

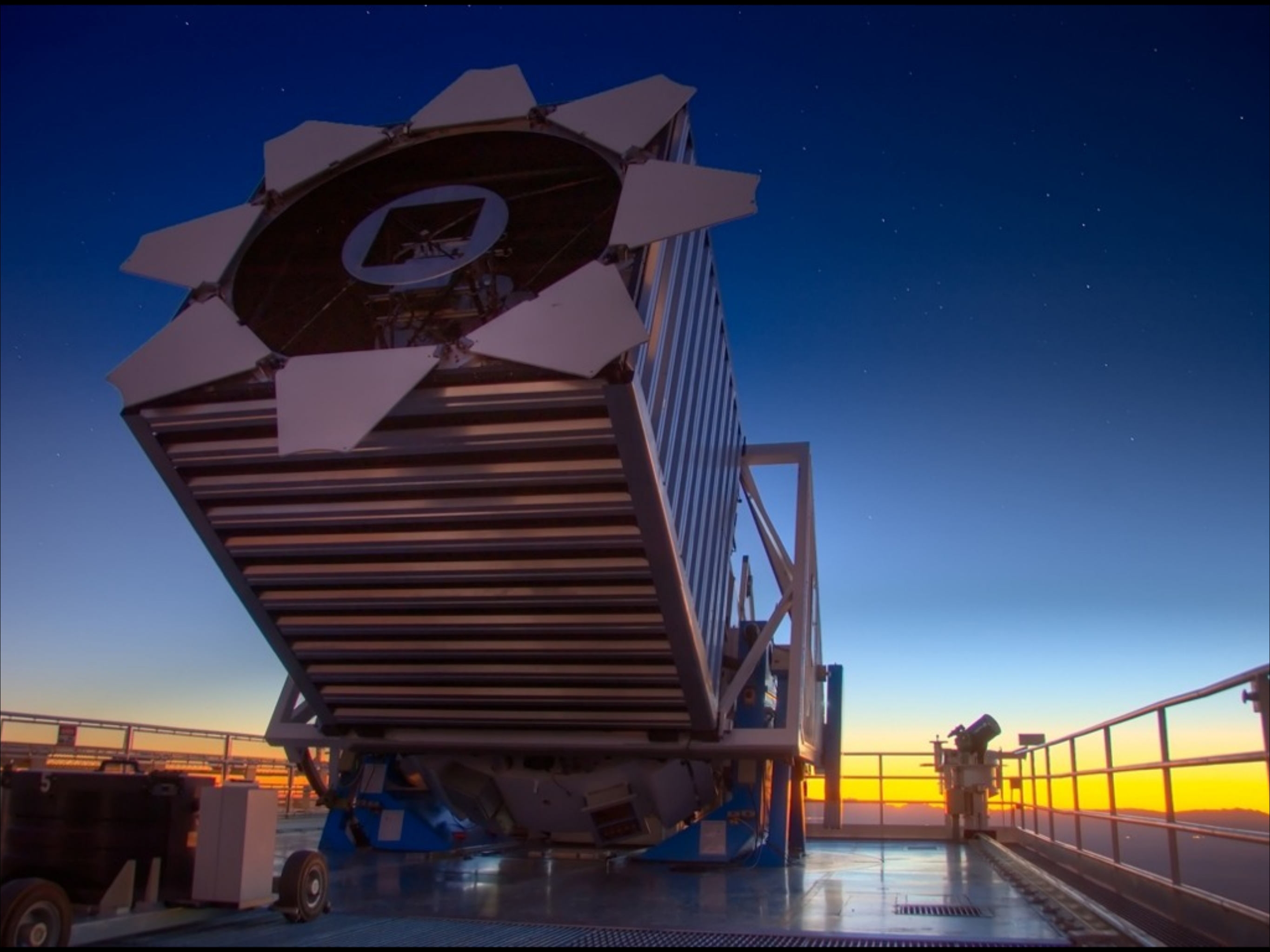
**Stuart Lynn**

# **ZOONIVERSE**

**ADLER PLANETARIUM**

**@stuart\_lynn**

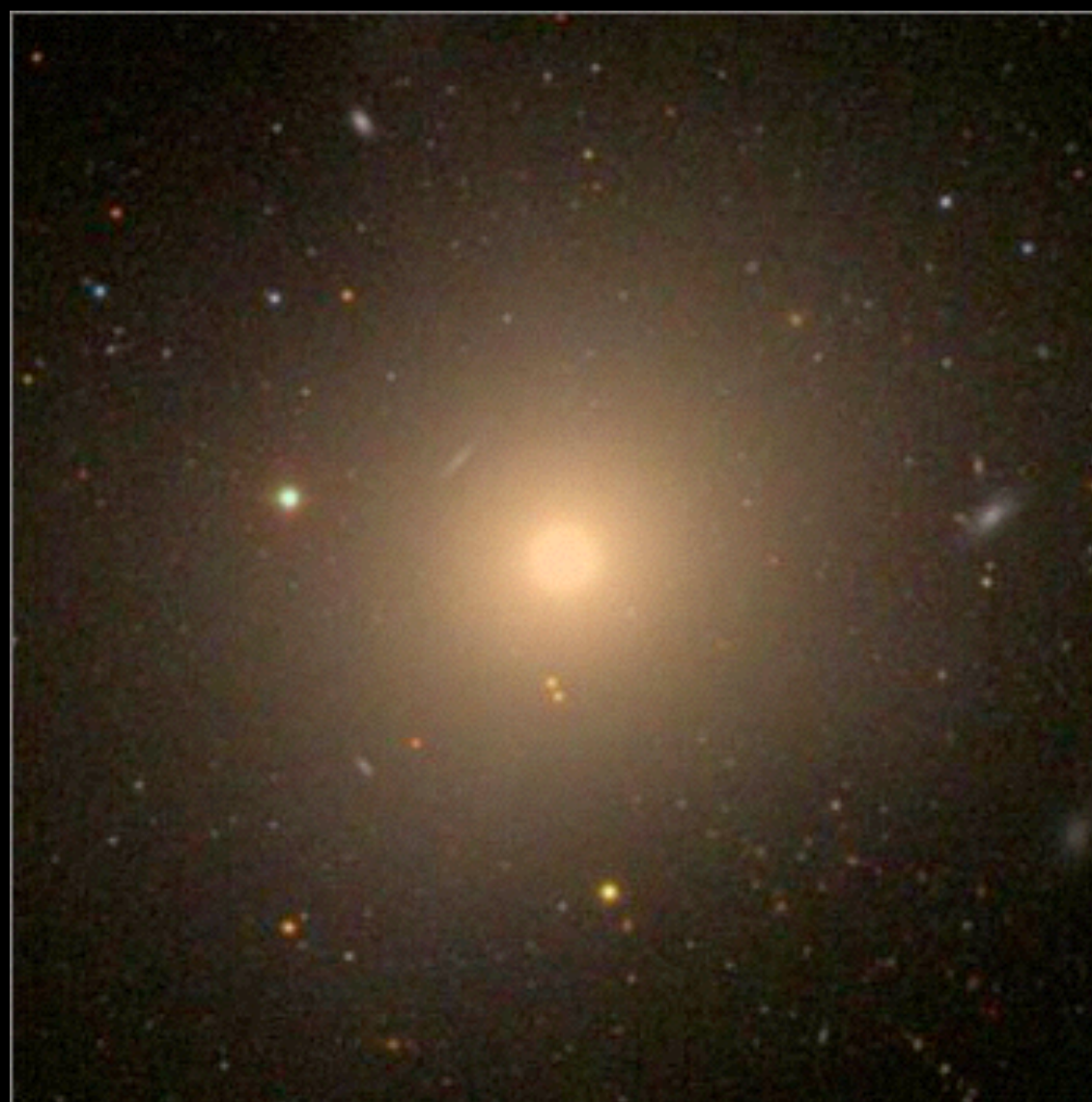
**@the\_zooniverse**



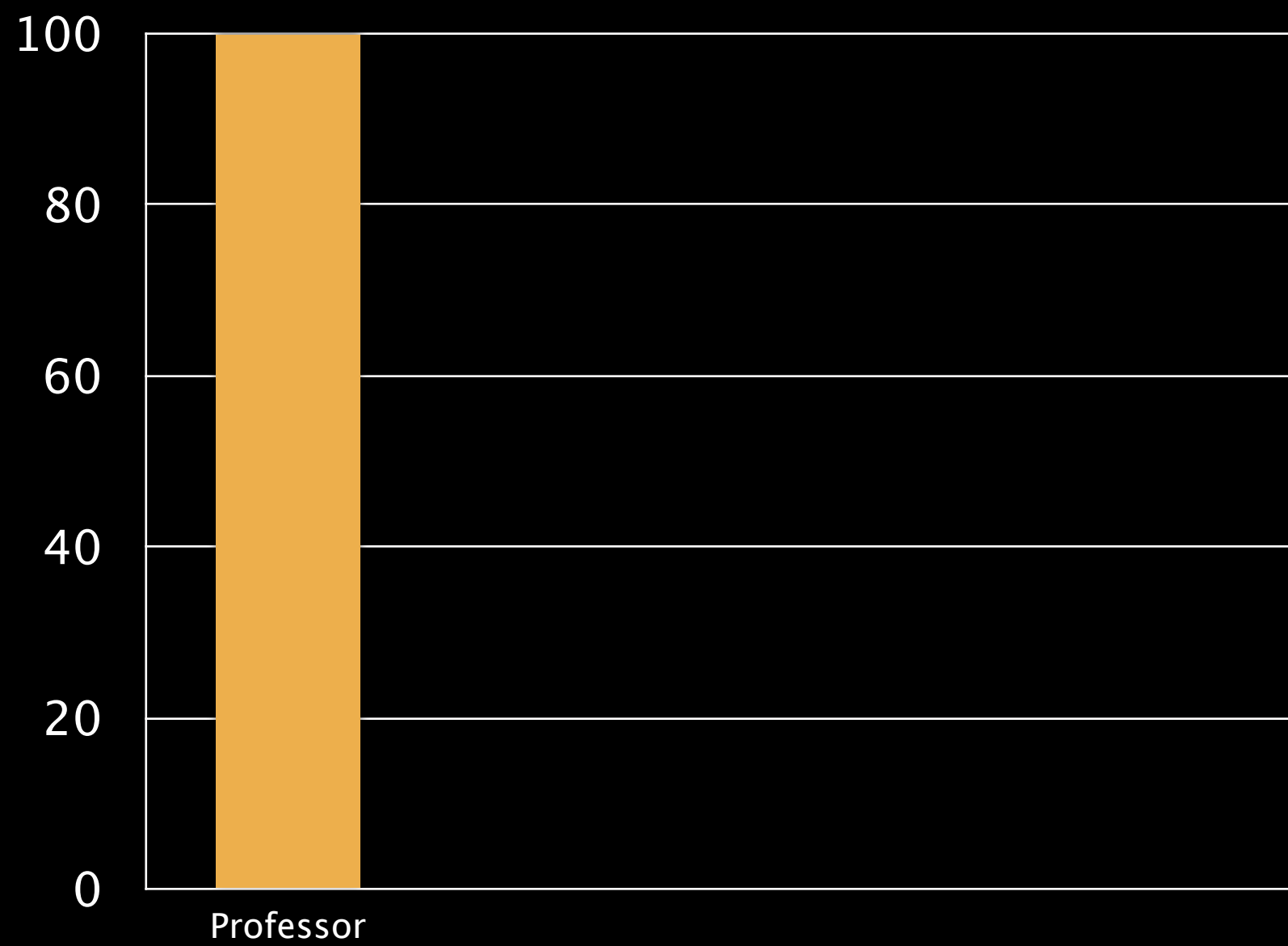


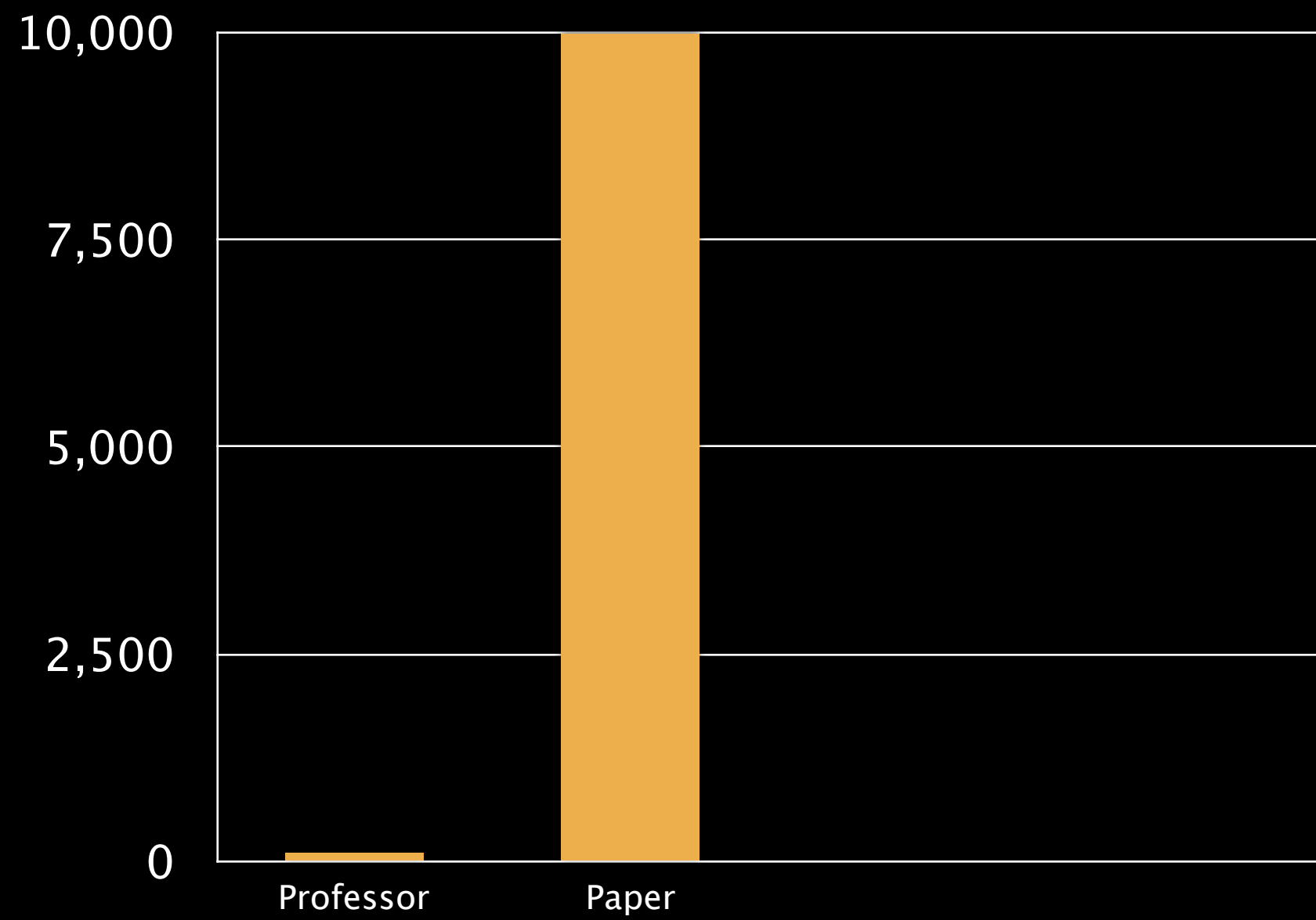




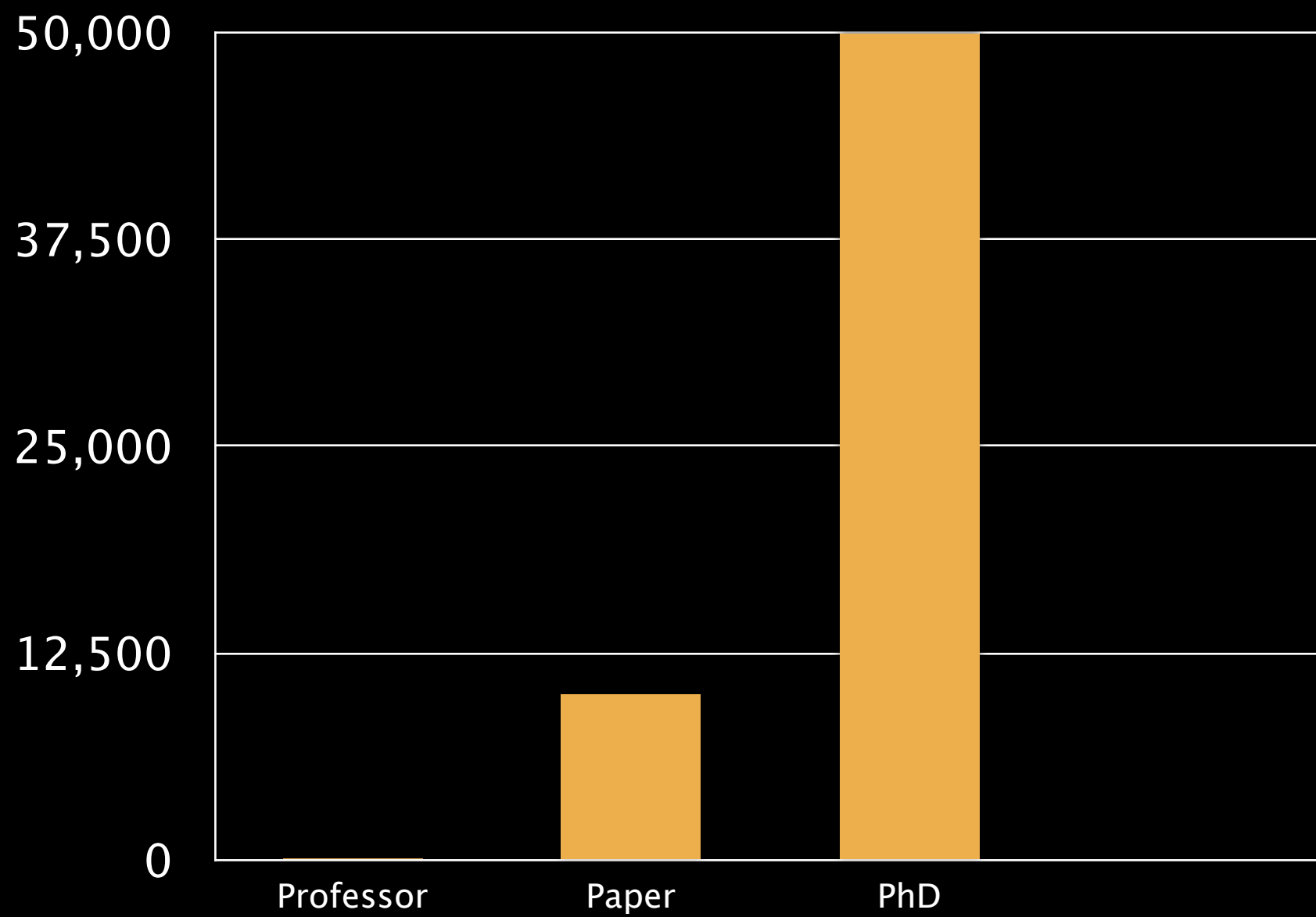


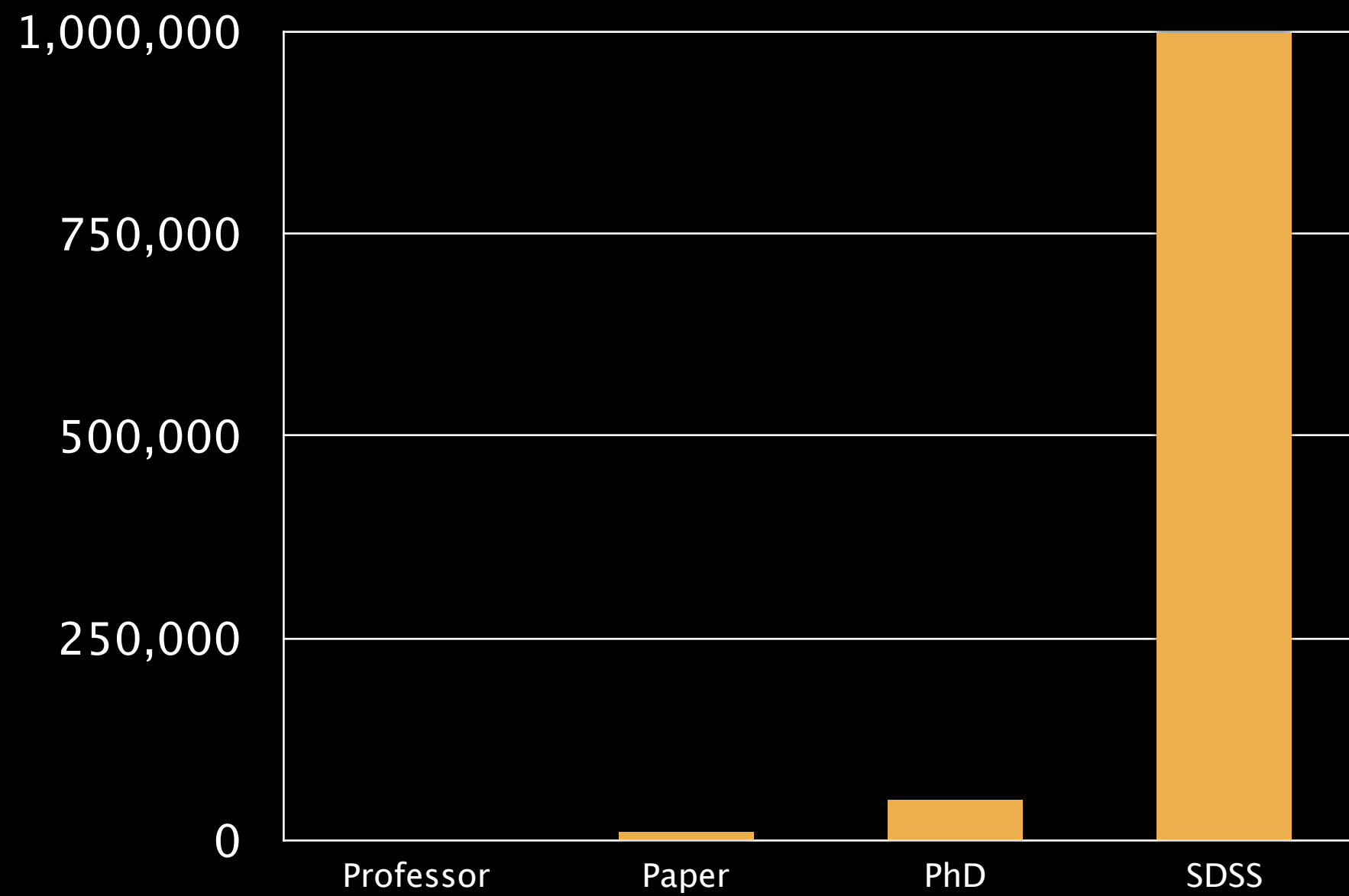




















William Herschel

## Account of a Comet.

March 13. 10<sup>h</sup> 30'. I was looking at a star in the quartile between Auriga's right foot and the left foot of Castor, and discovered near it a star that appeared to me to have a larger diameter than it should have; this made me suspect it to be a Comet. For this reason I thought it proper to mark its place in the heavens that I might see whether it moved. It was then very near  $\frac{2}{3}$  of my field of view (which is 4'.28") from a small telescopic star, and seemed to have nearly the same declination with that star, as it apparently followed the same tract thro' the telescope. Its place is represented in Fig 1. about II 23 $\frac{1}{4}$  of longit: and  $\frac{1}{2}$  degree of latit. North. according to Flamsteeds Notation.

March 17. 11.<sup>h</sup> I had no opportunity to look after the suspected Comet till this evening, and finding it had changed its place very considerably measured its distance from the same small star which was 42".968 Power 227. I took the angle of position ACb (Fig 2) which was 89°.56'. Power 278.



# GALAXY ZOO.org

[Welcome](#)[Home](#)[The Science](#)[How to Take Part](#)[Galaxy Analysis](#)[Forum](#)[Press & News](#)[FAQ](#)[Links](#)[Contact Us](#)[Login](#)[Register](#)[Galaxy Tutorial](#)[Galaxy Analysis](#)

