



The ATLAS Public Web Pages

Online Management of HEP External Communication Content

S. Goldfarb, *University of Michigan,*

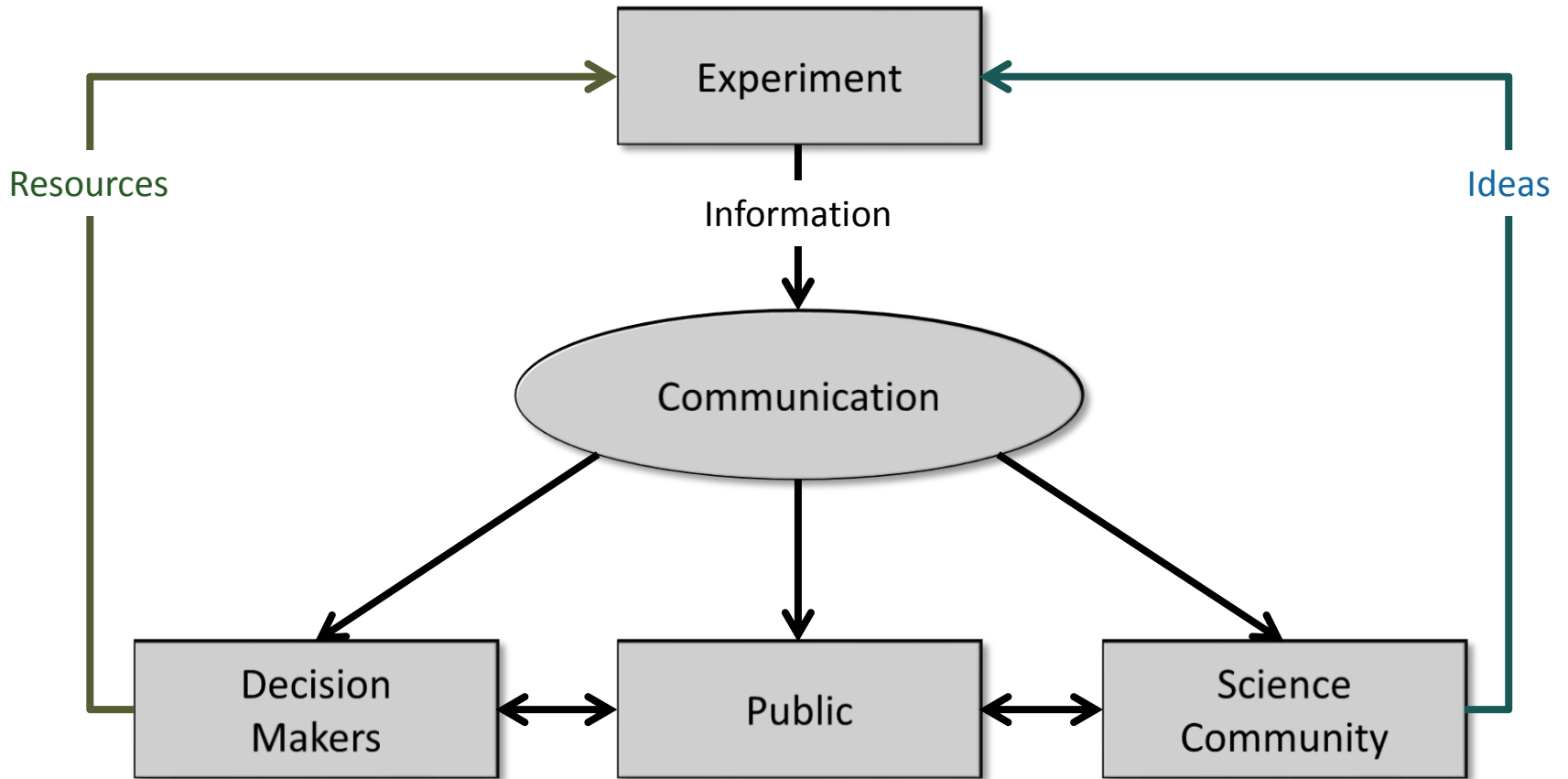
C. Marcelloni, *University of Birmingham,*

