



ATLAS Public Website

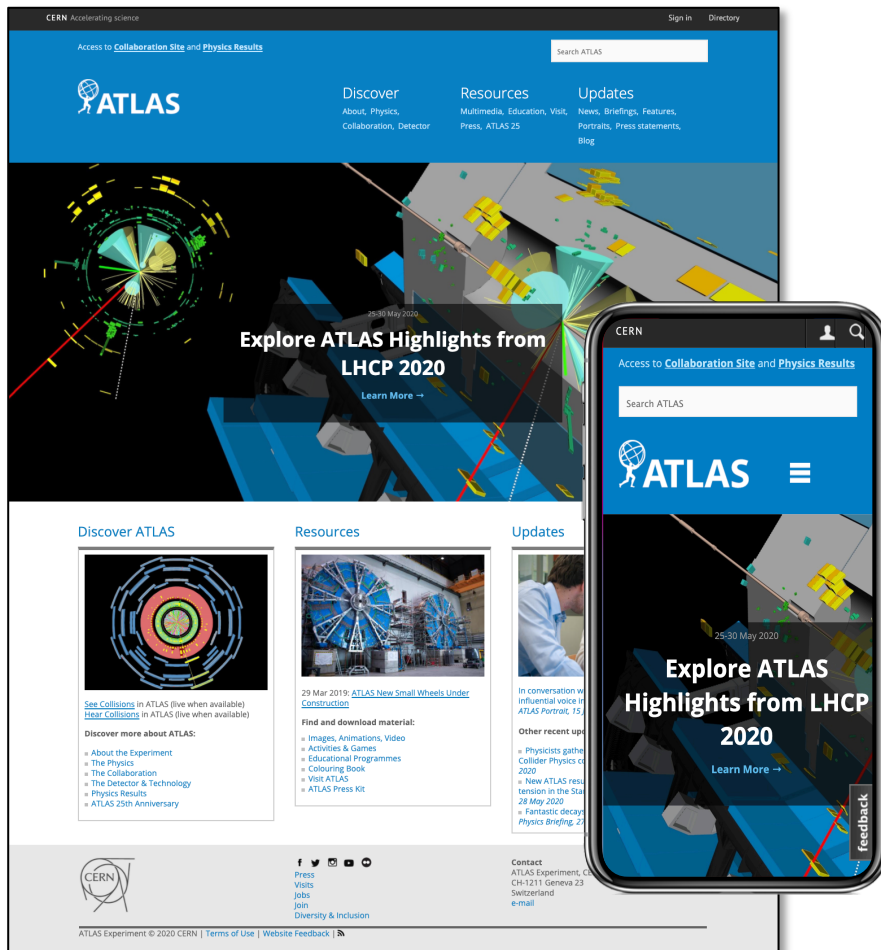
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# Evolution to Drupal 8

**Meirin Oan Evans, *University of Sussex***

With significant input from: S. Goldfarb, K. Anthony, S. Mehlhase, C. Nellist

*ICHEP 2020, Cyberspace*



# ATLAS Public Website

<http://atlas.cern>

## Public access to

- Descriptions of Experiment
- Educational Resources
- Updates (News, Briefings, Blog)

## In Drupal since 2016

- Replaced original HTML site
- Developed in Drupal 7
- Maintained by ATLAS Communication Team

## Audience Overview

 SAVE  EXPORT  SHARE  INSIGHTS

 All Users  
100.00% Users

 + Add Segment

1 May 2016 - 20 Jun 2020 ▾

### Overview

Page Views ▾ VS [Select a metric](#)

Hourly Day **Week** Month

 Page Views

100,000

50,000

2017 2018 2019 2020

Spikes correspond to publications, events

Users

622,782

New Users

622,774

Sessions

999,719

Number of Sessions per User

1.61

 New Visitor  Returning Visitor

14.5%

Page Views

4,284,738

Pages/Session

4.29

Avg. Session Duration

00:03:43

Bounce Rate

3.32%

Steady growth over 4 years (now around 30k views/week)

# Migration to Drupal 8

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## Motivation

- Drupal is an Open Source Content Management System (CMS)
  - Selected for security, management of large sites
- CERN supports Drupal 7 until **mid-2020**
  - CERN guarantees support for Drupal 8
- Opportunity to improve ATLAS Public Website
  - **More dynamic** look & feel



## Technicalities

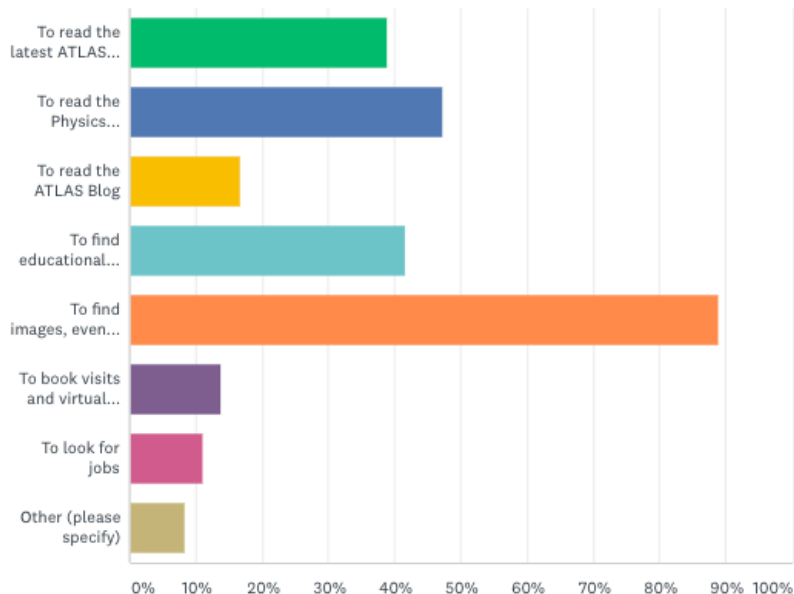
- Migration not automatic
  - Change of template language 🖱️ **twig**
- Opportunity to improve maintainability
  - Simplify future migrations



# Extracts from Collaboration Poll

Why do you visit the ATLAS Public Web Site? (check all that apply)

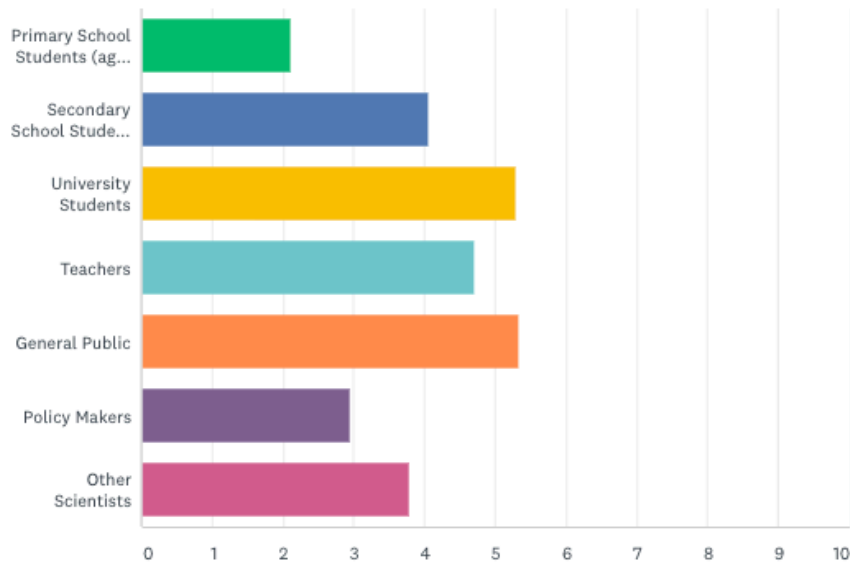
Answered: 36 Skipped: 1



# Extracts from Collaboration Poll

How would you prioritise the audiences of the ATLAS Public Web Site?