## Galaxy Analysis

Welcome to Galaxy Zoo's view of the Universe. If you're here you should already have seen the [Tutorial](#), but feel free to go and remind yourself. There's no need to agonise for too long over any one image, just make your best guess in each case.



☐ Show Grid Overlay on the next Image

Galaxy Ref:  
**588010880371851294**

Choose the Galaxy Profile  
by clicking the buttons  
below







## News Front Page

World

UK

England

Northern Ireland

Scotland

Wales

Business

Politics

Health

Education

Science &  
Environment

Technology

Entertainment

Also in the news

Video and Audio

Have Your Say

Magazine

In Pictures

Country Profiles

Special Reports

RELATED BBC SITES

SPORT

WEATHER

CBBC NEWSROUND

ON THIS DAY

EDITORS' BLOG

Last Updated: Wednesday, 11 July 2007, 05:25 GMT 06:25 UK

E-mail this to a friend

Printable version

## Scientists seek galaxy hunt help

By Christine McGourty  
BBC science correspondent

**A new project known as Galaxy Zoo is calling on members of the public to log on to its website and help classify one million galaxies.**

The hope is that about 30,000 people might take part in a project that could help reveal whether our existing models of the Universe are correct.

Computer users undergo a three-minute online tutorial and are then allocated a series of images and asked to decide whether each one shows a spiral or an elliptical galaxy.

If it's a spiral galaxy, they're asked to decide which way it appears to be rotating.

The images come from the Sloan Digital Sky Survey telescope in New Mexico, US.

Kevin Schawinski, an astrophysicist at Oxford University, UK, is one of the team who devised the project.