A. Eli Phoboo, *University of Manchester,*

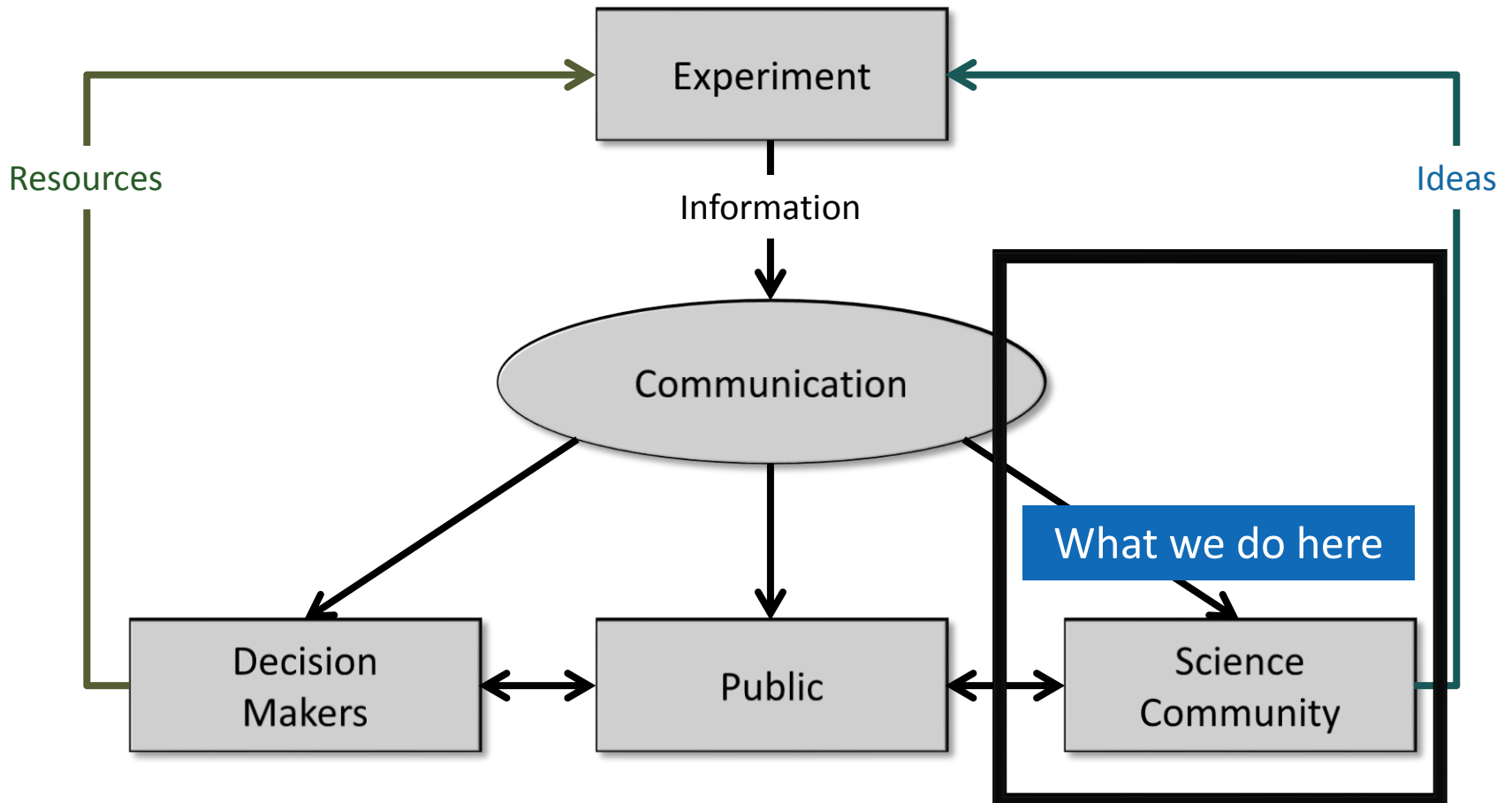
K. Shaw, *Abdus Salam International Centre for Theoretical Physics*