Answered: 36 Skipped: 1

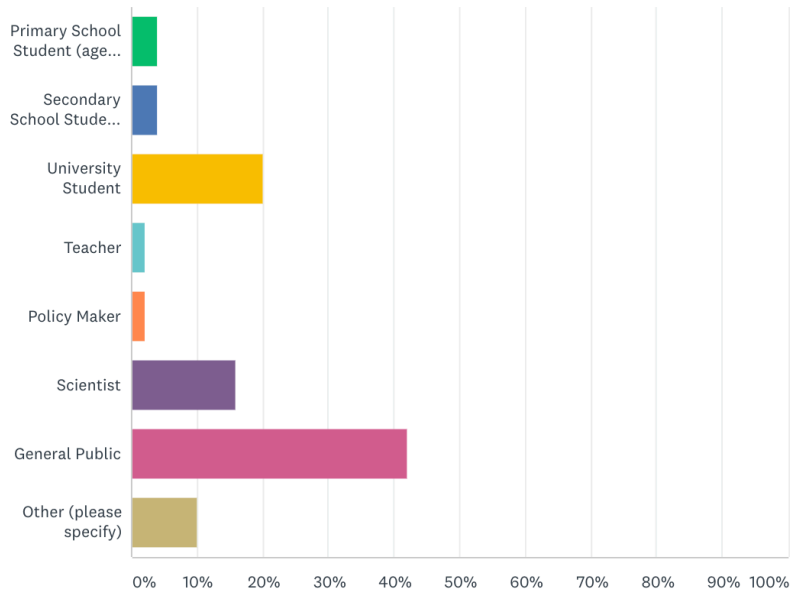


# Extracts from Public Poll

---

## Who are you?

Answered: 50 Skipped: 1

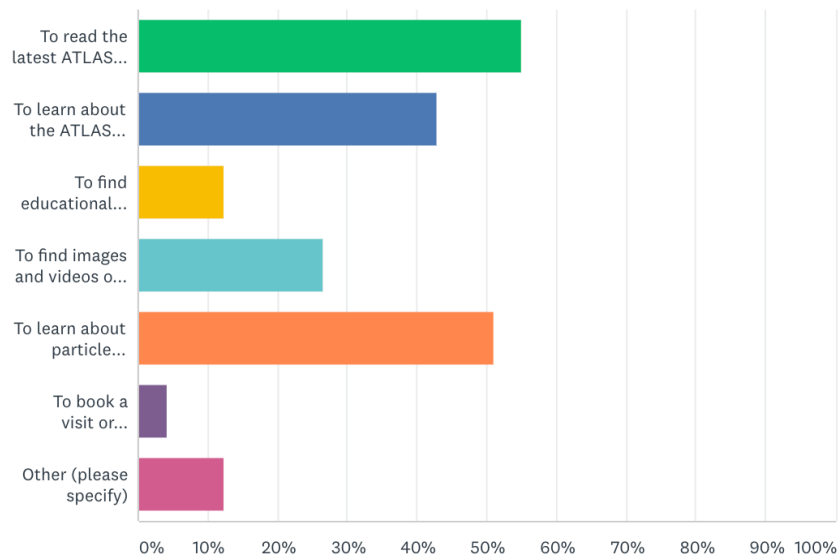


# Extracts from Public Poll

---

## Why do you visit the ATLAS Public Website?

Answered: 49   Skipped: 2

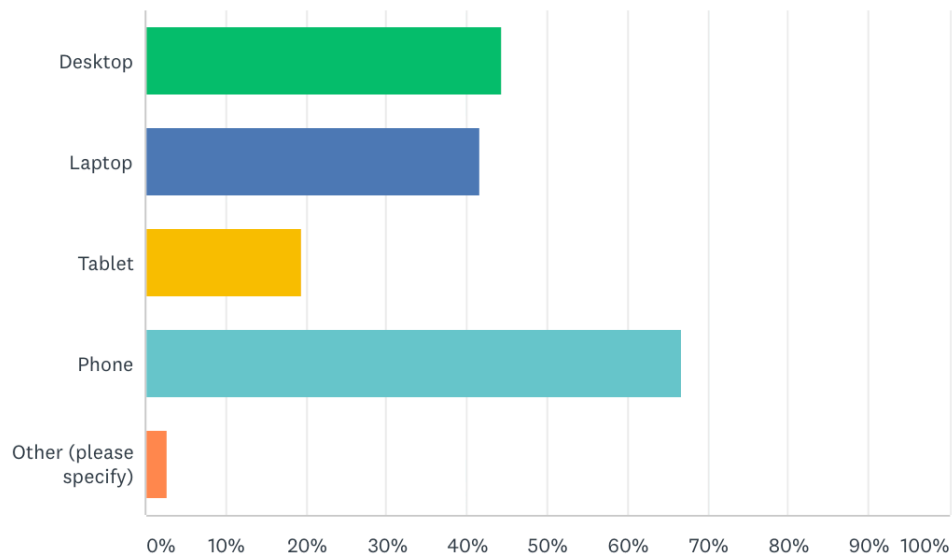


# Extracts from Public Poll

---

How do you access the ATLAS Public Website? (check all that apply)


Answered: 36 Skipped: 0






# Quick Summary of Poll Input

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## The Collaboration

- Comes to public site for material, news 
- Expects a broad range of audiences
- Wants more educational material

## The Public

- Identify as General Public, University Students, Scientists 
- Want the latest news and to learn about ATLAS & Particle Physics 
- Uses a variety of screens 

## In General

- Statistics limited, but matches data from polls of 4 years ago
- Our structure (Description, Educational Material, Updates) remains valid

# Migration Wish List 🙏

---

## Upgrade Infrastructure

- Rebuild ATLAS site in Drupal 8
- Use “CERN Override” theme instead of “ATLAS” theme
  - Reduce specialised templates

## Improve Design

- Follow current trends
  - Dynamic, responsive content, easy to use menus
- Better usability for content developers
  - Easier Layout Capability
  - Our writer keeps begging for WordPress
  - Hasn't anyone come up with a similar environment for Drupal? Why not?