"I classified about 50,000 galaxies myself in a week," he said. "It was mind-numbing."

He's hoping that involving the public will speed the work up.

"It's not just for fun," he added. "The human brain is actually better than a computer at pattern recognition tasks like this. Whether you spend five minutes, 15 minutes or five hours using the site, your contribution will be invaluable."

The project was inspired by others, such as stardust@home,



The classic spiral: M51, also known as the whirlpool galaxy

### SEE ALSO

- Comets hold life chemistry clues  
15 Dec 06 | Science/Nature
- Recruits needed to sift stardust  
15 Jan 06 | Science/Nature
- Turbo-charge your computer  
20 Oct 03 | Technology

### RELATED INTERNET LINKS

Galaxy Zoo

The BBC is not responsible for the content of external internet sites

### TOP SCIENCE & ENVIRONMENT STORIES

- Ice team endures meagre rations
- EU ban looms over seal products
- Male 'contraceptive jab' closer



News feeds

### MOST POPULAR STORIES NOW

MOST SHARED

MOST READ

- 1 US resident dies from swine flu
- 2 Katona condemns 'rude' Schofield
- 3 German triple-barrelled ban holds
- 4 GP's outrage over father's death
- 5 No 10 denies Lumley 'Gurkha snub'
- 6 Mother killed after care failures
- 7 How Kevin Bacon sparked a new branch of science
- 8 Sex charge head aided toilet girl
- 9 Beer, sandwiches and Ivory



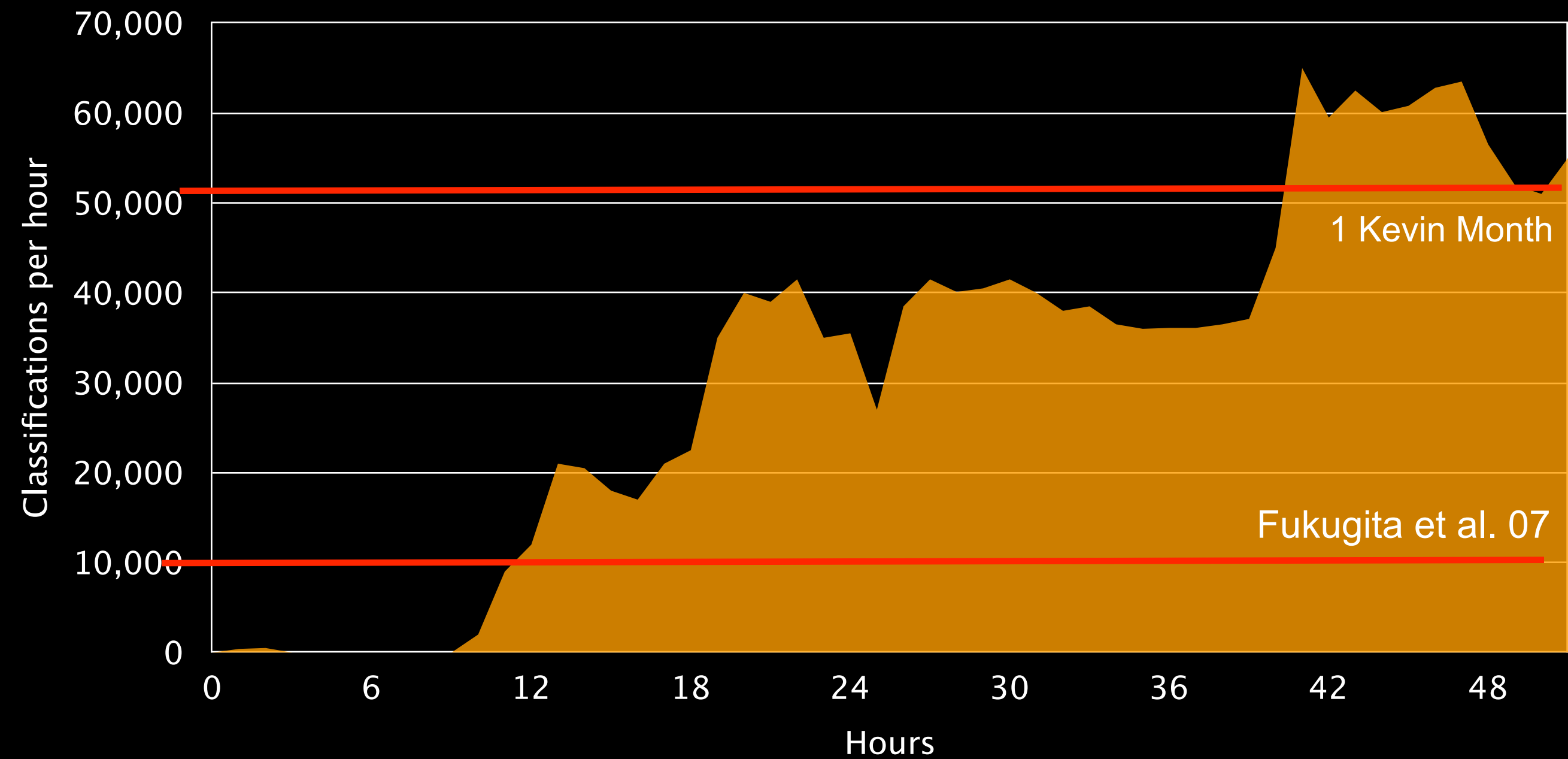
## MOST POPULAR STORIES NOW

**MOST E-MAILED**

MOST READ

- 1 Man flies to wedding a year early
- 2 Scientists seek galaxy hunt help
- 3 'No Sun link' to climate change
- 4 Garlic 'may cut cow flatulence'
- 5 Moles 'good indicator to ageing'