On behalf of the ATLAS Experiment at CERN

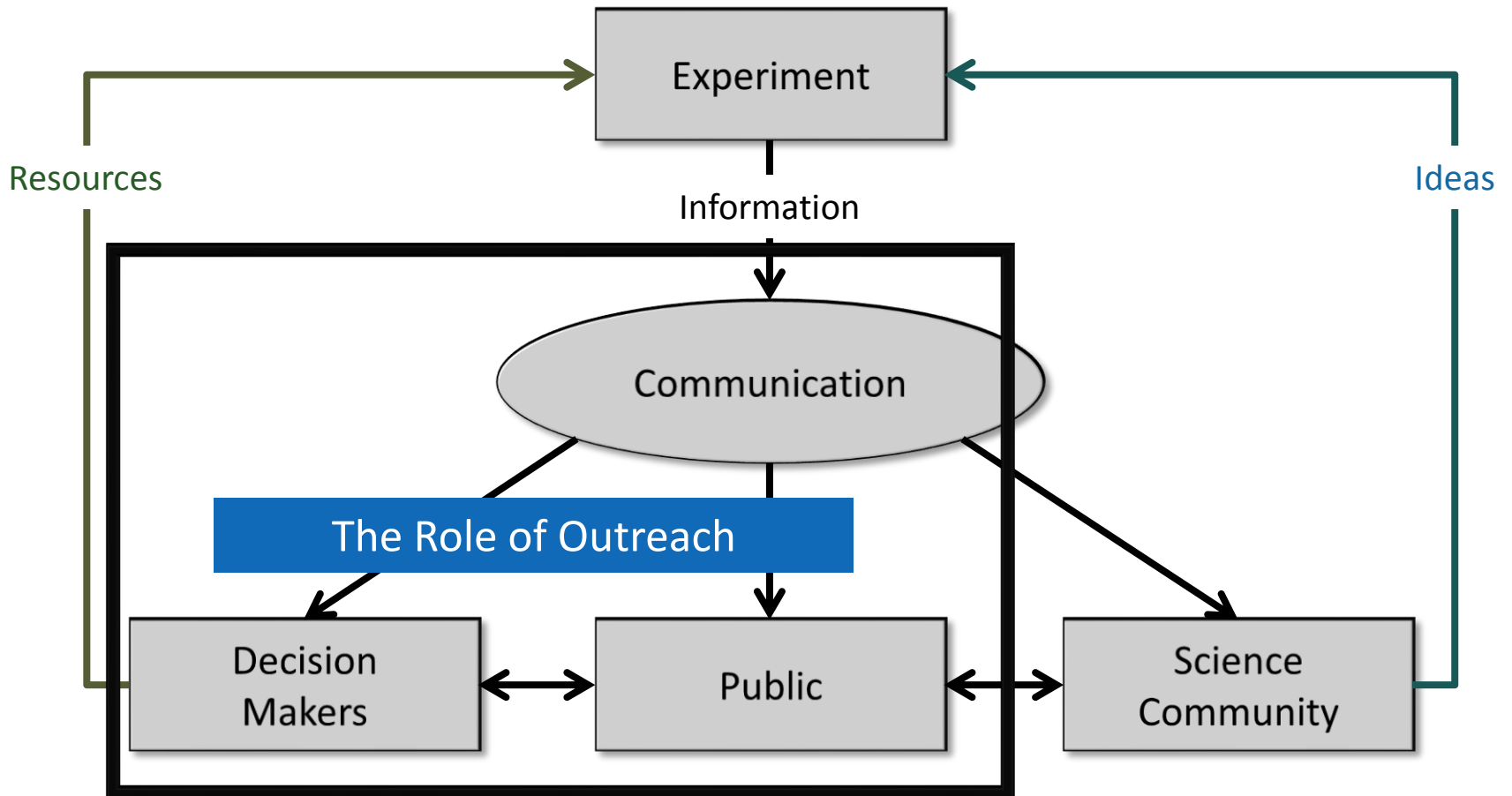
Communication in HEP



Communication in HEP



Communication in HEP

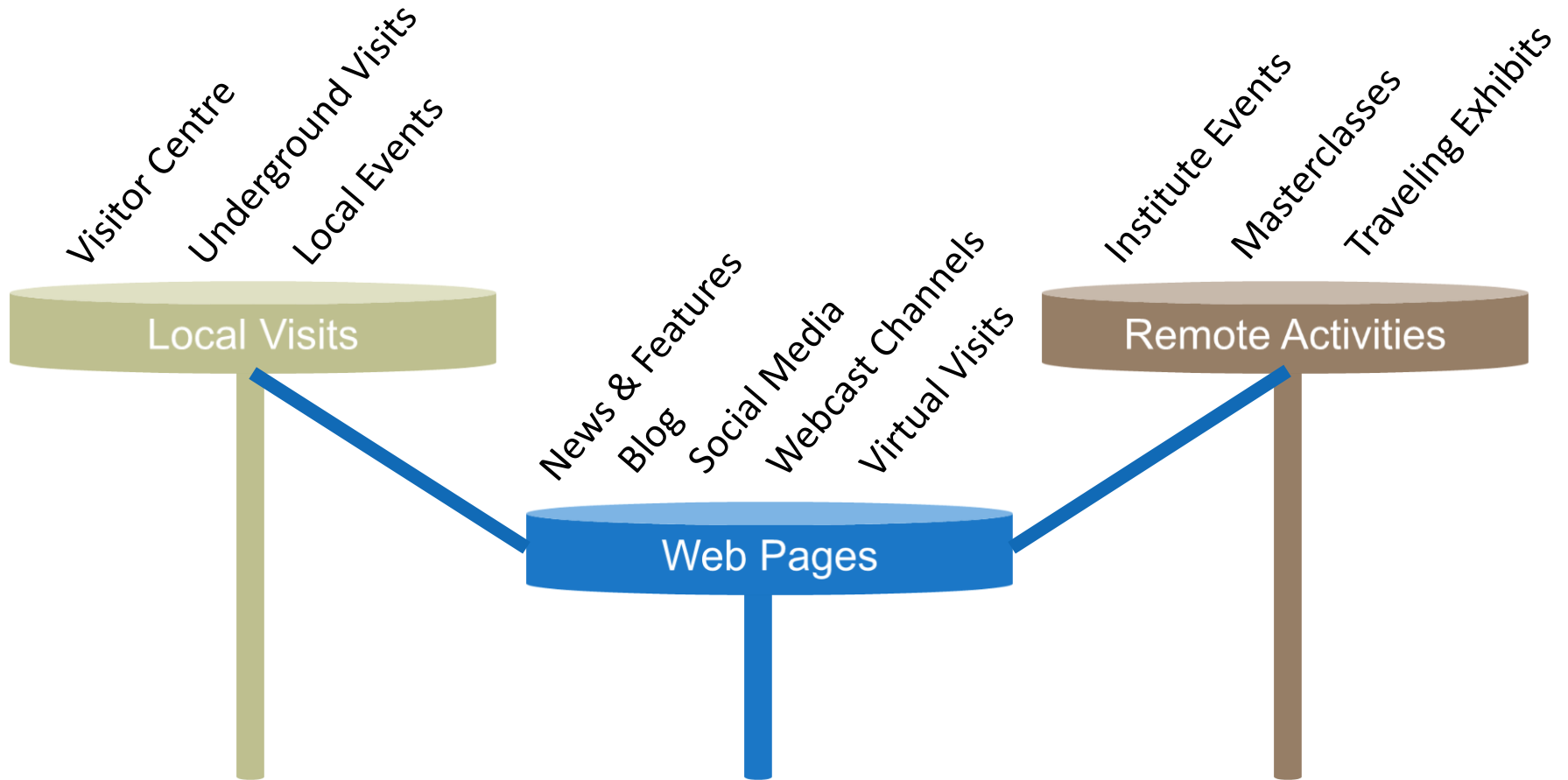


Goals & Audiences

1. Public appreciation of the scientific goals and achievements of ATLAS and the field of particle physics
2. Sustained support for ATLAS, the LHC and particle physics research
3. Attract and retain the next generation of scientists and science educators



Outreach Platforms



ATLAS EXPERIMENT

Home Info Multimedia Blogs Links Visit ATLAS Contact Collaboration Site Store Press Student/Teachers

News National Geographic: Discov_ Like 1.9k

LHC and ATLAS Restart

ATLAS News

ATLAS RUN STATUS
TOTAL LUMINOSITIES

- 27.03 fb⁻¹ PROTON - PROTON
- 29.85 nb⁻¹ PROTON - LEAD
- 167.4 μb⁻¹ LEAD - LEAD

LHC restarting
Collisions in May or June
[More info, can be found here.](#)

ATLAS Science & Art

ATLAS and the Higgs
Finding the Higgs Boson is changing our understanding of the world. [Learn more.](#)

Discovery Quest ATLAS eTours Art in ATLAS

Shots from the Long Shutdown

As ATLAS gears up to record data from proton collisions delivered by the Large Hadron Collider (LHC) at an unprecedented energy level, here are glimpses from the last two years of preparations. [More...](#)

ATLAS Is Ready and Waiting for Collisions

About ATLAS

Higgs Multimedia Material Images Videos YouTube

Mapping the Secrets of the Universe

ATLAS is a particle physics experiment at the Large Hadron Collider at CERN that is searching for new discoveries in the collisions of protons of extremely high energy. ATLAS will search for particles that have not been seen before and determine its properties. Some of the unknowns are extra dimensions of space, unification of fundamental forces and evidence for dark matter candidates in the Universe. Following the discovery of the Higgs boson, further data will allow in-depth investigation of the boson's properties and thereby of the origin of mass.