## Automated Large-Scale Migration of Content


# Where Are We, Now?

---

## Design

- ATLAS Visual Identity implemented in CERN Override
  - Colour palette, logo, fonts (no, not **comic sans**, but **open sans**)
- Regions & Blocks similar to Drupal 7 site
  - Forced to redefine footer, but not an issue

Which ATLAS  
used FIRST!!!



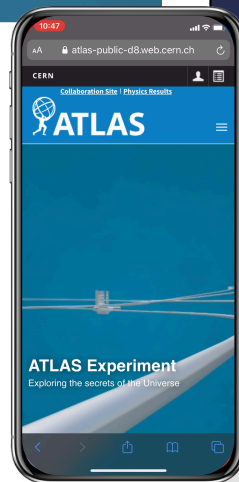
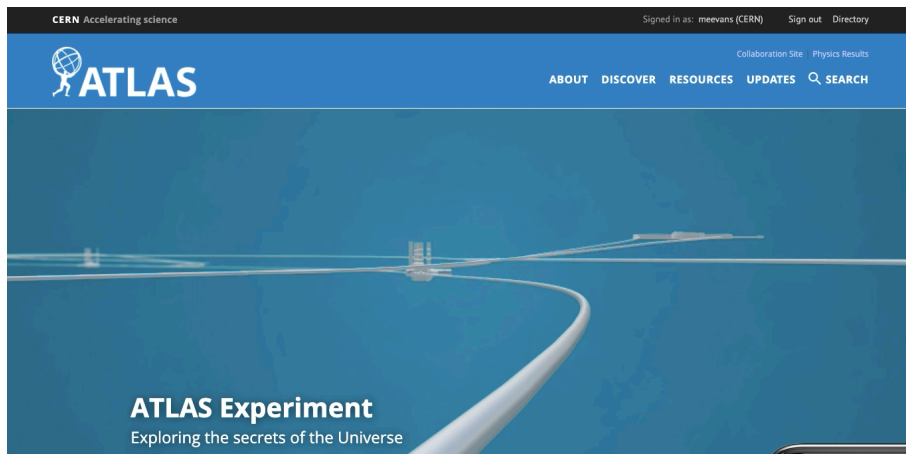
## Content Types

- Using Landing Page as is, others re-defined, as in Drupal 7
- Being tested and refined

## Views

- Re-defined as in Drupal 7
- Being tested and refined





## LATEST NEWS

**In conversation with Claudia Gemme, an influential voice in ATLAS detector upgrades**

ATLAS Portrait | 15th June 2020

**Physicists gather online for the Large Hadron Collider Physics conference**

ATLAS News | 30th May 2020

**New ATLAS result addresses long-standing tension in the Standard Model**

Physics Briefing | 28th May 2020

[See more](#)

## DISCOVER THE ATLAS EXPERIMENT

The Detector

The Physics

The Collaboration

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Switzerland

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# THE ATLAS EXPERIMENT

## One of the four major experiments at the LHC

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, together with [CMS](#), is designed to exploit the full discovery potential and the huge range of physics opportunities that the LHC provides.

## Push the frontiers of knowledge

ATLAS' scientific exploration uses precision measurement to push the frontiers of knowledge by seeking answers to fundamental questions such as: What are the basic building blocks of matter? What are the fundamental forces of nature? Could there be a greater underlying symmetry to our universe?

## Test the predictions of the Standard Model

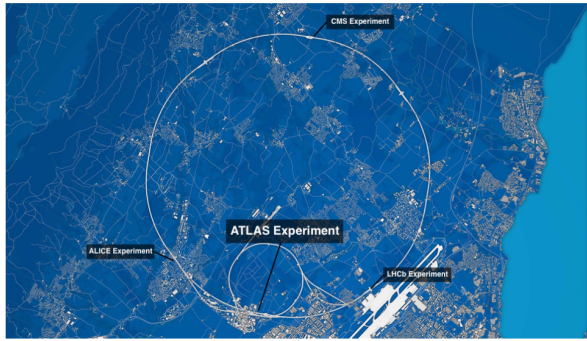
ATLAS physicists test the predictions of the [Standard Model](#), which encapsulates our current understanding of

## The years ahead will be exciting

The years ahead will be exciting as ATLAS takes experimental physics into unexplored territories –

what the building blocks of matter are and how they interact. These studies can lead to ground-breaking discoveries, such as that of the Higgs boson, physics beyond the Standard Model and the development of new theories to better describe our universe.

maybe with new processes and particles that could change our understanding of energy and matter.



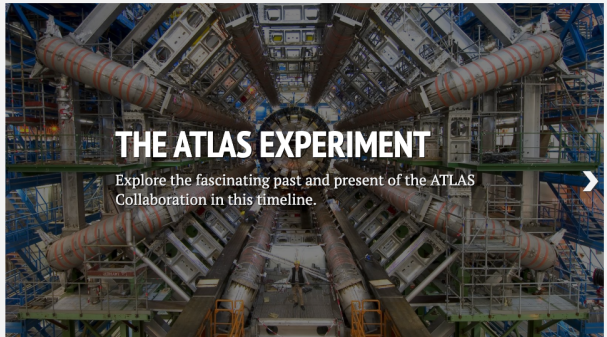
## ATLAS ACROSS TIME

The approval of the ATLAS Experiment was an important milestone in the history of particle physics – but it was just the first step in a long journey. Making ATLAS a reality required years of innovative developments in technology and physics. Learn the history of its development in the video above.

ATLAS is celebrating this exciting milestone with a dedicated ATLAS25 year. During this year all institutes, members and the public are welcome to:


- Discover the history of the ATLAS Experiment.


- Explore the technological and scientific achievements of the ATLAS Collaboration, including the 2012 discovery of the Higgs boson.
- Look ahead to the ATLAS Collaboration's exciting future prospects, as it prepares for a new era of discovery with the HL-LHC.
- Play the ATLAS 25 Memory Game, developed by collaboration member Riccardo Bianchi.




# THE ATLAS EXPERIMENT

Explore the fascinating past and present of the ATLAS Collaboration in this timeline.






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ATLAS Experiment © 2019 CERN


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# Detector & Technology

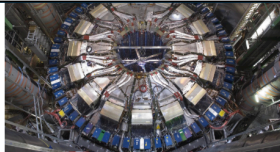
## THE ATLAS DETECTOR



### The largest volume detector ever constructed for a particle collider

ATLAS has the dimensions of a cylinder, 46m long, 25m in diameter, and sits in a [cavern](#) 100m below ground. The ATLAS detector weighs 7,000 tonnes, similar to the weight of the Eiffel Tower.


The detector itself is a many-layered instrument designed to detect some of the finest yet most energetic particles ever




created on earth. It consists of six different detecting subsystems wrapped concentrically in layers around the collision point to record the trajectory, momentum, and energy of particles, allowing them to be individually identified and measured. A huge magnet system bends the paths of the charged particles so that their momenta can be measured as precisely as possible.