► Most popular now, in detail



# The Global Appeal of "Angry Birds"

A Story of Psychology,  
Sociology and addiction

ROVIO IS MAKING A TON OF MONEY  
OFF OF ANGRY BIRDS, THIS IS HOW:

300 million downloads  
of Angry Birds Games to date; on track to top 1 billion.

300  
MM

1BN



# Galaxy Zoo: Morphologies derived from visual inspection of galaxies from the Sloan Digital Sky Survey\*

Chris J. Lintott<sup>1†</sup>, Kevin Schawinski<sup>1‡</sup>, Anže Slosar<sup>1,2</sup>, Kate Land<sup>1</sup>, Steven Bamford<sup>3</sup>, Daniel Thomas<sup>3</sup>, M. Jordan Raddick<sup>4</sup>, Robert C. Nichol<sup>3</sup>, Alex Szalay<sup>4</sup>, Dan Andreescu<sup>5</sup>, Phil Murray<sup>6</sup>, Jan van den Berg<sup>4</sup>

<sup>1</sup>*Oxford Astrophysics, Denys Wilkinson Building, Keble Road, Oxford, OX1 3RH, UK*

<sup>2</sup>*Berkeley Centre for Cosmological Physics, Lawrence Berkeley National Laboratory and Physics Department, Berkeley, CA 94720*

<sup>3</sup>*Institute of Cosmology and Gravitation, University of Portsmouth, Mercantile House, Hampshire Terrace, Portsmouth, PO1 2EG, UK*

<sup>4</sup>*Department of Physics and Astronomy, Johns Hopkins University, 3400 N. Charles St., Baltimore, MD 21218, USA*

<sup>5</sup>*LinkLab, 4506 Graystone Ave., Bronx, NY 10471, USA*

<sup>6</sup>*Fingerprint Digital Media, 9 Victoria Close, Newtownards, Co. Down, Northern Ireland, BT23 7GY, UK*

March 2008

## ABSTRACT

In order to understand the formation and subsequent evolution of galaxies one must first distinguish between the two main morphological classes of massive systems: spirals and early-type systems. This paper introduces a project, Galaxy Zoo, which provides visual morphological classifications for nearly one million galaxies, extracted from the Sloan Digital Sky Survey (SDSS). This achievement was made possible by inviting the general public to visually inspect and classify these galaxies via the internet. The project has obtained more than  $4 \times 10^7$  individual classifications made by  $\sim 10^5$  participants. We discuss the motivation and strategy for this project, and detail how the classifications were performed and processed. We find that Galaxy Zoo results are consistent with those for subsets of SDSS galaxies classified by professional astronomers, thus demonstrating that our data provides a robust morphological catalogue. Obtaining morphologies by direct visual inspection avoids introducing biases associated with proxies for morphology such as colour, concentration or structural parameters. In addition, this catalogue can be used to directly compare SDSS morphologies with older data sets. The colour–magnitude diagrams for each morphological class are shown, and we illustrate how these distributions differ from those inferred using colour alone as a proxy for morphology.

**Key words:** methods: data analysis, galaxies: general, galaxies: spiral, galaxies: elliptical and lenticular







# GALAXY ZOO

Hello zookeeperChris

Show unread posts since last visit.  
Show new replies to your posts.  
Total time logged in: 3 days, 19 hours and 4 minutes.

**News:** Welcome to anyone looking for info on Hanny's Voorwerp.  
New members please check out the [First Posts](#) thread and the [Info](#) thread.

[HOME](#) [HELP](#) [SEARCH](#) [ADMIN](#) [PROFILE](#) [MY MESSAGES](#) [MEMBER](#)

## Galaxy Zoo Forum

### Welcome to Galaxy Zoo



#### Threads to help you find your way

Please read the starred threads before posting.

Moderators: *Infinity, Alice, Hanny*

### The objects



#### Object of the Day

The Galaxy Zoo team nominate their object of the day.

Please do not post your own objects in these threads.



#### Stunning sights!

Post the most beautiful objects here.



#### Weird and wonderful

Post curiosities here. Please remember to use the spoiler tag.

### The site and the science



#### Latest News from Galaxy Zoo

We will use this board to occasionally post news about the project. This board will also feature on the main web site.



#### Suggestions and Comments

about the project and website



#### Science Questions

The why and what of Galaxy Zoo

## Official Galaxy Zoo Forum

August 17, 2008, 11:13:19 PM



Search

Posts  
Topics

**Last post by Alice**

In Re: [Posting Images - what's the best way?](#)  
on August 15, 2008, 09:40:06 PM

Posts  
Topics

**Last post by Alice**

In Re: [Sunday 17th August 2008](#)  
on **Today** at 10:45:31 PM

7 Posts  
Topics

**Last post by Liberatus**

In Re: [Ring Galaxy thread](#)  
on **Today** at 11:05:48 PM

1 Posts  
Topics

**Last post by Liberatus**

In Re: [Post one armed Galaxies](#)  
on **Today** at 11:02:44 PM

Posts  
Topics

**Last post by Jules**

In Re: [NEW! Galaxy Zoo science](#)  
on **Today** at 09:42:26 PM

Posts  
Topics

**Last post by lehensuge**

In Re: [UNDO BUTTON!!!!](#)  
on **Today** at 09:56:50 PM

3538 Posts  
352 Topics

**Last post by zookeeperChris**

In Re: [What do all these numbers mean?](#)  
on **Today** at 06:18:06 PM

**Hanny**

Global Moderator  
Hero Member



Posts: 16938  
"Voorwerp kld"

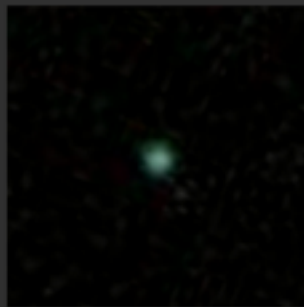



**Re: Give peas a chance!**

« Reply #1 on: August 12, 2007, 02:07:35 pm »

Sorry, I couldn't resist 😊

<http://cas.sdss.org/astro/en/tools/chart/chart.asp?ra=133.35036596&dec=19.50629401>



 [gggCA37DOUL.jpg](#) (9.46 kB, 512x512 - viewed 478 times.)

Logged

[www.hannysvoornwerp.com](http://www.hannysvoornwerp.com)




**Re: Give peas a chance!**

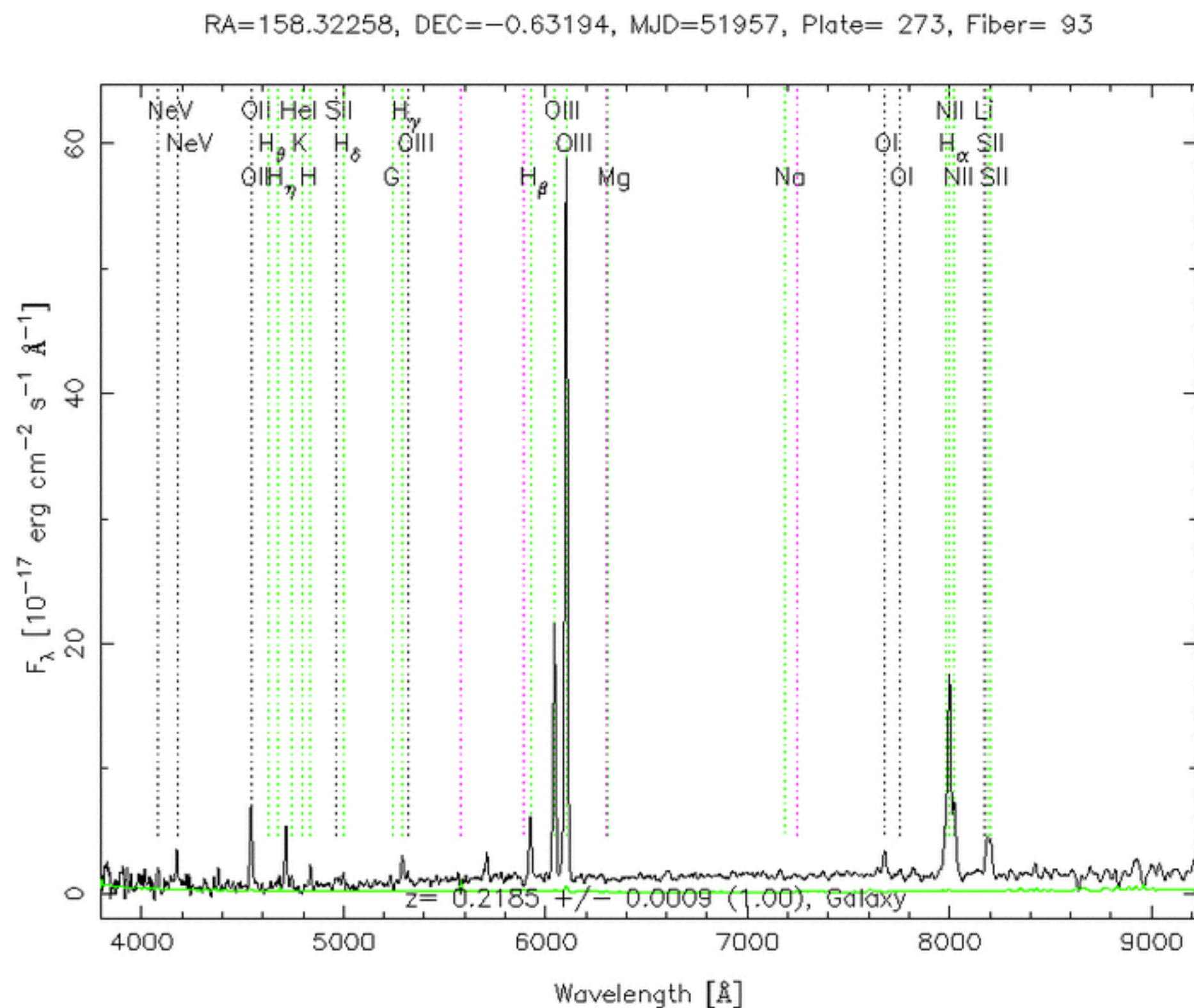
« Reply #3 on: August 12, 2007, 02:11:39 pm »

That's TERRIBLE, Hanny. Are you going to put it in the Astronomically Awful Jokes thread as well? Or would that make it appear to be vegetating? 😊

If it gets away, it's an escapee.

