Time Scavengers: A Website to Disseminate Climate Change and Evolutionary Principles to Increase Public Literacy

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Origins and Objectives

- Dr. Adriane Lam and Dr. Jen Bauer started the site in summer 2017 to:
- Communicate information on climate change and evolution in a way understandable to the public
- Introduce the public to the real lives of scientists
- 2 site curators (Adriane and Jen) and 10 site collaborators write the blogs and share their research and experiences in science as graduate students/post docs/faculty/avocational scientists
Origins and Objectives

There are several main objectives of the site:

- Explain climate change and evolutionary theory in a simplified manner with plain-language text and figures
- Provide background information on geology, paleontology, climate, and evolution
- Through a series of blogs, we introduce the public to the lives of scientists (professional, academic, avocational)
- Collect data on site visitors and the impact of social media sharing to determine best practices for online science communication
Collaboration Team

Jen Bauer and Adriane Lam  Rose Borden  Sarah Sheffield  Cam Muskelly  Megan Thompson-Munson

Maggie Limbeck  Mike Hils  Kyle Hartshorn  Andy Fraass  Susanna Fraass  Dipa Desai
Collaboration Team

To be a collaborator:

- Commit to at least one blog post every 1-2 months
- Other optional contributions:
  - Come up with a fossil for #FossilFriday
  - Help monitor our social media accounts
  - Help create graphics on Canva for posts
  - Edit posts in Hootsuite (social media manager) for consistency, clarity, and content
Site Set-up

Two types of pages:

- Static informational pages
  - 30+ pages currently
  - Can be updated or added to, but are mostly for background information on various topics
- Blog posts
  - Dynamic, new posts released twice a week
  - Written by collaborators and guest scientists
Welcome to our site!

Climate change is one of the biggest problems facing humanity and life on Earth today, and one of the most fundamentally misunderstood scientific theories is evolution. You’ve probably heard about climate change and evolution in the news and on social media, but what are these concepts, and how do we know they’re ‘real’? We’ve made the site to help you understand more about both of these concepts and answer some questions, such as:

- How do we know the Earth is warming, and where does the data come from?
About Us

- Project Overview
- Biographies of Team Members
- Contact Us
- Products and Outcomes
- Funding Sources
Introductory Material

- General Science
- Geologic Time
- What Is Paleontology?
- What Is Paleoclimatology?

How do scientists determine the age of rocks?

Read more about relative and absolute dating on our blog!

Climate Change

- Modern Atmosphere
- Ocean Layers & Mixing
- Ocean Chemistry & Acidification
- Ocean Circulation & Stratification
- CO2: Past, Present, & Future

Did you know our oceans are layered? Ever wonder how the surface ocean mixes with the deep ocean? What timescales does this happen on? And what does all of this have to do with climate change? Read our 'Ocean Layers & Mixing' page to find out!
Evolution

- Evolutionary Synthesis
- Taxonomy
- Reading the Tree of Life
- Homology
- Extinction

Learn about homology:

Shared features among organisms due to inheritance from a common ancestor

https://timescavengers.blog/evolution/homology/
Educational Resources

- Many links to resources for teachers and classrooms based on the topics covered on the website
- Links to sites for teachers explaining science concepts and giving resources for communicating science
- Links to sites with lesson plans, slide shows, and visualizations of science concepts
- Also has a link to a compiled list of K-12 paleontology/geology-themed summer camps

https://timescavengers.blog/teaching-resources/
Extra Information

- Additional Reading (Books!)
- Fossil ID & Databases
- Organizations & Societies: from international, to national, to regional and local
- Podcasts & Blogs
References

- Citations and DOIs for all papers referenced in static informational pages
- Concern that many papers are behind paywalls that our readers may not be able to access
- Suggestions?

References

We are aiming to provide a comprehensive reference list of the sources used within the Time Scavenger pages. Every time a reference is cited within our pages it will be added to this list. This list includes links to the articles and DOI numbers incorporated into citations. Unfortunately, we know that many of these publications are trapped behind a paywall for our nonacademic users. We apologize in advance.

Blastoids


CO2: Past, Present, & Future

Blog Posts

- Released twice weekly on Mondays and Thursdays
- Written by collaborators and guest bloggers (for Meet The Scientist)
- Designed to introduce readers to life as scientists, showcasing research, field trips, conferences, and other topics such as applying for grad school or academic jobs and managing stress
Paleo LIVE!