Beams of particles travelling at energies up to seven trillion electron-volts, or speeds up to 99.9999999% that of light, from the LHC [collide at the centre of the ATLAS detector](#) producing collision debris in the form of new particles which fly out in all directions. Over a billion particle interactions take place in the ATLAS detector every second, a data rate equivalent to 20 simultaneous telephone conversations held by every person on the earth. Only one in a million collisions are flagged as potentially interesting and recorded for further study. The detector tracks and identifies particles to investigate a wide range of physics, from the study of the Higgs boson and top quark to the search for extra dimensions and particles that could make up dark matter.


[Take a virtual walk](#)




**46**  
Meter Long & 25m of diameter



**100**  
Meter below ground

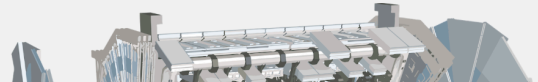


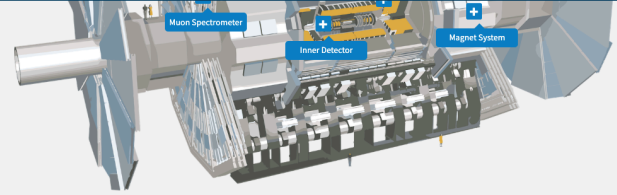
**7000**  
Tonnes



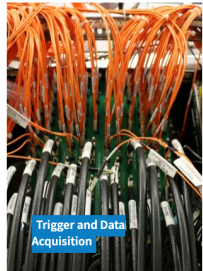
**1000000000**  
Collisions / second

## HAVE A CLOSER LOOK





## TECHNOLOGY



Trigger and Data Acquisition



Software & Computing




Technology Transfer



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ATLAS Experiment. © 2019 CERN



# The Updates Landing Page

The diagram illustrates the ATLAS Updates Landing Page layout across three device views: Desktop, Tablet, and Phone. The layout is organized into several key sections:

- Top Feature:** A large banner at the top of the desktop view featuring the LHC2020 logo and the text "May 25-30, 2020". A callout points to this section.
- Features:** A section below the banner containing a grid of featured articles and news items. A callout points to this section.
- Articles:** A section below the features, containing a grid of article thumbnails and titles. A callout points to this section.
- New Submenu:** A blue navigation bar at the top right of the desktop view, containing links for "ABOUT", "DISCOVER", "RESOURCES", "UPDATES", and "SEARCH". A callout points to this section.

The layout is shown across three device views:

- Desktop:** The full layout as shown on a large screen.
- Tablet:** The layout adapted for a tablet screen, showing a more compact view of the featured articles and news items.
- Phone:** The layout adapted for a mobile phone screen, showing a single-column view of the featured articles and news items.

# Searching Updates

The screenshot shows the ATLAS website's news search interface. The top navigation bar includes the ATLAS logo, a 'Collaboration Site | Physics Results' link, and a menu with 'ABOUT', 'DISCOVER', 'RESOURCES', 'UPDATES', and 'SEARCH'. Below this is a secondary menu with 'All Updates', 'News', 'Briefings', 'Features', 'Portraits', 'Press', and 'Blog'. The main heading is 'Search ATLAS News'. There are three search input fields: 'Title' (with a magnifying glass icon), 'Author (field\_author)' (with a refresh icon), and 'Tags (field\_tags)' (with a refresh icon). A blue 'Search' button is positioned below the 'Author' field. Three blue arrows point from external labels to the search fields: 'Title' points to the title field, 'Tags' points to the tags field, and 'Author' points to the author field. Below the search fields, three news items are displayed, each with a thumbnail image, a title, a brief description, and a date.

**ATLAS** Collaboration Site | Physics Results

ABOUT DISCOVER RESOURCES UPDATES SEARCH

All Updates News Briefings Features Portraits Press Blog

## Search ATLAS News

Title

Author (field\_author)

Tags (field\_tags)

Search

**Physicists gather online for the Large Hadron Collider Physics conference**

The eighth Large Hadron Collider Physics ([LHCP 2020](#)) conference concluded today, 30 May, in Zoom rooms around the world. Instead of descending on Paris to meet, particle physicists held the conference fully online for the first time. As a result, LHCP 2020 welcomed some 1300 registered participants – nearly triple the previous record of attendance. A bumper crop of new ATLAS results were prepared for the conference covering a broad range of topics, from precise measurements of the Standard Model to novel searches for new physics. These new results provide the full dataset collected during Run 2 of the LHC (2015-2018) – a proven gold mine for ATLAS' rich physics programme.

ATLAS News | 30th May 2020

**Summary of new ATLAS results from LHCP 2020**

The eighth annual conference on Large Hadron Collider physics ([LHCP 2020](#)) kicks off today in video-conference rooms around the world. This week-long event is usually an opportunity for physicists from around the world to meet in person and share the latest news from their LHC experiments. This year, due to the COVID-19 pandemic, the conference is being held online.

ATLAS News | 25th May 2020

**ATLAS Collaboration enters active "Safe Mode"**

The global health crisis caused by COVID-19 has impacted every aspect of life. Much of the world's population are sheltering in place, with ATLAS Collaboration members similarly affected.