Report to moderator 







**Re: Give peas a chance!**

« Reply #767 on: February 29, 2008, 08:40:24 am »

I suppose **Thomas J's** post is a cue to finally get around to restating the definition (corrections/opinions welcome):

For the purposes of this thread, a pea is anything you want to call a pea that you feel like posting here. Artifacts, quasars, stars, whatever.

However, an OIII "Pea" is a more restricted definition:

1. The OIII designation is based on the shape of the spectral chart, and therefore if the target doesn't have one, it can only be called a candidate.
2. On the spectral chart, the tallest peak must be tagged OIII, and it should be reasonably narrow-based, not a broad pyramid.
3. The baseline of the chart should be relatively flat other than the OIII peak (or peaks) and possible peaks at OII, H-alpha, and H-beta. This flatness is relative to the scale of the chart; a tall OIII peak will make the baseline appear flatter.

Ultimately, OIII "Peas" are grouped together because of their similar spectral charts, not the circumstances that caused them, which might vary. OIII "Peas" seem to be found as the cores of spiral galaxies, cores involved in mergers, and Blue Compact Dwarf Galaxies (BCDG). So far, an OIII chart has not been found from an elliptical or lenticular galaxy, or an edge-on spiral; the disc may block the signature spectral peak. There is apparently not a hard dividing line between OIII galaxies and some other types of Active Galactic Nucleus (AGN), and the spectral charts may appear similar.

The current understanding is that the OIII peaks represent an emission of light at a very limited wavelength from doubly-ionized oxygen atoms in an interstellar nebula. These are oxygen atoms missing two electrons, heated by very thin plasma in the vacuum of space, and bombarded by radiation from the core and its densely-packed stars. This creates "forbidden" interactions in which electrons bounce off the ionized oxygen atoms instead of joining them, and was considered impossible in the past, thus the term "forbidden". The light that we see on SDSS represents the atoms shedding that energy, somewhat similar to the way fluorescent tubes glow.

At a redshift of  $z=0.1$  or less, the outer structures of OIII galaxies may be visible. At a greater redshift, OIII "Peas" are generally approximately round because the less-energetic, less-bright parts have faded from view. The color we see on SDSS varies, so it's not one of the criteria, though it may be informative.

The catalog of all OIII galaxies identified from SDSS is [here](#).

Some sample quasar charts for comparison to OIII "Pea" charts are [here](#).

And a post about quasars that look like OIII "Peas", [here](#).

« Last Edit: March 04, 2008, 02:06:52 pm by starry nlte »

Logged

Good news everyone!



# Galaxy Zoo Green Peas: Discovery of A Class of Compact Extremely Star-Forming Galaxies <sup>\*</sup>

Carolyn Cardamone<sup>1,2†</sup>, Kevin Schawinski<sup>2,3</sup>, Marc Sarzi<sup>4</sup>, Steven P. Bamford<sup>5</sup>, Nicola Bennert<sup>6</sup>, C. M. Urry<sup>2,3</sup>, Chris Lintott<sup>7</sup>, William C. Keel<sup>8</sup>, John Parejko<sup>9</sup>, Robert C. Nichol<sup>10</sup>, Daniel Thomas<sup>10</sup>, Dan Andreescu<sup>11</sup>, Phil Murray<sup>12</sup>, M. Jordan Raddick<sup>13</sup>, Anže Slosar<sup>14</sup>, Alex Szalay<sup>13</sup>, Jan VandenBerg<sup>13</sup>

<sup>1</sup>*Astronomy Department, Yale University 208121, New Haven, CT 06520, U.S.A.*

<sup>2</sup>*Yale Center for Astronomy and Astrophysics, Departments of Physics and Astronomy, Yale University, New Haven, CT 06520, USA*

<sup>3</sup>*Department of Physics, Yale University, P.O. Box 208121, New Haven, CT 06520, USA.*

<sup>4</sup>*Centre for Astrophysics Research, University of Hertfordshire, College Lane, Hatfield, Herts AL10 9AB, UK.*

<sup>5</sup>*Centre for Astronomy and Particle Theory, University of Nottingham, University Park, Nottingham, NG7 2RD, UK.*

<sup>6</sup>*Department of Physics, University of California, Santa Barbara, CA 93106, USA.*

<sup>7</sup>*Department of Physics, University of Oxford, Oxford OX1 3RH, UK.*

<sup>8</sup>*Department of Physics and Astronomy, University of Alabama, Tuscaloosa, AL, 35487, USA.*

<sup>9</sup>*Department of Physics, Drexel University, Philadelphia, PA 19104, USA.*

<sup>10</sup>*Institute of Cosmology & Gravitation, University of Portsmouth, Portsmouth, PO1 2EG, UK.*

<sup>11</sup>*LinkLab, 4506 Graystone Ave., Bronx, NY 10471, USA.*

<sup>12</sup>*Fingerprint Digital Media, 9 Victoria Close, Newtownards, Co. Down, Northern Ireland, BT23 7GY, UK.*

<sup>13</sup>*Department of Physics and Astronomy, The Johns Hopkins University, Baltimore, MD 21218, USA.*

<sup>14</sup>*Berkeley Center for Cosmological Physics, Lawrence Berkeley National Lab, 1 Cyclotron Road, MS 50-5005, Berkeley, CA 94720, USA*

23 July 2009

## ABSTRACT

We investigate a class of rapidly growing emission line galaxies, known as “Green Peas,” first noted by volunteers in the Galaxy Zoo project because of their peculiar bright green colour and small size, unresolved in SDSS imaging. Their appearance is due to very strong optical emission lines, namely [O III]  $\lambda 5007$  Å, with an unusually large equivalent width of up to  $\sim 1000$  Å. We discuss a well-defined sample of 251 colour-selected objects, most of which are strongly star forming, although there are some AGN interlopers including 8 newly discovered Narrow Line Seyfert 1 galaxies. The star-forming Peas are low mass galaxies ( $M \sim 10^{8.5} - 10^{10} M_{\odot}$ ) with high star formation rates ( $\sim 10 M_{\odot} \text{yr}^{-1}$ ), low metallicities ( $\log[\text{O}/\text{H}] + 12 \sim 8.7$ ) and low reddening ( $E(B - V) \leq 0.25$ ) and they reside in low density environments. They have some of the highest specific star formation rates (up to  $\sim 10^{-8} \text{yr}^{-1}$ ) seen in the local Universe, yielding doubling times for their stellar mass of hundreds of Myrs. The few star-forming Peas with HST imaging appear to have several clumps of bright star-forming regions and low surface density features that may indicate recent or ongoing mergers. The Peas are similar in size, mass, luminosity and metallicity to Luminous Blue

## Featured discussions

**Tools: questions, issues, and comments**  
Posted in Science

14 posts / 9 participants

**Blog Post on Tools**  
Posted in Tools

1 post / 1 participant

**Galaxy star formation**  
Posted in Science

2 posts / 2 participants

**Bad spectrum: clearly not a  $z=0.327$  galaxy!**  
Posted in The Objects

5 posts / 2 participants

**What does a green colour signalize?**  
Posted in The Objects

2 posts / 2 participants

**Not an AGN?**  
Posted in The Objects

6 posts / 3 participants

**Characterising classification biases**  
Posted in Science

6 posts / 3 participants

**Possible bars?**  
Posted in The Objects

7 posts / 7 participants

## Recent Object Comments...




#edge-on objects.

 by Foundren Shi 2 hours ago



Interesting Image

 by techbizare@yahoo.co.uk 2 hours ago



With the photo inverted, a tidal tail connecting the galaxy and the red

 by Foundren Shi 2 hours ago




#AGN?

 by Mgorman 2 hours ago




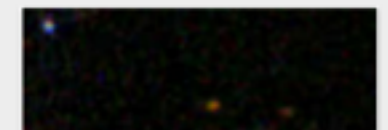
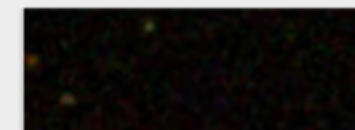
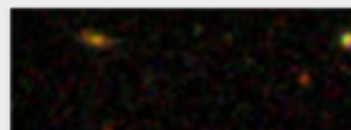
#Blue.

 by Mgorman 2 hours ago



#Ring!