- What is the schedule of ATLAS?
- Who are the 3000 physicists in ATLAS?
- What is the LHC?
- How big is ATLAS?
- How much data will be recorded?
- Why is there so much excitement?
- Are students involved?

The ATLAS Story

Impacts of its Science, Innovation and Organisation

The ATLAS Experiment © 2014 CERN

Current ATLAS Public Web Pages

Motivation for Change

- ▣ Design
 - ▣ Navigation
 - ▣ Search
 - ▣ Visual Identity
- ▣ Technology
 - ▣ Content Workflow
 - ▣ Multimedia Handling
 - ▣ Integration with Social Media
- ▣ Development & Maintenance
 - ▣ Support worldwide contributions from collaboration
 - ▣ CERN Support of Drupal Infrastructure
 - ▣ ENTICE Recommendations

A Content Management System would more easily support distributed contribution to content development and maintenance.

Development Procedure

Discovery & Design

- Analytics
- Audience Research
- Stakeholder Interviews
- Structure
 - Theme, Messages
- Design Sprints
 - Low-Definition Prototypes

Implementation

- Refinement of Prototypes
 - html
- Finalisation of Design
- Drupal Templates
- Content Management Architecture
- Population of Content
- Iterations

Analytics (Google)

- Key Numbers from 2013
 - Average Visits
 - Average page views / month: 95,000
 - Average visits / day: 1,500
 - Average visit duration: 1m 40s
 - Bounce Rate: 73% (50% considered not good, 70% disaster)
 - What do they visit?
 - Home 44%, Photos 15%, News 14%, Rest under 3% each

Audience Research

Location

1. Switzerland: 28%
2. United States: 14%
3. Germany: 6.7%
4. United Kingdom: 6.4%
5. France: 4%
6. Italy: 4%
7. Canada: 3%
8. Japan: 3%
9. India: 2%
10. Spain: 1%