Tags

Author

# Management & Authors Pages

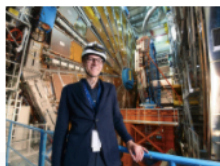


Discover Collaboration ATLAS Management

## CURRENT ATLAS MANAGEMENT



**Karl Jakobs**  
Spokesperson 2017-2021

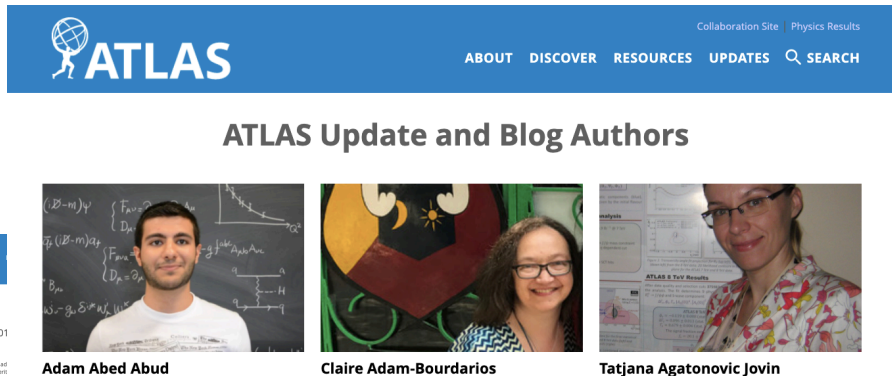


**Andreas Hoecker**  
Deputy Spokesperson 2017-2021



**Manuella Vinciter**  
Deputy Spokesperson 2019-2021

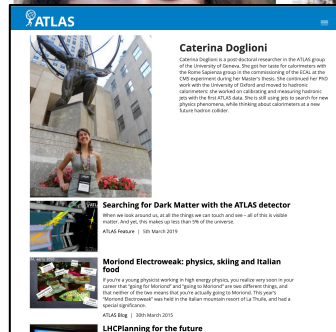
OPEN



**Adam Abed Abud**

**Claire Adam-Bourdarios**

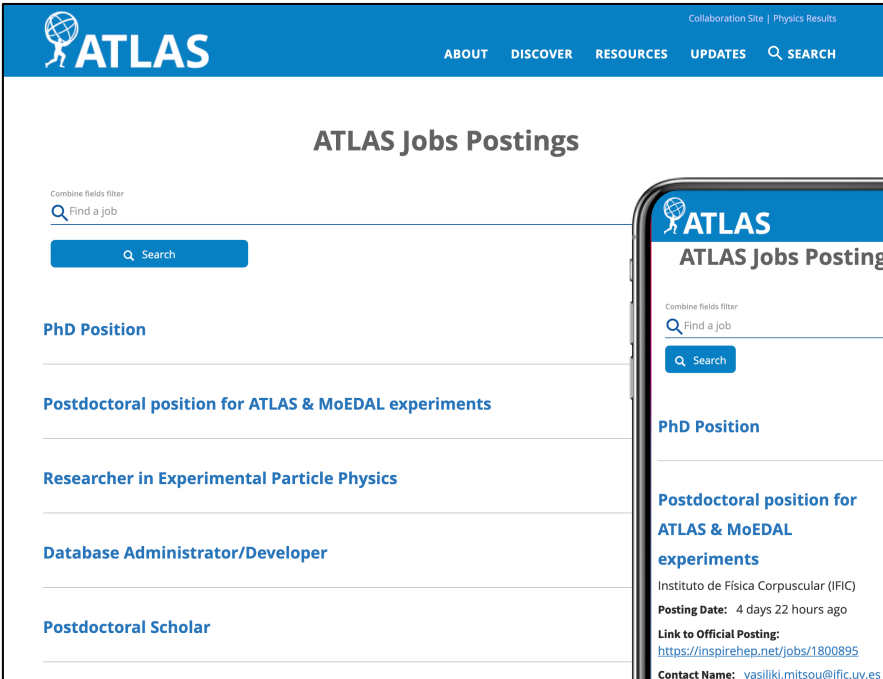
**Tatjana Agatonovic Jovin**



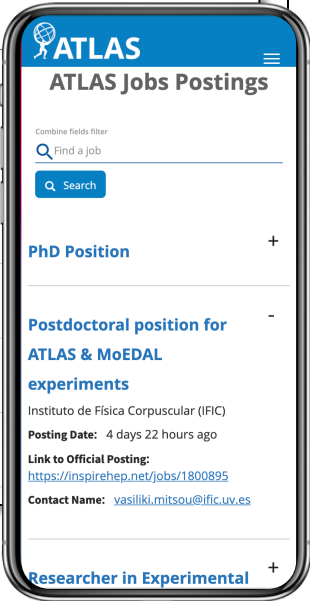
LHCPlanning for the future



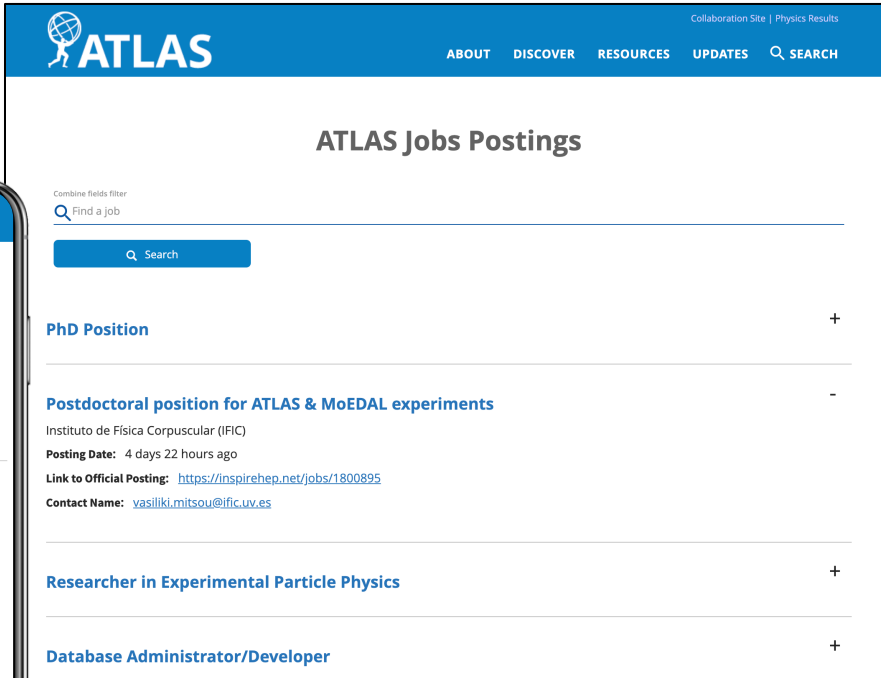
# Job Postings



The desktop view of the ATLAS Jobs Postings page features a blue header with the ATLAS logo and navigation links: ABOUT, DISCOVER, RESOURCES, UPDATES, and a magnifying glass icon for SEARCH. The main content area is titled "ATLAS Jobs Postings" and includes a search bar with the placeholder "Find a job" and a "Search" button. Below the search bar, a list of job categories is displayed, each with a right-pointing arrow: "PhD Position", "Postdoctoral position for ATLAS & MoEDAL experiments", "Researcher in Experimental Particle Physics", "Database Administrator/Developer", and "Postdoctoral Scholar".



The mobile view of the ATLAS Jobs Postings page is shown on a smartphone. It features a blue header with the ATLAS logo and a hamburger menu icon. The navigation links are: ABOUT, DISCOVER, RESOURCES, UPDATES, and a magnifying glass icon for SEARCH. The main content area is titled "ATLAS Jobs Postings" and includes a search bar with the placeholder "Find a job" and a "Search" button. Below the search bar, a list of job categories is displayed, each with a right-pointing arrow: "PhD Position", "Postdoctoral position for ATLAS & MoEDAL experiments", "Researcher in Experimental Particle Physics", and "Database Administrator/Developer".



The desktop view of the ATLAS Jobs Postings page shows detailed information for the "Postdoctoral position for ATLAS & MoEDAL experiments" job. The header is blue with the ATLAS logo and navigation links: ABOUT, DISCOVER, RESOURCES, UPDATES, and a magnifying glass icon for SEARCH. The main content area is titled "ATLAS Jobs Postings" and includes a search bar with the placeholder "Find a job" and a "Search" button. Below the search bar, a list of job categories is displayed, each with a right-pointing arrow: "PhD Position", "Postdoctoral position for ATLAS & MoEDAL experiments", "Researcher in Experimental Particle Physics", and "Database Administrator/Developer". The "Postdoctoral position for ATLAS & MoEDAL experiments" job is selected, and its details are shown below the list. The details include the job title, the institution (Instituto de Física Corpuscular (IFIC)), the posting date (4 days 22 hours ago), the link to the official posting (<https://inspirehep.net/jobs/1800895>), and the contact name (vasiliki.mitsou@ific.uv.es).