 by Mgorman 3 hours ago





Histogram

Scatterplot

Map

Statistics

Subject Viewer

Spectra

Table

Color Magnitude

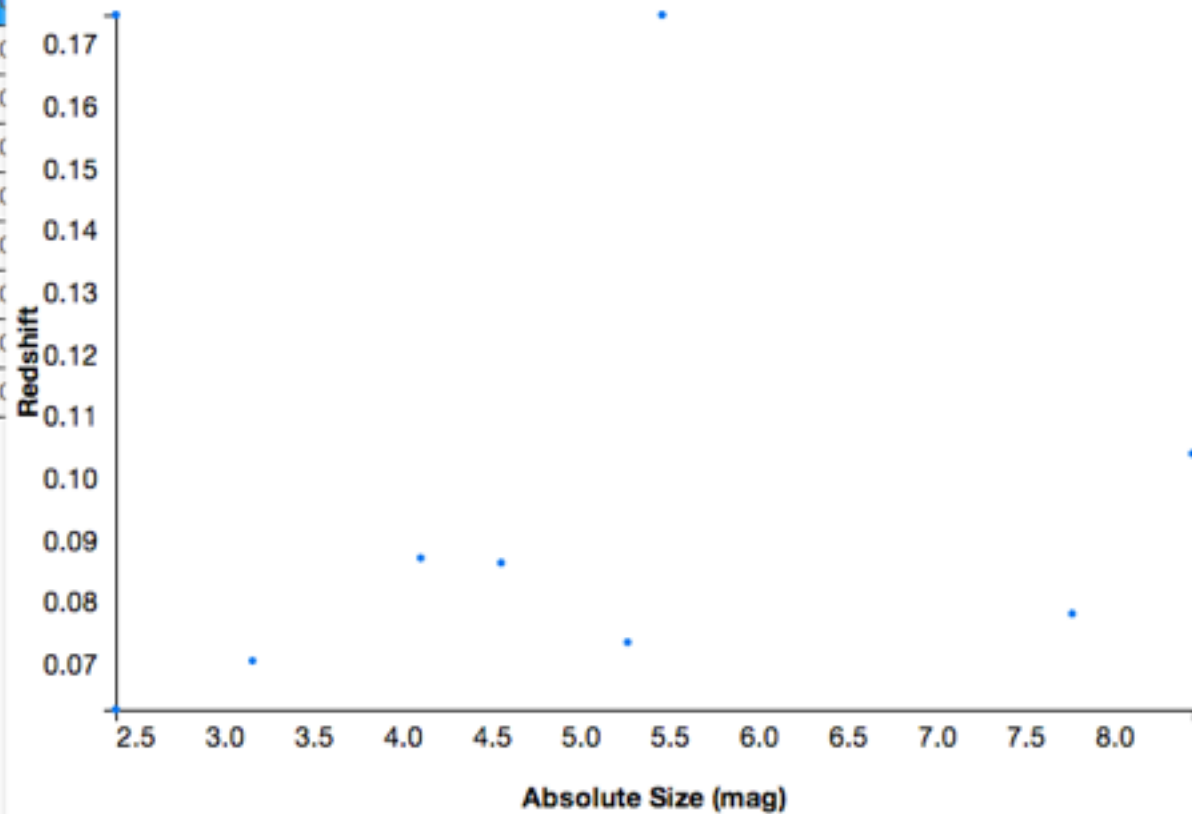
Tools

Data

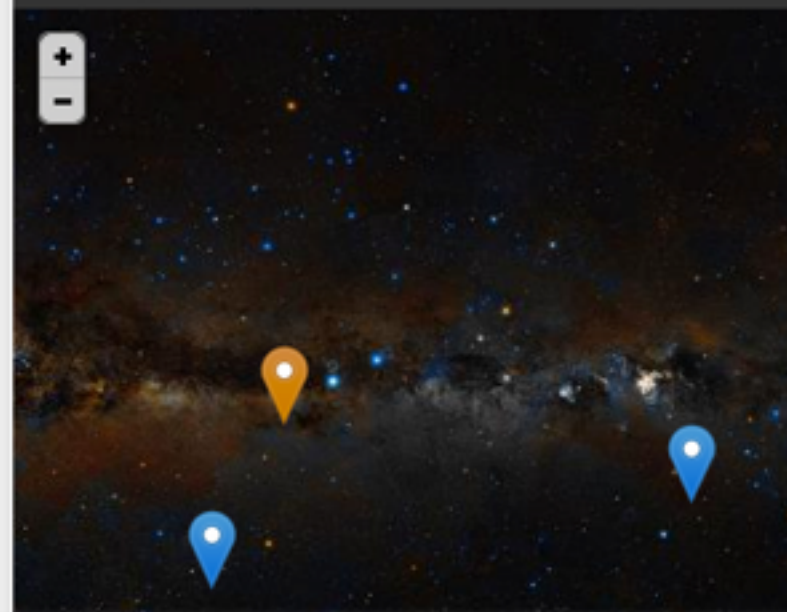
Layout

Clear

Scatterplot-3 Zooniverse-1



Mapper-2 Zooniverse-1



Data Source

Zooniverse-1

Tool Settings

Visible

SubjectViewer-4 Zooniverse-1

Key	Value
RA (deg):	220.046016952085
Dec (deg):	-4.6065984161273
Absolute Size (mag):	4.09766567098142
Petrorad 50 R:	2.537755
Redshift:	0.087344
Sdss Id:	1237674655291801871
u (mag):	18.444969
g (mag):	17.451111
r (mag):	17.0189
i (mag):	16.6693
z (mag):	16.498144
Abs R (kpc):	-20.455601



Dashboard is a place for volunteers to observe, collect,

ZooTools are based upon work supported by the National Science Foundation under Grant No. 0941610.

[writing.galaxyzoo.org](http://writing.galaxyzoo.org)





30 (ish)  
Projects

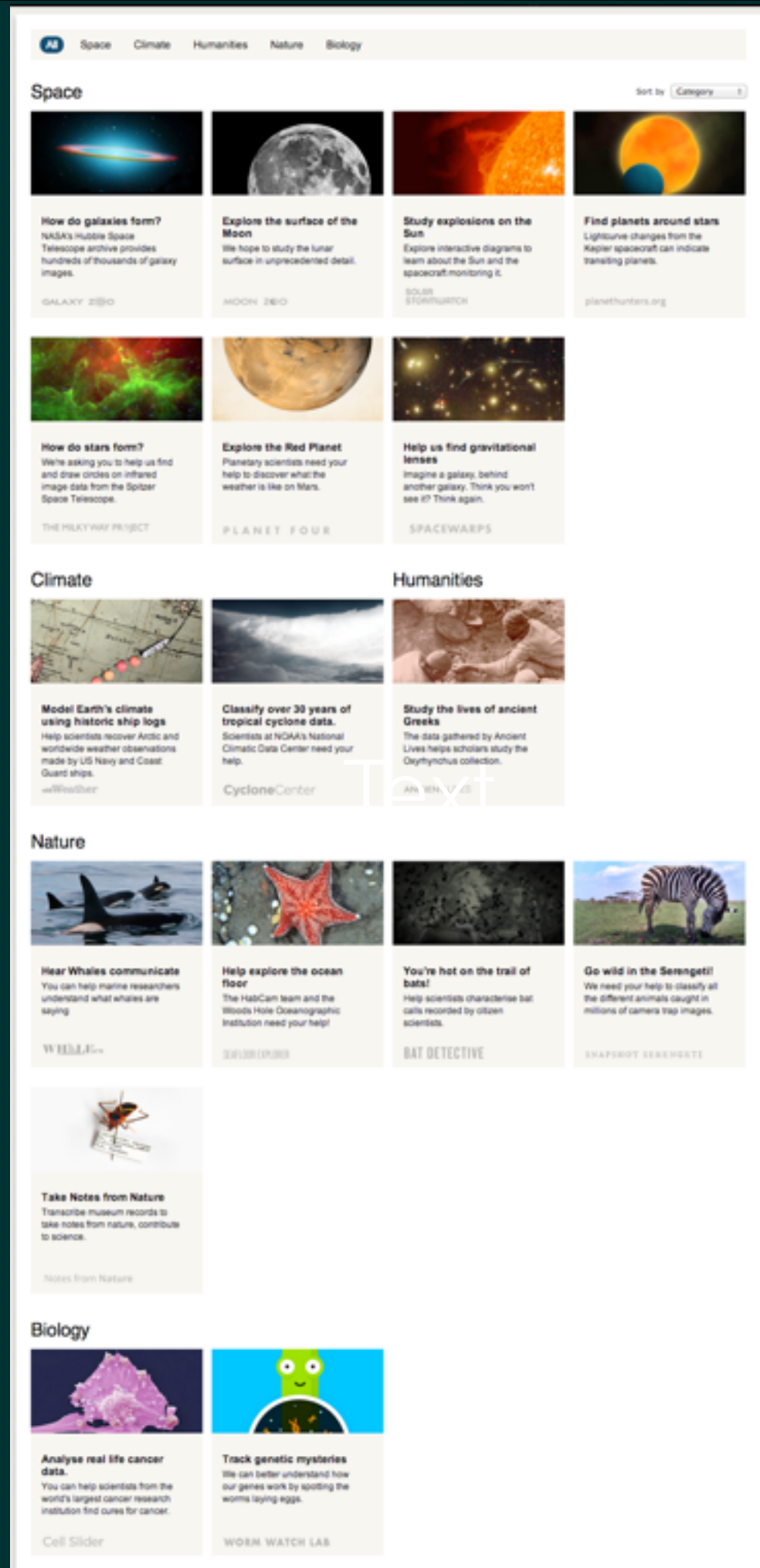
13  
Space

5  
Nature

3  
Climate/history

2  
Humanities

2  
Medical Research



> 1,014,111 Citizen  
Scientists

> 54,100,000  
Classifications

> 1,305,000  
Comments

60  
Published Papers

Many  
Confirmed Planets

[live.zooniverse.org](https://live.zooniverse.org)

# SNAPSHOT SERENGETI

Looks like ▾

Pattern	Color	Horns	Tail	Build
Aardvark	Giraffe	Porcupine		
Aardwolf	Guinea fowl	Reedbuck		
Baboon	Hare	Reptiles		
Bat-eared fox	Harlebeest	Rhinoceros		
Bird (other)	Hippopotamus	Rodents		
Buffalo	Honey-badger	Secretary bird		
Bushbuck	Hyena (spotted)	Serval		
Caracal	Hyena (striped)	Topi		
Cheetah	Impala	Vervet monkey		
Civet	Jackal	Warthog		
Dik dik	Kori bustard	Waterbuck		
Eland	Leopard	Wildcat		
Elephant	Lion (female or cub)	Wildebeest		
Gazelle (Grant's)	Lion (male)	Zebra		
Gazelle (Thomson's)	Mongoose	Zorilla		
Genet	Ostrich	Human		

Nothing here

Finish

[Tutorial](#)
[Clear filters](#)

## Planet Four

Classify

Fan

Blotch

Interesting feature

Mark as favorite

Finished

About

Profile

Discuss

Blog

[Tutorial](#)
[Examples](#)

[CLASSIFY](#)
[SCIENCE](#)
[STORY](#)

[ASTRONOMERS](#)
[DISCUSS](#)
[PROFILE](#)

Classify

3055

Favourite

Invert

Help

Restart

SHAPE

Is the galaxy simply smooth and rounded, with no sign of a disk?