Browser

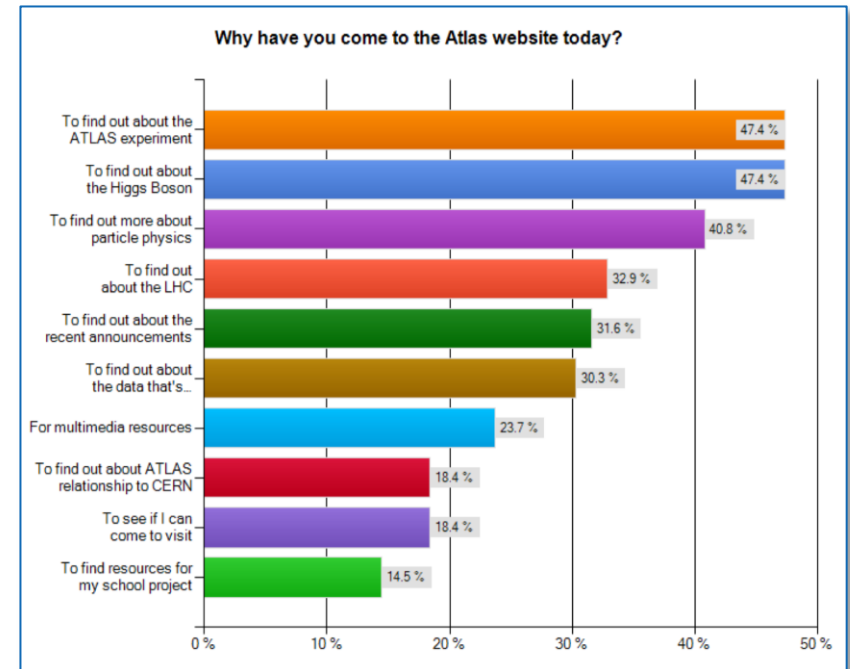
1. Safari: 70k users
2. Chrome: 45k users
3. Firefox: 42k users
4. IE: 25k users

All pages ranked

1. / 179k
2. /news/2012/atlas-and-the-higgs.html 9k
3. /what-is-atlas.html (eTours) 9k
4. /photos/plots.html (eTours) 7k
5. /news/latest-from-higgs-search.html 6k
6. /detector.html 5k
7. /news/ 4k
8. /photos/full-detector.html 4k
9. /photos/lhc.html (eTours) 3k
10. /photos/events.html (eTours) 3k

Sources: Direct

1. Landing page: / 69,522
2. Webcams: /webcams 595
3. News (specific Higgs results): 513
4. /origin-mass.html
5. /photos/plots.html



Key Findings

- ▣ Users are seeking news and updates
 - ▣ Increased activity around announcements, events
- ▣ Users are seeking information about ATLAS
 - ▣ Supporting resources: images, video, animation, etc.

Stakeholder Interviews

- ▣ Expected Public Audience Types
 - ▣ Students & Educators / Institutions
 - ▣ Scientists
 - ▣ General Public
 - ▣ Others: Diplomats, VIP, “Scientifically Interested” Public
 - ▣ **But Don’t Forget:** Internal Audience from ATLAS, et al.
 - ▣ Primarily as messengers

- ▣ Identity
 - ▣ Clarify difference between CERN / LHC / ATLAS
 - ▣ But don’t be afraid to identify with CERN

- ▣ Common Suggestion
 - ▣ Improvements needed for navigation, access to content

Summary from Discovery Phase

▣ Primary Audience Targets

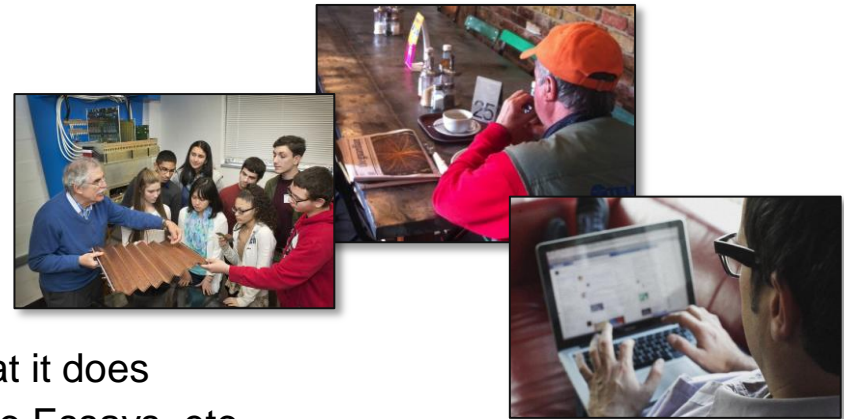
- ▣ Students & Educators
- ▣ General Public
- ▣ Scientists & Engineers

