean of the University of Cambridge. As Victor had invited Brian to his place of work, Brian decided to return the invitation and take Victor on a tour of CERN. This resulted in one of the most interesting and enlightening podcasts we've done so far.

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The Very Reverend Victor Stock
Newsround
Quentin Wilson
Kevin Eldon
Simon Munnery
John Ellis
LHC News
Charles Jencks

FLICKR
The Very Reverend Victor Stock
Newsround
Quentin Wilson
Kevin Eldon
Simon Munnery
John Ellis
LHC News
Charles Jencks

www.cernpodcast.com

RECENT POSTS
CERN (RSS) (10)
Charles Jencks (RSS) (1)
Dark Matter (RSS) (1)
John Barrowman (RSS) (1)
Kevin Eldon (RSS) (2)
LHC (RSS) (8)
Newsround (RSS) (1)
Peter Higgs (RSS) (1)
Photos (RSS) (2)
Quentin Wilson (RSS) (1)
Religion (RSS) (1)
Simon Munnery (RSS) (2)
Super Strings (RSS) (1)
Victor Stock (RSS) (1)

FLICKR



UK LHC resources

Homepage - Large Hadron Collider - Windows Internet Explorer

http://www.lhc.ac.uk/index.html

Microsoft Outlook Web Access | Homepage - Large Hadro...



The Large Hadron Collider

This site introduces the most exciting scientific adventure of the next decade and is for anyone interested in how we might answer some of the fundamental questions we have about the Universe we live in.

▶ Learn more [About the LHC](#)

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LHC Cams



Watch more [LHC Cams](#)

▶ [Particle Physics UK](#)

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Tunnelling to the beginning of time

The Large Hadron Collider

The LHC (Large Hadron Collider) is an international project, in which the UK has a leading role. This site includes the latest news from the project, accessible explanations of how the LHC works, how it is funded, who works there and what benefits it brings us. You can access a wide range of resources for the public, journalists and teachers and students, there are also many links to other sources of information.



The LHC is asking some Big Questions about the universe we live in

How did our universe come to be the way it is?

The Universe started with a Big Bang - but we don't fully understand how or why it developed the way it did. The LHC will help us understand the conditions of the fraction of a second after the Big Bang. Researchers have some ideas of what happened, but we need to test them.

Read more of [The Big Questions](#).

www.lhc.ac.uk



UK LHC resources

Home - Particle Physics UK - Windows Internet Explorer
http://www.particlephysics.ac.uk/

particle physics uk

Search: Please enter your search [Site Map](#)

Particle physics is the study of the **fundamental constituents of matter and the forces of nature**. This website is for **everyone** who wants to know more about particle physics. Image courtesy of Tom Kemp

- Explore >**
Find out what particle physics is all about.
- Study >**
The best web links for students at school or university.
- Technology >**
Discover how particle physics technology benefits industry.
- Teach >**
Links and resources for teachers in schools and colleges.
- Research >**
Information for members of the particle physics research community.
- News >**
The latest news and view the popular 'picture of the month' and archive.

Latest News
There are no recent news items available

Lords of the Ring
by filmmaker Alom Shaha, with support from NESTA, including copyright material from CERN and Manmade Productions.
A film about CERN's 27km Large Hadron Collider, currently undergoing construction, available from Seed magazine
[Lords of the Ring film](#)

Science & Technology Facilities Council
Web site supported by the Science and Technology Facilities Council
STFC is the UK funding agency for particle physics.

lhc uk
LHC UK
The Large Hadron Collider Site

Find the user manual | Terms and Conditions | Privacy Statement | Powered by Particle

www.particlephysics.ac.uk



UK LHC resources

About GridPP - Windows Internet Explorer
http://www.gridpp.ac.uk/about/

GridPP
UK Computing for Particle Physics

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 - UK Tier-1/A Centre
 - UK Regional Tier-2s
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 - Project Management Board
 - User Board
 - Deployment Board

About GridPP

Introducing the Grid

Completely new to Grids and GridPP? Then this page will explain all you need to know to start with.

The Collaboration

A brief run through about GridPP, the institutions involved and the people who make up the project.

History

This a timeline of events and milestones in GridPP's history. There are photos and facts which detail GridPP's growth and progression.

People

This is the list of all the members of the collaboration and the jobs they do.

News

All the latest GridPP news from record breaking service challenges to schools events.

Meetings

As an international collaboration GridPP needs to be present at many conferences and meetings. Here we list the events coming up that are of interest to GridPP, and past events we attended.



UKHC Communications project

GridPP Posters - Windows Internet Explorer
http://www.gridpp.ac.uk/posters/

GridPP
UK Computing for Particle Physics

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- Deployment Board

GridPP Posters

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- The Grid**
- GridPP**
- Management**

Applications

Applications overview

- LHCb**
- D0**
- BaBar**

ATLAS

- ATLAS Applications**

CMS

- Portals of Data from CMS**



UK LHC resources

The screenshot shows a web browser window with the address bar containing "Expand your mind... | Expand your mind". The website header is green with the text "SUMMER SCIENCE EXHIBITION 08" and "Expand your mind at the Royal Society". A navigation menu on the left lists categories: Home, Biology, Biotechnology, Chemistry, Engineering and technology, Environment, Health, Maths, and Space. The main content area features a large question mark icon made of small images, with the text "Find out smart answers to BIG Questions at the Royal Society Summer Science Exhibition 2008". Below this, it states "The 2008 Summer Science Exhibition will take place from Monday 30 June - Thursday 3 July" and "Registration for School Groups". A section for "Public Visitors" lists the dates and times: Monday 30th June 2008: 6pm to 9pm, Tuesday 1st July 2008: 10am to 6pm, Wednesday 2nd July 2008: 10am to 4:30pm, and Thursday 3rd July 2008: 10am to 4:30pm. It also notes "Last entry is 30 minutes before closing. ALL welcome, admission FREE" and "Full details of all the 2008 exhibits will be available on this site from 1st June 2008". At the bottom left, the Royal Society logo is displayed with the text "THE ROYAL SOCIETY CELEBRATING 350 YEARS The Summer Science Exhibition is a Royal Society event."

➤ **Royal Society Summer Exhibition 2008**

➤ **Oxford Trust Exhibition 2008**