# What Remains

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## Development

- Resources / Education / Open Data landing pages

## Content

- Detailed layer of physics pages
- Mass import of Virtual Visits

## Design

- Completion of responsive styling (different screen sizes)  →  → 
- Fine tuning of ATLAS elements (our own look and feel, rather than CERN's)


Had a few show-slowers, but no stoppers!



# Summary

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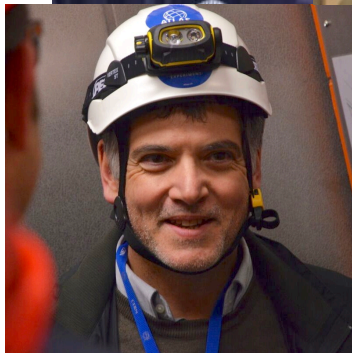
## Move to Drupal 8

- We're complying with the choice of Drupal 8 for upgrade
  - CERN support team is very helpful
  - CERN Override theme provides most of the functionality we need
- The theme (perhaps Drupal, in general) is frustrating for high-level design
  - Environment for content providers (writers) is clunky
  - Having to develop code (templates) to implement our style
- Mass import (>1000 nodes) has gone well 

## Common goals, different approaches (same boat, different waves)

- CMS, ALICE have developer
- IPPOG using designer / first implementation

We're excited to welcome you to the new ATLAS Public Website soon!



# Thanks!

\*plus everybody who's worked on the ATLAS public website before

\*\*plus everybody who answered the collaboration surveys

\*\*\*plus everybody who answered the public surveys

\*\*\*\*plus everybody who's ever used the ATLAS public website

# Want to chat?

---



Join my [Zoom room](#) after this session



[meirin.oan.evans@cern.ch](mailto:meirin.oan.evans@cern.ch)



[@meirinoanevans](#)



[@meirinoanevans](#)



[meirin-oan-evans](#)

Or just look for me at CERN

- This is what I look like →



---

# Backup

# Drupal?


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The name **Drupal** represents an English rendering of the Dutch word druppel, which means "drop" (as in a water droplet).

## Audience Overview

 SAVE  EXPORT  SHARE  INSIGHTS

 All Users  
100.00% Users

 + Add Segment

1 May 2016 - 20 Jun 2020 ▾

### Overview

Page Views ▾ VS [Select a metric](#)

 Page Views

100,000

50,000

2017

2018

2019

2020

Winter  
conferences

Summer  
conferences

Users

622,782

New Users

622,774

Sessions

999,719

Number of Sessions per User

1.61

Page Views

4,284,738

Pages/Session

4.29

Avg. Session Duration

00:03:43

Bounce Rate

3.32%

 New Visitor  Returning Visitor

14.5%

# Collaboration & Public Polls

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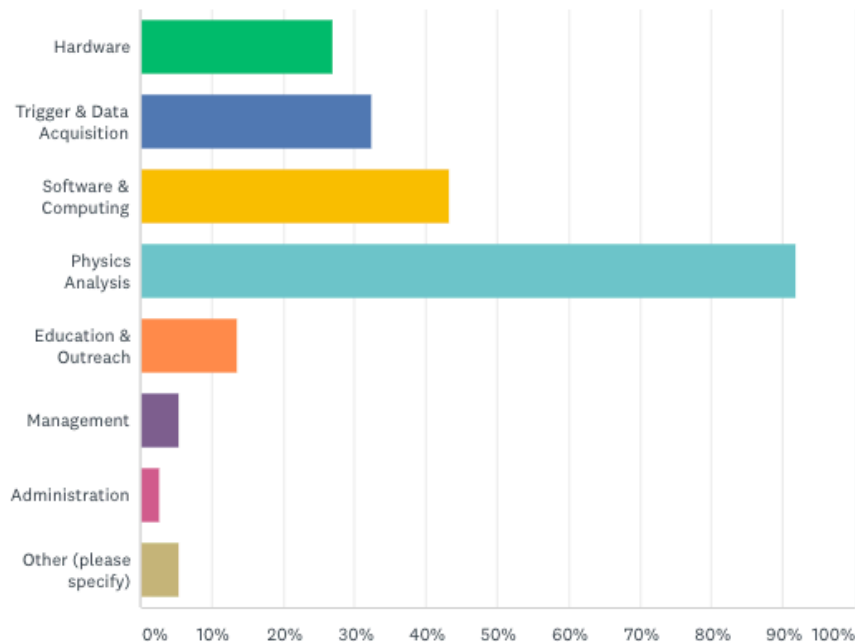
Collaboration Survey: <https://www.surveymonkey.com/r/LQJM8XZ>

Public Survey: <https://www.surveymonkey.com/r/Q6X592T>

# Extracts from Collaboration Poll

What are your areas of work in the collaboration? (check all that apply)

Answered: 37 Skipped: 0

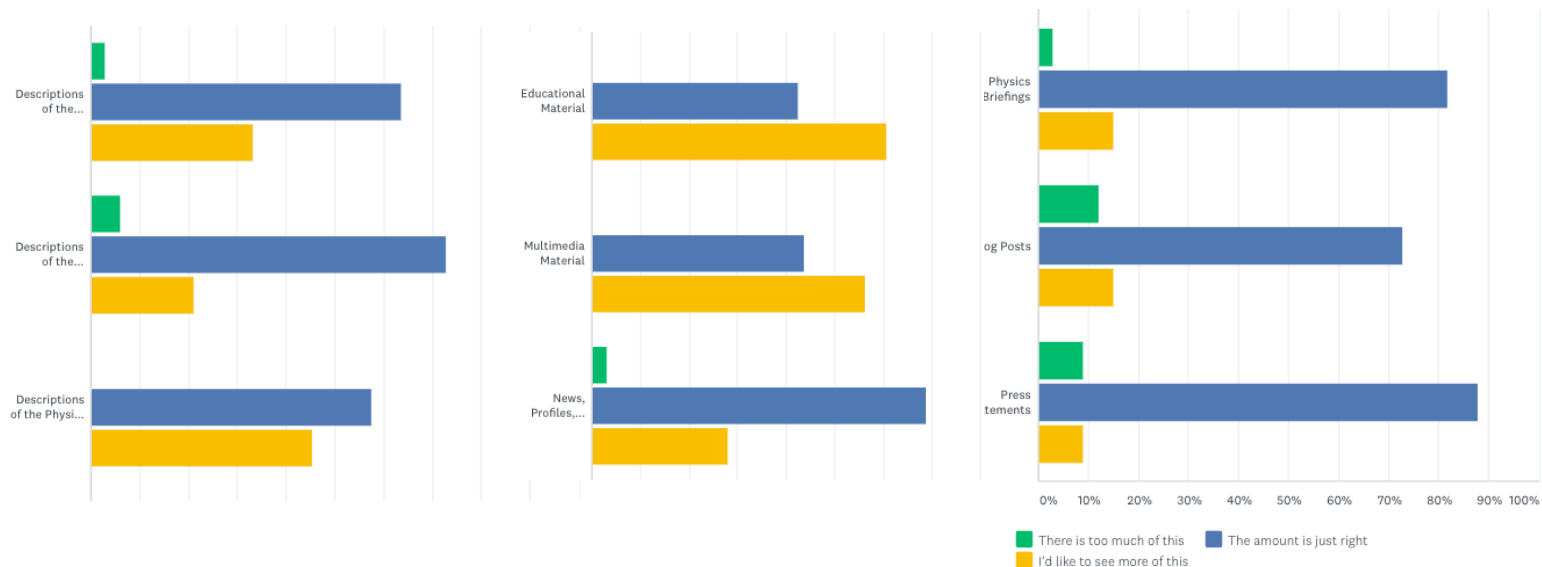




# Extracts from Collaboration Poll

How much of the following content do you expect on the ATLAS Public Web Site?