▣ Recommendations for Content

- ▣ Information on what ATLAS is and what it does
- ▣ Updates: News, Blogs, Briefings, Photo Essays, etc.
- ▣ Media-Rich Content (images, video, animations)
- ▣ Integration with Social Media to draw audience

▣ Performance Enhancement

- ▣ Well-defined workflow
- ▣ Mobile-based browsing (any sized screen)
- ▣ Multilingual
- ▣ Search



Guiding Principles

- Define Workflow in Structure
 - Write → Edit → Approve → Publish (or Iterate)
- Use Existing Databases
 - CDS for ATLAS Material, IPPOG DB for Outreach Material
- Follow Content Guidelines
 - Word Counts for Article Types, Graphic Charter for Look & Feel
 - Re-Usage of Material Across Platforms
 - Web Pages, Social Media, Brochures, Posters, AVC, etc.
- Reduce Maintenance
 - Comply with CERN Guidelines for Modules, Development

Visual Identity

Open Source Fonts:

Open Sans for titles, short text
PT Serif for long text

Standard Logo:



Social Media Logo:



Primary colours

| | | | |
|--|---|--|---|
| | HEX: #0b80c3 RGB: 11, 128, 112 CMYK: 83, 42, 1, 0 | | HEX: #000000 RGB: 0,0,0 CMYK: 0,0,0,100 |
| | | | HEX: #7c7c7c RGB: 124, 124, 124 CMYK: 53, 44, 44, 0 |
| | | | HEX: #e2e2e2 RGB: 226, 226, 226 CMYK: 10, 7, 8, 0 |

Supporting colours

| | HEX: #9a846d | HEX: #bcb993 | HEX: #36bbdb | HEX: #ffad35 | HEX: #5dbe5d | HEX: #d351ff | HEX: #5656d7 | HEX: #efda4e |
|-----|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | | | | | | | | |
| 70% | | | | | | | | |
| 50% | | | | | | | | |

ATLAS is...
an experiment at CERN
designed to explore the
secrets of the universe
[Learn more](#) →

Discover ATLAS

ATLAS is one of the four major experiments on the [Large Hadron Collider at CERN](#).

Themes: [ATLAS](#)

Discover more about ATLAS

- » [The Experiment](#)
- » [The Physics](#)
- » [The Collaboration](#)
- » [The Detector](#)

Resources

The ATLAS Insertable B Layer

Theme: [ATLAS](#)

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Updates

Matter
February 20, 2015

The search continues for dark matter, a new kind of matter that doesn't emit or absorb light. It is assumed to account for the missing amounts of mass in our Universe. The total mass in our Universe can be inferred from the observation of gravitational effects of stars in galaxies, and galaxies in clusters of galaxies. However the amount of mass calculated from the observed distribution of light is much less. It is proposed that dark matter makes up the discrepancy as it does not emit light.

Theme: [Physics Briefing](#)

- » [Photo Essay: "Dirt Detectives"](#)
- » [The Ties That Bind](#)

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- » [Photo Essay: "Dirt Detectives"](#)
- » [The Ties That Bind](#)

Discover
the [experiment](#), the [physics](#), the [collaboration](#), and the [detector](#).

The Experiment

One of the four major experiments at the Large Hadron Collider at CERN

The Collaboration

One of the largest collaborative efforts ever attempted in the particle physics

The Detector

One of the largest and most complex scientific instruments ever constructed

The Physics

Exploring the basic building blocks and fundamental forces of nature

Watch and learn about ATLAS on YouTube

Event with Two Electrons and Two Muons
This video shows an animation of an actual ATLAS proton collision event. The two muons are detailed as long blue tracks, the two electrons as short blue tracks matching green clusters of energy in the calorimeters which lie outside the inner tracking detector. This event may show a Higgs boson decaying into two muons and two electrons.

Origin of Mass - Search for the Higgs
Phil Owen's short film and Higgs Prize winner for the ATLAS Multimedia Contest.

ATLAS-From Dream to Reality
A showcase of images and video from the construction of the ATLAS Experiment up to the moment when the first splash of particles in ATLAS was seen on September 10, 2008.

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The Collaboration

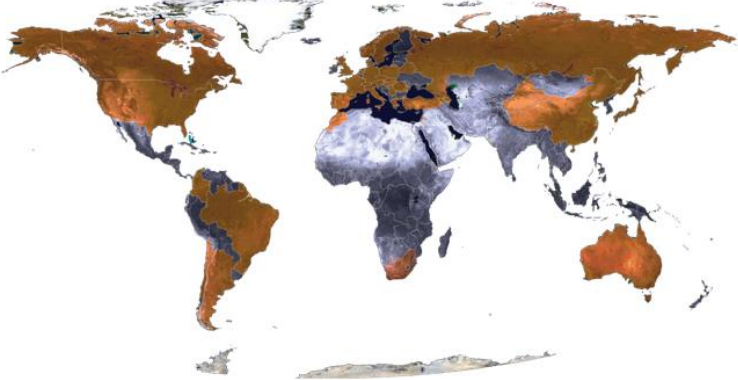
ATLAS comprises 3000 scientists from 178 institutions around the world, representing 38 countries from all the world's populated continents. It is one of the largest collaborative efforts ever attempted in science.