Smooth

Features or disk

Star or artifact

Turn annotations off

Home

Profile

Info

Help

Overall, what proportion of the irregular cell cores are stained yellow?

none

1%

10%

30%

60%

100%

ONE DAY WE'LL BEAT CANCER. HELP MAKE IT SOONER.

Cancer Research UK is the world's leading charity dedicated to beating cancer through research, contributing to most of the world's top cancer drugs. We are the only ones fighting over 200 cancers.





# SNAPSHOT SERENGETI



☐ Nothing here

Finish

[X]

Looks like ▾



Pattern

Color

Horns

Tall

Build

Aardvark

Giraffe

Porcupine

Aardwolf

Guinea fowl

Reedbuck

Baboon

Hare

Reptiles

Bat-eared fox

Hartebeest

Rhinoceros

Bird (other)

Hippopotamus

Rodents

Buffalo

Honey-badger

Secretary bird

Bushbuck

Hyena (spotted)

Serval

Caracal

Hyena (striped)

Topi

Cheetah

Impala

Vervet monkey

Civet

Jackal

Warthog

Dik dik

Kori bustard

Waterbuck

Eland

Leopard

Wildcat

Elephant

Lion (female or cub)

Wildebeest

Gazelle (Grant's)

Lion (male)

Zebra

Gazelle (Thomson's)

Mongoose

Zorilla

Genet

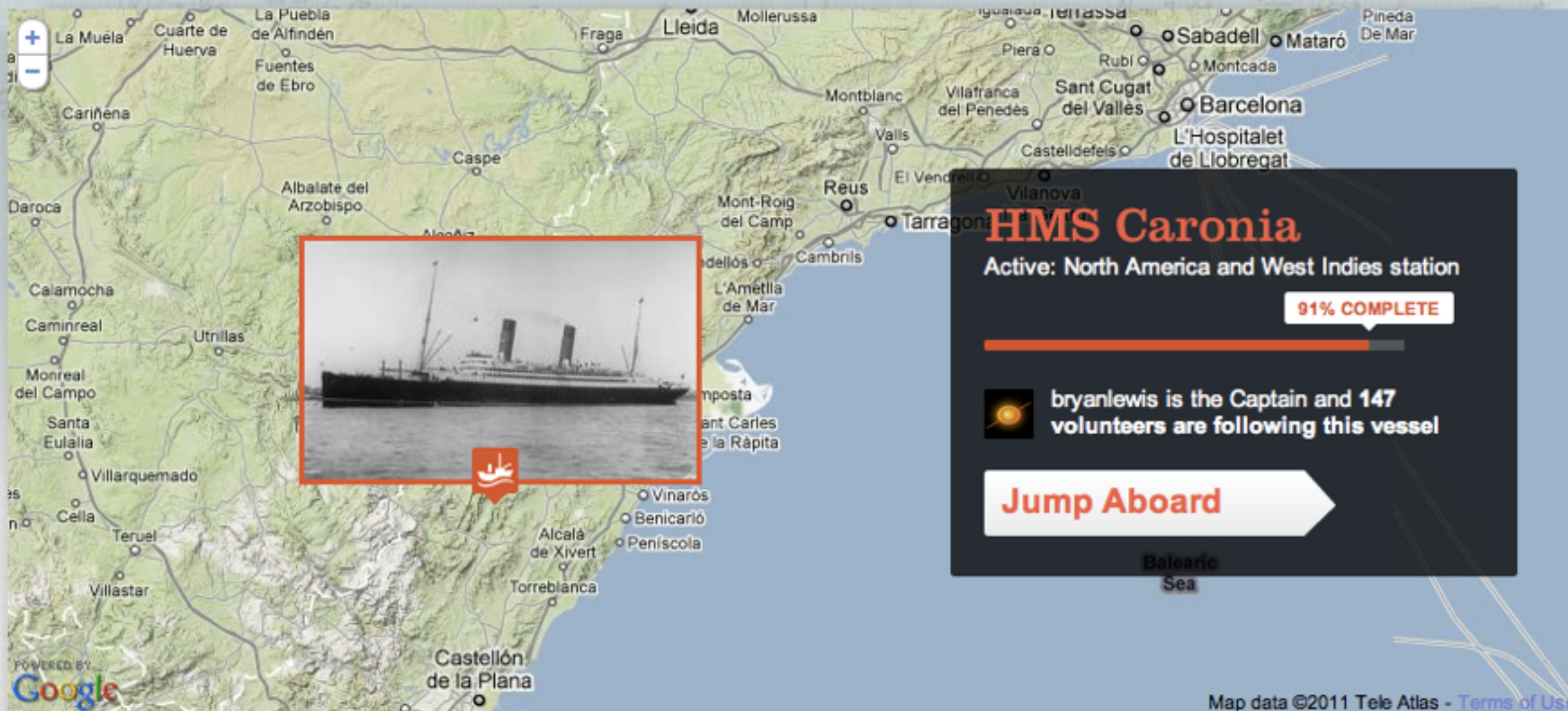
Ostrich

Human

Tutorial

Clear filters





**HMS Caronia**  
Active: North America and West Indies station

91% COMPLETE

bryanlewis is the Captain and 147 volunteers are following this vessel

**Jump Aboard**

Map data ©2011 Tele Atlas - [Terms of Use](#)

# Old Weather: Our Weather's Past, the Climate's Future

## Introduction

Help scientists recover worldwide weather observations made by Royal Navy ships around the time of World War I. These transcriptions will contribute to climate

## Project Statistics

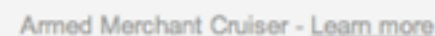
Old Weather transcriptions so far



0 weather reports on 0 pages contributed to this voyage. 30 weather reports more for promotion to Lieutenant

## 5. FINISH

Active: Northern Patrol

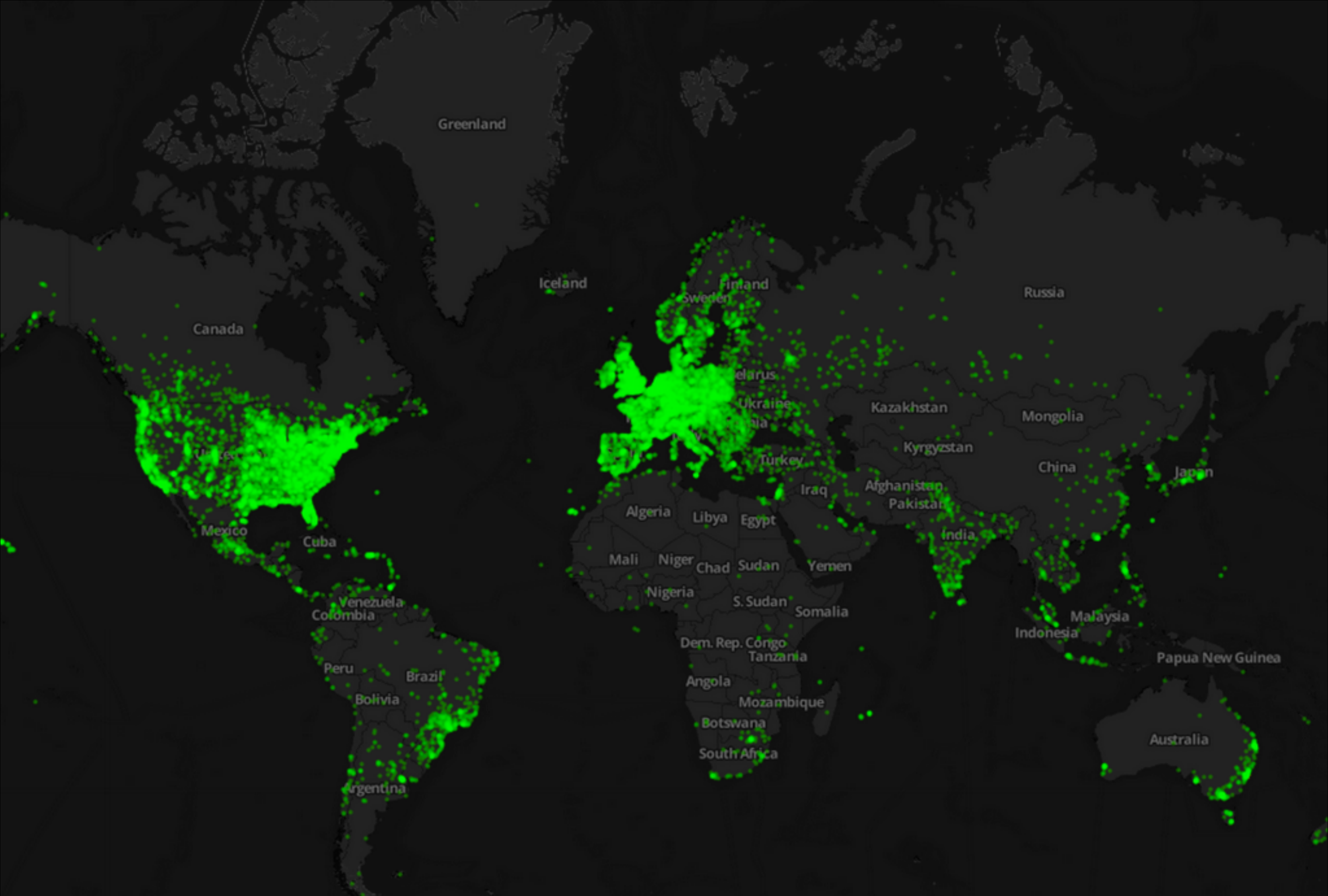


## A screenshot of the Google homepage. The Google logo is at the bottom left. In the center, there is a red ribbon graphic that forms a shape resembling a stylized 'G' or a series of connected loops. The ribbon has a white outline and a red fill. The background is a light blue gradient. In the top left corner, there is a small white button with a blue plus sign and a minus sign. In the bottom right corner, there is a link that says "Terms of Use".