Answered: 34 Skipped: 3

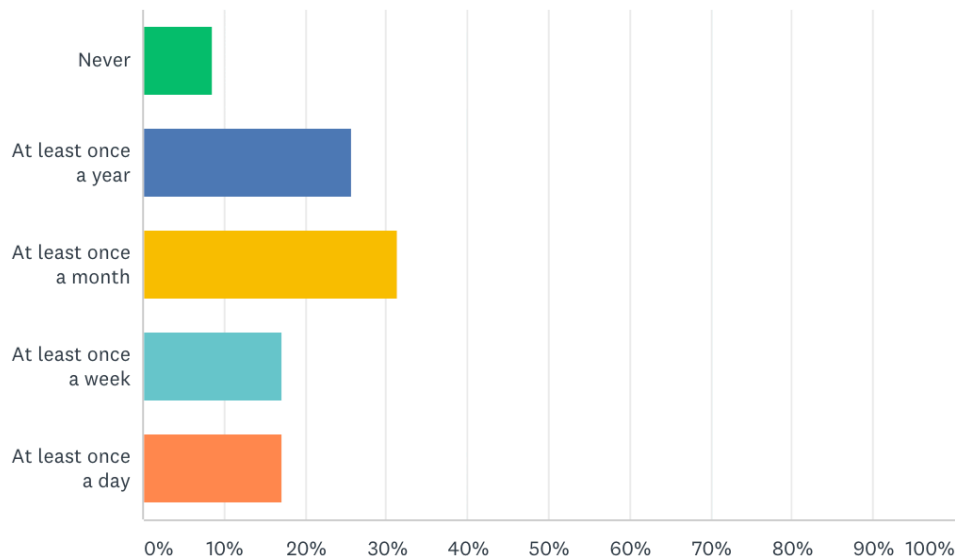


# Extracts from Public Poll

---

How often do you visit the ATLAS Public Website?

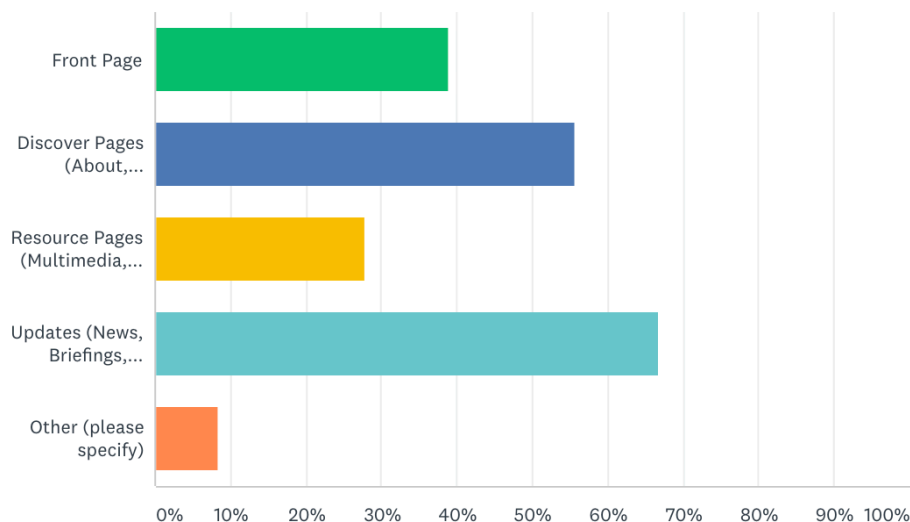
Answered: 35   Skipped: 1



# Extracts from Public Poll

What areas of the ATLAS Public Website do you typically visit? (check all that apply)

Answered: 36 Skipped: 0

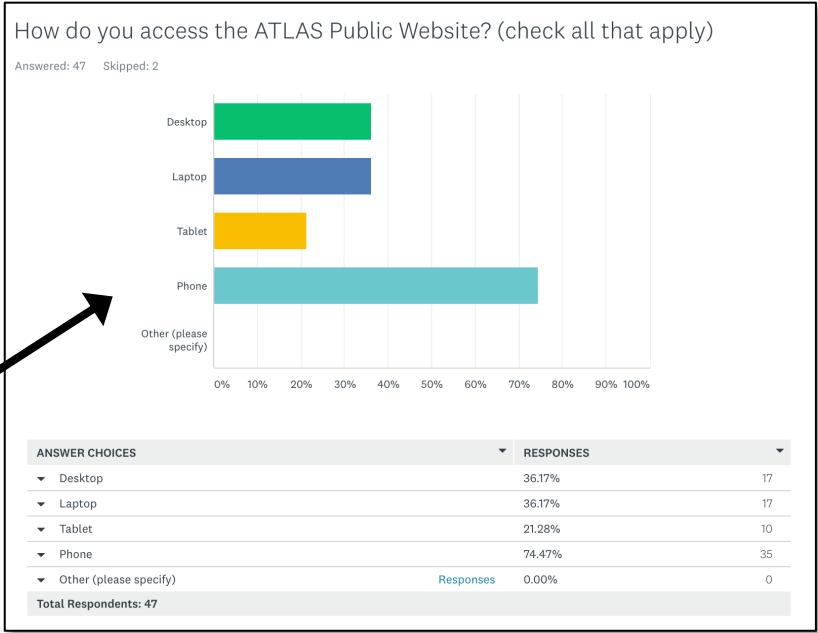


# Screen Usage

Operating System	Users	% Users
1. Windows	135,908	34.98%
2. Android	101,812	26.21%
3. Macintosh	61,976	15.95%
4. iOS	56,784	14.62%
5. Linux	26,511	6.82%
6. (not set)	2,717	0.70%
7. Chrome OS	2,471	0.64%
8. Windows Phone	131	0.03%
9. BlackBerry	100	0.03%
10. Tizen	31	0.01%

Screen Usage (Google Analytics)

Screen Usage (Public Poll)