Almost 1200 doctoral students are involved in detector development, data collection and analysis. The collaboration depends on the efforts of countless engineers, technicians and administrative staff.

ATLAS elects its leadership and has an organizational structure that allows teams to self-manage, and members to be directly involved in decision-making processes. Scientists usually work in small groups, choosing the research areas and data that interest them most. Any output from the collaboration is shared by all members and is subject to rigorous review and fact-checking processes before results are made public. The success of the collaboration is bound by individual commitment to physics and the prospect of exciting new results that can only be achieved with a complete and coherent collaborative effort.

The only way to realize such a challenging project, with the required intellectual and financial resources, and to maximize its scientific output is through international collaboration. Large project funds are investments from funding agencies of countries participating in ATLAS. There are also contributions from CERN, and some resources from individual universities.



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19th May 2014
Featured Image:
Installation of Insertable B-Layer
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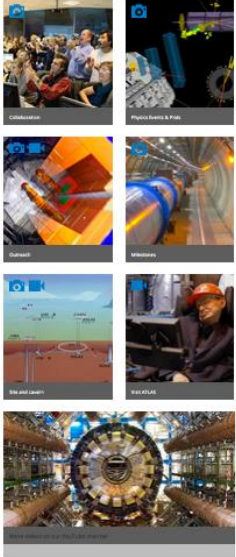
Search for images, video and more for ATLAS:

Search ATLAS multimedia archive

Recent searches: [Detector](#), [Higgs boson](#), [LHC](#)

Categories: [Best of ATLAS](#), [Photos](#), [Video](#), [Posters](#), [Brochures](#)

Latest resources
Updated: Collaboration
New video: Para Professors
Updated: Report from DIS 2013
Updated: MINERVA: Masterclass Resources
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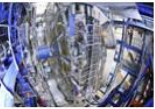
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Updates Latest [News](#), [Physics Briefings](#), [Collaboration Blogs](#), and Press [Statements](#) from ATLAS.

ATLAS News

Handing In the ATLAS Keys

After completing more than 250 work packages concerning the whole detector and experimental site, the ATLAS and CERN teams involved with Long Shutdown 1 (LS1) operations are now wrapping things up before starting the commissioning phase in preparation for the Large Hadron Collider's restart.

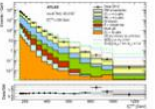


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Physics Briefing

Looking at the Dark side of Matter

The search continues for dark matter, a new kind of matter that doesn't emit or absorb light. It is assumed to account for the missing amount of mass in our Universe. The total mass in our Universe can be inferred from the observation of gravitational effects of stars in galaxies, and galaxies in clusters of galaxies. However the amount of mass calculated from the observed distribution of light is much less. It is proposed that dark matter makes up the discrepancy as it does not emit light.




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ATLAS News

Photo Essay: "Dirt Detectives"

For five days last week, 110 ATLAS collaborators worked in 10 different shifts to help clean and inspect the detector and the cavern that houses it before the toroid magnets are turned on. The whole endeavour is a delicate process as the collaborators wiped and vacuumed surfaces in all 16 phi sectors of the detector looking for any minuscule object that may have been left behind during the two years of upgrade and maintenance work. Here are glimpses from the cleaning project.




[Read more...](#)

ATLAS Blog

The Ties That Bind

A few weeks ago, I found myself in one of the most beautiful places on earth: wedged between a metallic cable tray and a row of dusty cooling pipes at the bottom of Sector 13 of the ATLAS Detector at CERN.

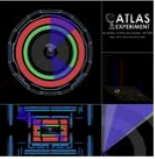


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Physics Briefing

In search of super charm

If all the experimental evidence supports a theory, why should anyone want to dream up additional particles? Yet exactly this situation arose in the late 1960s. At that time, when the complete table of the known hadrons could be explained with just three quarks, theorists were already proposing a fourth, which they whimsically called "charm".



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The Ties That Bind


15th January 2015

A few weeks ago, I found myself in one of the most beautiful places on earth: wedged between a metallic cable tray and a row of dusty cooling pipes at the bottom of Sector 13 of the ATLAS Detector at CERN. My wrists were scratched from hard plastic cable ties, I had an industrial vacuum strapped to my back, and my only light came from a battery powered LED fastened to the front of my helmet. It was beautiful.



Beneath the ATLAS detector - A view of the well-lit cavern, IMAG2, Claude Marcollon, ATLAS Experiment © 2014 CERN.

The ATLAS Detector is one of the largest, most complex scientific instruments ever constructed. It is 46 metres long, 26 metres high, and sits 80 metres underground, completely surrounding one of four points on the Large Hadron Collider (LHC), where proton beams are brought together to collide at high energies. It is designed to capture remnants of the collisions, which appear in the form of particle tracks and energy deposits in its active components. Information from these remnants allow us to reconstruct properties of the colliders and, in doing so, to improve our understanding of the basic building blocks and forces of nature.