POSITION

I've finished with this page

[illegible]



1 Million Citizen Scientists World Wide!



# Translate Projects:

- |                       |                   |                   |                       |
|-----------------------|-------------------|-------------------|-----------------------|
| Andromeda Project     | Bat Detective     | Cell Slider       | Cyclone Center        |
| Disk Detective        | Galaxy Zoo        | Galaxy Zoo Quiz   | Galaxy Zoo Starburst  |
| MicroPlants           | Notes From Nature | Planet Four       | Plankton Portal       |
| Play to Cure: Gene... | Radio Galaxy Zoo  | Seafloor Explorer | Snapshot Serengeti    |
| Space Warps           | Star Date: M83    | Sunspotter        | The Milky Way Proj... |
| War Diaries           | Worm Watch Lab    |                   |                       |



The Zooniverse is a collection of web-based citizen science projects that use the efforts of volunteers to help researchers deal with the flood of data that confronts them.

SPACE

Planet Hunters  
Galaxy Zoo  
The Milky Way Project  
Moon Zoo  
Solar Stormwatch  
Radio Galaxy Zoo  
Planet Four

CLIMATE

Old Weather  
Cyclone Center

BIOLOGY

Cell Slider  
Worm Watch Lab

NATURE

Whale FM  
Seafloor Explorer  
Bat Detective  
Notes from Nature  
Snapshot Serengeti

# Galaxy Zoo

- Spanish
- Portuguese
- Romanian
- Russian
- Chinese (Simplified)
- Chinese (Traditional)
- Bosnian (Latin, Bosnia and Herzegovina)
- Hebrew
- Swedish
- Catalan
- Welsh
- New Locale

Progress: 20%

Todo

Deploy

All

Up to date

Missing

Out of date

Todo

Galaxy Zoo ([Lintott et al. 2008](http://arxiv.org/abs/0804.4483), [2011](http://arxiv.org/abs/1007.3265)) pioneered a novel method for performing large-scale visual classifications of survey datasets. Using more than half a million members of the general public, the project has classified – via direct visual inspection – the entire Sloan Digital Sky Survey spectroscopic sample and all existing Hubble Space Telescope surveys (around 1.5 million galaxies in total). With more than 40 classifications per object, Galaxy Zoo provides both a visual classification and an associated uncertainty (which is challenging to estimate if there are only a few human classifiers). The classifications themselves have been demonstrated to be of comparable accuracy to those derived by expert astronomers (see Lintott et al. 2008).

astronomers.classification.body

Copy English Text

Save

You may be looking for data - public Galaxy Zoo data is available in a range of formats [here](http://data.galaxyzoo.org).

astronomers.explanation.data

Copy English Text

Save

This page aims to give background to the scientific





CLASSIFY

STORY

SCIENCE



DISCUSS

PROFILE

LANGUAGE

# Few have witnessed what you're about to see

Experience a privileged glimpse of the distant universe as observed by the SDSS, the Hubble Space Telescope, and UKIRT



We are trying something new! Come help us understand a very specific type of galaxy and experience science from start to end. [Take part](#)

## Classify Galaxies

To understand how galaxies formed we need your help to classify them according to their shapes. If you're quick, you may even be the first person to see the galaxies you're asked to classify.

[Begin Classifying](#)



## How Do Galaxies Form?

Roughly one hundred billion galaxies are scattered throughout our observable Universe, each a glorious system that might contain billions of stars. Many are remarkably

## History of Galaxy Zoo

The launch of this new version of Galaxy Zoo, the 4th, comes just a few weeks after the site's 5th birthday. It all started back in July 2007, with a data set made up of a million

[CLASSIFICA](#)[STORIA](#)[SCIENZA](#)[DISCUTI](#)[PROFILO](#)[LANGUAGE](#)

# In pochi hanno potuto assistere a quello che stai per vedere...

Cogli l'occasione di dare un'occhiata privilegiata all'Universo lontano, osservato dalla Sloan Digital Sky Survey (SDSS) e dal Telescopio Spaziale Hubble (HST)

## Classifica le galassie

Per comprendere come si formano le galassie abbiamo bisogno del tuo aiuto a classificarle secondo la loro forma. Se sei veloce potresti addirittura essere la prima persona a vedere le galassie che devi classificare.

[Inizia la classificazione](#)[Come si formano le galassie?](#)[La storia di Galaxy Zoo](#)



[分類](#)[我們的故事](#)[科學知識](#)[討論](#)[你的分類記錄](#)[其他語言](#)

## 星系特搜 見者有分

體驗專屬於您的，對遙遠太空的觀測巡禮 [資料來源為史隆望遠鏡數位巡天普查(SDSS)，以及哈柏太空望遠鏡(Hubble Space Telescope)與大英近紅外光望遠鏡(UKIRT)的觀測資料]。

### 星系的分類

我們需要更透徹了解星系形成的過程，所以，邀請你一起來幫忙，把星系按外觀分類。如果你手腳快，在幫忙辨識某個星系時，搞不好你已成為全世界第一個看到那個星系的頭號幸運者！

[開始分類](#)

### 星系如何形成

在可觀測宇宙中大約散佈有一千億個星系，每個光芒閃耀的星系又都自成一系統，擁有著數十億恆星。許多星系都極其美麗，「星系動物園」的目標就是去研究這些星系，協助天文學家去釐清了我們所看到的這些種種在我們四周的星系如何形成，從這些星系的故事我們

### 星系動物園前傳

「星系動物園」計畫從2007年7月啟動以來，網站已歷經第四版更新。最早的資料庫裡大約有一百萬個星系圖像，當時由SDSS巡天普查計畫所觀測取得，SDSS迄今仍持續提供更多新的星系半透明圖像資料。剛開始時，面對如此龐大的星系數量，太以為能夠吸引到的志工團隊



分類

我們的故事

科學知識



討論

你的分類記錄

其他語言

## 星系特搜 見者有分

體驗專屬於您的，對遙遠太空的觀測巡禮 [資料來源為史隆望遠鏡數位巡天普查(SDSS)，以及哈柏太空望遠鏡(Hubble Space Telescope)與大英近紅外光望遠鏡(UKIRT)的觀測資料]。

### 星系的分類

我們需要更透徹了解星系形成的過程，所以，邀請你一起來幫忙，把星系按外觀分類。如果你手腳快，在幫忙辨識某個星系時，搞不好你已成為全世界第一個看到那個星系的頭號幸運者！

開始分類



### 星系如何形成

在可觀測宇宙中大約散佈有一千億個星系，每個光芒閃耀的星系又都自成一系統，擁有著數十億恆星。許多星系都極其美麗，「星系動物園」的目標就是去研究這些星系，協助天文學者試著去了解我們所看到的這些環繞在我們四周的星系如何形成，從這些星系的故事我們又可以知道自己所置身其中的宇宙過去、現在和未來如何。 [更多](#)

### 星系動物園前傳

「星系動物園」計畫從2007年7月啟動以來，網站已歷經第四版更新。最早的資料庫裡大約有一百萬個星系圖像，當時由SDSS巡天普查計畫所觀測取得，SDSS迄今仍持續提供更多新的星系光譜圖像資料。剛開始時，面對如此龐大的星系數量，本以為能夠號召到的志工團隊人數可能很有限，應該要花上好幾年時間才能把資料辨識工作全部完成，沒想到網站開張不





分类

我们的故事

科学知识



讨论

用户信息

LANGUAGE

## 见证罕为人知的奇景

斯隆数字化巡天 (SDSS)，哈勃太空望远镜和英国红外望远镜观测的宇宙深处的奇景，任你一窥浩淼苍穹。

### 星系分类

为了更好地理解星系形成的机理，我们需要您来帮助我们根据星系的形状分类。如果你速度够快，你甚至能有幸成为世界上第一个看到被你分类的星系的人！

开始分类



### 星系如何形成？

在可观测宇宙中散落着大约一千亿个星系，每个璀璨的星系系统中都各自包含数以亿计的恒星。许多星系都美丽惊艳，让人叹为观止，而星系动物园的出发点就是研究它们，协助天文学家理解今时今日看到的星系是如何演化而来，让它们把宇宙的前世今生娓娓道来。[更多](#)

### 星系动物园小传

星系动物园自2007年7月面世以来，网站已经历经四次改版，度过六载春秋。最初的数据由斯隆数字化巡天得到的百万张星系图片构成，时至今日斯隆巡天依然为星系动物园提供新的数据。面对如此庞大的星系数量，我们当初预测这个项目可能要花上数年时间才能完成，然而网站上线24小时后，每小时7万次的分类速度让我们彻底震惊了。在第一年里，超过15万



CLASIFICAR

HISTORIA

CIENCIA



DEBATE

PERFIL

IDIOMA

## Pocos han presenciado lo que estás a punto de ver

Experimenta una observación privilegiada del universo distante, obtenida mediante el Sloan Digital Sky Survey y el telescopio espacial Hubble

### Clasificar Galaxias

Para comprender cómo se forman las galaxias, necesitamos tu ayuda para clasificarlas según sus formas. Si eres rápido, quizás hasta puedas ser la primera persona en ver las galaxias que te pidamos clasificar.

Comienza a clasificar



### ¿Cómo se forman las galaxias?

Aproximadamente 100 mil millones de galaxias están repartidas a través del universo observable, cada una con glorioso sistemas que puede contener billones de estrellas. Muchas son extraordinariamente hermosas, y el objetivo de Galaxy Zoo es estudiarlas, colaborando con astrónomos en su intento por comprender cómo se forman las

### Historia de Galaxy Zoo

El lanzamiento de esta nueva versión de Galaxy Zoo, la cuarta hasta el momento, se produce justo unas pocas semanas luego del quinto cumpleaños del sitio. Todo comenzó allá por julio del año 2007, con un conjunto de datos constituido por un millón de galaxias capturadas por Sloan Digital Sky Survey, la que continúa proporcionando