# The Challenge

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## Content Types

- **Current:** Glossary Term (22), Home Page (2), Job Posting (800+), Multimedia (1), Page (40), Update (500+), Webform (2)
- **Drupal 8:** Glossary Term, Home Page, Job Posting, Landing Page, Update, Virtual Visit, Webform

## Views

- **Current:** Author Profiles, Updates, Blog, Briefings, Features, News, Portraits, Profiles, Press Statements, Updates Side Bars, All Updates pages, RSS Feeds, Glossary, Jobs, Discover, Resources pages
- **Drupal 8:** Author Profiles, Updates, Blog, Briefings, Features, News, Portraits, Profiles, Press Statements, Glossary, Jobs, Virtual Visits

Totals >**1000 pages of content** and a few dozen new landing pages

# Where are we, now?

Component	Status	Notes
Home page	Completed	Video landing page
About page	Completed	Landing page
Detector page	Completed	Landing page
Subsystem pages	Inner Detector, Calorimeter, Muons, Magnets 1 <sup>st</sup> Draft	Landing pages
TDAQ page	Completed	Landing page
Software & Computing page	Completed	Landing page
Tech Transfer page	Completed	Landing page
Physics pages	Completed Top Level	Working on 2 <sup>nd</sup> level pages
Collaboration page	Completed	Landing page
Membership pages	Completed	Landing pages
ATLAS Awards pages	Completed	Landing pages
Career Opportunities page	Completed Current ATLAS Jobs	Accordion View (Other views to follow)
Jobs pages	Completed	Mass migration of 800 jobs - Updated periodically
Updates page	Completed and Re-Styled	Views of updates
Updates pages	Completed, Styled, Correctly Aliased	Mass migration of 500 Updates - Updated periodically

# Where are we, now?

Component	Status	Notes
Updates Search Pages	All, News, Briefings, Blog, Press Statements, etc.	Allows search by title, tags, author, content
Management pages	Completed (except bios)	Individual Pages of Current/Past Management
Management landing page	Completed	View of Management pages using ATLAS Cards
Author pages	Completed	Individual Pages of Update/Blog Authors
Author landing page	Completed	View of Author pages, using ATLAS Cards
Main Menu	Completed	Visual Improvements, tuning for phone
Main Submenus	Completed 1 <sup>st</sup> Iteration (new style)	Used for Discover, Updates (needs tuning)
Visit page	Completed but needs Virtual Visits	Landing Page
Virtual Visit pages	In progress	Mass porting of around 400 visits
Virtual Visit landing page	In progress	Views of Virtual Visit pages, Instructions, Form, etc.
Resources landing page	In progress	Landing pages in Design stage
Search engine	In progress	Fixing phone version
Open Data landing page	Coming soon	Landing Page

# Development Issues

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## Landing Pages

- Flexible, but not trivial for writer to work with
- e.g. lack of clone feature for elements is a show-slower

## Updates (News, Briefings, ...)

- Article Content Type insufficient for creating quality content visually
  - Editing source to add bootstrap classes by hand!
- Need to be able to lay out an article professionally

## Short Codes

- In Drupal 7, we defined short codes, like [img right 50%] or [span1 of3]
- Perhaps this can be handled visually?



# Large-Scale Porting of Data

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## Updates

- 500+ articles
- They contain short codes for the layout
  - Had to translate manually or automatically

## Job Postings

- 800+ postings
  - We maintain an archive of past postings

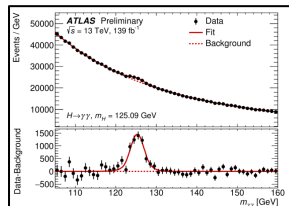
## Virtual Visits

- 400+ visits
  - They're in a different Drupal 7 site

# Layout images side-by-side (Drupal 7 ATLAS theme)

[span1of2]

[img]

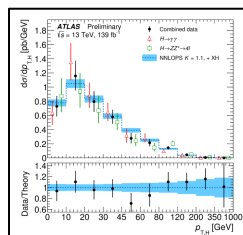


[/img]

[/span1of2]

[span1of2 last]

[img]



[/img]

[/span1of2]

physicists to measure kinematic properties of the Higgs boson with unprecedented precision (Figure 3). These are sensitive to new physics processes, making their exploration of particular interest to the collaboration.

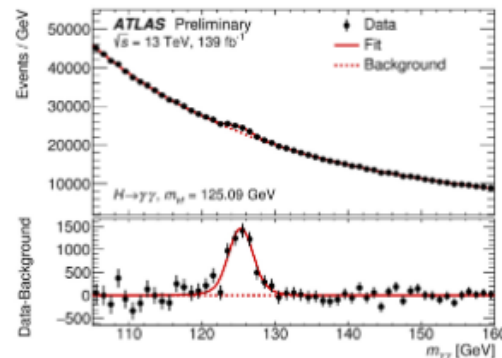


Figure 2: Distribution of the invariant mass of the two photons in the ATLAS measurement of  $H \rightarrow \gamma\gamma$  using the full Run-2 dataset. The Higgs boson corresponds to the excess of events observed at 125 GeV with respect to the non-resonant background (dashed line). (Image: ATLAS Collaboration/CERN)

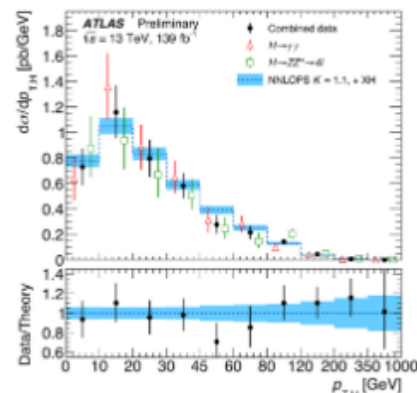


Figure 3: Differential cross section for the transverse momentum ( $p_{T,H}$ ) of the Higgs boson from the two individual channels ( $H \rightarrow ZZ^* \rightarrow 4\ell$ ,  $H \rightarrow \gamma\gamma$ ) and their combination. (Image: ATLAS Collaboration/CERN)

# Layout two images side-by-side (Drupal 8 CERN theme)

```
<div class="col-sm-6"> <figure class="cds-image" id="ATLAS-PHOTO-2018-020-2"><a
href="//cds.cern.ch/images/ATLAS-PHOTO-2018-020-2" title="View on CDS"></a>
<figcaption>Figure 3: A recent distribution of candidate Higgs events from the H to
ZZ to 4 leptons analysis using 13 TeV data from the LHC. The excess of events
around 125 GeV is consistent with Standard Model predictions for the Higgs boson.
(Image: ATLAS Collaboration/CERN)</figcaption></figure></div>
<div class="col-sm-6"> <figure class="cds-image" id="ATLAS-PHOTO-2018-020-1"><a
href="//cds.cern.ch/images/ATLAS-PHOTO-2018-020-1" title="View on CDS"></a>
<figcaption>Figure 4: The measured production strength as a function of the mass
of different particles in the Standard Model. (Image: ATLAS and CMS
Collaborations/CERN)</figcaption></figure></div>
```

Had to learn bootstrap classes