ATLAS is divided into 16 phi sectors with 47.2 at the bottom. IMAG2, Steven Goldfarb, ATLAS Experiment © 2014 CERN.

On that particular day, a few dozen of my colleagues and I were weaving our way through the detector, removing dirt and stray objects that had accumulated during the previous two years. The LHC had been shut down during that time. In order to upgrade the accelerator and prepare its detectors for proton collisions at higher energy, ATLAS is constructed around a set of very large, powerful magnets, designed to curve charged particles coming from the colliders, allowing us to precisely measure their momenta. Any metallic objects left in the detector risk turning into fast-moving projectiles when the magnets are powered up, so it was important for us to do a good job.

The significance of the task, however, did not prevent my eyes from taking in the wonder of the beauty around me. ATLAS is shaped somewhat like a large barrel. For reference in construction, software, and physics analysis, we divide the angle around the beam axis, phi, into 16 sectors. Sector 13 is the lucky sector at the very bottom of the detector, which is where I found myself that morning. And I was right at ground zero, directly under the point of collision.

The real beauty lies not in the parts themselves, but rather in the magnificent stories of international cooperation and collaboration that they tell.

To get to that spot, I had to pass through a myriad of detector hardware, electronics, cables, and cooling pipes. One of the most striking aspects of the scenery is the ironic juxtaposition of construction-grade machinery, including built-in ladders and scaffolding, with delicate, highly sensitive detector components, some of which make positional measurements to micron (thousandths of a millimetre) precision. All of this is held in place by kilometres of cable trays, fittings, and what appear to be millions of plastic (sometimes sharp) cable ties.




Scaffolding and ladder mounted next to the proton muon spectrometer. IMAG2, Steven Goldfarb, ATLAS Experiment © 2014 CERN.

The real beauty lies not in the parts themselves, but rather in the magnificent stories of international cooperation and collaboration that they tell. The cable tie that scratched my wrist secures a cable that was installed by an Iranian student from a Canadian university. Its purpose is to carry data from electronics designed in Germany, attached to a detector built in the USA and installed by a Russian technician. On the other end, a Japanese readout system brings the data to a trigger designed in Australia, following the plans of a Moroccan scientist. The filtered data is processed by software written in Sweden following the plans of a French physicist at a Dutch laboratory, and then distributed by grid middleware designed by a Brazilian student at CERN. This allows the data to be analysed by a Chinese physicist in Argentina working in a group chaired by an Israeli reactive and overseen by a British coordinator. And what about the cable tie? No idea, but that doesn't take away from its beauty.

There are 178 institutions from 38 different countries participating in the ATLAS Experiment, which is only the beginning. When one considers the international make-up of each of the institutions, it would be safe to claim that well over 300 countries from all corners of the globe are represented in the collaboration. While this rich diversity is a wonderful story, the real beauty lies in the commonality.

All of the scientists, with their diverse social, cultural and linguistic backgrounds, share a common goal: a commitment to the success of the experiment. The plastic cable tie might scratch, but it is tight and well placed; its cable is held correctly and the data are delivered, as expected. This enormous, complex enterprise works because the researchers who built it are driven by the essential nature of the mission: to improve our understanding of the world we live in. We share a common dedication to the future, we know it depends on research like this, and we are thrilled to be a part it.



ATLAS Collaboration members in discussion. What discoveries are in store this year? IMAG2, Claude Marcollon, ATLAS Experiment © 2014 CERN.

This article, the LHC will remain at an energy level higher than

Summary

- ▣ Lessons Learned
 - ▣ Do the research
 - ▣ Design is critical (for any public platform)
 - ▣ Sprint & iterate
 - ▣ Content Management Systems require patience

- ▣ Next Steps
 - ▣ Simplifying templates (increased flexibility)
 - ▣ Completion of upload and porting to CERN, Beta in May
 - ▣ Complete port by end of year

With many thanks to CERN IT, CERN DG COM, and the ENTICE Group

Resources

Public Web Sites

| | |
|----------------------|---|
| Public Home Page | http://atlas.ch |
| ATLAS Blog | http://atlas.ch/blog |
| ATLAS Virtual Visits | http://cern.ch/atlas-virtual-visit |
| ATLAS Live | http://cern.ch/atlas-live |
| Twitter Feed | http://www.twitter.com/ATLASexperiment |
| Facebook Page | http://www.facebook.com/ATLASexperiment |
| Google+ Page | http://www.google.com/+ATLASexperiment |
| YouTube | http://www.youtube.com/user/TheATLASexperiment |

Web Development Partners

| | |
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| Mark Boulton Design | http://www.markboultondesign.com |
| Vector Media Group | http://www.vectormediagroup.com |

External Resources

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| CERN CDS | http://cds.cern.ch |