- Our Research Explained: Foraminifera and Blastoidea
- Field Excursions: Field Trips from conferences, teaching, or research; also geologically interesting vacation trips!
- Education & Outreach: Teaching experiences, outreach events
- Science Bytes: Research experiences
- Byte of Life: Stress management, applying to grad school, applying to jobs, our journey to where we are today
Climate & Paleo News
- Summaries of recent scholarly articles
- Explains what the research was, how it was conducted, results, and why it is important

Coffee Suitability Model for time period 1991–2010

Climate news post about how coffee production will be affected by a warming climate in Puerto Rico.

Coffee in a Changing Climate

Read more on www.timescavengers.bog
Meet The Scientist

- Intended to introduce readers to scientists from any field, not just climate/paleo
- Write about who you are, what your research/job is, why it matters, how you got into science, advice for students considering science jobs
- Trying to showcase scientists from all fields and all demographics, so folks can see scientists who look like them
- We are always looking for scientists to write these!
Google Analytics

- Our site is through Wordpress, so we use their built-in analytics as well as Google Analytics to track readership/site visits
- We can look at data and statistics for site visitors such as: geographic location (by country), age, how they accessed the site (google, social media, direct link), number of visitors by hour, day, week, month, number of new vs returning visitors
- We use these data to track how people are finding the site and ideal times to release new posts
How are people finding the site?

Most site visitors are reaching the site through organic searches.

Of the site visitors reaching the site through social media platforms, Facebook is the main channel, with Twitter in second.

Of the total site visitors (25,827), only 15.5% are reaching the site through social media. This indicates that organic searches dominate the way in which the public find the site.
Reader Demographics

Demographic Overview

Visitor age bias heavily skewed to 18-34 age range. May be due to lack of older people using social media platforms to reach the site.
Reader Demographics

Geographic Overview

Time Scavengers is reaching a global audience, with most visitors from the U.S.

Regional bias may be due to family, friends, and colleagues visiting and interacting with our site.

To appeal to broader audiences and be more accessible, we are featuring more international scientists on our ‘Meet the Scientist’ blog and have installed a translation app on the site.
Views Over Time

All site visitors to TimeScavengers.blog

- Established a routine blog post release schedule
- Began using Canva to make social media posts
- Creation of Instagram account

Timeframe:
- October 2017 to October 2018
Hashtags

**Fossil Friday**

*Zilantophis schuberti*

Fossil snake
5 million years old
*Zilantophis* translates to 'winged snake'
Named for the authors' graduate advisor (Dr. Blaine Schubert)
Gray Fossil Site, East Tennessee

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**Follow Friday**

GeoLatinas

Our mission is to empower, embrace, and inspire Latinas to pursue and thrive in careers in Geoscience and Planetary Science

@geolatinasinsta
@GeoLatinas
https://geolatinas.weebly.com/
Conference Presentations

**FIND TIME SCAVENGERS AT AGU2018**

Thursday, 13 December 2018  1:40 - 6:00 PM  
Walter E Washington Convention Center  
Hall A-C (Poster Hall)

Adriane Lam, Rose Borden, and Andy Fraass
TimeScavengers: A collaborative website for exploring climate change and evolution through scientists' experiences


*The University of Tennessee, Knoxville, *University of Massachusetts Amherst, *Sam Houston State University, *Dry Dredgers, *University of Dayton, *University of South Florida

Objectives

Example Page: Homology

Paleo LIVE!

Analytics
Conference Presentations
Time Scavengers: An Educational Website to Communicate Climate Change and Evolutionary Theory to the Public through Blogs, Web Pages, and Social Media Platforms


February 25, 2019

digital classroom climate change evolution science communication

Funding
Support us on Patreon

No secure funding for this educational project
See select content released early
Help keep the site up and running
Request #FossilFriday content

https://www.patreon.com/TimeScavengers
FUNDRAISER FOR

CAM'S TRAVEL TO
#SEGSA2019

PROCEEDS FROM OUR
PATREON ACCOUNT FROM
OCTOBER-JANUARY WILL GO
TOWARD FUNDING HIS
TRAVEL

www.patreon.com/TimeScavengers
Patreon Fundraiser for Cam Muskelly
Future of the Site

- Expand collaborators and guest bloggers
- Obtain stable funding
- Continue to evaluate statistics to find best practices for posting and promoting new content
Contact Info

E-mail: timescavengers@gmail.com
Twitter and Instagram: @timescavengers
Facebook: Time Scavengers

Interested in sharing your science? Contact us to be featured on our Meet the Scientist blog
http://bit.ly/MeetTheScientist